

Dr. Mogli's Practical Book for
HIM & Health Informatics Professionals

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DEDICATED To

**Health Information Management (HIM) and Health Informatics Professionals of
Developing Countries including India and the Ministry of Health and Family
Welfare, Government of India**

PREFACE

In the study and practice of medicine and other allied paramedical fields, there is a constant need for guiding principles, brief summaries of subjects related to the allied medical sciences, and explanations of techniques and procedures required to learn. It is evident that any medical, nursing, and paramedics cannot become proficient in their respective fields without having teamwork among the medical, nursing, and other allied health science professionals and also being part of global development in the advancement of medicine.

The most vital element is the “Record” This is the only major and primary document in the hospital that will reflect like a “Mirror” exactly what has been done; how it was done, why it was done; who did it, and when, and so on. Also indicates the reasons for success or failure that will include other most vital allied departments such as Laboratory, radiology, pharmacy, nutrition, and many more that are involved either directly or indirectly with patient care. The next element is “Quality” which is to ensure that the care rendered is within the prescribed national or international standards. Another element is the “Cost”. Of late, the cost is so vital for making good hospitals, providing excellent service by highly qualified experts and world-class care; need huge finance to be invested. Thus need to work out how to economize the cost. The last most vital component is “Managing” if all the services are synchronized as a good team; all the other five constituents can be achieved and the best possible optimum care could be rendered.

The book has Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for all Healthcare Professionals. Ten AUSPICIOUS Commandments are strongly suggested as they comprehensively cover all healthcare professionals’ responsibilities. If scrupulously executed will outshine and succeed. All those who practice the HIM profession have to take Dr. Mogli’s Oath that will make them realize their aim to complete the HIM and Health Informatics Professionals and Students program with devotion to improve their knowledge, skills, and positive attitude as fully confident persons and earn a valuable certificate or diploma, degree or masters as a testimony of qualified professional. For those already professionally qualified, this is a very practical book that will guide them at every level in their day-to-day work in accomplishing any challenging assignment and then lead to continuous progress in their professional status.

In the course of my five-decade career as a WHO Consultant; medical record administrator, educator, consultant, and adviser, dealing with health professionals in diverse organizations, in nine different nations and partly some other countries felt the need for such a concise practical book. In view of the following Passing of the Parliament Act, the need for such a book is a must.

Parliament passed the Act, recognizing Health Information Management (HIM) and Health Informatics Professionals (HP) under ISCO No. 3252. The Ministry of Health and Ministry of Law and Justice, New Delhi enacted as National Commission for Allied Health and Healthcare Professional Act-2021 No. 14 of 2021 dated 28th March 2021. The need for this book has gained momentum.

“Dr. Mogli’s Practical Book for HIM and Health Informatics Professionals” has become a must. The book is unique in the sense; more than theoretical, and fully practical to enable HIM professionals or students should have clear knowledge, skills, and workable attitudes to perform the set job much easier in a short period with optimal results.

The book has two parts with 51 chapters, three annexures, and a bibliography. The first part comprises 37 chapters; that encompass the Introduction to the title of the book, followed by Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments reminding factors to HIM professionals. Another chapter on “Dr.Mogli’s Progression of Ten OCCUPATION Commandments” emphasizes obtaining the knowledge and skills and competing with highly qualified persons to secure a good job and how to continuously make efforts to gain modern expertise to meet the needs of the 21st century making best use of the facilities and time to contribute novel service to outshine and succeed in his or her profession.

Need to understand clearly the “Patient and the potential problems encountered by him/her. Healthcare includes briefly all hospital facilities and the nursing dynamic services touch on patient’s issues. Medical Records consist of manual and electronic including Artificial Intelligence deals with maintaining scientific digital records for efficient patient care. The International Classification of Diseases elaborates proper classification of diseases by the WHO. Role of HIM in the next 10 to 20 years in relation to his professional education, and work performance and makes how a future HIM should be; and how one should leave the safe zone and take the corporate competitive role.

The book suggested the Strategic role of the National HIM Association- present, past, and how it should play in the future in building a robust HIM profession in any nation; and the role of the International Federation of Health Information Management Association (IFHIMA) including the 20th Century and growth in 21st Century. It is clearly evident that unless HIM professionals want to succeed need to be selfless and dedicated then and then only can accomplish the set goal. This was clearly evident in IFHIMA history and six persons representing globally served and sacrificed decades for the promotion of the profession and their names were highlighted to inspire the future young professionals to do their best.

Management topics include leadership, motivation, and communication skills to achieve a good quality of service and economize health services expenditure effectively manage legal issues and meet the needs of hospital accreditation by JCI or NABH. The chapter on Accreditation elaborates on the process with a practical strategy for the optimal hospital. Hospital statistics and bed allocation; Dr. Mogli’s formulae for calculating Bed-Occupancy Rate with and without Day Care Cases; Mogli’s Ready Reckoner for Counting Hospital Days (LOS). Role of Central, State, Government, and Hospital Director in the development and managing of the HIM department; growth of electronic health records; medico-legal aspects of manual and electronic health records;

The second part comprises 14 chapters that mainly deal with fully professional education and practical work and the HIM needs to acquire basic knowledge of Anatomy, Physiology, and Medical Terminology to be part of the medical field. Dr. Mogli’s MERCHE Free HIM

Education program enlightens who is “Prof. Dr. Mogli. And what is his contribution to HIM filed nationally and internationally? As part of HIM practical education conducted a two-day International Conference including two workshops and the topics covered in the two-day deliberation are incorporated in the book. The book comprises few presentations of distinguished speakers from India and overseas and messages from Global Distinguished professionals appreciating the program of the conference and the book. The entire program is tuned to a practical and strictly time-managed schedule. All the speakers and participants were actively involved in teaching and learning by sharing their knowledge and expertise, and this is one of the learning tactics.

The book is not only fully practical but is a well-prepared Goldmine for HIM professionals with six chapters on Brainstorming Quiz Questions and Answers and encompasses a 1780 Quiz Question bank. Answers to 1120 including 70 topics that are tuned to HIM and Health Informatics professionals. The rest is part of the Quiz; need to find it in the book and enter the chapter and page number to complete the brainstorming exercise. The three annexures are also part of practical education to be aware of those healthcare, medical, and electronic terminologies that will make HIM a robust professional.

This book will be of immense value to HIM and Health Informatics professionals, and all healthcare professionals e.g. doctors, nurses paramedical, medico-legal personnel, insurance, etc. The healthcare policy and decision makers and even the Ministry of Health, organizers of healthcare institutions including primary health centers, secondary, tertiary, care hospitals, and healthcare involved software companies; universities; colleges and institutes of hospital administrative educational programs including the Electronic Health Records, Health Information Management and paramedical courses and research institutions need to use this book is a masterpiece and good nutritious food for all the honorable readers including students of all healthcare fields will lead in managing globally efficient optimal hospitals.

Prof. Dr. G.D. Mogli, Ph.D., FHRIM (UK), FAHIMA (USA)

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In the course of experience gained in nine nations by serving in the Ministries of Health at the national level as Senior Medical Record Consultant Adviser and WHO Consultant from 1981 to 2008, in all the six Gulf Cooperative Council (GCC) Countries (Kuwait, Saudi Arabia, Bahrain, Qatar, UAE, and Oman). Apart from this, I also served in India and Afghanistan from 1966 to 1980. With this background, the author felt the need of the hour to provide a concise but practical manual “Dr. Mogli’s Practical Book for HIM and Health Informatics Professionals”. The book will be handy for every HIM professional.

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Chapter I: introduction to *Dr. Mogli's Practical Book for HIM & Health Informatics Professionals*

Professional Success: One has to realize; career goals, and their importance, and learn to develop professionally. We are today in a very competitive world; any new related learning is an investment in your career bank; which will fetch you higher positions enhanced salaries and great self-esteem. Professional growth focuses on gaining new knowledge, experience; and skills to be positive and understand the current situation adjust and adapt to the organizational needs of the profession; keep the Ego aside, and be humble to accomplish our goals. Most HIMs need to execute the “Earning and Learning” process throughout their career. Acquired knowledge and skills will give you tremendous self-confidence that makes you accept more responsibilities which is a vital key to getting closer to policy and decision-makers. One has to take boldly to lead if required; pursue the role required for education; to gain the essential knowledge and the skills to take up a large project with more staff and budget to supervise and prove your management effectiveness.

How it is possible: Decide about your expectations: obtain required qualifications; earn professional specialized certificates, learn new technology and use optimize your time for the work; Innovate the management needs and its challenges and what contribution you can make to solve the issues to make the institution optimal and efficient. One should always be ready to lead and be a mentor and bold steps leaving a safe-zone mentality; and also prefer to carry the work after taking orders from the boss, or other higher officials; instead, be ready to take on competitive corporate challenges not only to survive but to excel as a pioneer. When you are loyally involved in the given work; you will instinctively acquire the required knowledge and skills rapidly to execute the task not in a given time but even earlier. When you are in the process; don't expect everything will go smoothly; there will be lots of bumps and snags; your confidence and good work will influence you to meet the unexpected and unwarranted jolts. Remember; try to achieve the goals selflessly instead of hoping to get something; if I do this, I will get that, etc. Just blindly accomplish the set goal by focusing with full commitment to achieve in record time that should be your ultimate aim. To do this, you should be disciplined, punctual, and time-conscious, humble; and nothing derails or deviates from your mission; in simple terms any professional success means is the process of learning to gain knowledge, acquiring skills, and, training others to master the subject and to be unique; by exploring new methods and information by all possible ways and means to accomplish high influence that lead to professional growth. When a professional succeeds in gaining status; and becoming and holding a very high position; this shouldn't get into the head. If that happens then the downfall doesn't have much time. “Construction of a giant building takes years and destruction takes few minutes to hours.”

The HIM and Health informatics Professionals are well equipped with their expertise to elevate the profession and impact healthcare and power innovation in the field, the author of this book expects you as a potential promising professional need to do the following to get motivated to outshine and succeed to be a global expert.

- Acquire proper academic and professional knowledge, skills, and a positive attitude
- Celebrate your accomplishments that will boost you to do better & better
- Invent something new and exciting about the HIM to perform better
- Network with other HI professionals to outshine and succeed
- Share the professional success with others so that the HIM can grow
- Respect and value that HI professionals bring to their organizations.
- Inculcate HIM education throughout to make the HIM field most robust
- Demonstrate throughout my professional career devoted to improving patient outcomes and their welfare in every aspect.

HIM Professionals feel acknowledged empowered and confident: Every Health Information/ Informatics Professional should be acquainted with the required academic and professional qualifications, specialized experience in the chosen field including the latest technologies; and skills that are required to practice the profession, and a positive attitude with full of optimism to feel acknowledged, empowered, and confident when you join in a new job or new assignment any work that required to be done to be considered a challenge and perform with utmost care and a meticulous way to improve patient outcomes and care. You must know that you are specialized like any specialist in the healthcare field. For example; when a qualified Surgeon operates surgery on a patient in the Operation theatre - none including the Health Minister, Director General of Health Services, or CEO of the institution has the right to interfere and suggest during the surgery. He is the master of his/her work and for good and bad outcomes he/she is fully responsible. All surgeons are highly respected for their skillful service and similarly you also in your own field a great surgeon tries not only to do routine elective and emergency surgery but with a dedication to finding a way with expertise research to find out what other ways you can help the healthcare institution; healthcare providers in their effort to do their best in swift, safe, improved and cost contained care. Medical records are not only the mother of information but they can Make or Break the healthcare institution. Besides that, it is a Goldmine –the more you dig; the more you get. Those who have practiced are enjoying the highest positions with name, fame, and self-esteem within and outside the nation. Precisely the entire healthcare quality care image can be seen in the **clean** imported Mirror – **that is Medical Record** that reflects the entire patient healthcare process.

Every new assignment or job that you have is due to past experience and good work, but a new job needs evidently wholly different inputs and insights to succeed. You are scanning for some time whether you are able to meet their expectations; if not; you lose

the importance and you may continue but under goodwill, which is not good for an expert professional. In your every movement or walk while in the position, be extremely professional and equipped with the latest knowledge and skills to undertake a given task. The following are some of the vital points not limited to; is brought to the knowledge of professional readers to observe meticulously to outshine and succeed in the profession.

1. Manage time that is vital be always be on time or a little before.
2. Clearly laid down the process as to what to do that day
3. Contribute new ideas systems and methods to organizers`
4. Wear executive dress throughout your professional work
5. Put forward your innovative ideas listen carefully to others' views and accept criticism in a sportive manner
6. Schedule your day for professional and personal work to accomplish the daily planned tasks.
7. Practice humility in dealing not only with higher but also with all others.
8. Avoid shyness to be daring to take leadership activity in the meetings
9. Never try to use any personal favors of higher authorities that will hamper your long-run progress in many ways.
10. Learn new ways of doing by acquiring the latest knowledge and skills.
11. Expand by searching for the latest related information for your undertaken projects
12. Lead others with your information and get feedback to improve yourself
13. Publish your work in reputed journals that will help in writing books.
14. Try to be independently carried out; where necessary take the opinion of others and if you start building any project depending on others it may succeed but chances are more can lead to utter failure.
15. Never take up any project or vital program hoping that your known higher officials or relation positions will help; in that case; you will rarely succeed but failure is almost sure. Even if you succeed; you cannot take the credit.
16. Maintain good health; by eating good food (which doesn't mean expensive); sleeping; doing daily exercise, and having a positive mind; and keeping fully busy with your well-planned tasks. Make your work like playing a game- we never get tired.
17. Undertake many selfless and financial sacrifice services to help the needy professionals that will go a long way as a good motivator, teacher, or monitor. Don't run behind the money; instead, run behind the work you undertook. Money will follow you later like your shadow
18. Try to motivate and inspire others with your unique work; accomplishments that must be a practical example to touch and see.
19. Participate in and conduct conferences; seminars symposiums and workshops that will enlighten your work thru published articles and books to the audience.
20. Bring out your inner caliber; each one of us has a hidden caliber that has to be brought out with boldness and ready to face the worst consequences then you will find tremendous outcomes unimaginable for others is a "great sacrifice".

HIM Professional Role: The HIM profession plays a vital role in the entire healthcare field. The HIM Manager is the custodian of the health information of patients; the entire comprehensive healthcare data generated by healthcare providers rests with the patient record that is maintained by the HIM Department. The HIM professional role has not been exploited to the optimum. Most of the nation's HIMs remain passive and do not play the role as expected. The topics should be on how to make HIM education that will turn the HIM professional vibrant and robust to play their role in providing efficient and effective healthcare to one all through well well-organized and efficiently managed HIM department that should assume the responsibilities of tuning the entire hospital system in collaboration of management including all healthcare providers and associated allied departments in maintaining the services to provide swift, safe, quality improved and cost contained care.

Health information managers are responsible for information governance that includes ensuring enterprise-wide health data integrity, privacy, and security. It has to be realized that medicine is dynamic due to environmental and health challenges; and newly appearing diseases that lead to continuous research have enlightened many innovative drugs, instruments, and techniques to deal with unique problems. Besides this, information and communication technology is also advancing at a high pace; the HIM capabilities with the HIM Cycle need to catch up to fulfill the responsibilities by adapting the latest capabilities that will provide effective and efficient service for which this profession has been born and exists. The health field and technology are not static, and are transforming much faster than expected; the HIM field cannot be static, and its capabilities need to be upgraded from time to time to move parallel with the healthcare delivery system.

Some of the HIM main responsibilities may include very special capabilities (synonymous with terms; abilities; aptitude, competencies; experience, Know-how, proficiencies; and **skills**) such as: Accepting challenges; Accuracy; Achieving; Adaptability; Administrative; Alertness; Analytical; Assertiveness, Budgeting; Business; Collaborate, Cooperate; Communicate; Commitment; Critical thinking; Developing; Devotion to Details; Embracing EHR; Excelling; Innovation; Inspire; Interpretation; Leading; Listening; Managing; Motivate; Observing Ethics; Organizing; Quality-performance; Problem-Solving; Researching; Self-Confidence; Serving society: surveying; Teaching; Teamwork; Time management; Technical; vision.

The following are some of the points that are not limited but needed to practice as an HIM Professional to Outshine and Succeed in the HIM Profession.

- Competent to survey in a healthcare organization to find out the current situation and compatible with the institution's objectives and HIM needs

- Ability to discuss with the decision-makers and policymakers of the organization to provide his / her expertise
- Holding discussions with the healthcare providers including medical, nursing, paramedics, and others to enlighten the HIM work standards, policies, and procedures
- Orient the approved standards, policies, procedures, and HIM system practiced in the hospital.
- Organize a new HIM department by equipping, recruiting, and training staff, in the entirely new hospital coordinate and collaborate with the clinical, labs, radiology, pharmacy, and other departments that are directly and indirectly related to patient care and contribution to patient records.
- Implement systems and processes to support accurate, timely, relevant, and complete medical record documentation
- Work with healthcare professionals to improve the quality of documentation
- Work with coding staff specialized in ICD-9/10-CM, CPT, HCPCS, SPGs, or the latest developed ICD-11 or ICD-10 or 11 CM and others to ensure accurate coding for reimbursement and clinical care finding rare diseases that occur
- Comply with state and federal laws and standards related to privacy, security, and record completion
- Track and trend audits and denials from third-party payers and auditors
- Prepare and analyze clinical data to provide swift, safe, improved patient care and research purposes, optimal utilization management, mandatory reporting, and more
- Participate in administrative committees to address topics such as electronic health record implementation and process improvement for providing the best possible care and outcome.
- Prepare department budgets and indicate where the cost control can be effected
- Manage projects efficiently to assist the clinical team and hospital management in achieving its objectives
- Analyze clinical and financial data in collaboration with the relevant professionals or units to look for trends and opportunities for an optimal outcome to reduce the cost of patient care
- Draft department- and hospital-wide policies and procedures to achieve the institution's goal
- Submit compliance data to external agencies such as the Centres for Disease Control and Prevention (CDC) and Centres for Medicare & Medicaid Services (CMS) or any authorized public health or curative agencies.
- Perform continuous quality improvement activities for external accrediting agencies such as the Joint Commission or any such equivalent organizations.
- Work with third-party payers and agencies to comply with audits to ensure the right payment is made to all involved parties.
- Provide and oversee ongoing training throughout the health system for things such as documentation guidelines, EHR user training, HIPAA compliance, and

other matters that require priorities from time to time to meet the challenges anticipated and unexpected

- Play an important role as HIM professionals in patient safety as hospitals and ministries use the data they collect and analyze to:
- Ensure that patient information is secure and protected Improve healthcare quality by reducing medical errors, and health disparities, and by advancing the delivery of patient-centered medical care
- Reduce healthcare costs resulting from inefficiency, medical errors, inappropriate care, duplicative care, and incomplete information
- Provide appropriate information to help guide medical decisions at the time and place of care
- Improve the coordination of care and information among hospitals, laboratories, physician offices, and other entities for the secure and authorized exchange of healthcare information
- Improve early identification and rapid response to public health threats by carrying out concurrently coding the cases. Any unusual incidence can be reported to public health for prompt action to prevent from epidemic or endemic like the COVID-19 Pandemic.
- Facilitate health and clinical research to enhance the quality of healthcare
- Promote early detection, prevention, and management of chronic diseases.

Role of HIM Manager when he/she joins any institution:

When an HIM manager joins any institution; there are two possible issues he/she encounters: firstly; the effectiveness of the HIM department and, the problems of the patient in the hospital that normally hampers the smooth functioning of the institution. Secondly, if he joins an entirely new institution, he needs to develop from scratch; or some hybrid type of hospital' he needs to understand both the outcome of the two tables given below; besides; the opinion of management and other clinical and non-clinical including MRD staff.

The following two Questionnaires are in the form of tables related to 1. The infrastructure of the HIM department and the sand functional needs of the department. 2. Patient problems while getting care in the hospital are incorporated for the benefit of HIM personnel.

Questionnaire 1: HIM Infrastructure including functional needs

How to complete the questionnaire? Please quote the question number and record your problems in bullet points clearly. Not necessary to provide a response to all ten; what is problematic to you- only needs to be recorded. Some MRDs may have only one of them or a few, and some may have most of them and some may not have any. You send only the pertinent to your MRD of your hospital and shouldn't exceed more than ten.

S. No	Problem-related to	Explain the existing Problem in bullet points
1	Infrastructure including all the items required to run the MRD: related to space, staff; equipment, stationary, and other items	
2	Medical Record Forms (manual, electronic, hybrid, or both) its design, uniformity, supply, utility, and any problems related to MR forms or electronic screens	
3	Education and Training of MRD, and other healthcare providers including Medical, Nursing, and other paramedics.	
4	Investigation reports e.g. Lab, x-ray, or other departments related to reports	
5	Medical, Nursing and other paramedics related to their responsibilities to maintain good records	
6	Administrative staff related to MRD work; general attitude e.g. positive, or negative including providing staff and their promotional avenues,	
7	In the collection of statistical reports; analyzing; interpreting and sending, mandatory and other reports to Govt. and others	
8	Medical-legal, Insurance and Reimbursement, and any other – public and external issues	
9	Post-CO VID-Pandemic work, what is the HIM department's responsibilities in meetings the hospital needs	
10	Any other problems not covered above	

Questionnaire 2: Patient Problems in the Hospital

Please list (your personal experience) about the patients and their relatives/attendants generally, experience in the hospital during the care as an outpatient, emergency, and inpatient or other related services (at various stages starting from the entrance; transportation, parking, searching appropriate service, registration, Doctor's examination waiting for a place, referral within the hospital, lab, radiology pharmacy, treatment rooms, etc. It could be medical, psychological, social, economic, language, attitude, or behavior, of medical, nursing, paramedical, and other hospital staff (It could be anyone from the lowest to the highest position in the hospital and even including co-patients, security, brokers, etc., etc.

The following table is just an example, if you have any other than this, can also be added to the list and explain briefly the problems encountered. Your input in furnishing this information would significantly help everyone serving the patients, particularly the HIM Department.

Service/ Level	Problems experienced by patients /attendants
Reception/Front Desk	
Registration	
Waiting Hall	
Dr. Examination	
OP Clinics & referrals	
A/E	
Admission	
Ward	
Lab	
Radiology	
Pharmacy	
O.T	
ICU/CCU	
Diet/Nutrition	
Medical staff	
Nursing Staff	
Paramedical Staff	
Medical Orderlies	
Co-patients	
M. R. Staff	
Insurance Issues	
Reimbursement issues.	
Any other issues	

Three (3) Stages of life: Schooling, Serve & Succeed (3 - S S S)

Schooling – Acquire knowledge, skills, and a positive attitude

Serve – To work and earn through a job or business or any activity

Succeed – Be successful, get to the top

Serve – 3 Levels:

1st Level: work under a supervisor – you need to carry out whatever work they tell you, you have little scope to suggest or give your ideas.

The given work may not relate to you, if you show your unhappiness – you may lose the job.

To move to higher levels by studying academic and professional education and working hard

2nd Level;

- Lucky to work as a supervisor, and have little scope to get work done by subordinates the way you wanted.
- This happens after some years of experience.
- To move to higher levels by studying academic and professional education and working hard

3rd Level:

- Your expected level; in charge of some section; or
- Assistant to Hosp. Administrator or MR Officer
- The choice of your to choose which would help you in the long run
- To move to higher levels by studying academic and professional education and working hard

Life Growth Line: is the one can aspire to reach a very high position e.g., climbing the Himalayas which is the highest mountain in the world; very few people in the world have achieved either going to “Space” reaching the Moon, or climbing the top of the Himalaya, becoming richest persons in the world, etc. and satisfied with their achievements and gradually remained and continue to enjoy their greatness.

The life growth line teaches that one wants to remain at a “B” level; he has to work hard continuously to reach “A”. Otherwise, he may fall to “C” without his knowledge; inevitably

Similarly, if one wants to be at “D” he has to work hard continuously to reach “C”. Otherwise he may fall to “E” without his knowledge.

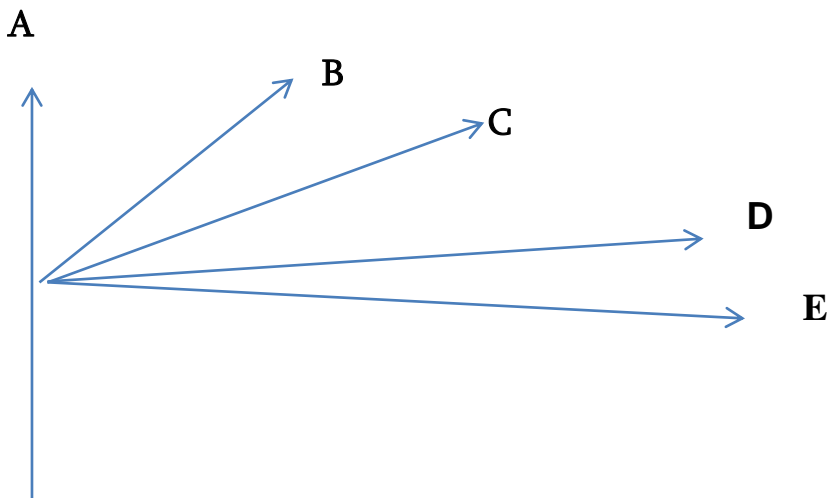
The one who reaches the highest level is the top and ultimate end; if anyone tries more than that; nature will play the natural phenomenon such as; and it is also assured that none will continue to be on the top; for a long time; there are two options; either he tries to continue to be on the top with honest attitude by working hard; the mother nature will bring you down very gradually and ultimately you will come back from where you reached top- this could be some years duration. If you think that you are a very successful person due to your intelligence and caliber and try to move further higher level by flying as you are not satisfied with your achievements; then Mother Nature will act instead of reaching higher bringing you instantly to the bottom level – your condition will be worse than what you had initially. The same can be explained in simple terms: An achiever is one who is not satisfied with his accomplishments even after reaching the Himalayas peak and tries to jump further higher level; the only way is to fall down to the bottom and break all the bones; may become handicap or even may lose his life.

I will quote another example of a CLOCK that has 1 to 12 numbers. Number 6 is the bottom that is the starting point for any person, and number 12 is the highest like “The Himalayas peak. One who is satisfied with his success and never tries to jump higher than he may remain for some time there, but gradually fall to 1, 2, 3, 4, 5, and the last 6. It all depends on individual attitude.

If one wants to move higher level it would be fitting to move higher to number 7; gradually to 8; 9 10 and 11. Here, if you want to remain a good successful person try to work hard to reach but don’t go there; that is the most successful or dangerous zone; think twice; the number 11 is the safest zone for highly intelligent and successful persons, and for middle-level people, Number 9 is the most suitable zone; for them, there is a good scope to move up to number 10 and 11. Note please; that after 12 –there is no other way except to stay at the top of the Himalayas holding tightly to the ground facing the fast-moving wind; rain; storms; snow etc. If you adopt the second method of jumping further a higher level–you should know what happens. If you want to enjoy your hard-earned success; remain the suggested number and enjoy life for a much longer period. This doesn’t promote not trying to do better; it only suggests being conscious that any excess more than needed is counter-productive.

LIFE GROWTH LINE

(A–Top; B–High-headway; C–Headway; D–Safe Zone, and E–Lowest)



What are the causes of Failure? There are many reasons for failure; mainly, two kinds of failure. The first comes from never trying out your ideas because you are afraid, lack confidence, or are waiting for the perfect time. You can never learn from this kind of failure and such timidity will destroy you. The second kind comes from a bold and venturesome spirit but does not apply to the right cause. The main causes of failure in life are poor environmental influences, the wrong mind-set, bad habits, egoism, and lack of motivation. All these reasons for failure can be addressed if you identify which ones apply to you and create a plan for removing them. Further due to not having a clear vision, lack of leadership, lack of trust, complex system, ill-discipline, negligence, not learning from mistakes, poor reporting or communication with others. Not reviewing the set goals, and not involving employees in the process of business. In conclusion, Failures are like a two-sided sword. At the time of learning, failures do occur; it is also necessary to avoid them wherever possible. Understanding why or how failures happen gives you valuable insight to help you address the causes instantly.

We learn more from our failures than from our successes. Not only do we find out what doesn't work so that we can adjust our future attempts, we learn about ourselves in the process and gain a bit of empathy towards others that might be struggling as well." People have studied failure and realized that teaches us about love, relationships, money, and business. Failure sets the stage for us to reach our goals. We can use failure as a teaching tool to improve skills like problem-solving, leadership, communication, decision-making, learning, and so on. Don't make a habit of embracing failure for success; try to avoid it without that you can succeed.

How to Influence? To successfully influence others, you have to be genuine. If you really care and put your energy toward a good cause, others will naturally "feel" your

passion and you'll have influence. You should also know what others are looking for. Need to do your best.

How to outshine? Lead nothing but lead. Lead without a title by helping others, identifying problem areas, and taking initiatives to resolve issues, gradually creating a group of like-minded people who are keen to take initiative. Ensure to Praise; manage time, understand differences, be proactive and productive, learn to perform the job well, work hard, act professionally, keep a positive attitude, take initiative, and be a good leader and team player, and a good mentor to train your expertise as many as you can, that will be handy in your work. Recognize the need for organization and understand well your boss; maintain good relationships; and every failure makes a good opportunity; Acquire the latest knowledge, and skills and Avoid wasting time on discussing or gossiping that will downgrade.

How to be successful: Always be prepared, build high self-esteem, believe in yourself, have confidence, like and feel good about yourself, and take pride in what you do. Focus with a positive attitude and always expect the best possible outcome for what you do. Set powerful goals. Give your brain a place to aim, Persevere perseveres, and never quit. Having a clear layout plan, Prioritising your goals, acquiring relevant education and skills, having a positive attitude, learning from mistakes, sticking to good habits, accepting new things that are productive, risk-taking is a must, and being ready to sacrifice, focus and dedicate on selected work; the outcome is positive.

Chapter II: “Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals”




**A: Acquaint; U: Uphold; S: Serve; P: Participate; I: Innovate; C: Contribute; I: Inspire;
O: Outshine; U: Unify; S: Succeed**

Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals”

In the name of my beloved parents, and teachers, God, made them as my witnesses that I, (Name)_____ take the Oath to fulfill my obligation to serve the sick and injured with full devotion by executing Dr. Mogli’s Ten (AUSPICIOUS) Commandments throughout my professional life. I will...

1. **Acquaint** with mandatory needs of the healthcare organization; vision, mission, goals, and government laws to comply with.
2. **Uphold** the dignity of the organization, be loyal and neutral, follow ethical guidelines, and uphold the protection, privacy, and confidentiality of patient information.
3. **Serve** to establish and run a well-organized and efficiently managed healthcare system as a team member to an entire institution to provide for the needs of the healthcare organization.
4. **Participate** actively in the policy-making meetings of the organization. I remain a member of the professional society and take part and present papers in professional workshops and conferences.
5. **Innovate** by conducting research as a team on the latest knowledge and technology to enhance the efficiency of the healthcare providers to deliver swift, safe, quality, and cost-contained care.
6. **Contribute** by imparting education and training as a healthcare team for high standards of performance. Provide consultancy to needy patients as required by the organizations.
7. **Inspire** healthcare providers as a team; to achieve comprehensive healthcare to patients; and prevent medical errors, duplication of efforts, and expenses of the healthcare organization.
8. **Outshine** by practicing efficient methods as a team for significant contribution to providing the best possible care to the patient and to identify any disease surpasses will notify swiftly the public health officials to avert an epidemic.
9. **Unify** patient data by executing “one patient-one record and one number”, from birth to death for swift care to patients in any part of the globe.
10. **Succeed** medical record is the Mirror that” reflects what is done to the patient, not recorded means not done”. “People Forget –Record Remembers”. I revolve around the patient being the nucleus to succeed in a healthcare organization's vision, mission, and goals.

A copy of the Oath was sent to highly distinguished Professionals globally including the past President of IFHIMA for their input and comments prior to making it public for execution. Following is the response: Approved by Global Professionals and implemented on **5th March 2022 in India.**

Messages from Global Distinguished Professionals	
	The USA. Congratulations; I found the “Oath” is excellent work; if executed this will stimulate the professionals and others by Prof. Dr. Ibrahim B Syed, Ph.D., D.Sc.(Johns Hopkins) Clinical Professor of Medicine, School of Medicine, Louisville, Kentucky, USA 5215 1044(Direct); Fax:+81 3 5215 1045(Direct)
	Canada: I am privileged to review your 10 Commandments for HIM professionals. They are ‘Fantastic’. What a great testament to your long and auspicious HIM career. Congratulations. By Gail Allan Robinson; President, Expert HIM, CHIMA, Canada; Cell 548-388-3416; Home 226-663-5377
	Germany: I absolutely do share your opinion that the HIM profession does not yet have the standing that it deserves. Therefore I appreciate very much your Oath of Ten Commandments for HIM professionals. Angelika Haendel, of Germany; Past President of IFHIMA (Global; by Angelika Haendel; Past President of IFHIMA (2013-2016)
	Japan: Your Oath is very wonderful and helpful. Not to mention the contents, the overall structure is easy to see and understand. Please provide it widely all over the world. Dr. Mogli, Never give up! I always admire you leading the International Federation members with new innovative ideas and practical solutions that are very much appreciated by global nations. You are such a great leader in India and a word-renowned great teacher of Medical information management. I always admire Prof. Dr. Mogli, Father of Medical Records of India & the Middle East. Thank you from the bottom of my heart for your contribution to developing countries. I always admire your

	<p>straight forward thinking about HIM. Your thoughtfulness and hard work are second to none in the world. Best wishes. Warmest regards, By Yukiko YOKOBORI; Japan Hospital Association, Japan Society of Health Inf. Management: Tel: +81 3 5215 1044(Direct); Fax:+81 3 5215 1045(Direct)</p>
	<p>Australia: I really like how you have incorporated this into the oath and think it is an even stronger document. I am pleased to see this developed for your region for HIM. By Prof. Kerry Butler-Henderson, Director of Digital Health, RMIT University, Victoria, Australia. President-Elect for IFHIMA (2022-2024) later declined the post by resignation</p>
	<p>Australia: Dear Dr. Mogli, Thank you for sending me the Oath I am sure many HIMs worldwide will appreciate it. In many countries the profession has been facing difficulties with developments in information technology and many information technicians replacing HIMs as, in our country, we do not have enough HIMs to meet the demand. -Best wishes. By Phyllis Watson (President of IFHIMA-1988-1992)</p>
	<p>Canada Respected Sir, Good day to you and all: The prompted mission is a great motivation to everyone, and proud to hear this distinguished move towards a unique recognition in the world. Please let us know our possible tasks to potentially this drive. Special regards and respect. By Deepak Vikram Nellore (Vikky). Healthcare Informatics Global Consultant, 71, Parricus Mead Drive, Charlottetown, PEI, C1E 2H3, Canada.</p>
	<p>Mauritius: Dear Prof Mogli, Excellent job. Will get it signed by as many HIM workers as possible and also see to it that we do try to achieve the goals pointed out by the Oaths. Mr Sooneeraz Monohur, Chief Health Records Officer, Ministry of Health, Mauritius.</p>
	<p>Ghana: This is great Dr. Mogli! I suggest that countries adopt and put in one or two unique things. By wanjala pepela <wanjala2p@yahoo.com</p>
	<p>United Arab Emirates: Respected Sir, I haven't seen such an inspirational Oath for the HIM profession. The Oath is extraordinary; the entire HIM functions are integrated into Ten Words, and the Oath reminds HIM of their responsibilities and enlightens the management; on the type of work carried out by HIM professionals. If implemented; it will boost the HIM staff's status success to higher levels and earn great self-esteem. By Narendar Sampath Kumar, MBA (Hosp. Mngmt). Masters in Population Studies, BMRS, PGDCS, CHRIM (UK), CCS, CCA (AHIMA) Group Health Information Manager, Mediclinic Middle East, Dubai, UAE.</p>
	<p>Oman: Dear Sir Thank you for Your "Ten Commandments" I feel that it could be integrated with our HIM curriculum, every HIM Graduate should take an oath after finishing the HIM Education, thirdly it could be part of our professional strategic plan so that our professional leaders inculcate the commandments to each of their staffs. So it should be displayed in the HIM dept. like Mission, Vision, Values, and Goals. By K Kennedy George Program Coordinator, HIM Program, Oman College of Health Sciences' MOH, Muscat, Oman.</p>
	<p>Qatar: Respected Prof. G .D Mogli: Greetings!!! I accept and Implement "Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals. I am honoured to be part of the Health information profession and reaffirm my commitment to upholding the values and principles of my profession. By Vijayakumar Armugam; Health Information Management Officer Third Strategy Planning and Health Intelligence Email: varmugam@phcc.gov.qa Tel: 402-71851, Doha, Qatar.</p>
	<p>India: (Hyderabad) Sir, Thank you so much for conducting, the conference starting with the most valuable Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for HIM staffs, and honoring the professionals. In my life, I have not seen anyone doing so much for the profession. You have a great and rare personality. I really from my heart pay my sincere gratitude and regards to you for your wonderful work. People remember forever. By Mr. Prabhakar D. HOD, Yashoda Hospitals, Secunderabad. India</p>
	<p>Bangalore: Dear Sir, The two day Conference has really brought in the electrifying energy in me to change my working lifestyle to a better quality & quantitative standard which has resulted in aggressive implementation of the Ten AUSPICIOUS Commandments Oaths on my table for immediate implementation, I am grateful to you for such a great opportunity and for giving us the enormous Knowledge. We could share our limited knowledge with the Thank you for all the love, affection and care given to us during the Conference Sir.: By Bosser M Raja, Head - Operations & Marketing Dr. Solanki Eye Hospital, Pvt Ltd, Bangalore 560003 Mob:+91-7338678048</p>
	<p>Those who adopt Dr. Mogli's Oath of 10 AUSPICIOUS commandments, will be definitely successful persons in the HIM field. I recommended to all HIM professionals to adopt this in their entire life. I really appreciated Dr. Mogli's great achievement in the field of HIM. Also, it is proud of the HIM fraternity. Long live Dr. Mogli sir..God Bless you. By KESHAVARAO.T, Medical Record Officer (Gazetted); Health and FW Dept. Govt. of Karnataka, CIMS Teaching Hospital Chamarajanagara-571313 Karnataka. India, +91 9880569550 keshavaraos.it@gmail.com</p>
	<p>Bangalore: Dear Sir, Thank you very much for your advice on the implementation of "Dr. Mogli's Oath. Of course, we will implement the same in our organization from the 1st of January onwards and also will spread the same in our friend circle to implement in their organization.. Joju V. Antony Assessor of IRIS and CBHI Faculty, Director, Health Information Management, Sri Devaraj Urs Medical College Attached with R.L. Jalappa Hospital & Research Center, Kolar, Karnataka, PIN-563 103</p>

Chapter III: Practical Implementation of Dr. Mogli's Oath of Ten AUSPICIOUS Commandments

Introduction: “Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals” **Ten AUSPICIOUS Commandments:** strongly suggested as the Ten Commandments comprehensively cover all healthcare professionals' responsibilities. If honestly executes he/she will outshine and succeed.

A: Acquaint	U: Uphold
S: Serve	P: Participate
I: Innovate	C: Contribute
I: Inspire	O: Outshine
U: Unify	S: Succeed

Acquaint with mandatory needs of the healthcare organization; vision, mission, goals, and government laws to comply with. First, meet the high decision-makers and policymakers or their representatives and find out their need for recruiting him/her. By discussing with them; you will know what their expectations are, and understand the institution's activities for the present and future next 5 to 10 years. Visit the entire hospital, and its annexures if any; meet all the HODs of the Clinical, Nursing; and Lab. including Pathology, Microbiology, Biochemistry and Radiology, and other allied health departments to get acquainted with their work and convey your work as HOD of MRD.

Uphold the dignity of the organization, be loyal and neutral, follow ethical guidelines, and uphold the protection, privacy, and confidentiality of patient information. The MRD is being the custodian and the first point of patient contact, upholding the organization's name and fame depending on your department. As MRO you would inculcate all the staff to strictly adhere to the institution's ethical guidelines in protecting the privacy and confidentiality of patient information and meet their level of quality of service being rendered.

Serve to establish and run a well-organized and efficiently managed healthcare system as a team member to an entire institution to provide for the needs of the healthcare organization.

After realizing the needs of the institutions and the resources available at your disposal; you need to prepare a “Blue-Print or Road Map”. That covers the NEEDS AND MANAGEMENT OF MEDICAL RECORDS DEPARTMENT. The primary function of a hospital is the care of the sick and injured. The hospital administrator is legally and morally responsible for the quality of medical care rendered to patients. Therefore, the medical records in charge have a very important role to play in the effective and efficient management of hospital services.

The main needs of the Medical Records Department (MRD)

- a. the needs depend on the overall responsibilities and functions of the department.
- b. The following organizational needs have to be met before we could put the department into operation:
 - Planning, setting-up, organization, and management of the MRD
 - Promoting and obtaining good medical records or if EMR/E.H.R requirements
 - Cooperation with all the departments in the matter of records
 - Complete medical record control
 - Assist in the medical records, QA, and other committees
 - Prepare statistical reports and assist in research and teaching programs.
- c. Location and layout
- d. Personnel
- e. Equipment
- f. Good quality medical record forms (according to international standards)
- g. Budget and budgetary control
- h. Interdepartmental relationship
- i. Organizational chart of the department
- j. Work distribution chart
- k. Line, staff, and functional authority
- l. Operational policy:
 - Working hours—shift
 - Monthly duty roster (schedule)
 - Implementation of instructions
 - Training of new staff
 - Submission of reports
 - Supplies
 - Communications
 - Transportation of medical records
 - Housekeeping and physical examination
 - Hotel services
 - Protection from fire
 - Safety control
 - Infection control
 - Disaster and emergency plan.

The policies and procedures shall include

- Scope of the department
- Organization and functions of the Medical Record Department (HIM)
- Liaison between the hospital and health-centered and other health organizations
- Interdepartmental relationship
- Eligibility for treatment of A/R (ER), O.P., and I.P
- Screening of patients for minor ailments and specialty care

- Staff medical record
 - Medico-legal aspects
 - Consents: for investigations, treatments, operations, leaving against medical advice, emergency operations, the release of information, transplantations, transfusions, etc.,
 - Confidentiality and release of information
 - Authorized staff definition
 - Departmental quality assurance activities
 - Responsibility of medical record staff for medical records and other committees
 - Control of forms including design development, instructions for use, and completion of forms
 - Format and arrangement of medical records (A/E or ER, O.P., and I.P.)
 - Retention schedule for microfilming and preservation of records
 - Patient's property
 - Investigation (lab., x-ray, EEG, ECG, etc.). Request and report procedures
 - Authority and assigned responsibility for the safekeeping of all records
 - Responsibility for the content and completion of different parts of the medical record by medical staff, nursing and other staff
 - Transcription of medical reports, operation notes, discharge summaries, and other reports
 - Issue of medical reports and certificates
 - Submission of periodic reports including statistical data to authorities
- Recruitment of required personnel with job descriptions
 - Equipment and furniture supply
 - Space allocation
 - Approved standard medical abbreviations and symbols
 - Review of the quality of medical records at least quarterly for clinical pertinence and timely completion
 - Role of the Medical Record (HIM) Department in internal and external disaster and emergency plans

Rights and responsibilities of a patient

- Registers for O.P., A/E (ER), M.L.C., Admissions, Births, Deaths, Operations, Cancer, Patients Property, Infection Notification, Ward Registers, Patient Waiting Lists, Old Record Registers, and Record Destruction Registers
- Registration system of O.P. (new and appointment) I.P., & A/E

- Numbering system for O.P., I.P., (a unified record) and
- A/E (ER), records, and x-rays
- Filing system (for patient records, diagnostic, operative, and
- Master patient index, as well as x-rays)
- Referral and transfers within and outside the organizations.

General Instructions:

- Every page of the patient file shall have identification data; at least the patient's name and hospital number clearly legible.
- The treating staff whether medical, nursing, paramedical, or others must sign and date wherever and wherever any information is recorded in the form or record with the name and status of the contributor.
- All entries in the patient file shall be legible and clear.
- A list of authorized signatures must be filed in the Medical Record Department for reference.
- Signature stamps are not authorized without an actual signature (permitted only, if the owner takes full responsibility for the stamp's position).
- All verbal or telephone orders shall be signed by the responsible physician immediately or within 24 hours.
- Any documentation in the patient file shall not be erased, if corrections are required, circled, written over, and signed.
- Patients shall not be admitted or discharged without the written admission requests or discharge instructions of the treating physician or his authorized designee.
- No patient shall be taken to surgery without a complete history and physical examination, except in case of emergency, and this factor must be documented in the medical record.
- A provisional or admitting diagnosis shall be written at the time of admission wherever possible.
- Diagnoses shall be written on the face sheet without the use of abbreviations.
- Only approved abbreviations and symbols are to be used.
- Prior to discharge of the patient, the treating physician or his authorized assistant shall write the final diagnoses, including principal, associate, and complications, the condition of the patient on discharge, the result, and advice given.
- No objection certificate has to be obtained from the MRD by medical, nursing, or paramedical staff to keep records incomplete.

Work Procedures:

- Central registration and appointment system
- Outpatient clinics including clinic schedule
- A/E service registration and filing
- Admission office

- Processing of outpatient records
- Processing of inpatient records
- Hospital statistics
- Filing and retrieving of records and x-rays
- Medical record library – general functions including
- Transaction of medical reports, progress notes, issue of medical reports and certificates, microfilming, old record maintenance, and management of the Medical Record Department.

Participate actively in the policy-making meetings of the organization. Remain a member of professional society and take part and present papers in professional workshops and conferences. The meetings are an excellent platform for self-progress; while we are working as an MRO; just not only do routine; or traditional ways of working; every bit of opportunity to convert to prove that you are capable of sharing in the accomplishing administrative objectives by providing good health information that really plays an important role in the topic that is being discussed in the meeting. Your data becomes handy for them to make decisions; you are gradually getting closure to the HODs and the top administrator too. Some important administrative meetings that they consider only a few important officials are invited to and are really not related to MRO. Still, collecting vital statistics and interpreting them in a judicious way will find some results that are facts that can help the decision makers to decide how to be successful in that particular issue or project. But to do this, you need to work hard and make special efforts.

Innovate by conducting research as a team on the latest knowledge and technology to enhance the efficiency of the healthcare providers to deliver swift, safe, quality, and cost-contained care. The MRD is considered to be a gold mine, we need to work on the data so that it will help in finding new ways of doing that will reduce the staff and increase efficiency. As an MRO, try to accomplish better results with fewer resources. Make use of technology; understand clearly the hospital problems existing in OPD, A/E, and IP by meeting concerned and taking their views; come out with new schemes and divert your innovations towards the patient care services; that will have a tremendous effect on making the patient flow in the OPD systematic very orderly that will help the patients to get swift care that results in saving their time in the hospital; they experience a satisfaction.

Contribute by imparting education and training as a healthcare team for high standards of performance. Provide consultancy to needy patients as required by the organizations.

As an MRO, first and foremost train your staff thoroughly in their respective works; once that is achieved; you will find enough time for other innovative services. Once your department is organized; impart an orientation to all healthcare providers. There

are various ways; by going around the OPD or hospital, by meeting the patients, doctors, and other department heads; you realize that you have a solution for their problems. You will outshine gradually them through hard work, honesty, and sacrifice. You should contribute your expertise to other departments.

Inspire healthcare providers as a team; to achieve comprehensive healthcare to patients; and prevent medical errors, duplication of efforts, and expenses of the healthcare organization. Maintaining well-organized and efficiently managed MRD becomes a “Window of the Hospital” smart way of working by your staff with their discipline and punctuality inspires other departments; which stimulates competition that leads to achieving comprehensive healthcare for patients.

Outshine by practicing efficient methods as a team for significant contribution to providing the best possible care to the patient and to identify any disease surpluses will notify swiftly the public health officials to avert an epidemic. The COVID-19 pandemic has opened the eyes of all global hospitals to realize that disease surveillance can help. If we ensure that all the records especially inpatient records are documented accurately, timely, relevantly, and completely will help in concurrently classifying them according to WHO classification and will help in detecting rare diseases much earlier than any other departments. In fact, MRD can play a very vital role by early alerting the public health authorities to prevent epidemics/ pandemics.

Unify patient data by executing “one patient-one record and one number”, from birth to death for swift care to patients in any part of the globe. Hospitals in the sixties without computers were able to achieve unifying all “one patient record and one number” at least individual hospital level. With the advent of IT and Communication Technology; one has to try to accomplish unifying the record system by standardization and rationalization throughout the globe so the patient can get the care at any place from his record.

Succeed medical record is the Mirror that” reflects what is done to the patient, not recorded means not done”. “People Forget –Record Remembers”. MRO revolves around the patient being the nucleus to succeed in a healthcare organization's vision, mission, and goals. When the MRO was able to achieve the above 9 (AUSPICIO) the MRD has already become a centre of attraction- MRO being HOD; succeeded and the hospital is proud to bring as many distinguished professional guests and VIPs. Even the VVIPs have less time to visit the hospital but they will not miss visiting MRD; in this way, you not only succeed but achieve great self-esteem.

Chapter IV: Dr. Mogli's Progression of Ten CCUPATION Commandments"

**O: Obtain; C: Compete; C: Condition; U: Understand; P: Procure; A: Association
T: Transform; I: Implement; O: Outshine; N: Novelty**

1. **Obtain** required academic and professional qualifications from recognized Institutions to gain a suitable job.
2. **Compete**: and succeed with highly qualified professionals to gain an apt position in the institution. You get the job due to professional qualifications; and expertise. Continuously enhance proficiency in your field.
3. **Contribute**: by well-organized and efficiently managed HIM department with modern standards, and enlighten the management by imparting training on the HIM systems; policies, and procedures and providing a Doctors' Conference room for completion of records and research for high standards of performance
4. **Understand and uphold**: Understand mandatory needs, vision, mission, goals, and government laws to comply with by the institutions. Uphold the dignity of the organization, be loyal and neutral, and follow ethical guidelines, protection, privacy, and confidentiality of patient information.
5. **Procure and Participate**: Procure required justified needs by maintaining good relations with the high officials to serve better the institution; and continuously tactfully follow to succeed. Participate in decision-making meetings, and present professional papers in conferences to comply with the needs of the 21st century.
6. **Associations**: Each country may have one national HIM association with the objective of improving the quality standards of the HIM field with the latest technology and communication systems and augmenting professional status by way of introducing specialized HIM-needed programs; conducting workshops, and conferences bringing experts to share the views for the benefit of participants. Each state can have an association under the broad guidance of a national association to cater to their state issues.
7. **Transform the** staff by imparting standards, policies, and procedures, and develop HIM as one of the well-organized and efficiently managed departments in the country that will be a model and can be an excellent teaching institution to conduct different HIM educational programs. This inspires the staff to do their best.
8. **Introduce and Advice**: "Dr. Mogli's Oath of Ten AUSPICIOUS Commandments" on the first day of starting your HIM department and whenever a new candidate joins by supplying a copy of the "Oath". Everyone recites after that, take signature on the Oath sheet, from the candidate as evidence of understanding the decrees as part of his or her responsibilities. By abiding "Oath" the staff can perform their job most efficiently.
9. **Outshine and succeed**: Healthcare is dynamic and constantly changing; also technologies; embrace and succeed instead of deviating from the HIM profession. Serve with passion, and dedication, earning the honour. Leaving a safe zone, taking exciting roles, and gaining professional proficiency for the growth of all. Train staff to be robust to outshine and succeed. "Medical Records is Goldmine; more you dig; more you get".
10. **Novelty and National Celebration**: Conduct research on the latest knowledge and technology to enhance the efficiency of the HIM department. Inspire healthcare providers as a team to achieve comprehensive healthcare for patients; prevent medical errors, duplication of efforts, and expenses of the healthcare organization, and ensure healthcare providers deliver swift, safe, quality care that will lead to excellent progression. Dedicate your birthday as part of National HIM Day; celebrate by cutting the cake for jubilation by the entire staff by revamping the departments, decorating, and inviting hospital staff, even the community, and reciting Dr. Mogli's Oath of Ten AUSPICIOUS Commandments demonstrate the functions they carry, their contribution to the institution besides best patient care; in meeting the needs of medical education, research, legal, reimbursement, and insurance issues, making best-functioning institution

Celebration of MR's birthday as MR Day enhances Professional standards And gets self-esteem and progression

 USA	<p>Need-based in the current Indian Context: Celebration of MRO's birthday as MR Day in their respective hospitals is a must Everyone gets the opportunity to participate and celebrate as a single team MROs would not like to miss their Birthday celebration Celebration of HODs is common in hospitals; hence MRO's birthday will be fitting MROs' birthday celebrations like Teachers Day and so on.</p>
 Canada	<p>Recognition by Management and Public: Ten AUSPICIOUS directives for better professional standards Ten OCCUPATION directives for self-esteem and progression Prove MRO's contributions to the patients' care, physicians, and staff. MR's birthday itself is a great recognition and pride by everyone including family</p>
 Canada	<p>Rewards and Celebrations: President should. Honor the dedication to the Profession's entire life The best MRO nationwide should be recognized, and honored by the Central Govt. The best MRO should be given Dr. Mogli's Award each year Each state should honor the best MRO by a Govt. Celebration can be jubilant as a victorious team for all the staff. Everyone would like to celebrate National MR Day on their Birthday.</p>
 Mauritius	<p>Opportunity for boosting morale and status: Boost the morale of the MR staff to do better and better Improves the status of MRD and its entire staff Consolidate efforts; create a stronger sense of unity among nationwide MROs,</p>
 U.A.E	<p>During the celebration: Before invitation, revamp MRD and the staff pleasing look Invite hospital staff and other members for the celebration Recite Dr. Mogli's Oath of Ten AUSPICIOUS Commandments with staff Highlight the vital role of MR to Management and guests Show whole year report covering its efficient contributions to hospital management Specify MRD's past achievements and future plans to improve the quality of services. Request justified MR wants including staff promotions as a gift from the management Cut Cake and share; celebrate to make everyone jubilant</p>
 Qatar	<p>How to remove the MR Inferior Complex and the low status of the MR professionals? MR professionals just carry on given tasks without asking about their needs Passive way of working leads to the downfall of MR's professional status Need to be robust for better performance by getting the required items. Transform to serve selflessly under proper guidance to succeed Educate the management, and public, locally and nationwide about the vital role of MR Direct own energies for improving quality standards that lead to self-growth Stay current in professional advancement through commitment and dedication Utilizing own time wisely can lead to Professional growth None will help; only an individual's hard work will inspire for success</p>
 Oman	<p>MR Professionals desire to celebrate "Father of Medical Records of India" Dr. Mogli's birthday is National Day on the 1st of July every year "You are a great person in the Medical Records Field in the entire world You dedicated your entire life to this field and even at the age of 85 helping You've reached the sky & have achieved a lot in this field.</p>
 Hyderabad	<p>You are the INSPIRATION & ROLE MODEL for the Youth Everyone would like to celebrate National MR Day on your Birthday. Only that day everyone will take Dr. MOGLI's Oath of Ten AUSPICIOUS Commandments". Besides MRO's birthday in each hospital, once a year, all will celebrate the 1st of July every year. This will inspire everyone to reach high with passion and dedication to succeed.</p>
 Bangalore	
 Bangalore	

Chapter V: Who is Dr. Mogli? And what is his contribution nationally and internationally to HIM Field?

He holds Three World Records: 1. Fellow of the USA-he is the only one outside of the USA in the entire World except for the US citizens, 2. He has a Fellow from the UK and the USA. None in the World has; 3. "Dr. Mogli's Mirror" book challenged the offer of US \$1000/- (One thousand dollars); if anyone from any part of the world has achieved more than Dr. Mogli can claim. The book was given to top Distinguished Professional members of 33 Countries of the World including top Global professional association members 'International Federation of Health Information Management (IFHIMA) Past, Present, and Future Presidents. None could claim. He worked as Consultant to WHO and 9-plus Nations as a Sr. Consultant & Adviser to the Ministries of Health; in India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar, and UAE. He established Tens of HIM Educational Institutions; Organized Hundreds of Hospitals; and Trained Thousands of Healthcare Professionals. He received the highest awards from the USA, UK, and many other countries; FAHIMA of USA is equivalent to an Oscar award for the film industry. He participated and Presented Papers at 24 International Conferences, and hoisted Indian Flags in different Nations. Gave guest Lectures in 14 Overseas Counties. Published 131 papers in International Journals of Repute and published 18 books; used by many nations in the world; He had the opportunity to work closely with Health Ministers; and met the Highest Leaders in the world. e.g., Presidents, Prime-Ministers; Queens, and Princes of great nations: besides high professional around the globe; He is well known worldwide as the "Father of Medical Records of India and the Middle east" and Champion of Developing Countries by IFHIMA (World).

He is one of six; served selflessly, fully dedicated not to Name or Fame but just giving the best for the profession. He is the Founder of HIMA India (1972) and associated with IFHIMA for 50 years: To quote the names who served selflessness, fully dedicated not for (Name or Fame) but just giving the best to the profession. The young global HIM members should know and get inspired by their sacrifice: 1. Mrs. Grace Whiting Myers (1928); the first President of the USA. 2. Elsie Royle Mansell of the UK conducted the first Int. Congress (1952): 3. Dr. Boga Skrinjar Nerima of WHO, brought the world of MR professionals into IFHIMA in the 1970s; 4. Prof. Willis Watson of Australia is a great educationist serving selflessly since 1972; 5. Carol Lewis, of the USA, served many nations since 1976 and provided selflessly to the HIM profession. 6. Prof. Dr. G. D. Mogli of India served 9 plus countries since 1957; associated with IFHIMA since 1972; made policies; logo; and national membership fee; and chairman of Developing Counties; studied and presented in 9th Int. Congress held in New Zealand in 1984 and was awarded as Champion of Developing Countries by IFHIMA (World). And involved in many activities and innovated in the 1970s Mogli's Ready Reckoner was used by most of the global nations including India-very popular till the end of 1990. Now; Dr. Mogli's Oath of Ten AUSPICIOUS Commandments will be

used by many nations. “You are a great leader in India and World renowned great teacher of medical information management. I always admire your straightforward thinking about HIM. Your thoughtfulness and hard work are second to none in the world” by Yukiko YOKOBORI of Japan Hospital Association: Japan Society of Health Information Management, Japan.

Recent Achievements: He was selected as a member of the Academic Review Panel for 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.>

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.

Prof. Dr. Mogli’s worldwide contact with high dignitaries; Presidents, Prime-Ministers, Health Ministers, University Presidents & Deans; HIM Professionals and others



**Dr. Mogli's "First Indian to achieve the following in the Indian History" of
Medical Records/Health Information Management**

Year	Content
1957	Started working from 1957 in Nagarjuna Dam Hospital. AP, India
1960	Organized Record Section of Niloufer Hospital, Hyderabad, AP with training record keeping of city hospitals, the American Library, State Statistical Dept., made the best record system in the AP State. Many high dignitaries e.g., N. Sanjeeva Reddy, Chief Minister of AP, Indira Gandhi as National Congress President, Paediatric Professors, DMS, & many WHO/UNICEF officials visited and highly appreciated.
1963	Started organizing medical records sections in different hospitals; started medical record certificate training program in 1963 in Osmania Hospital, Hyderabad in association with American Expert Mrs Acker, RRL, Consultant for Medical Records trained many city hospital personnel.
1964	Developed "Mogli's Ready Reckoner for counting hospital days (LOS)" published in IFHRO in 1977 journals and the UK and many other countries MR Journals in 1978- used by many countries. Indian Govt. MOH was circulated to all the hospitals in India to be used.
1968	The MOH of Govt. of India Officials stated the JIPMER MRD is the best in the country; it has a well-organized and efficiently managed Unit record system; for OP, A/E, and IP and classifying OP, and IP records as per WHO ICD classification is unique; for morbidity and mortality information and excellent keeping MPI to prevent duplicate records.
1971	Published "Outpatient Medical Records System and Procedures in India" in UK MRO official journal in May 1971.
1972	As a Founder formed "Indian Association of Medical Records Officers" was registered under the Govt. of India Society Act on 12 th July 1972 with the official address; MRD of JIPMER one of 3 National institutes of India. Officially announced by Govt. of India in All India Radio and many national newspapers. Later the association was known as HIMA India.
1973	Published "Medical Record System and Procedures in South India" in American MR News Journal in April 1973 with great appreciation.
1973	Dr. Mogli was deputed to Afghanistan due to the reputation of MRD, where he organized the MRDs and trained 33 MRT candidates, which was highly appreciated by the Afghan and Indian Governments. The Afghan MOH officials called Dr. Mogli as "Father of Medical Records" for having started first time an MRT training program in Afghan history. During his visit, he met experts, several officials, and dignitaries from WHO, Russia, the US, Australia, and other nations. He met the Prime Minister of India, Mrs Indira Gandhi, and took a round of MRD and introduced staff.
1973	"Medical Record System and Procedures in South India" was published in AHIMA American Journal in 1973.

1976	First Indian to participate and present paper at the International Congress attended by 2,000 participants, conducted by IFHRO in Toronto, Canada, in September 1976.
1976	He participated in the 7 th Int. Congress held in Toronto and got affiliated with IFHRO the Indian Association of MRO which was formed in 1972.
1978	First Medical Record Professional to occupy Class One Gazetted Officer Post in the Central Government.
1980	He got 2 nd best award for his paper presented in the IFHRO Congress held in Den Hague, Netherlands, in 1980. Had the opportunity to have Dinner with the Queen of the Netherlands along with other IFHRO executives.
1980	He was appointed as a Publication Committee member of IFHRO and Chairman of Developing Countries to study the MR systems and procedures. As a Chairman studied 13 Developing Counties systems and presented in the IFHRO Congress held in New Zealand in 1984.
1980	He started in 1980 the Bachelor of Medical Record Science (B.M.R.Sc.) University Degree Program under the Madras University. first of its kind in Southeast Asia,
1980	He was the first to be appointed as University Examiner by the University of Madras for B.M.R. Sc., education programs in India.
1980	During his WHO Fellowship visit to UK, delivered guest lectures to MR personnel, participated in workshops, input for improvements to the record system; where he met Prince Charles; presently King of the UK.
1981	First Indian to work as a Medical Records Adviser to the Ministry of Public Health, State of Kuwait.
1982	First Indian to obtain a doctorate (Ph.D.) in medical record administration from SV University, Tirupati, AP India in 1982.
1983	He published “Historical Background of Medical Record Administration in India” in the IFHRO journal, October 1983.
1984	He was appointed as one of four faculty members selected globally, conducted a workshop on teaching and learning techniques for teachers of medical record procedures for professors, deans, and officials organized by IFHRO and WHO, at Taranaki Base Hospital, Plymouth, New Zealand prior to the 9 th IFHRO Int. Congress in 1984.
1984	He participated and presented 3 papers in the IFHRO Congress held in New Zealand; was awarded “Champion of Developing Countries by IFHRO- currently named as IFHIMA (World) for working as Chairman of Developing Countries and presenting 13 countries reports; was highly appreciated by many nations.
1984	First Indian to chair a session of the International Congress, at the 9 th Congress held in Auckland, New Zealand, May 1984.
1988	First Indian to be appointed as Examiner for Ph.D., students’ theses in Saudi Arabia in 1988.

1996	First Indian to publish a book entitled “Managing Medical Records” in the USA in 1966.
2001	First Indian to be awarded Fellow of the Institute of Health Record Information Management (FHRIM) of the United Kingdom, in 2001.
2004	First Indian Nominated for the 2004 AHIMA Triumph Award, honoring those who make a difference in the HIM profession.
2007	First Indian and first non-American to receive the Fellow of American Health Information Management Association (FAHIMA) Award in April 2007. To date none from other parts of the world except the US citizens.
2007	First Indian to date, and the only person in the world (currently) to have two prestigious Fellow Awards from the UK (FHRIM) and USA (FAHIMA) which is equivalent to the film industry Oscar Award.
2008	First Indian to receive membership of AHIMA’s Action Community for HIM-Excellence (ACE) in 2008.
2023	First Indian selected to be one of the panel members to evaluate papers presented for IFHIMA Congress to be held in 2023 in Brisbane, Australia.
	First Indian served 9 Nations; as Sr. Consultant and Adviser to the Health Ministries, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, UAE, and Qatar.
	First Indian to serve several nations as a WHO Consultant.
	First Indian to deliver Guest Lectures in 14 overseas nations
	First Indian to Participate and present papers in 24 MR and Health Informatics conferences held all over the world.
	First Indian to published 17 MR books & 131 papers in journals of repute.
	Recruited hundreds of MROs, created thousands of jobs; and trained thousands MR personnel across the Globe.
	First Indian to have met personally, the Kings, Queens, and Prime-Ministers worked closely with Health Ministers, Presidents of Universities, and high professional dignitaries across the world.
2019	Published in 2019; “Dr. Mogli’s Mirror” announced a Humble Award of One Thousand US Dollars (US\$1000) for Honourable readers; if anyone can find any other person in any part of the globe who has more illustrious accomplishments in the field of medical records than Dr. Mogli can claim the award. The book was freely distributed at the Dubai IFHIMA Congress held in 2019; to several members including 33 national professional dignitaries including IFHIMA past, and present presidents and executive members. None could claim. “Dr. Mogli’s Mirror book” is the testament. Dr. Mogli is the Global authority in the HIM Field.

Chapter VI: The Patient

Introduction: The author during his career as Senior Consultant and Advisor to the Ministries of Health of different countries, had interacted with hundreds of healthcare professionals of multinational and realized that they all work throughout their career in a health-related field, and do their best, despite, patient care mostly carried out as mechanical process; especially in Developing Countries, as it appeared that an item was brought to the workshop for repair and the mechanic with his assistants repairs it and hand over to the owner. Similarly, the patient either sick or injured visits the hospital for relief/care and is treated perfunctorily.

In earlier days in Developing Countries, medical care was rendered free of cost, even today, in some nations still in practice. In that situation, the patient or his family were not much concerned of respect or self-esteem while getting treatment, and were happy whatever was done was accepted with gratitude. The present situation has changed with the spiraling cost of healthcare; medical dynamism and tough global competition. The patients and families expect not only the best possible treatment from the healthcare team but also to practice medical ethics in a strict sense in providing care with empathy as they pay for every service they get in the hospital. This is one aspect, but in reality, rendering care with human touch and good behavior will add much value to the greatest satisfaction of a patient and his family members. In order to ensure that healthcare providers including medical, nursing, paramedics, and administrative personnel really grasp the value of a patient, the entire healthcare organizations including the World Health Organization (WHO), UNICEF, and national healthcare ministries, directorate general offices, corporate hospitals and so on exist and functioning with tremendous responsibilities to provide best possible healthcare to the citizens of the nation.

Keeping the above object in view, the author while serving as a Senior Consultant and Advisor to the Ministries of Health in the Gulf Cooperation Council (GCC) in Middle Eastern countries conducted a quiz in a few nations during the implementation of the Hospital Policies and Procedures training program wanted to elicit the feelings of participants comprising, medical, nursing, paramedics and administrative staff asking them to **NAME THE POSITION** which is the most important in the healthcare delivery system from the following list: The Quiz was conducted in four phases: Each phase has different results.

S. No.	Post
1	Minister of Health
2	Undersecretary of Health
3	Director General of Health
4	Chief Executive Officer of Health
5	Medical Director
6	Hospital Administrator

7	Doctor
8	Nurse
9	Patient
10	Pathologist
11	Radiologist
12	Microbiologist
13	Biochemist
14	Pharmacist
15	Medical Social Worker
16	Nutrition
17	Physiotherapist
18	Occupational therapist
19	Optometrist
20	Audiologist
21	Medical Records Manager
22	Information Technologist
23	Human Resource Manager
24	Finance Manager
25	Public Relations Officer

First Phase Quiz Results: The response was quite interesting by the divergent group ranked according to their understanding and found their response was mostly on the importance of title and positions, nevertheless, majority of them considered a **doctor and Nurse (35%)** followed by **Health Minister, Under Secretary & Director General of Health Services (30%)** **Chief Executive Officer, Medical Director and Hospital Administrator (15%)** **Pathologist, Radiologist, Microbiologist, Biochemist, Pharmacist and Medical Social Worker (10%)** **Patient (5%)** and others such as Nutritionist, Physiotherapist etc. (5%).

Second Phase: The Quiz was repeated a second time. In the second phase, the top positions (s.no. 1 to 3) were removed and participants responded and were given marks to the rest of the group. Their response was mostly on the importance of title and positions, nevertheless, the majority of them considered a **doctor and Nurse (40%)** followed by **Chief Executive Officer, Medical Director and hospital Administrator (25%)** **Pathologist, Radiologist, Microbiologist, Biochemist, Pharmacist and Medical Social Worker (20%)** and others such as Nutritionist, Physiotherapist, etc. (10%) and **Patient (5%)**.

Third Phase: The Quiz was repeated the third time the top positions (s.no. 4 to 6) were removed and participants responded by giving marks to the rest of the group. Their response was mostly on the importance of title and positions, nevertheless, the majority of them considered a **doctor and Nurse (45%)** followed by **Pathologist, Radiologist,**

Microbiologist, Biochemist, Pharmacist and Medical Social Worker (25%)) others such as Nutritionist, Physiotherapist, etc. (20%) and Patient (10%)

Fourth Phase: The same question was repeated the fourth time retaining all the posts from S. No. 1 to 25 except removing s.no.9- the patient from the list: There was pin-drop silence for some time and wondered what to answer. In a moment- they realized without patient—all other positions including the highest posts have no significant value. Hence it is the Patient- around HIM and all the Healthcare Organizations and Professional efforts revolve

S. No.	Post	1 st Phase QR	2 nd Phase QR	3 rd Phase QR	4thPhase QR
1	Minister of Health	|	|	|	0%
2	Undersecretary of Health	30%	Deleted	Deleted	
3	Director General of Health				
4	Chief Executive Officer	|	|	|	0%
5	Medical Director	15%	25%	Deleted	
6	Hospital Administrator				
7	Doctor	35%	40%	45%	
8	Nurse				
9	Patient	5%	5%	10%	Deleted
10	Pathologist	|	|	|	0%
11	Radiologist	|	|	|	
12	Microbiologist	|	|	|	
13	Biochemist	10%	20%	25%	
14	Pharmacist				
15	Medical Social Worker				
16	Nutrition	|	|	|	0%
17	Physiotherapist	|	|	|	
18	Occupational therapist	|	|	|	
19	Optometrist	|	|	|	
20	Audiologist	|	|	|	
21	Medical Records Manager	5%	10%	20%	
22	Information Technologist				

23	Human Resource Manager				
24	Finance Manager				
25	Public Relations Officer				
		100%	100%	100%	0%

Who, What, Why, How, When, and Where of Patient Care:

The article encompasses the most important topic that is vital as the patient is a central focus entity around him/her entire healthcare organization and professionals' efforts revolve. Thus, it would be appropriate to have a clear picture of the patient including who, what, why, how, when, and where patient care is needed and rendered. It further offers information such as the gist of outpatient or ambulatory, emergency, and inpatient or hospitalization care. This chapter encompasses Patient behavior and feelings, patient doctor-encounter, patient problems, patient education, and safety and satisfaction.

Patients' and families' general priority, when they visit a hospital or any healthcare institution, is to get care with skill, compassion, and respect. They would be anxious to know the place of treatment, who would be their care providers, especially the treating physicians and nurses, and other personnel involved in his / her care. They are also concerned with the students and residents or trainees trying to experiment. Another important concern is safety and the cost. Ethical practice emanates signify patient-provider relationship emphasis on respect for patient autonomy and shared decision-making. As soon as the patient settles down in an allocated room, the patient and family have many questions about what to expect and what is going to happen during their stay and their inquiries are not limited to the following:

- Who is in charge of my care?
- Can my family bring in food?
- Can visitors be restricted?
- What if I am unhappy with my care?
- Do I get patient-oriented service?
- Do I get high-quality service in a safe manner?
- Expect swift care with empathy!
- The anxiety of duplication or unnecessary investigations or surgery
- The general attitude of personnel involved in providing healthcare
- Expects a patient-and family-centered philosophy of care
- Most anxiety about the cost of treatment etc.

Does the hospital share the progress report of patient condition regularly?

- Patient family-centered care means involving and responding to patients and families. To do this, the hospital
- Recognize that each patient and each family is unique
- Provide open, honest communication
- Involve the patient/family in the planning, delivery, and evaluation of healthcare
- Offer a welcoming, supportive environment
- Provide timely justified expert care
- Provide access to information and resources
- Does the hospital have any handbook to know the rights and responsibilities of a patient
- To know more about the hospital, room, meals, and other important information that may be useful.
- If there is any problem or concern about whom to contact

Who is a patient? A patient: is any person who receives medical attention, care, or treatment. The person is most often sick or injured and in need of treatment by a physician or other medical professional, although one who is visiting a physician for a routine check-up may also be viewed as a patient. A patient is a person with a unique health-related problem. A patient is a person who is suffering and needs help. It is necessary to recognize their rights. These rights are equal to those of anyone else in health. . Every person whether well or ill has the right to be treated with human dignity

An outpatient is a patient who is not hospitalized overnight but who visits a hospital, clinic or associated facility for diagnosis or treatment. Treatment provided in this fashion is called ambulatory care. Outpatient surgery eliminates inpatient hospital admission, reduces the amount of medication prescribed, and uses a doctor's time more efficiently. More procedures are now being performed in a surgeon's office, termed office-based surgery, rather than in an operating room. Known as “day-care surgery”. Outpatient surgery is suited best for healthy people undergoing minor or intermediate procedures (limited urologic, ophthalmologic, or ear, nose, and throat procedures and procedures involving the extremities).

An inpatient: on the other hand is "admitted" to the hospital and stays overnight or for an indeterminate time, usually several days or weeks (though some cases, like coma patients, have been in hospitals for years). Due to concerns such as dignity, human rights, and political correctness, the term "patient" is not always used to refer to a person receiving health care. Other terms that are sometimes used include health consumer, health care consumer, or client. These may be used by governmental agencies, insurance companies, patient groups, or healthcare facilities. Individuals who use or have used psychiatric services may alternatively refer to themselves as consumers, users, or survivors.

Types of patients:

Passive-Dependent: This kind of patient prefers that the doctor make the healthcare decisions, setting up a course of action. Trusting the medical profession, they believe most doctors know best. And not interested in understanding or analyzing the risks and benefits of diagnostic or treatment options, or in making shared decisions. They just want to follow whatever plan the doctor creates.

Independent-Skeptical: This kind of patient wants an arms-length relationship with the physician. Skepticism about expert advice comes naturally, they tend to form and rely on their own opinions after learning about the options. Expecting to have the final say in decisions about health, they are unlikely to accept the advice of others. Still, it's not unlike to seek second or third opinions. Emotional support is not what they are after. Instead, they want treatment recommendations to be regarded as rational or consistent with the worldview, knowledge, and experience.

Intellectual-Researcher: Eager to understand the science behind diagnostic and therapeutic choices, they research health conditions online or in journals and expect to participate in decisions. They examine doctor qualifications and ask for references, and prefer a doctor who practices in a prestigious healthcare institution. Stimulated by participation in the diagnostic and therapeutic process, they intellectualize their health condition. Emotional support isn't what they're after: they want to understand the risks and benefits of each option. In their eyes, medicine is more science than art.

Expedient-Flexible: They're not concerned about building a long-term relationship with physicians, and besides, tend to have only episodic health needs. They figure that one physician is about as good as another, especially one who is available right when they need him or her, they are cost-conscious and are therefore unlikely to choose a physician based on prestige. They're unconcerned about whether they see a doctor at a clinic or a hospital. Emotional support isn't their priority either; they have little curiosity about the healthcare process or analysis of the risks and benefits driving decisions. They may have grown up seeing doctors in a clinic-type setting.

Open-minded-Exploring: They're seeking a more personal connection with the physician and related health providers, including alternative practitioners. They see health care as a partnership between doctor and patient and prefer a doctor who won't rush through their appointments and who is open to alternative approaches and therapies. They see emotional support as an integral part of approaching all of the needs of the patient. They're interested in alternative and non-traditional medicine and appreciate the spiritual dimension of healing and they view medicine as more art than science.

What the patient needs: In order to better understand patient differences in question-asking and other information-seeking behaviors when communicating with doctors. Socio-demographic data, attitude measures, interview data, and tape recordings of doctor-patient encounters revealed that patients desired information about a wide range

of medical topics but did not engage in many information-seeking behaviors when communicating with doctors.

While desiring information, patients regarded doctors as the appropriate persons to make medical decisions. Regression analyses indicated that patient information-seeking behaviors were more directly associated with situational variables (length of interaction, diagnosis, the reason for visit) than with patient attitudes or socio-demographic characteristics.

Hospitalization: Hospital admission involves staying at a hospital for at least one night or more. Staying in the hospital overnight is done because the individual is too sick to stay at home, requires 24-hour nursing care, and/or is receiving medications and undergoing tests and/or surgery that can only be performed in the hospital setting.

An individual may be admitted to the hospital for a positive experience, such as having a baby, or because they are undergoing elective surgery or procedure, or because they are being admitted through the emergency department. Being admitted through the emergency department is the most stressful of these circumstances because the event is unexpected and may be a major life crisis.

Before the person is taken to their room, admitting procedures are performed. The person's personal data is recorded and entered into the hospital's computer system. This data may include:

- Full name spelled properly
- address
- home and work telephone number
- date of birth
- place of employment
- occupation
- emergency contact information, or the names and telephone numbers of those individuals the hospital should contact if the person being admitted needs emergency care or their condition worsens significantly
- insurance coverage
- reason for hospitalization
- allergies to medications or foods
- religious preference, including whether or not one wishes a clergy member to visit

There may be several forms to fill out. One form may be a detailed medical and medication history. This history will include past hospitalizations and surgeries. Having this information readily available will make the process move faster, and can allow a family member or friend who is accompanying the person to help fill out the forms more easily. The hospital may ask if there are any advance directives. This refers to

forms that have been filled out indicating what medical decisions one wants others to make on their behalf.

Once all the admitting information has been completed, the next step is usually being taken to a general ward or one's room. Most people stay in a semi-private room, which means that there are two people in a room. In some circumstances, a person's medical condition may require staying in a private room. If there are private rooms available, and the individual is willing to pay the extra cost (insurance companies generally only cover the cost of a semi-private room), it may be possible to have a private room. Most hospital rooms are set up so that one bed is closer to the door, and the other is next to a window. There are curtains that can be drawn completely around the bed so that some degree of privacy is possible. Once taken to a room, the nurse taking care of the patient will go over the medical and medication history, and orient the person to the room.

These kinds of decisions are made with the person's safety and medical condition in mind. If the person is not thinking clearly, perhaps because of some medication they are receiving, the side rails of the bed may be put up, to prevent falling out of bed. The nurse will review the doctor's orders, such as what tests have been scheduled, whether or not they can get out of bed for the bathroom or walk around the unit, what medications they will be getting, and whether or not there are restrictions on what they can eat.

Sometimes when people are admitted to the hospital they need extremely close observation that can only be given in specialized care called an intensive care unit. Because of the severity of their condition, visiting hours are more restricted than in the regular rooms. It may be that only one or two people can visit at a time, and only for a few minutes at a time. Once the person's condition improves, they may then be transferred to a room with a less rigid visitation policy. If an individual has a surgical procedure performed, they will spend a few hours in a recovery area. This is to make sure that the person's condition is stable before returning to the regular room. Of late, most corporate hospitals prefer placing patients after surgery in the ICU or ICCU. The concept of a recovery room is gradually diminishing

If the hospitalization is prearranged, there are preparations that will make the process go more smoothly. It is helpful to have a list of all medications currently being taken, the dosages, how often they are taken, and the reason for taking them. The list should also include any allergies to food and medications, including a description of the reaction, and when the food or medication was last taken. The list should include over-the-counter (OTC) and prescription medications, vitamins, supplements, and herbal and home remedies.

If the hospital stay involves surgery in which there is the potential for significant blood loss, it may be possible to arrange to have blood drawn and stored so that in the event of a transfusion, the individual receives his or her own blood.

A small bag can be brought into the hospital that contains personal care items that must be carried. It is best not to bring in any medication from home unless it has been prearranged with the physician and hospital staff prior to hospitalization. This is to prevent an error from occurring by having the person take one dose from their own medicine and then be given another dose from the hospital pharmacy.

Workflow of Emergency Department: The patient goes to the front desk of the Emergency Department. The patient is confirmed to be service received from the hospital. The Emergency Department carries out registration and distribution and calls in a coordinator from the Emergency Department for further examination and treatment. A doctor from the Emergency Department is assigned to treat the patient. The emergency Department reports to the Working Office and asks for assistance if they need special attention. The patient is transferred to a relevant department for hospitalization, or he gets recovered and is discharged from the hospital. **The patient** settles the account and is provided with a discharge summary of treatment (including diagnosis) and a detailed statement of charges.

Workflow of Inpatient Admission: A referral doctor issues a Referral letter of Inpatient Admission. The case of the patient is kept in the records of the Working Office. The patient goes through the necessary procedure of hospitalization. A special person sends the patient to a special ward. The process of diagnosis and treatment for the patient settles once and for all the accounts and is provided with a summary of his/her disease.

Patient safety: Patient safety is an important healthcare discipline that emphasizes the reporting, analysis, and prevention of medical errors that often lead to adverse healthcare events. The frequency and magnitude of avoidable adverse patient events were not well known until the 1990s when many countries reported shocking numbers of patients harmed and killed by medical errors. Recognizing that healthcare errors impact 1 in every 10 patients around the world, the World Health Organization calls patient safety an endemic concern. Indeed, patient safety has emerged as a distinct healthcare discipline supported by an immature yet developing scientific framework.

There is a significant trans-disciplinary body of theoretical and research literature that informs the science of patient safety. The resulting patient safety knowledge continually informs improvement efforts such as: applying lessons learned from business and industry, adopting innovative technologies, educating providers and consumers, enhancing error reporting systems, and developing new economic incentives.

The simplest definition of a healthcare error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. A conservative average of both the Institute of Medicine and Health Grade reports indicates that there have been between 400,000-1.2 million error-induced deaths during 1996–2006 in the United States. These casualties have been, in part, attributed to:

Human Factors

- Variations in healthcare provider training & experience, fatigue, depression, and burnout.
- Diverse patients, unfamiliar settings, and time pressures.
- Failure to acknowledge the prevalence and seriousness of medical errors.

Medical complexity

- Complicated technologies, powerful drugs.
- Intensive care, prolonged hospital stay.

System failures

- Poor communication and unclear lines of authority of physicians, nurses, and other care providers. Complications increase as the patient-to-nurse staffing ratio increases.
- Disconnected reporting systems within a hospital: fragmented systems in which numerous hands-offs of patients result in a lack of coordination and errors.
- Drug names that look alike or sound alike.
- The impression that action is being taken by other groups within the institution.
- Reliance on automated systems to prevent error.
- Inadequate systems to share information about errors hamper analysis of contributory causes and improvement strategies.
- Cost-cutting measures by hospitals in response to reimbursement cutbacks. Environment and design factors. In emergencies, patient care may be rendered in areas poorly suited for safe monitoring. The American Institute of Architects has identified concerns for the safe design and construction of healthcare facilities
- Infrastructure failure. According to the WHO, 50% of medical equipment in developing countries is only partly usable due to a lack of skilled operators or parts. As a result, diagnostic procedures or treatments cannot be performed, leading to substandard treatment.

The Joint Commission's Annual Report on Quality and Safety 2007 found that inadequate communication between healthcare providers, or between providers and the patient and family members, was the root cause of over half the serious adverse events in accredited hospitals. Other leading causes included inadequate assessment of the patient's condition, and poor leadership or training.

Common misconceptions about adverse events are:

- Incompetent healthcare providers are a common cause. (Although human error is commonly an initiating event, the faulty process of delivering care invariably permits or compounds the harm, and is the focus of improvement.)

- High-risk procedures or medical specialties are responsible for most avoidable adverse events. (Although some mistakes, such as in surgery, are harder to conceal, errors occur in all levels of care. Even though complex procedures entail more risk, adverse outcomes are not usually due to error, but to the severity of the condition being treated.). However, United States Pharmacopeia (USP) has reported that medication errors during the course of a surgical procedure are three times more likely to cause harm to a patient than those occurring in other types of hospital care.)
- If a patient experiences an adverse event during the process of care, an error has occurred. (Most medical care entails some level of risk, and there can be complications or side effects, even unforeseen ones, from the underlying condition or from the treatment itself.)

Potential Causes Related to Patient:

- The patient left against the advice
- Hospital-acquired infection
- Patient not improved
- Increased mortality rate
- Patient repeated admissions
- Patient post-operative complications
- Incident cases
- Patient complaints due to dissatisfaction
- Absconded patients
- Patient increased length of stay
- Waiting time of the patient
- Medication errors
- Transfusion reactions, wrong blood type
- Obstetric and birth trauma
- Anesthesia and postoperative complications
- Patient falls in hospital e.g., hip fracture
- Hospital-acquired burns
- Change of investigations
- Wrong diagnosis, wrong medications
- Change of mother and child
- Occurrence variance
- Problems relating to healthcare services
- Patient dissatisfaction
- Patient care evaluation to ensure that he/she is getting the best care
- Safety, Security of patient
- Protection of privacy of patient information

Chapter VII: Healthcare Management including Hospital Services

What is health care management? Healthcare management is the administration and management of a healthcare facility, such as a hospital or clinic. The healthcare manager is responsible for the day-to-day operations of a healthcare facility. The Hospital Administrator is generally in charge of healthcare management and oversees the day-to-day operations of the facility. This individual also acts as a spokesperson when providing information to the media. Healthcare management encompasses the efforts involved in planning, directing, and coordinating nonclinical activities within healthcare systems, organizations, and networks. This is a much-focused branch of management that requires specific knowledge of healthcare operations and technology along with soft skills such as the ability to motivate team members, collaborate with multiple stakeholders, and proactively implement needed changes.

Health care management duties include: The responsibilities of health care managers and administrators vary depending on the type of health care setting and the size of the organization, but some of the most common include: In addition to the following: communication; teamwork; flexibility; stress management, team management, and decision making is part of the management responsibility.

- Developing organizational goals and objectives
 - Recruiting, training, and supervising medical staff
 - Ensuring compliance with patient privacy laws and other pertinent federal, state, and local regulations
 - Creating work schedules
 - Managing health informatics, including electronic health records (EHRs)
 - Monitoring and/or managing facility finances and budgets
 - Communicating with medical staff, department heads, investors, and/or governing boards
 - Identifying ways to improve healthcare services and increase operational efficiency
- Health care management skills

Where Healthcare is provided? Health care is provided in primary, secondary, and tertiary including rehabilitative and health care facilities which fall into different categories: Allopathic, Ayurveda, Yoga, Unani, Siddha, and Homeopathic. We are concerned with the allopathic category.

Primary Health Care (PHC): The WHO defined primary health care (PHC) as the principal vehicle for the delivery of health care at the most local level of a country's health system. To be precise, the main activities of PHC include health education, school health, environmental health, maternal and child health, control of

communicable and non-communicable diseases, community participation, eye, ear, oral health, diabetes, hypertension, promotion of proper nutrition (Protein Energy Malnutrition (PEM), etc.

Secondary Healthcare: Secondary and Tertiary care is mostly provided by hospitals of varied sizes and specialties. They are mostly in urban semi-urban areas.

Tertiary healthcare: these hospitals are exclusively super-specialty hospitals for example; cancer, ophthalmology, ENT, Cardiac thoracic, gastroenterology, neurology, endocrinology, etc.

Hospital Services: The hospital services include outpatient, emergency, and inpatient that encompass medical, nursing, paramedics, and other allied health and support services. Secondary healthcare is generally provided in varied sizes of hospitals, which are normally, located in urban towns and cities with most medical, surgical, obstetrics, gynecological, and pediatrics services with or without super specialty facilities.

What is a Hospital? Prof. Dr. Mogli defines “Hospital is an institution suitably located, constructed, organized, managed with required and qualified human resource to supply scientifically, economically efficiently and un-hindered, all or any recognized part of the complex requirements for the prevention, diagnosis and treatment of physical mental and medical aspect of social illness of sick and injured with functioning facilities for training new employees in all required specialties including medical, nursing, paramedical and allied professionals, technical, and economic fields essential to render required health services with well-maintained patient health records; manually or electronically to reflect exactly the work carried out; at par with international standards that are prescribed by all accredited health agencies engaged in providing best possible healthcare to needy by protecting and security of personal data from unauthorized and providing accurate, complete, timely and relevant data to legal and other recognized authorities.”

Who are health care providers? The medical, nursing, and allied healthcare professionals who provide healthcare to patients in hospitals and healthcare is provided 24/7 throughout the year to deal with all types of healthcare problems by varied health institutions to sick and injured of all varieties of cases – ranging from suffering from varieties of diseases, could be medical, surgical, social, psychological or any other ailment that needs medical attention to get back to a normal healthy life.

What are ICDs and their purpose? The International Classification of Disease (ICD): is the global standard diagnostic tool for epidemiology, health management, and clinical purposes. The World Health Organization (WHO) owns, develops, and publishes, updates every year and major updates every three years. The ICD codes bring uniformity to each disease identified by giving it a unique number. Instead of each

country calling a particular disease with some name that another country may not recognize, leading to the wrong comparison, each disease is identified with a unique number e.g. “Diphtheria” is known by the ICD number “A36”.

Administration: The administrative staff works under the overall framework of the governing body and has to organize and manage the health institution which includes developing standards, policies, systems and procedures, organizational and hierarchical charts, each departmental responsibilities, directions, control, and precision, overseeing the entire management system to function unhindered and efficiently.

Organization of Medical Staff: The Medical Staff is responsible for the quality and appropriateness of all patient care as well as the professional conduct of all the members. The Medical Staff is usually accountable to the Governing Body or to the Hospital Administrator.

Organization of Nursing Staff: The next most important department in the hospital is nursing which is the backbone of any hospital. The Nursing Department/Service is organized to meet the nursing care needs of patients and to maintain established standards of nursing practice.

Human Resource Management: Human resource management (HRM) is **the practice of recruiting, hiring, deploying, and managing an organization's employees.** That includes recruiting, vetting, selecting, hiring, onboarding, training, promoting, paying, and firing employees and independent contractors. HRM is often referred to simply as human resources (HR). To be more precise the HRD is responsible for selecting, recruiting training, and developing good employer-employee Relations. Maintain organization or company culture. Manage employee benefits. Create a safe and conducive work environment and handle disciplinary actions including firing.

Finance Management: This section deals with financial management, economizing the expenditure, accounting, and budgeting. There should be a cost analysis unit for hospitals as well as for each department. HIM can in cooperation with the Finance Department take his database information on patient care can calculate the cost of each department or service or even each episode of care.

Information Technology (Medical Informatics) management: The technology is widely used in the management process, for example, in determining staff requirements, equipment, and other materials. Technology is very much applied in financial dealings for calculating budgets, cost analysis, billing, etc. The Health Information System (HIS) is applied in many functions that include diverse types of data, such as Patient information, Computer physician order entry (CPOE), decision support, clinical laboratory, radiology, pharmacy ordering, prescription handling, and pharmacopeia, and patient monitoring, patient census and billing, outcomes assessment and quality control, supplies, inventory, maintenance, and orders management. There shall be written

policies and procedures for the HIS that address the operation of equipment, the establishment of priorities, data user involvement, data collection, analysis and reporting, and the computerized reporting required by the management.

Patient Care Evaluation: With the support of technology, patient care evaluation could be carried out most effectively. Patient care evaluation is one of the great sources to improve the overall quality of patient care that has been practiced for many years to provide the best possible care to patients.

Medical Records: Patient medical records should be properly organized and standardized to include drug information on patients' medications, patient's health maintenance, patient medical education, storage, maintenance, and transfer of information when required. One screen concept: The computer screen should contain the basic information needed for each patient encounter without browsing from one screen to another by providing the following basic information. Patient's complete identification and sociological data, problem list including history, acute/chronic illness and reasons for outpatient/clinical visits, or inpatient hospitalization, investigations, immunization status, family history, patient-important surgical information, list of current medications with dosages and instructions, list of drug allergies, important reminders things to be done later. This will help the staff to see all the important information on one screen.

The computer system should allow the patient record to be stored electronically or allow it to be routinely printed as a paper copy and still store the patient's basic data. Linkage with the laboratory, X-ray department, and office billing system will enhance the hospital patient care system.

Linkage of the Computers in the hospital: There should be an online linkage between the clinical and the supporting services of the outpatient department with the emergency department, inpatient wards, operation theatres, ICU, CCU, laboratory, radiology, pharmacy, blood bank, etc. Computers can help in identifying the causes that are health hazards, accurately diagnosing the patient's illness, contribute to providing efficient and timely care to the healthcare consumer, help in carrying out scientific research to recognize the actual health problems, and provide swift, safe, and improved quality and cost contained care. If the organization has a group of hospitals or healthcare institutions located in the same or different cities can be linked to maintain the unified concept of "One-patient; one record and one number".

Accident and Emergency Department: An emergency department (ED), also known as an accident and emergency department (A&E), emergency room (ER), emergency ward (EW), or casualty department, is a medical treatment facility specializing in emergency medicine, the acute care of patients who present without prior appointment; either by their own means or by that of an ambulance. A/E provides

care for patients who may have an urgent need for medical, surgical, or other care, twenty-four (24) hours per day, seven (7) days per week. Patients returning for further care/ assessment

Outpatient Department (OPD): An outpatient is one who is treated in a clinic of OPD. It is divided into sections, or clinics, reflecting the clinical specialties and sub-specialties, and dental specialties of the medical services. Interaction of patients is more in outpatient services and its efficiency reflects the public image of the hospital. Modern outpatient departments offer a wide range of treatment services, diagnostic tests, and minor surgical procedures. The outpatient department of a hospital provides diagnosis and care for patients who do not need to stay overnight. An outpatient department doesn't require a patient to be admitted for treatment.

Day Care Cases: A. Day-care Surgery is a modern type of surgery wherein the patient usually undergoes surgery in the morning and can be discharged on the **same day in less than 24 hours**. If the patient gets admitted in the morning, undergoes the surgery, and can be discharged in the evening. The daycare patient can be admitted into a special day-care unit or regular ward. The bed used by a day-care is not occupied by any other patient, the one-day occupancy of the bed is to be taken into a daily census.

Inpatient service: A patient who occupies a bed to receive continuous medical and nursing care and supervision in a hospital and stays overnight, with a comprehensive written record is called an **“Inpatient”**.

The patient who needs hospitalization goes through the admitting procedure called **“Admission”**. Inpatients are typically provided with a bed/room, board (***Nursing Unit or Ward***), and continuous nursing service and stay at least overnight. The hospital ward is considered to be the safest place for patients. The ward nursing staff provides services to the patients directly or indirectly and assists medical professionals as a team. Patients are admitted in the Inpatient Ward for short and long term depending on the severity of their disease. The Inpatient Department consists of wards with Nursing Station, Beds, and all other facilities & services necessary for good patient care. Inpatient care, on the other hand, includes facility-based fees on top of those existing expenses. The overall cost for inpatients can range anywhere from a few thousand dollars to tens of thousands of dollars, depending on the length of stay and the treatment involved.

Organization of Patient care in the ward: “The patient is the center of the medical universe, around which all our works revolve and towards which all our efforts tend”. Two important categories of personnel who involve direct patient care are doctors, nurses, and allied professionals, who in turn require the collaboration assistance and service of many other professionals and non-professional personnel of

various departments such as laboratory, radiology, dietary, pharmacy, C.S. S. D. and, medical records,

Operation theatre: An operating theatre (OT) also known as an operating room (OR) or An operating suite is a facility within a hospital where surgical operations are carried out in a sterile environment under experienced surgeon/s, anesthetists, and scrub nurses.

Theatre Nursing: A theatre nurse works with patients of all ages and primarily within hospital operating theatres and anesthetic/recovery/ICU areas. They may also be involved with certain procedures on wards, clinics, or in other specialist areas such as cardiac catheterization units. They work as a part of a perioperative team that includes:

- Surgeons
- Anesthetists
- Operating department practitioners (ODPs)
- Assistant practitioners
- Healthcare assistants
- Theatre support workers
- Porters

General operating tables are designed to perform a wide range of procedures while others are designed for specific procedures, for example, orthopedic tables. One of the most vital operation theatre equipment, the anesthesia machine provides patients with a balanced mixture of anesthesia and life-sustaining gases.

The operating room lights are over the table to provide bright light, without shadows, during surgery. The anesthesia machine is at the head of the operating table. This machine has tubes that connect to the patient to assist them in breathing during surgery and built-in monitors that help control the mixture of gases in the breathing circuit.

The operating room lights are over the table to provide bright light, without shadows, during surgery. The anesthesia machine is at the head of the operating table. This machine has tubes that connect to the patient to assist them in breathing during surgery and built-in monitors that help control the mixture of gases in the breathing circuit.

Intensive Care Unit (ICU): An intensive care unit (ICU), of a hospital, is a specialized unit for critically ill patients who need continuous and comprehensive care under the supervision of treating doctors and nursing staff. This unit is fully equipped with life-saving devices, medical and nursing staff, and monitoring devices necessary to provide intensive care. The patient who is admitted to this unit are serious and, hence, are given

“intensive care medicine” which provides life support or organ support systems in patients who usually require intensive close supervision of medicine.

Intensive Coronary Care Unit (ICCU): The Intensive Coronary Care Unit (ICCU) or cardiac intensive care unit (CICU) is a hospital ward specialized in the care of patients when heart attacks, unstable angina, cardiac, dysrhythmia, and (in practice) various other cardiac conditions that require continuous close monitoring and treatment. The ward or unit is geared to deal with patients who are typically admitted to the CCU or CICU suffering from a variety of critical cardiac conditions, including heart failure, acute myocardial infarction, cardiomyopathy, cardiac arrest, and cardiogenic shock requiring frequent hemodynamic monitoring, specialized diagnostic treatment, and continuous observations and specialized intensive nursing care.

Neonatal intensive care unit (NICU): A neonatal intensive care unit (NICU) is also known as a newborn intensive care unit. Premature or ill newborn children are treated in this very specialized care unit. The staff working in this unit provides specialized and high-level intensive care to premature infants while a special care nursery (SCN) provides specialized care for infants with less severe medical problems. Newborn babies who need intensive medical attention are generally admitted into this unit of the hospital to get advanced technology from specialized and experienced healthcare professionals. This unit is also used for intermediate or continuing care for babies who are not as sick but do need specialized nursing care.

Laboratory services: The Laboratory services include Pathology, Microbiology, Biochemistry, Hematology, and Serology; help with diagnostic investigations like Blood, Urine, Stool, Sputum, ECG, etc. tests. This module maintains information about the types of investigation departments, names of tests, diagnostic centers, and orders to send orders status and reports received. The physician will send the order or request when the test is required for the diagnosis of a patient with a sample. The request may be sent through mail or fax or by a person (patient). The physician has to choose the name of a Diagnostic center, the Name of the investigation department (e.g., Pathology or Serology), and the name of the test (Blood, Urine, etc.) to send the orders along with the patient information and urgency of the tests. This module will help the physician's office, and people to maintain the status of the movement of requests and results of the report. There are different types of status, they are 1. Sent, 2. Under process, 3. Report received 4. Seen, and 5. Not seen

The report may be sent through a physical format or a document by mail. After receiving the report from the diagnostic centers, physician office people will scan the reports and store them in a document along with the patient UPI and date for further purposes, or if the report is sent in a document,

Phlebotomy is the act of drawing or removing blood from the circulatory system through a cut (incision) or puncture in order to obtain a sample for analysis and diagnosis. Phlebotomy is also done as part of the patient's treatment for certain blood disorders. In this process physician office personnel (Nurses) collect the required samples of blood, urine, etc. from the patient and send the samples to diagnostic centers for testing. In such cases, patients needn't be present at diagnostic centers. This system also maintains the information about the samples collected like the type of samples collected, No. of samples, the quantity of the samples, the Date on which samples were collected, and the Name of the person who collected samples from the patient. The following samples may be collected from the patients

Blood Bank: A blood bank is a center where blood gathered as a result of blood donation is stored and preserved for later use in blood transfusion. The term "blood bank" typically refers to a division of a hospital where the storage of blood products occurs and where proper testing is performed (to reduce the risk of transfusion-related adverse events). The main function of a blood bank is to save lives by providing safe blood components for patients who need them. However, blood banks also conduct research studies on blood diseases and improve screening methods for blood donors. Additionally, they work to prevent blood loss during surgery by providing solutions such as blood substitutes. Blood is one of the most important components of life. Almost any animal that possesses a circulatory system has blood. From an evolutionary perspective, blood was speculated to have risen from a type of cell that was responsible for phagocytosis and nutrition.

Blood Transfusion Unit: Blood transfusion is the process of transferring blood or blood-based products from one person into the circulatory system of another person. Blood transfusions can be life-saving in some situations, such as massive blood loss due to injury or trauma, or can be used to replace blood lost during surgery. Blood transfusions may also be used to treat severe anemia or thrombocytopenia caused by a blood disease. People suffering from hemophilia or sickle-cell disease may require frequent blood transfusions. Early transfusions used Whole Blood, but modern medical practice is to use only components of the blood.

Radiology: The science dealing with X-rays and other high-energy radiation, especially the use of such radiation for the diagnosis and treatment of disease. The Radiology module helps the physicians to send requests and to get the reports for investigations like X-rays, CT scans, MRI, Ultrasound, etc. This module helps the physicians maintain information about the names of tests, diagnostic centers, orders sent orders status and reports received. The physician will prescribe the radiology order and ask the office staff or nurse to send the order to the diagnostic center. Request (order) may be sent through mail or fax or by a person (patient). The physician has to choose the name of a diagnostic center name, test name, and patient information to send the requests for investigations.

Pharmacy: is the clinical health science that links medical science with chemistry and it is charged with the discovery production, disposal, safe and effective use, and control of medications and drugs. The practice of pharmacy requires excellent knowledge of drugs, their mechanism of action, side effects, interaction, mobility, and toxicity.

Pharmacy: a shop or hospital dispensary where medicinal drugs are prepared or sold. A pharmacy is a place of preparation and dispensing of medicines drugs or ointments to needy patients. There are five types of pharmacies that also create and distribute medication. Hospital pharmacies provide drugs for patients who are getting inpatient and outpatient services in the facility such as 1. Clinic Pharmacy. 2. Research Pharmacy. 3. Regulatory Pharmacy. 4. Compounding and 5. Infusion Pharmacy.

Pharmacist: The basic duty of a pharmacist is to check prescriptions from physicians before dispensing the medication to the patients to ensure that the patients don't receive the wrong drugs or take them.

Pharmacist: Pharmacists dispense prescription medication along with key information, such as side effects, contraindications with other medicines, and a range of other concerns. They also walk customers through their physicians' dosage and usage instructions to ensure medications are safely and effectively consumed.

Pharmacology: The study of the origin, chemistry, and uses of drugs and their effects on the body. Pharmacology is the scientific study of the effects of drugs and chemicals on living organisms a drug can be broadly defined as any chemical substance, natural or synthetic, which affects a biological system

Psychiatry: Psychiatry is the branch of medicine focused on the diagnosis, treatment, and prevention of mental, emotional, and behavioral disorders. A psychiatrist is a medical doctor (an M.D. or D.O.) Examples of mental health problems psychiatrists deal with include bipolar disorder, depression, anxiety disorder, personality disorder, panic disorder, post-traumatic stress disorder, and schizophrenia. They also handle drug and substance abuse, addiction, and dependence.

Psychology: Psychology is the scientific study of the mind and behavior. Psychologists are actively involved in studying and understanding mental processes, brain functions, and behavior. The field of psychology is considered a "Hub Science" with strong connections to the medical sciences, social sciences, and education.

Behavioral Neuroscience

- Factors influencing plasticity of the brain and behavior through development and into adulthood
- Hippocampal biology and function
- Stress and the brain

- Neurogenesis and brain Plasticity across the lifespan
- Sex-related differences in brain function
- Endocrine and immune regulation of the brain and behavior
- The neurobiology of cognitive control

Clinical Psychology

- The treatment of mood and personality disorders using cognitive behavioral therapies
- Biobehavioral responses to cancer diagnosis and treatment
- Testing and dissemination of psychological treatments for cancer patients
- Psychological and behavioral adaptation to chronic health problems
- Effects of exercise on psychological and cognitive functioning
- Neuroplasticity in healthy aging and neurological disorders
- Mindfulness and cognitive functioning in older adults

Child Psychologist: Those who are specialized in Child Psychology are called “Child Psychologist”

Chapter VIII: Nursing Dynamic Service in Patient Care

The author during his service in nine countries had observed that nursing services are exceptional due to their dedication to the profession. From the time a patient is admitted, as an outpatient, emergency, or inpatient, till he/she is discharged major responsibility rests with the in-charge nurse. Since the majority of nursing staff is devoted to the hospitalized inpatient situation compared to other services, the nursing working process is dealt with comprehensively. During this process, the nursing staff is overburdened by too many jobs including nursing and non-nursing functions e.g., interaction with many people, too much documentation work, and responsibility towards sick and injured with minimal staff to carry out within the time schedule to the utmost satisfaction of everyone. It is found, in developing countries, the head nurse spends 70% of her time on administrative work and the staff nurse 50-60% on patient care. The hospital's reputation depends mainly on, wards that run 24/7 to deal with cases from simple to complex and high-risk emergencies treated in the ward.

It is generally found that there is an acute shortage of nursing professionals all over the globe, while the demand for their services is great in almost all nations. With this background, nursing personnel are working under great stress, whatever service they are involved in, besides regular direct patient care with medical recording, they have to perform many functions including administrative and other works that devour most of their precious time.

This chapter is added with the objective of assisting the HIM professionals to know the overburdened nursing staff with nursing and non-nursing duties coupled with extensive documentation responsibilities. The advent of technology has changed many fields and health is one of them. It is a matter of time; before all the health institutions would have to be eHealth-managed organizations. Nursing is the most overwhelmed with recording work and needs to embrace the electronic system that minimizes duplication, efforts, and optimum output for the benefit of everyone, especially the patient. Nursing professionals as change agents, need to promote the eHealth system including implementing an electronic recording system that helps nursing staff to provide the best possible healthcare to needy patients. (Reference: "Electronic Nursing Records" published by JAPYPEE BROTHERS Medical Publishers (P) Ltd., published in 2016.)

The Conception of a Nurse and the Nursing standards as developed by Prof. Dr. G. D. Mogli

Prof. Dr.G. D. Mogli's: The Conception of a "Nurse and "Nursing Standards". And the Nursing standards as developed by the ANA and comparative statement are presented below for the benefit of use Reference: **"Managing Globally Efficient Optimal Hospitals for Healthcare Managerial Professionals". (Chapter 52 Nursing Service: PP 293-294). The Book available in AMAZON.**

Prof. Dr. G. D. Mogli's The Conception of a "Nurse and Nursing Standards".

Prof. Dr. G. D. Mogli's The Conception of a "Nurse

The N U R S E	
N	Nursing, nourishing the sick & injured with utmost care
U	Understanding the condition of the patient and acting aptly
R	Recording, rating, and reporting the progress to the healthcare providers
S	Serving with a smile; the patient to bring back to normalcy with full devotion
E	Educating, Empowering the patient to enjoy healthy habits after discharge

Prof. Dr. G. D. Mogli's Conception of Nursing Standards

Standar d	Prof. Dr. G. D. Mogli
S	Serving with a smile; conception for sick, and injured in the healthcare environment.
T	Taking nursing as an ethical professional career to serve humanity with high quality and proficiency.
A	Aiming to acquire knowledge, skills, and attitude to be an efficient nursing expert.
N	Nursing all tirelessly and educate nursing like Florence Nightingale "the lady with the lamp".
D	Directing the sickness into healthy in alliance with other healthcare experts.
A	Achieving ample results for the client and imparting expertise to junior nursing colleagues.
R	Reviewing with the healthcare provider the client's condition for fitness to release
D	Discharging clients with educating & empowering them to observe to enjoy a healthy life

Nursing Standard by ANA & Prof. Dr. G. D.

Mogli

Standar d	ANA	Prof. Dr. G. D. Mogli
S	Successful in helping relationships for client	Serving with a smile; conception for sick, and injured in the healthcare environment.
T	To have a clear idea or conception of the distinct goal, nursing the patient	Taking nursing as an ethical professional career to serving humanity with high quality and

	and health needs	proficiency.
A	Assertive planning	Aiming to acquire knowledge, skills, and attitude to be an efficient nursing expert.
N	Nature of client-nurse interaction	Nursing ail tirelessly and educate nursing like Florence Nightingale “The Lady with the lamp”.
D	Directing others	Directing the sickness into healthy in alliance with other healthcare experts.
A	Analytical thinking	Achieving ample results for the client and imparting expertise to junior nursing colleagues.
R	Respect status and policies	Reviewing with the healthcare providers the client’s condition for fitness to release
D	Dispose of the client	Discharging clients with educating & empowering them to observe to enjoy a healthy life

The American Nurses Association (ANA) identified ten critical nursing indicators for acute care settings in the year 1999. The ANA added ten others that are applicable to community-based, non-acute care settings in the year 2002. Since then, the lists have been refined and expanded many times, with new indicators added according to the need every year. The ten original indicators that apply to hospital-based nursing are as follows;

- Patient satisfaction with pain management
- Patient satisfaction with nursing care
- Patient satisfaction with overall care
- Patient satisfaction with medical information provided
- Pressure ulcers
- Patient falls
- Nurse job satisfaction
- Rates of nosocomial infections
- Total hours of nursing care per patient, per day
- Staffing mix (ratios of RNs, LPNs, and unlicensed staff)

By identifying this first group of indicators, the ANA became a pioneer, of sorts, in evidence-based practice. The next step was a literature search to identify other indicators that were potential nurse-sensitive. Those were then reviewed and either validated as being truly nurse-sensitive are approved, if not they are discarded.

In 1998, the ANA established the National Database of Nursing Quality Indicators™ (NDNQI®), in order to continue to build on data gained from earlier

studies. There was already an established link between nurse staffing and patient outcomes, but more data and reporting were needed to evaluate other indicators of nursing quality at the unit level.

Nursing-sensitive quality indicators are an important part of the equation when it comes to establishing evidence-based practice guidelines. But measuring these indicators is not simply good science – it's an ethical imperative. Nursing's foundational principles and guidelines state that, as a profession, nursing has a **responsibility** to measure, evaluate, and improve the quality of nursing practice.

Ward

Ward is a block forming a division of a hospital (or a suite of rooms) shared by patients who need a care. The patients after admission in the hospital go to their respective wards as per the room and bed allocated.

There will be number of wards in a hospital. Each ward has some fixed beds and patients are allocated according to the treatment they would be undergoing.

When the patient is being admitted in the hospital, after all the admission procedures, he is brought into the ward. Here, the nurse receives the patient along with his medical record and checks if the patient is in the right ward and if the medical record belongs to him.

The nurse also needs to check if the patient has signed the consent and then she takes the vital signs of the patient for her initial assessment. As per the admission request (medical record), if there are any special requirements to made for the patient, the nurse needs to arrange them.

Vital signs Form

Nurses see the patient more than any other healthcare provider. Therefore, nurses are in the best position to monitor the patient's progress, spot problems early, and judge what care is rendered to solve problem.

- Taking the vital signs of a patient is one of the most important functions of nursing assessment. The patient's vital signs are temperature, pulse, breathing (respiration) and blood pressure. Changes in any of the vital signs can indicate changes in the patient's condition. Large or sudden changes should always be reported to the physician.
- Vital signs are usually checked on admission and at regular interval after that. In many hospitals, they are checked every four hours.
- When patients are in intensive care or have just come back from surgery, their vital signs are checked more frequently.
- Vital signs as a routine must be checked

- Before and after any invasive procedures
- Before and after giving any medication that can affect blood pressure and respiration
- Before and after any nursing procedure that might affect any vital signs, for example, walking a patient who has been on bed rest.

Always check vital signs when a patient complains of light headedness, dizziness, being suddenly hot, or whenever the patient's condition changes for the worse. A vital sign form tells us the condition of a patient. It consists of several fields like pulse rate, blood pressure, height, weight, and many more by which the patient's treatment is done. All this information is taken by the nurses according to the patient condition.

The vital signs form contains the following:

Patient identification (demographic) information

Consultant in-charge

Name of the Specialty, ward / room / number

Date and time of admission

Post-operative day

Allergies

Temperature, pulse rate, BP, Respiration

Urine

Stool

Weight

Diet

Enema or Bowel movement

Activity

24 hours input and output

Special treatment and procedures

Vital Signs: The head nurse and the nurse's in each ward needs to take care of the individual patients who include the following duties: The nurse's need to take the vital signs of each patient according to the patient's situation at regular intervals of

S.No	Date & Time of admission	Name & UNI of the Patient	Vital Signs				Treatment and Procedure	Remark	Id and Signature of Head nurse
			Temp	B.P	Resp. rt	Pul.r t			

time which helps in treating the patient better.

Nurse's Initial Assessment

Evaluation of the nature and extent of nursing problems presented by a patient for the purpose of patient care planning are noted down by the nurses in the nurse's initial

assessment.

In this form, the nurse needs to note down many things like initial diagnosis, clinical data, general information, nutritional pattern, reproductive pattern, discharge plan, etc.

The different fields that are present in this form are:

- Patient's demographic information
- Date, time, name and signature of the nurse
- Date and time of Admission
- Reason for admission
- Type of Admission (Elective, ER, Urgent)
- Mode of transport (ambulance, stretcher, walking, GP, wheel chair, trolley, other)
- Information obtained from (patient, relative, Interpreter, doctor, medical chart, other)
- Allergies
- Admitting diagnosis and Initial diagnosis
- Relevant past medical history
- Use of tobacco and alcohol (how much and how long)
- Medication pre-admission

Date	Time	Medication	Dose	Frequency	Signature

Clinical data

- Vital signs (temp, BP, Pulse rate, Resp., height and weight)
- i. Including the drop down with resp rhythm, level of con, pupils, BP)
- Urinalysis

Cognitive Perceptual Pattern

- Visual history (normal / impaired / blind / glasses / prosthesis / contact lenses L R / cataract L R)
 - Hearing history
- i. Left ear (normal / impaired / aid / deaf)
- ii. Right ear (normal / impaired / aid / deaf)

- History of discomfort / pain (yes / no. Describe)

Activities of Daily Living

- Balance and Walk (steady, unsteady, not observed, other)
- Grooming
 - i. Oral hygiene
 - ii. Hair care
 - iii. Make up
- Bathing
- Feeding
- Dressing
 - i. Upper body
 - ii. Lower body

Nutritional / Metabolic Pattern

- Diet
- Weight status (underweight, obese, malnourished)
- Diet change?
- Dental hygiene (good / poor / average)
- Teeth (dentures, upper, lower, partial, toothless)
- Skin dryness (yes /no)

Respiratory Pattern

- Rate
- Depth
- Rhythm
- Abnormal sounds while breathing (yes / no. If yes, specify :)
- Stoma (tube present, trach, none and condition of stoma)
- Color skin (wnl, jaundice, pale, cyanosis)
- Comments

Sleep / Rest Pattern

- Usual sleep pattern?
- How many hours?
- Measures to promote (yes / no)
- Sedation (yes / no. Specify :)
- Comments

Reproductive Pattern

- Female
 - i. Menstrual problems / post menopause
 - ii. LMP
 - iii. Pregnancies
 - iv. Abortions
- Male
 - i. Denies problem / Abnormal discharge (Describe)
 - Sexually transmitted disease (yes / no. Specify :)

Elimination Pattern

- Abdomen (soft / firm)
- Bowel sounds (present / absent)
- Bladder habits (urgency / frequency / dysuria / nocturia / etc)
- Urinary (Frequency and medications)
- Bowel (Frequency and medications)
- Comments

General Information

- Patient oriented to (room, unit, bathroom, other)
- Patient oriented to nurse call system (yes / no)
- Patient oriented to nurse in charge (yes / no)
- Patient needs assistance (feeding, ambulation, bathing)
- Required consent obtained (yes / no)
- Patient valuables sent to admission (yes / no)
- Total Patient Summary

Request for drugs & consumables from Pharmacy

The head nurse in every ward will take care of the requisition of the drugs. As per the physician/consultant's order of different medicines for the different patients in the ward, the nurse will need to take care of those medication courses for each patient.

The nurse places an order for the medicines to the pharmacy department which are not available in the ward or they are about to be finished. Once those medicines are received, the nurse will re-check them and give them to the patients as per the orders.

The different fields that are present in this record are:

Name of the ward / specialty

Date and time of requisition

Requisitioned by

Section (AICU / PICU)

Pharmaceuticals requested / ordered
Quantity / amount requested
Date and time of the received drugs
Check the received drugs
Indent the received drugs
Dispense as required
Total pharmaceuticals left
Signature and Id of the nurse

Nursing medication record

Medication also referred to as medicine, can be loosely defined as any substance intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease. In this nurse's medication record, the nurse follows the physician's instructions and gives the medication/treatment accordingly i.e. at what time, what dose, at what frequency, etc. the medicines has to be given to the patient.

The different fields that are present in this form are:

Patients complete demographic information

Date and time (medication ordered)

Name of the physician/consultant

Amount of Dose to be given

Route

Frequency

Time and initials

Signature of the physician

Nurse's notes / remarks

Signature and Id number of the nurse

References:

<http://en.wikipedia.org/wiki/Medication>

<http://www.seniorcarepharmacist.com/record/>

Nursing Care Plan

A nursing care plan outlines the nursing care to be provided to a patient. It is a set of actions the nurse will implement to resolve nursing problems identified by assessment. The creation of the plan is an intermediate stage of the nursing process. It guides in the ongoing provision of nursing care and assists in the evaluation of that care.

Narcotic Prescription

Narcotic drugs are prescribed and given under supervision of treating physician. These drugs are controlled drugs, which are kept under the supervision of senior ward nurses under lock and key, with an account register to show the stock and its use. Narcotic drugs are maintained with special care so that no misuse or theft can take place. A drug that, in medicinal doses can generally calms morbid susceptibility, relieves pain, and produce sleep. If the doses are wrongly prescribed or used; this can produce a state of unconsciousness, coma, or convulsions, and, when

given in more or insufficient quantity, causes death. The best examples are opium (with morphine), belladonna (with atropine), and conium.

In the hospitals, if a patient is in a serious condition, and patient cannot bear the pain or patient a terminal condition and there are very less chances of saving his life, then doctors recommend to take these drugs. It is given to the patient only after following the necessary procedures like obtaining the consent of the patient and his / her relatives as there could be a loss of life. The different fields that are present in this special Narcotic Form is as follows:

1. Complete Patient's demographic information
2. Diagnosis
3. Narcotic drug required
4. Strength
5. Quantity
6. Instructions
7. Physician's name and signature
8. Name and signature of Administering nurse
9. Name and signature of Head Nurse
10. Date and time of Administration
11. Serial number of the drug
12. Amount of drug wasted
13. Wasted By
14. Destruction witnessed by

Nurse's Observation Form

The main purpose of this observation form is to ensure patient safety, as well as, to provide a process for observing and documenting patient location and behavior.

There are number of things the nurse needs to take care in this form like, ensures the nurses are making rounds regularly to notice the condition of the patient as per the physician's requirement, review and update the observation form when any changes are made i.e. changes in individual patient precautions levels, room or bed changes or any discharge occurs etc.

The different fields that are present in this form are:

1. Patient's demographic information
2. Consultant In-charge
3. Department and unit
4. Name of the nurse, date and time of observation
5. Vital sign's of the patient (temp, BP, Resp. Pulse rate,)
6. Coma scale (eyes open / verbal response / motor response)
7. Pupils (both Left and Right)
8. Limb movement (arms / legs)

- 9. Level of consciousness
- 10. Cough reflex
- 11. Response to stimuli (verbal and Painful)
- 12. Perception pulses
- 13. Skin color
- 14. Remarks
- 15. Signature
- 16. Specific Nursing care / comments

Date	Time	Temp	Pulse Rate	Res p Rate	B . P	Pupil		Level of consciousness	Limb movement		Cough reflex	Coma scale	Response to stimuli		Perception pulses		
						R	L		arm s	legs			Verbal	Painful	Oral	Audial	Visual

Reference:

1. <http://209.85.175.104/search?q=cache:38F6xK3LxfkJ:https://67.132.127.101/resources/policy/6/6-4/pdf/6-4U%2520Patient%2520Observation%2520Policy%2520Acute%2520Inpatient%2520Level%2520of%2520Care.pdf+Nurses+observation+form&hl=en&ct=link&cd=3&gl=in>

Intensive Care Unit (ICU)

An intensive care unit (ICU), of a hospital is a specialized unit for critically ill patients who need continuous and comprehensive care under the supervision of a treating doctor and nursing staff. This unit is fully equipped with life-saving devices,

medical and nursing staff, and monitoring devices necessary to provide intensive care. The patients who are admitted to this unit are serious and, hence, are given “intensive care medicine” which provides life support or organ support systems in patients who usually require intensive close supervision of medicine.

The following information is documented in special records:

Patient’s complete identification (demographic) information

Date and time of admission

Name of referred ward/unit

Diagnosis

Vital signs regularly

Date and time

Color (pale, cyanosed, perfused)

Chest movement (adequate, decreased, absent)

Air entry (fine crepitations, coarse crepitating, wheeze)

Abdomen (firm, soft, distended)

Bladder (palpable, impalpable)

Bowel sounds (heard, unheard)

Bowels (open, not open, passed flatus)

Pressure area care

Occipital

Back

Sacrum

Buttocks

Elbows

Heels

Ankles

Limb physio

Chest physio

ET Secretions

Catheter care

position

Neurological signs:

Level of consciousness (alert, oriented, confused, restless, drowsy, lethargic, comatose, paralyzed)

Responses (responds, verbally, moves to command, withdraws to pain, decerebrate, responds to deep stimuli, no response)

Hand grip (Left and Right) } Strong, weak, absent

Leg movement (Left and Right) } Strong, weak, absent

Pupils (size and reaction – both left and right)

Eyes open:

Spontaneously

To verbal command

To pain
No response
Vital signs:
Arterial pressure
Blood pressure
Pulse
Respiration
Temperature
Venous pressure
Other
Intake and Output:
Total intake (IV, blood, oral, tube, other)
Total output (urine, emesis, NG, stool, wound, other)
Tracheal Secretions (quality, quantity, and color)
Physiotherapy
Limbs (Done or not done)
Chest (Done or not done)
Cases:
Dressing (dry, reinforced, changed, checked)
Cares (bath, catheter, linen changes, oral)
Ant embolic ace
ROM (passive, active assistive)
Turn/activity (left, right, supine, prone, bed rest, dangle, wheelchair, chair/commode)
Respiratory:
Trach / E.T (type size)
Respirator (type)
Assist / Control

Nurse Comments:

Nurses Comments

References:

http://en.wikipedia.org/wiki/Intensive_care_medicine

[Answers - The Most Trusted Place for Answering Life's Questions](#)

Intensive Coronary Care Unit (ICCU)

The Coronary Care Unit (CCU) is a place for patients who have heart-related illnesses. The Unit is designed to limit stress, ensuring each patient receives appropriate rest and relaxation. Adult patients who are typically admitted to the CCU suffer from a variety of critical cardiac conditions, including heart failure, acute myocardial infarction, cardiomyopathy, severe dysrhythmias, cardiac arrest and

cardiogenic shock requiring frequent hemodynamic monitoring, specialized diagnostic treatments, and frequent observations and specialized intensive care nursing.

The different fields that are present in this form are:

The patient's complete demographic information

Date and time

Type of admission / Transfer in

Reason for admission

Discharge from unit to

Diagnosis

Code status

Allergies

Surgical procedures

Co-morbidities / other complicating factors

Pathophysiology

Activities

Diet

Fluids

Vital signs

Medication

IV drips / other medication

Labs

Interventions

Signature of the nurse, date, and time

Signature of the treating physician/consultant, date and time

References:

<http://www.lakewoodhospital.org/body.cfm?id=111>

Neonatal Intensive Care Unit (NICU)

A neonatal intensive care unit (NICU) is also known as a newborn intensive care unit. Premature or ill newborn children are treated in this very specialized care unit. The staff working in this unit provides specialized and high-level intensive care to premature infants while special care nursery (SCN) provides specialized care for infants with less severe medical problems. Newborn babies who need intensive medical attention are generally admitted into this unit of the hospital to get advanced technology from specialized and experienced healthcare professionals. This unit is also used for intermediate or continuing care for babies who are not as sick but do need specialized nursing care.

The following are the content in this specialized form:

Patient's demographic identification data with cross reference of mother's identification bands

Name of Consultant in charge

Ward and Bed number /Cradle number/incubator

Respiratory:

- Endotracheal / tracheotomy tube Size Date
- Oral / Nasal Mark CMS
- Ventilation IPPV IMV CPAP OXYHOOD
- Monitors:
- Cardiac / Respiratory
- Transcutaneous PO2 / CO2
- Arterial Pressure
- Umbilical arterial PO2

Observation:

- Axilla temperature
- Skin temperature
- Incubator temperature
- Apex
- Ventilation observation
- Heart rate
- Respiratory rate
- Blood pressure
- Blood glucose
- Abdominal growth
- Surgical dressing
- Venous / Arterial line
- Saline – Glucose
- PH
- Sp. Gravity
- Chest drain observation

Procedures:

- Oxygen reading
- Oxygen concentration
- TCP O2 reading
- Skin temperature reading
- Humidity temperature
- Calibrate O2 analyzer
- Recite TCP O2 probe
- Mouth care
- Napkin change
- Position change
- Physiotherapy
- Oral suction
- Gastric asp.

- B.M stix

Checks:

- Date due
- Weight
- IV set change
- Jejuna tube change
- Gastrostomy tube change
- Endotracheal tube change
- Tracheotomy tube change
- Cot / Bed change
- Incubator change
- Identification band present yes/no
- Laboratory results

Fluids / Nutrition:

- | | Mls/kg | Volume/24 hrs. | Total |
|----------------------------------|--------|----------------|-------|
| • Prons | | | |
| • NG / Gastrostomy feeds | | | |
| • Breast feeds | | | |
| • Intra venous fluids | | | |
| • Umbilical arterial line | | | |
| • Peripheral arterial line | | | |
| • Peripheral venous line (1 2 3) | | | |
| • Central / Longline | | | |
| • Replacement fluids | | | |
| • Other instructions | | | |

Medication:

- Medications

Immunization:

- B.C.G
- O.P.V

Mother: Ward

- Resident yes / no
- At home yes/no
- Visits yes/no

Education:

- Baby bath
- Cord care
- Nappy change
- Breast feeding
- How to express/store breast milk
- Top and Tail
- Immunization program

An infant observation chart is very useful to monitor the progress of the child is given below:

Infant Observation Chart

Date	Time	Eye	Mouth	Skin	CORD	Weight	Feed	Am	Method	B.O	P.U	Name Bands

Nursing Discharge Form

During the hospitalizing of patients in the ward from the time of admission till the discharge of the patient, the responsibility for safety, security, and timely care rests with the nursing staff. The nursing staff has the most important responsibility prior to the discharge of a patient from the ward. The term “discharge” includes a patient living or dead, absconding, or transferring to another hospital, etc. The treating physician is the one who gives discharge orders and the nursing staff has the responsibility to ensure carry out certain administrative functions before leaving the ward. The following are some of the activities that are recorded in the nursing discharge form:

- Complete patient identification (demographic) information
- Date and time of discharge
- Final Diagnosis

General Information

- Date and time of patient escorted from the ward by (relative, nurse, etc), patient walked, and via wheelchair, stretcher, etc.)
- Valuables returned

Medications

- Prescription given (List the names of the medications with instructions)
- Any potential drug-food instructions (If yes, make the patient / relative aware of it.)
- Demonstrate safe and effective use of medication to Patient / relative

Special diet (instructions given)

Restriction of activities if any,(instructions given)

Follow-up care (OPD appointment date and time of visit indicated)

Special equipment / supplies (If supplied, name of the equipment and its proper use to the patient/relatives)

Health education /written information provided to the patient/relative (if yes, list them)

Other guidelines or instructions related to care (if given, specify)

Treating Physician's name, title, and signature

Nurse's name, title, and signature

References:

1. <http://www.surgeryencyclopedia.com/Ce-Fi/Discharge-from-the-Hospital.html>
2. <http://cancerweb.ncl.ac.uk/cgi-bin/omd?patient+discharge>

1.

Patient Discharge Summary

The administrative process of discharging the patient, live or dead, from hospitals or other health facilities.

A written approval document and order from the consultant/physician is required for a patient to leave the hospital. After the doctor has written the patient's discharge order, the attending nurse will take over the other works for the discharge of the patient. The Reception begins the billing process thereafter.

Discharge from the hospital is the point at which the patient leaves the hospital and either returns home or is transferred to another facility such as one for rehabilitation or to a nursing home. Discharge involves the medical instructions that the patient will need to follow.

The different fields that are present in this form are:

The patient's complete demographic information

Date of Admission

Date of Discharge

Reason for admission

Name of the Ward and Bed Number

Final Diagnosis

Other diagnosis

Surgical procedures (if any)

Brief history

Physical examination

Laboratory investigations and results

Course and Treatment including surgical procedures-operations

(Including dates)

Post-operative infections (if any)

Status on discharge (stationary / Improved / Cured / Poor /Died)

Recommendations / Discharge instructions

Follow up

Name of the Treat. Physician, date, time and signature

Nurse's Pre-operative Check List

Care is given during the period prior to undergoing surgery when psychological and physical preparations are made according to the special needs of the individual patient. This period spans the time between admissions to the hospital to the time the

surgery begins.

The pre-operative checklist is completed by the nurse in the ward who escorts the patient to the operation theater and the nurse in the operation theater which is essential for them and the physician /consultant/surgeon to decide whether to go ahead or not with the operation. There are many details that a nurse needs to note and check before any operation like vital signs, allergies, blood requests and availability, etc.

The different fields that are present in this form are:

1. Patient's complete demographic information (incl. Consultant in charge, Dept. and unit)
2. Check the identification of the patient
3. Date and vital signs
4. Allergies
5. Medical history
6. X-ray, ECG, Consent
7. Blood requested, availability, group, num. of unit
8. Surgical preparation and checked by
9. Urinalysis
10. CBC and SCT
11. Lab investigation report in chart
12. Time urine voided (Retention catheter)
13. Prosthesis removed (Dentures, Contact lenses, Plates)
14. Valuables and Jewelry removed or secured
15. Hairpins, makeup, nail polish, lipstick
16. Clean gown, cap on, clean blanket
17. Pre-op medication
18. Slide rails
19. Pre-op patient instructions
20. Blood transfusion requisition on chart
21. Nurse name, signature, and time

References:

<http://cancerweb.ncl.ac.uk/cgi-bin/omd?preoperative+care>

Nurse's Post-operative Check List

Care is given during the period, after undergoing the surgery when psychological and physical preparations are made according to the special needs of the individual patient. This period spans the time between the time the surgery begins to the discharge of the patient.

The post-operative checklist is completed by the nurse who escorts the patient from the operation theater to the recovery room and then to the ward depending on the patient's condition and also by the nurse in the operation theater which is essential for them and the physician /consultant/surgeon to know the condition of the patient after the operation. There are many details that a nurse needs to note and check after any

operation like vital signs, allergies, recommended treatment, oxygen saturation, count of sponge, needles and instruments, etc.

The different fields that are present in this form are:

Patient's complete demographic information (incl. Consultant charge, Dept. and unit)

Date and vital signs regularly

Allergies

Bovie

Setting coagulation & Cutting

Ground Location

Sponge – Needle – Instrument count

	1st	2nd	3rd	Special
Correct				
Incorrect				

Intra-operative history and post-operative instructions

Past medical history

Medications

Allergies

Intra-operative instructions

Recommended treatment and Prophylaxis

Respiratory status assessment

Oxygen saturation

Effort of breathing/use of accessory muscles

Respiratory rate

Is the Trachea central or not?

Symmetry of respiration/expansion

Breath sounds

Percussion note

Volume status assessment

Hands – warm or cool, pink or pale?

Capillary return < 2s or not?

Pulse rate, volume, and rhythm

Blood pressure

Conjunctiva pallor

Jugular venous pressure

Urine color and rate of production

Drainage from drains, wounds & NG tubes

Mental status assessment

Patient conscious and normally responsive? (AVPU)

If abnormal determine: 1. If confusion is present 2. GCS, oxygen saturation, and blood glucose

Record

Any significant symptoms e.g. chest pain, breathlessness
Pain and adequacy of pain control

Physician Pre-operative record

The different fields that are present in this field are:
Patient's complete demographic information
Date and Time
Vital signs taken prior to transfer
Side rails raised
Instructed not to smoke
Instructed to stay in bed
Prep site:
By Whom: Checked by:
NPO since:
Voided
Catheter
Beside glucose: Time:
If ordered to the operating room with the patient
X-rays
Old Charts
SCDs / TEDs
Meds

Physician Post-operative record

The different fields that are present in this record are:
Patient's demographic information
Date and Time arrived on the unit
Arrived via
Type of procedure
Level of consciousness
Oxygen
Respiratory quality
Breath sounds
Cardiac
GI
Skin color
Skin condition
Peripheral pulses
Circ Distal to site
Dressing / Operative site
IV Therapy (Fluid 1 Site: Rate:
 Fluid 2 No Redness or swelling at the site
 Fluid 3 Other:)
Drainage tubes

Puncture site
Sheath Removal
Site check post-sheath removal
Plan of Care
Potential for alteration and ventilation
Potential alteration of cardiovascular function
Potential alteration in mental status
Potential for fear and/or anxiety
Potential for injury
Knowledge deficit/potential for post-procedure complications at home
Potential alteration in fluid volume
Potential alteration in comfort
Other problems / Needs
Pain Management
Time
Pain scale
Medication / Dose
Initials
Response / Pain scale
Time and Initials
Vital sign Post procedure / Sheath Removal
Time
LOC
Temp / B.P / P / RR or O2 sat.
Pain level
Peripheral pulse
Site check
Initials
Daily care record
Date
Bed rest
Ambulating
R or L leg straight
SCD
Anti-embolism hose
PCA pump
Traction
Telemetry
Type of diet
Amount eaten
Bath / Shower / Bed
Complete – self / Assistant

Oral care / P.M care

Other

Date and Time

Initials and Signature

Recovery Room

Recovery is the act of regaining or returning to a normal or healthy state.

A recovery room (RR) is a hospital room that is equipped with apparatus for meeting postoperative emergencies and in which surgical patients are kept during the immediate postoperative period for care and recovery from anesthesia.

The different fields that are used in this form are:

Patient's demographic information

Operation

Name of the surgeon

Surgical procedures

Operation theater number

Arrival time and time the patient transferred to the ward

Condition of the patient

Pulse and BP chart

Blood test taken

Surgical / Anesthetic complications

Wound / Dressing satisfactory

Pressure area satisfactory

Drains / Catheters satisfactory

Questionable infected case?

Naso-Gastric tube in site?

Drugs given in recovery

Post-op medications

Stimulants and Reversal agents

Other drugs

Therapy / Blood given in recovery

Nursing observations

Name and signature of the recovery room nurse and time

References:

<http://www2.merriam-webster.com/cgi-bin/mwmednlm>

Ward Census

Ward census is an official count of the number of patients in the hospital, generally done at the end of each day, which tells the number of beds that are available and the number of beds that are allotted in each ward respectively in a day-wise manner. By maintaining this record, the hospital would know which kind of patients is being admitted in the hospital so as to increase or decrease the number of beds in those wards.

This record contains the previous day's census, new admissions in the ward, total number of patients transferred in, discharge of the patients from each ward (alive or dead), total number of patients transferred out, and the current day's census.

Nursing Administration

Nursing administration is research concerned with establishing the costs of nursing care, examining the relationships between nursing services and quality patient care, and viewing problems of nursing service delivery within the broader context of policy analysis and delivery of health services.

The Head nurse in each ward is responsible for the daily procedures to be followed accordingly. The head nurse allows different kinds of work to the staff in the ward and also does the work if everybody else in the ward is busy.

Services/Functions

The services/functions of Nursing Services ensure the following:

Consistency of nursing practices, standards, policies, and procedures across the organization;

Competency of nursing services staff through staff development administrative processes and the competency assessment process;

The continuous and timely availability of nursing services to patients;

Effective utilization of hospital resources allocated to Nursing Services;

Performance of applicable processes within patient care functions;

Assessment of each patient's nursing care needs;

Planning for and provision of nursing care interventions;

Prevention of complications and promotion of improvement in the patient's comfort and wellness;

Collaboration with other hospital leaders in designing and providing patient care and services;

Notification of other care professionals to the patient's condition, as appropriate;

Active participation in hospital leadership functions and activities.

Nursing administration includes the following categories:

Dietary: This category includes the diet given to the patients at regular intervals of time and also if any special diet was given to a particular patient. It shows what kind of diet has to be given to which patient at what time and also if any remarks have to be written.

Laundry: This category includes the count of the number of clothes or linens (including patients) including the bed sheets, towels that are put aside for washing and ironing, the ones already cleaned, and the ones that are pending.

CSSD: CSSD is the abbreviation of the Central Sterile Supply Department. The objective is to make reliably sterilized articles available at the required time and place

for any agreed purpose in the Hospital. Major responsibilities of CSSD include processing and sterilization of syringes, rubber goods [catheters, tubing], surgical instruments, treatment trays and sets, dressings, etc. This category keeps the count of the instruments to be cleaned, the instruments already cleaned, the ones that are pending, and if any remarks or comments to be completed.

(<http://www.aimshospital.org/hospital/cssd/cssd.php>)

Pharmacy: In this category, the nurses provide the medication and necessary treatment according to the physician/consultant's advice for every individual patient. In this table, the medicines required, what time the medicines have to be given, which medicines have to be ordered, received or not, pending medicines, what dose, at what frequency, etc. are accounted.

Housekeeping: The nurse notes down the number of times the ward has been cleaned and the time it has to be cleaned again in order to keep the patient in a hygienic place.

Maintenance: The head nurse in every ward will inform the Maintenance department of any kind of maintenance requirements like electricity problems plumber problems or laundry dept. or carpentry work etc. The different fields that are present in this record are the date and time the report or complaint was sent, the kind of complaint, sent, any response received or not, remarks, etc.

Bio-medical department: In this department, is a combination of the design and problem-solving skills of engineering with medical and biological sciences to help improve patient health care. All equipment like MRI, ECG, etc. which are used in the ward are taken care of by the head nurse. These devices are used in the diagnosis of the disease or other conditions, in curing, in mitigation, treatment, prevention of disease, etc.

Patient Valuables: The nurses in every ward have to take care of the patient's valuables taken at the time of admission and it is their responsibility to return them back to the patients while discharging.

Transportation: When the patients are being transferred from one ward to another or to ICU or CCU or NICU to other hospitals or health facilities, the nurses note down the following details transported from and to, date and time of transportation, mode of transportation

VIP admission and discharge: The patients with VIP admissions are given extra special care. In this category, the nurses need to maintain different fields in the record such as name of the patient, date and time of admission and discharge, reason for admission, treatment given, condition of the patient, special requirements given, status on discharge, recommendations, etc.

Serious Patient's Treatment: The patients who are in a life-threatening situation are called as serious patients. The different fields that are present in this category are the name of the patient, condition of the patient, special requirements given, treatment done, progress notes, frequent vital signs, etc. Extra special care is given to such patients to get cured quickly.

Daily admission and discharge list: This list is maintained by the head nurse who will help them know the number of patients admitted in that particular ward and the number of patients being discharged on a daily basis.

Medico-legal cases: Any patient admitted as an in-patient because of an accident or homicidal case or suicide case etc. comes under these Medico-legal cases. In this category, the nurses note down the demographic information of the patient, date and time the accident occurred, Initial diagnosis, treatment given, final diagnosis, status of the patient, etc.

Absconded patient list: The nurse needs to note down the details of the patient's missing beyond a particular period of time. The different fields that are present in this record are the name of the patient, the date and time the patient absconded, the nurse on duty, etc.

Waiting list of patients for admission: The head nurse in every ward should receive a list of patients those waiting for admission. By this, the nurse can make the necessary preparations for any patient (if required). This record consists of details like data and time of admission, patient suffering from, any special requirements needed, etc.

Nurse's On-duty and On-leave: The head nurse maintains the record of the staff that's working in the ward and by which she can allot the work to them or a set of patients to each nurse who needs to take care of. In this table, she maintains the record of the nurse on duty, the nurse coming in for the next shift, the nurse on leave, etc.

The head nurse and the nurses in each ward need to take care of the individual patients which include the following duties:

Vital signs: The nurses need to take the vital signs of each patient according to the patient's situation at regular intervals of time which helps in treating the patient better.

Admission: The head nurse should know the number of patients that are being admitted in her ward in order to make the necessary arrangements a bed should be allotted that is neat and tidy, a nurse should be available, and valuables should be taken (if any), condition of the patient, etc.

Transfer to ICU, CCU, OT, and NICU: In this category, the nurses make a note of the patients who are being transferred from one ward to another, or to an ICU or CCU or OT or any other health facility. This table consists of the date and time the patient was transferred, transferred from, transferred to, the reason for transferring, transferred via, etc.

Medication: In this nurse's medication record, the nurse follows the physician's instructions and gives the medication/treatment accordingly i.e. at what time, what dose, amount of dose, at what frequency, etc. the medicines have to be given to the patient.

Diet: This category includes the diet given to the patients at regular intervals of time and also if any special diet was given to a particular patient. The different fields that are present in this record are what kind of diet has to be given to which patient at what time, what quantity, etc and also if any remarks have to be written.

Incident / Occurrence (if any): An incident can be defined as some kind of occurrence that is unpleasant in a hospital. The details of such an event are noted down in this category like, a fight between two patients or between any staff of the hospital and a patient, or if a patient is absconding etc. The different fields that are present in this record are the condition of the patient, medication or diagnosis given, management steps taken, physician evaluation notes, Date and time of occurrence, name of the doctor, etc.

Ward census: It is an official count of the number of patients that are present in the hospital. This record contains the previous day's census, new admissions in the ward, total number of patients transferred in, discharge of the patients in each ward (alive or dead), total number of patients transferred out, current day census, etc.

Daily patient report: In this form, the treatment given to the patient and his progress is noted down daily by the nurses that are helpful for both the Physicians and the nurses in giving a better treatment. This record consists of the diet given, progress notes, treatment done, etc.

Discharge: Discharge involves the medical instructions that the patient will need to fully recover. The different fields that are present in this record are date of discharge, final diagnosis, valuables returned or not, status of discharge, recommendations, etc.

11. Follow-up appointment: Once a patient is discharged, the nurse should provide a date and time for the patient to come back for recheck-up. In this table, the different fields that are present are date of discharge, date and time the follow-up appointment is given, the status of the patient on discharge, final diagnosis etc.

Chapter IX: Managing Medical Records

Definition of Medical Record: As defined by Dr. Mogli “The medical record is an orderly written report of the patient, contains identification data, history, physical, progress notes, lab, radiology findings, diagnosis, treatment including medical and surgical and course when complete it should contain sufficient data to justify the investigations, diagnosis, treatment, length of stay, and end result. Each medical record reveals information, always centered on a patient (who may be a man, woman, or child). In other words, the medical record can be defined as What, Where, When, Who, How, and Why of patient care”.

To be precise, the record should reflect what health condition the patient came to what was done, and in what condition is returned. It is hard to mention until the system is converted into numerical figures e.g. such as the patient came with 30% problems and after treatment, the patient left with 0% or 10%. An ordinary person can understand that the patient is fully recovered (0%) or 20% of problems have been reduced and so on. Instead, the hospital uses the terminology as recovered, cured, improved, status-quo or others and died.

The purposes of the Medical Records should be:

To provide a means of communication among all authorized healthcare providers

To serve as an easy reference for providing continuity in patient care

To furnish documentary evidence of care provided in the healthcare facility

To serve as an informational document to assist in the quality review of patient care

To protect the patient, physician, hospital, and others in the event of litigation

To render clinical and administrative data for administrative, financial, and other purposes

To supply pertinent patient care information to authorized organizations and third-party payers.

To protect and ensure the security of information, confidentiality, the privacy of patient information

The Importance of Medical Records: The records are valuable to many individuals and groups: patients; physicians; health care; institutions; research teams; the teaching program; national health agencies; and international health organizations. The EHR developed should address these issues.

The Patient:

- Present and past state of health
- Analysis of present illness in terms of diagnosis and prognosis
- Consultation opinion
- Serve as a reference
- Accessibility of old records for a physician to review and analyze previous illness

- Quick treatment- reducing the length of stay
- Allergies and drug reactions are noted
- Previous surgical procedures are recorded and patient education is noted
- Protect from over-prescription, unnecessary surgical exploration, and repetition of investigations
- Protect from legal action
- Assist kith and kin in settling property litigation
- Obtaining blood group
- Obtaining medical certificates, such as birth, death, insurance, and so forth

The Physician:

- Yields information about previous treatment, reactions, allergies, drugs, investigations, methods of treatment, and results of care
- Suggests newer lines of investigation and treatment
- Evaluation of drugs for their clinical effect
- Information about the availability of newer drugs for patients
- Comparative studies
- Medico-legal concerns
- Teaching and research

The Healthcare Institution:

- Evaluation of the competency of the medical, nursing, and ancillary staff (Quality Assurance)
- Justifying the investigations, diagnosis, and results of treatment
- Medico-legal purpose and defense in malpractice suits
- The basis for preparing operating budgets
- Administrative control over functional activities
- The basis for distribution of expenses when computing costs of operation
- Statistical data for controlling bed allocation, infection, mortality rates, and length of stay
- Planning additional facilities, staff, and equipment, improving medical education and patient care

The Research Team:

- Medical Science is dynamic, with new techniques, new methods, , and new medications
- Conduct research to meet their own country's needs
- Research results are shared by others
- Each country has its own health problems
- Medical records of present and past help in concurrent, prospective, and retrospective research
- Learns simple and better ways to deal with problems

- Control health care costs
- Find better drugs and techniques for swift, safe, and improved quality care
- Improve the quality of services

The Teaching Program:

- Essential for medical education
- Medical students require a lot of practical training besides theoretical classes
- Art of history taking, physical examination, writing treatment notes as clinical practice
- The teacher is able to teach and guide better with better teaching methods
- Students learn the techniques and methods of a teacher in his /her absence
- Learn the traits of a teacher through a well-documented record
- Care providers, teachers, and students learn from recording their mistakes
- Records are full of documented facts of life cases, which are better than a written textbook
- Undergraduates and postgraduates benefit

National Health Agencies:

- Depending on the information for the prevention and control of diseases
- Allocate budget, staff, and equipment
- Plan and construct hospitals and health centers in required locations
- Determine the type of health services required to control morbidity & mortality
- Monitor all hospitals and health institutions
- Exchange expertise from other nations
- Collaborate with international organizations
- Develop medical and allied health service education

International Health Organizations:

- Responsible for assisting and guiding nations
- Control of infectious diseases and epidemics
- Provide assistance to needy nations by accepting from surplus states.
- Exchange experts and specialists
- Send medical supplies and other items to needy countries
- Need reliable information from all countries to achieve global healthier living

NEEDS AND MANAGEMENT OF MEDICAL RECORDS DEPARTMENT

a. *Introduction:* The primary function of a hospital is the care of the sick and injured. The hospital administrator is legally and morally responsible for the quality of medical care rendered to patients. Therefore, the medical records in charge have a very important role to play in the effective and efficient management of hospital services.

b. *The main needs of the medical records department (MRD):* The needs depend on the overall responsibilities and functions of the department. The following organizational needs have to be met before we can put the department into operation:

- Planning, setting up, organizing, and managing the MRD
- Promoting and obtaining good medical records
- Cooperation with all the departments in the matter of records
- Complete medical record control
- Assist in medical records, QA, and other committees
 - Prepare statistical reports and assist in research and teaching programs.
- c. Location and layout
- d. Personnel
 - e. Equipment
 - f. Good quality medical record forms (according to international standards)
- g. Budget and budgetary control
- h. Interdepartmental relationship
- i. Organizational chart of the department
- j. Work distribution chart
- k. Line, staff, and functional authority
- l. Operational policy:
 - Working hours—shift
 - Monthly duty roster (schedule)
 - Implementation of instructions
 - Training of new staff
 - Submission of reports
 - Supplies
 - Communications
 - Transportation of medical records
 - Housekeeping and physical examination
 - Hotel services
 - Protection from fire
 - Safety control
 - Infection control
 - Disaster and emergency plan.

BRIEF STANDARDS FOR MEDICAL RECORDS SERVICES

The health institution must maintain medical records that are documented accurately and in a timely manner and are complete and readily accessible for prompt retrieval of information including statistical data. Adequate patient case records must be maintained for all outpatients, inpatients, and emergency patients. All significant clinical information pertaining to the patient must be incorporated into the patient's medical record. The content of the medical record must be sufficiently detailed and organized to enable the medical care team responsible for the patient to provide continuity of care, to determine at any time the status of the patient, and to review the diagnostic and therapeutic procedures performed and the patient's responses to treatment. The discharge summary must be written at the termination of hospitalization. The patient's

health record must contain sufficient information to identify the patient, support the diagnosis, and to justify the treatment and end result.

- The *unit medical record* system with “*one patient one number one record*” is the ideal method to achieve optimal healthcare data, and should be a goal for all healthcare facilities. It is important that the Patient’s full name is spelled correctly in the record.
- Presently, however, many healthcare institutions in developing countries still would not be able to implement the unit record because this system demands adequate equipment, sufficient space, and trained personnel in order to function properly.
- The inpatient medical records must include at least the following:
 - a. Complete and accurate identification data including hospital number, patient’s full name, age (date of birth), gender, nationality, national ID number, marital status, occupation, place of birth, address and telephone number, and next of kin’s name and address including telephone number.
 - b. Evidence of appropriate informed consent.
 - c. Reports of all diagnostic and therapeutic procedures.
 - d. Reports of pathology and clinical laboratory examinations as well as radiology and nuclear medicine examinations.
 - e. Progress notes.

Medical records must be confidential, secured, current, authenticated, legible, and complete. The medical record is the property of the health institution and maintained for the benefit of the patient, the medical staff, and the health center. The health institution is responsible for safeguarding both the record and the information contained within it against loss, defacement, tampering, or use by unauthorized individuals. Medical records are to be retained a minimum of 5 years of Inpatient records from the date of discharge, and outpatient records are to be retained a minimum of 3 years from the date of the last visit. The A/E record must be kept for a minimum of 1 year. The ML cases if it is in the court - till the case is settled; or just observer IP, OP, or A/E applied rules.

Written policies and procedures for effective maintenance of medical records that are commensurate with overall policies of the health care facility should be made available to all concerned. The medical record department must be provided with adequate direction, staffing, and facilities to perform essential functions. The medical record department must be provided with sufficient space and equipment to enable personnel to function in an effective manner and to maintain patient health records that are readily available for the continuity of patient care. Basic medical statistical information must be readily obtainable through the medical record department with the type and amount to be determined by the medical staff and hospital administration, as well as by governmental authorities.

The medical record officer should encourage staff development through in-service training. The performance of medical record workers should be evaluated periodically to seek ways to improve medical record services. The role of the medical record staff in

quality assurance and utilization review functions and committee functions must be clearly formulated with screening patient records for compliance with established criteria. The medical record service should participate in the selection and design of forms used and in the determination of the sequence and format of the contents of the medical record. This department also should have a role in developing mechanisms to protect the privacy of the patients and practitioners whose records are involved in quality assurance activities. Similarly, if the hospital is computerized the MRO should in cooperation with the IT department and the healthcare providers suggest proper Computerized screens to meet the needs of healthcare providers; as well as MLCs, Insurance, medical education, research, and national and international health agencies.

Responsibility for Medical Records Contents

<i>Department</i>	<i>Responsibilities</i>
MRD staff	For collection of complete and accurate identification data
Medical staff	For clinical data in all records related to medical staff
Nursing staff	For the data related to nursing record
Paramedics	Paramedical staff For the data of allied paramedical units to their respective records

Maintenance and Completion

a. Medical records staff

1. Collection of complete and accurate patient identification data.
2. To collect the ward census and the discharged patients files (whether completed or incomplete) from all the wards daily. A due register to be maintained for those patients' files needed to be retained in the ward after discharge for any authenticated administrative purpose. In computerized system screen formats are accurately completed in a timely manner and ensure complete and relevant information is secured.
3. All medical records including patient files registers, index cards, etc. relating to patient care have to be maintained by the medical record department. The old registers from all the departments of the hospital should also be collected and preserved in a systemic manner. Ensure the computerized information is fully secured and safeguarded.

b. Medical staff

1. All doctors have to complete the patient's file before discharge of the patient wherever possible. However, all the discharged records will be checked for deficiencies by inserting a prescribed deficiency check slip by the MRD without any exception as a part of health institution/MOH policy. Hence, all the unit doctors have to visit the

doctors' conference room in MRD once in a week to review all the discharge records for completion. No patient's record should be kept incomplete for more than a week.

2. The head of the unit is responsible for clinical content and its accuracy and completeness. Physicians should use only approved medical abbreviations and symbols and should check that each page contains the patient's name and hospital number. He should sign all entries with a date. Even though assistant doctors might help; but the completion of records rests with the Treating doctor (or doctor under whose care was admitted the patient).

c. Nursing staff

1. All the discharged patients' records should be handed over to the MRD while submitting the census on the very next day. No patient's record should be retained in the ward for not more than 48 hours from the date and time of discharge.

2. Nursing staff should ensure that each page contains the patient's name, hospital number, and dates in chronological order.

3. All lab reports received during the patient's stay in the ward are to be mounted then and therein the appropriate patient record. If any lab report is received after the discharge, it should be sent to the MRD promptly without fail.

4. The outpatient, A, and E, and daycare patients' records must be returned to MRD without fail. No records should be retained in the clinic after consultation is completed.

d. Others: Other staff (other than medical and nursing) especially the paramedical workers are responsible for the proper recording of the data relating to the treatment of their specialties.

e. Classification of diseases: All medical records of patients treated in the outpatient and inpatient departments have to be coded for disease classification by the MRD according to the latest international classification of diseases (WHO) or as recommended by the hospital administration.

f. Classification of operations: All medical records of patients treated for surgical procedures in the outpatient and inpatient departments have to be coded for operation classification by the MRD according to the latest international classification of operations (WHO) or as recommended by the hospital administration.

g. Disease and operation index: All medical records coded for diseases and operations have to be indexed manually in the disease index card and operation index card or electronically in the computer by the MRD. The information required from the index cards has to be compiled.

h. Patient master index: All the patients treated in the outpatient, especially in specialty clinics and inpatient departments must have a patient master index with complete identification information. The MRD is responsible for collecting the information at the time of registration (first visit) and files them in a strict alphabetical order in the absence of computer registration.

i. Maintenance of medical records: It is the responsibility of the medical records department which is under the control of a qualified medical record officer. The MRD initiates records of emergency, outpatient, and inpatient and processes them for completion, and collects health information to assist in patient care, quality assurance,

medical education, research, and administrative activities. Protection from unauthorized persons and the safe preservation of medical records and information is one of the major responsibilities of the medical record department.

Control of Movement of Records

All the patient medical files of emergency, outpatient, and inpatient departments will have to be kept in the medical records department under the custody of the medical record staff. Generally, medical records should not be taken out of the medical records department except in case of: (i) Patient care, i.e. OP, IP, and A and E (ii) Court summons (iii) Clinical meetings (iv) Administrative (for settling the bills or complaints). The following procedures are recommended for movement of records:

Emergency Records

Accident and emergency form (or record) which was initiated and sent to the casualty medical officer for treatment has to be collected immediately after care of the patient and kept in the allocated section by the MRD. Patient files are not to be retained by anyone without the knowledge of the MRD. For admitted cases, the inpatient procedure will be applicable. In the case of computer records; the MRD ensures that the policies and procedures laid down are observed strictly and meticulously.

Outpatient Records

The outpatient records are those that are sent to outpatient clinics for the treatment of patients. Once the patient is seen in the clinic, the patient file should be returned to the OP clinic nurse/clerk (AMRT). Outpatient records are not to be retained by anyone including doctors. If patients require admission, the file will be sent to the admission office. For admitted cases, the inpatient procedure will be applicable. In the case of computer records; the MRD ensures that the policies and procedures laid down are observed strictly

Inpatient Records

From the time of admission into the ward till the patient is discharged, the patient file is under the custody of the ward nurse. The file should not be taken out of the ward without her permission. The maximum period permitted for discharged patient files to be retained in the ward is 48 hours. In the case of computer records; the MRD ensures that the policies and procedures laid down are observed strictly

Ward Census

A Medical record technician (MRT) from the statistical unit of MRD will be responsible for collecting the daily ward census and the discharged patient files (whether complete or incomplete) from the ward daily. Any file of a discharged patient if required to be retained in the ward due to any special reason, the nurse in charge will have to acknowledge. However, the same should be returned within 48 hours.

Patient Medical Files Sent to Other Hospitals

As a routine, a patient file from one hospital is not sent to another hospital. However, a detailed discharge summary may be supplied to the treating doctor. In exceptional cases, a photocopy of the entire file is supplied and the original file will be retained in the record-originated hospital.

Patient Medical Files from Other Hospitals

If any patient file from another hospital is received for treatment of the patient, all relevant information should be noted in the current record of the treating hospital. Once the purpose is over, the file including reports (X-ray, laboratory, etc.) should be returned to the concerned hospital. In any case, the file should not be retained after the discharge/death of the patient.

Registration of Births and Deaths

The hospital should maintain three separate registers for births, deaths, and fetal deaths. Necessary entries for live births, stillbirths, fetal deaths, and deaths, as they occur must be made in respective registers as per the rules laid down by the Government.

Newborn (Live Birth)

Newborn should be registered as a new patient baby girl of (BG/O) or baby boy (BB/O) followed by mother's name and a new hospital number to be allocated with a separate patient file created. However, a cross-reference the mother's hospital number in the child's file and the child's number in the mother's file should be entered. Similarly, cross-reference entries have to be made in the mother's and child's patient master index cards.

Multiple Births: (Twins/Triplets, etc.)

Each live-born child must be registered as a new patient (BG1/O or BB2/O followed by mother name) and a new file to be created. The first-born child will get the first hospital number.

Stillborn (Dead Born)

In Stillborn cases, the birth notification issued by the doctor should form a record. However, no patient file should be opened and no hospital number to be allocated.

Fetal Death

Death prior to the expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy; the death is indicated by the fact that after such separation, the fetus does not breathe or show any other evidence of life such as the beating of heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. There should be a separate fetal death register to record all fetal deaths.

Submission of Birth Notification (Born Alive and Dead)

Birth notification for born alive and dead in prescribed forms (recommended by the Government) duly signed by the medical officer who had conducted the delivery should be prepared in triplicate and submitted to:

The parents /relatives.

The hospital patient's medical record.

The birth registrar (concerned authority for registration).

Submission of Death Notification

Death notification in triplicate in the prescribed form has to be prepared and signed by the treating doctor and counter-signed by the unit head and submitted to:

The nearest relative of the deceased.

The hospital patient's medical record.

The death registrar (concerned authority).

The hospital should maintain one central death register in MRD in which all hospital deaths, including OP, IP, and A/E - brought dead to be registered with accurate and complete information.

Registration of Cancer Patients

A central cancer register must be maintained in each hospital. All proven malignant cases as recommended by ICD (WHO) should be registered and a separate cancer register number to be allocated in the patient file in addition to the hospital number. All the cancer cases registered will have to be classified in accordance with the recommendation made by the National Cancer Center. Refer to the guidelines provided by the National Cancer Center for more details.

Reporting of Infectious Diseases

It is the responsibility of each department to notify the admission and treatment of infectious disease cases in the prescribed form recommended by the hospital to the public health department. Refer to the guidelines provided by the public health department for more details.

Issue of Medical Reports and Certificates

Any request for a medical report or certificate has to be routed through the hospital administration/MRD. The treating doctor will prepare and issue a medical report or certificate to the patient or his representative or any organization through the MRD/hospital administration. An original copy of the medical report/certificate will be given to the patient and the copy is kept in the patient file.

Collection of Hospital Statistics

All hospitals should collect and compile different types of statistics as recommended by the Ministry of Health. Some of the essential statistics to be collected are as follows:

Outpatient Statistics

Statistics of patients of new, follow-up, and total cases; according to sex (male, female, and children), and nationality. Statistics to be classified according to service/unit,

geographical distribution, age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above.

Number of investigations carried out, e.g. pathology, microbiology, biochemistry, radiology, ECG, EEG, and other departments (specify).

Outpatient disease and operation statistics have to be prepared.

Emergency Statistics

Total number of cases seen in the emergency service and classification according to sex (male, female, and children), number of cases referred to OPD, PHC. Number of cases admitted to the hospital and number of medico-legal cases treated (accidental, suicidal, homicidal, traffic accidents, burn and poison cases).

Inpatient Statistics

Daily census reports of admitted and discharged cases of general and private wards.

Discharges according to service by nationality, sex (male, female, and children), age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above, discharge results—alive, dead, death classification—less than 48 hours and more than 48 hours.

Bed utilization (general and private separately): Bed days, bed occupied and bed occupancy rate.

Inpatient diagnosis and operation classification statistics have to be calculated.

Number of consultations received and rendered.

Surgical procedures according to different services: number of elective operations, emergency operations, minor, intermediate, and major operations performed.

Investigations: Number of pathology, microbiology, biochemistry, radiology, ECG, EEG, and other tests conducted.

Deliveries conducted: Number of normal and abnormal deliveries.

Births: Number of live births, mature, premature, and stillbirths.

Death statistics: Should be presented in the following statements: S no, name, hospital no, service, nationality, age, sex, duration – 48 hours, +48 hours, cause of death, remarks.

Administrative Statistics

Number of medical personnel; seniors and juniors according to specialty.

Number of dentists; seniors and juniors.

Number of nursing personnel—according to cadre and student nurses if any.

Number of paramedical workers including laboratory, radiology, dietary, pharmacy, medical social service, medical records, and others.

Other auxiliary services: Engineering, civil, electrical, maintenance, laundry, and housekeeping.

Administrative staff including director, deputy directors, office unit heads clerical and lower grade staff.

Expenditure relating to drugs, diet, equipment, furniture, forms, and stationery. Buildings including water, electricity, personnel, linen (patient uniform, staff uniform), transportation, communication, maintenance, training personnel, and research are all these units to be considered.

Income from patients and other sources.

Other information pertaining to administration.

Monthly Reports on Hospital Statistics

Statistics of major departments such as pathology, microbiology, biochemistry, radiology, ECG, dietary, anesthesiology, physiotherapy, obstetrics and gynecology (births and deaths) and operating theaters, have to be prepared with details and submitted to the medical record department before the 5th of every month.

The medical record department should prepare monthly statistics of outpatient, inpatient, emergency, and allied departments and publish a report before the 10th of every month. Copy of monthly hospital statistical report should be sent to the following departments before the 15th of every month.

To the hospital administrator.

To the heads of departments and unit chiefs.

To health information officer of state and central if required or mandated (MOH).

Preservation of Old Records (Retention Schedule)

Maintenance of Old Records

All medical records including patient files, registers, index cards, etc. relating directly to patient care have to be maintained by the MRD. The medical record department should collect the old registers and files from all the wards, emergency departments, outpatient clinics, etc., and classify them properly by giving the “old record register number”. The old files, registers, and index cards are to be preserved in a place earmarked for a prescribed period. Later, the records have to be destroyed as per the rules laid down for “record retention”.

Retention of Records

Because of pressure on space for filing of medical records a retention schedule for keeping records has been prepared by the MOH for hospital guidance (*See* the retention schedule). However, those hospitals that are carrying out teaching/research programs can keep the records longer than the prescribed period provided they have adequate space and facilities.

Preservation of Records

Special care has to be taken to preserve the records. Records have to be protected from insect termites, to prevent records from being exposed to hot and dry climates. They should be filled in a dust-free and protected from water, dampness, and fire. Adequate fire extinguishers are to be provided at all required places.

Medical Record Retention Schedule

Name of Medical Record	Retention in Original Form (in Years)	Effective from The date	Permanent Retention in microfilm, in computer or any other mode.
Patient Record			
Inpatient record)	5	Date of discharge	YES
Outpatient GP record	2	Of last date of visit	NO
A/E record	1	Of last date of visit	NO
Medico-legal cases	2	Of last date of visit	Till case in court
X-rays Outpatient	5	Of last date of visit	NO
X-ray Inpatient	5	Date of discharge	NO
X-ray A/E	1	Of last date of visit	NO
Registers			
Birth Register	2	Last date of entry	YES
Death Register	2	“	YES
Admission and discharge register	2	“	YES
Hosp. master register (OP	2	“	YES
Medico-legal register	2	“	YES
Operation register	1	“	NO
Ward Adm. & dis. register	1	“	NO
Narcotic register	1	“	NO
Infection register	1	“	NO
X-ray register	1	“	NO
Lab. and other registers	1	“	NO
Index			
Diagnostic Index	Permanently	Either physical or computerizes form	YES
Operatrion Index			YES
Patient Master Index			YES
Physician Index	1	Last date of service	NO
Reports			
Daily ward census report	1	Of last report	NO
Daily statistical report	1	“	NO
Monthly report	1	“	NO
Yearly report	5	“	NO
Duplicate lab./X-ray report	1	“	NO

Personal Document: The medical record is considered to be personal when it identifies the patient using the name, history of illness, physical findings, and treatment given. The information in the record is confidential and no one is allowed to see the patient's medical file and no information is released without written permission from the patient. However, official authorities are allowed to see the record only after presenting proof of authority. Neither relatives nor friends of the patient, not even the husband or wife, have any right to review the record unless written permission has been received from the patient. The written permission and photocopy of the information disclosed should be kept in the patient's file.

If the patient is readmitted under the care of a second physician, the second physician should be allowed to access the record without permission of the patient. In case the patient is admitted to another hospital, a summary may be sent upon request from the hospital or the physician. In such instances, the patient's permission is not necessary. If a patient requests information from his own medical file, in such instances, the treating physician should be consulted or nay government's latest rules must be applied and practiced.

Impersonal Document: As an impersonal document, the record may be used for research or study when such cautions need not be exercised, as when it is used as a personal document, because, it has no connection with the patient as an individual. Moreover, it is used only by physicians, house-staff undergraduate and postgraduate students, nurses, and paramedical staff; all of whom are bound by the code of professional secrecy. As an impersonal document, only the patient file number is used and not identified by his name, therefore, the patient's permission is not required.

Permission from treating physician: If the research is being done by a staff physician and is not for publication, it is not necessary to obtain the permission of the attending physician to use the record, although this is done as a matter of courtesy.

In case the record is being studied preparatory to publication, the permission of the attending physician must be secured. It is essential, that when a physician, who is not a staff member, intends to review a case or a series of cases; the consent of the attending physician and permission from the hospital administrator must be secured.

Medico-legal Cases Registration: The medico-legal case (MLC) is one, which is accidental, suicidal, or homicidal. However, the casualty medical officer (CMO) determines the case is medico-legal or not. Except for minor injury cases, all the cases of traffic accidents, burns, poison and quarrels, etc. have to be treated as medico-legal.

Medico-legal register: There should be a central medico-legal register kept in the accident and emergency (casualty) department, under the supervision of the casualty medical officer. All MLCs admitted from casualty, outpatient, and inpatient services should be registered in the central medico-legal register. A medico-legal stamp should be affixed on each registered case to ensure that the case has been registered.

All medico-legal cases registered in the hospital must be informed to the police through the hospital administrator and ensure that the MLC records are complete. These cases

should be kept under the safe custody of a responsible officer in the medical record department.

Informed General Consent: Written consent must be obtained from the patient or nearest relative for medical examinations, investigations, treatments, and procedures performed in the health care facility by the medical record staff. The MRD should explain the purpose of consent. In the case of children, persons of unsound mind, unconscious patients, and the consent of the guardian, the spouse, or the nearest relative may be obtained. The consent of the husband is required if an operation deprives his wife of her marital functions.

Informed Special Consent: Written consent to be obtained from the patient or the nearest relative for performing surgeries and clearly explain in the patient's spoken language the objective and consequences etc.,

Release of Information

Confidentiality: The medical records and health information whether it is in the verbal form or written documentation pertaining to any identified patient, is confidential. As such the information available either in the form of medical records, disease and operation indexes, computer, microfilm, photograph, tapes or any other device used for the purpose should be treated as confidential documents. Therefore, only authorized staff is allowed to deal with the patient information.

Authorized Staff: Authorized staff is those who are involved in taking care of the patient, normally the medical, nursing, and paramedical persons of the medical record department.

Release of Information without the Patient's Permission

Conditions (e.g. injuries, poisoning, abortions or cases of accidental, suicidal, and homicidal) must be reported to the police or other legal authorities.

Communicable and other notified diseases must be reported to the concerned authorities.

Events (births, deaths, fetal deaths) must be reported to civil registration authorities, either directly or through family.

Court order: The hospital is also obliged to provide information in response to a court order. All the reports may be made available to the court without the patient's permission.

Medical records and health information are the property of the hospital. Therefore, all correspondence for medical information on patients in the hospital will be handled by the hospital administrator or his authorized representative. This includes insurance forms, workmen's compensation forms, medical certificates, letters to schools or places of employment, government forms, questionnaires, requests for case summaries from law courts, etc. Any request for information including medico-legal cases has to be referred to the hospital administrator.

Removal of medical records or portions of medical records and health information: The informational content of medical records must be safeguarded against loss, defacement, tampering, or use by an unauthorized person. Except for the authorized, no employee

has the right to read or copy the contents of any patient's record. Violators of the rules of confidentiality will be prosecuted and punished as per the existing civil service laws.

Quality Assurance

The term quality assurance, which is a broad term that encompasses several components, among them utilization review, medical care evaluation, risk management, and peer review. From medical record maintenance in relation to patient care and medical record service point of view, the following are considered:

- i. Quality control
- ii. Quantitative analysis
- iii. Qualitative analysis
- iv. Medical audit
- v. Patient care evaluation
- vi. Formation of medical record committee
- vii. Role of MRD in Quality Assurance Program
- viii. Evaluation of medical record service.

Quality Control: Quality control is defined as those evaluation procedures that are performed systematically to ensure that the established policies and standards are being met. This procedure includes the quantitative and qualitative review of medical records; and the evaluation of the patient care or medical audit.

Quantitative Analysis: Quantitative analysis is the review of medical records to ensure that they are complete and accurate and meet standards established for them by the medical record committee/ministry of health. It is the responsibility of medical records and statistical personnel to perform this analysis regularly on inpatient (IP) and outpatient (OP) records.

Qualitative Analysis: Qualitative analysis is the review of records to ensure that they contain sufficient information to justify the diagnosis, the treatment, and end result. Opinions are supported by the findings and there are no discrepancies or errors.

The qualitative review should be carried out regularly by the physicians at least once in a week and by the medical record committee once a month.

Medical Audit: A "patient care review meeting" in the health center preferably every month to discuss the patient care carried out by the hospital. The main object of this meeting is to review the overall work carried out in the departments including outpatient, inpatient, and emergency, and also to discuss the institutional deaths of the previous month. The attendees at this meeting should include all the clinical staff including seniors and juniors, the director of nursing, the medical record in charge, and a senior representative from each of the departments of pathology, biochemistry, and radiology. The director of the hospital should be the chairman of this meeting. He should be very tactful in conducting this meeting because of sensitive topics. The

medical staff secretary should take notes of important discussions during this meeting, and these notes might serve in the initiation of action for any important points brought out during the meeting.

Patient Care Evaluation: The purpose of patient care evaluation is to ensure that care of acceptable quality is being provided. The evaluation has to be done by physicians or other healthcare professionals through the review of medical records on a regular basis.

Formation of Medical Record Committee: There should be a medical record committee in all the hospitals to carry out a regular quantitative and qualitative analysis of hospital services.

Medical record committee: Serves as a liaison between the medical record department and medical staff. The function of the committee is to review medical records for adequacy and completeness and to determine whether the records meet the required standards for promptness, completeness, and clinical pertinence. To this end, the committee should recommend policies regarding the content and completion of medical records. Another important function of this committee is to design and develop suitable medical record forms. The committee must comprise the following members: 1. Hospital director (medical) or his representative, 2. One representative from each department, e.g. medical, surgical, obstetrics and gynecology, pediatrics, laboratory, radiology, nursing and medical record officer as coordinator.

Role of Medical Record Department in Quality Assurance Program: The MRD supports the hospital quality assurance activities related directly to the retrieval of medical records. It provides routine statistical and medical information for completion of reports and monitoring of adherence to procedures, to protect the privacy of patients and practitioners whose records are involved in quality assurance programs.

Evaluation of Medical Record Service: Evaluation of medical record service should provide information on how effectively medical record services are being performed. How treated records especially discharged records are checked thoroughly for any deficiency and ensured to get completed by treating healthcare professionals. For example, how accurate is filing? What percentage of records of patients with appointments is in the clinic at the start of the clinic session? How accurate is the disease coding? How timely are reports being submitted? The medical record officer should evaluate the work and the medical record committee should assess and initiate action.

Control of Forms: The medical record committee of the hospital should develop standard and simple medical record forms in small numbers, which provide flexibility and should reduce the bulkiness of record. While designing the following points should be borne in mind:

- a. The purpose of the form.
- b. Who it is to be used?
- c. The identification of the patient within the form.
- d. The retrieval of the form.
- e. The hospital requirements, e.g. consultant's requirements.
- f. The provision made for form duplication, etc.
- g. *Size*: It is suggested to use an international paper size A4: 21 × 29.7 cm for large forms and B6: 12.5 × 17.5 cm for clinical investigation requests and report forms.
- h. Selection of paper or card should be primarily on the degree of permanency attached to the record concerned.
- i. Suitable colors can be given to distinguish each form from others. However, it is advisable to print only on white paper with color-coded bands on the right-hand margin with space for the title and identifying symbols for each form in place of different colored paper.
- j. There should be a form identification number at the foot of the left-margin or right-margin of each form with the date and number of forms printed.
- k. Systematically the required quantity of forms for each year should be meticulously calculated and an additional 20 to 25 percent more than the estimated number needed each year should be printed to allow for the waste caused by errors in usage.
- l. Introduction of the new forms is not advisable because these forms are expensive to produce, and also will confuse users. Therefore, all efforts should be made to reduce to a minimum the requisite basic forms in the medical record. When the basic set of medical record forms has been decided upon and introduced, samples of these forms together with short instructions on their use, should be kept by the hospital. Decisions on the revision or alteration of forms presently in use or on the introduction of new forms should be made by the hospital medical record committee. The individual departments of the health care facility should not be allowed to introduce new forms or modify any form currently in use.

Patient's Property: This is the responsibility of the nursing staff during the hospitalization of the patient. The ward nursing staff, in the event of no relatives, will be responsible for keeping the patient's property in a safe box during the period of hospitalization. Some hospitals have a policy of keeping with the administration's office and returning at the time of discharge.

Accident and Emergency Service: A separate accident and emergency record in triplicate will be used in the A/E service. All the casualty records including X-rays have to be kept for one year in the A/E department. Later, they should be transferred to the MRD/X-ray department. The casualty registration section will also undertake the responsibility of the central registration and admission office during holidays and off hours.

Admission Office: The admission office functions round the clock is responsible for the admission of patients, and maintains a bed occupancy board.

Direct Admission: A patient getting into a ward and occupying a bed without going through the admission office is considered direct admission. This is permitted in emergency and obstetrics cases. The nurse in charge of the ward is responsible for registering the case in the admission office within two hours of the patient's admission into the ward.

Declaration by the Patient: For any patient, who wishes to make a declaration before his death, such statements have to be recorded in the patient's file in the presence of a magistrate. However, in the absence of a magistrate, the declaration can be recorded in the presence of three persons including the treating physician, a nurse, and the hospital administrator or his representative.

Completion of Records: Doctors have to complete records before discharge of patient wherever possible. Otherwise, they have to visit MRD weekly and review all the discharged records for completion. In any case, patient files should not be kept incomplete for more than a week.

Supply of Records: The MRD is responsible for the supply of medical records for medical education and research purposes to authorized persons.

Registers to be maintained –manual and computerized: The following registers have to be maintained in the hospital. If the hospital is maintaining manual records; the following hardcopy registers are required; if the hospital is computerized; the following registers can be in screen format.

- **Outpatient Register:** Outpatient register should contain: the Hosp.no/Patient's name/Sex/Age (DOB)/ID no./Nationality/Marital status/Occupation/Place of birth/Address and telephone no./Relative's name and telephone no./Clinic name.

- **Accident and Emergency Register;** Accident and emergency register should contain: S.no./Date/A and E no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/ID number/Address/Time of arrival/Mode of arrival/Brought by/Illness or accident/Place of accident/Time of accident/Degree of urgency/Diagnosis/Treatment/MLC (Yes/No)/Time of departure/Follow-up/Remarks.

- **Medico-legal Register:** Medico-legal cases (MLCs) should contain MLC no./A and E no./Hospital no./Patient name/Age/Sex/Nationality/Marital status/Occupation/Address/Date and time of arrival/Means of arrival/Nature, place and time of accident/Complaint/Diagnosis/Disposition/Date and time of discharge/Name of CMO/Remarks.

- **Admission Register:** S.no./Date of admission/Date of discharge/Nature of discharge/(Discharge/Transfer/Lama/Died)/IP no./OP no./Name of the

patient/Age/Sex/Address/Time/Provisional
diagnosis/Ward/Nationality/Remarks.

diagnosis/Final

- **Waiting List Register:** Waiting list register should contain identification data plus service/unit/name of admitting doctor/date and time of registration in the waiting list/date and time of the patient to be admitted/remarks.
- **Ward Admission and Discharge Register:** The Ward admission and discharge register should be a single register; admissions on the left and discharges on the right side of the register.
- **Admission register:** S.no./Hospital no./Patient's name/Sex/Age/ Nationality/Room no./Bed no./Date and time of admission/Service, unit/Provisional diagnosis.
- **Discharge register:** S.no./Hospital no./Patient's name/Sex/Age/ Nationality/Room/Bed no./Date and time of discharge/Service/Unit/ Final diagnosis/Result/Remarks.
- **Operation Register:** Operation register should contain: S. no. /Hospital no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/Date of admission/Date and time of operation/Diagnosis/Operation/Anesthesia type/Anesthetist/Surgeon/Assistant surgeon/Name of the OT nurse/Results/Remarks.
- **Anesthesia Register:** S. no./Date/Hospital no./Name/Age/Sex/Diagnosis/Operation/Pre-meditation/Anesthetic technique and drug used/Duration/Anesthetist/Remarks.
- **Birth Register:** Birth register should contain: S. no./Name of the newborn/Sex/Father particulars (Name/Religion/Nationality/Occupation/Address)/Mother particulars (Name/Religion/Nationality/Occupation)/Date of birth/Particulars of place of birth/Destination of delivery attendant/Signature of registrar/Date of registration/Signature of notifier/Remarks.
- **Death Register:** Death register should contain: S. no./Hospital no./Name of the diseased/Age/Sex/Nationality/Address and Telephone no./Ward/Date of admission/Time of death/Diagnosis (cause of death)/Signature of doctor certifying death/Relative's signature receiving the body.
- **Central Cancer Register:** Central cancer register should contain: Full identification data plus CCR no./Disease/Date onset of the disease/Confirmed by histopathologically/treated as OP/IP/DOA/DOD/Service/Unit/Information sent to NCR on date/remarks.

Completion of Records: Doctors have to complete records before discharge of patients wherever possible. Otherwise, they have to visit MRD weekly and review all the

discharged records for completion. In any case, patient files should not be kept incomplete for more than a week.

Incomplete Record Control: (The following is a just Sample- Improve the checklist according to specialties etc.)

A. Obtain the files of discharged patients and late investigation reports from the assembly and deficiency check unit.

DEFICIENCY CHECK-LIST
(*Medical Record Department*)

Patient's Name:		H. No.	Date:
Treating Physician:		Unit:	
Final Diagnosis:			
Sig. of Unit Head:			
Discharge Summary:			
History:			
Physical:			
Consultation:			
Lab. Reports:			
X-ray Reports:			
Anesthesia:			
Operation Record:			
Progress Record:			
Physician Orders:			
Result:			
Cause of Death:			
Sig. of Deficiency Check Technician (MRT):			
Completed by Physician:			
Signature of Physician:			
Deficiency Completed Date:			

Table 34.1

B. Verify the patient's name, the hospital number, and the name of the treating physician on the deficiency check slip of each record.

C. Check that all investigation reports are mounted, if not, locate them from late investigation reports and mount them in chronological order.

D. Ensure that all the necessary forms such as the history, physical examination, progress notes, discharge summary, and other relevant forms are available in the patient file.

E. Review each file thoroughly and checkmark each deficiency noted on the deficiency check slip.

F. Separate files according to the treating physician and file them in an ascending order in the incomplete record cabinet for that treating physician.

G. Arrange with the chief of units and set a day and time to review weekly discharged records.

H. Time Table for Doctors Conference Room:

Day/Time	7:30 8:30	8:30 9:30	9:30 10:30	10:30 11:30	11:30 12:30	1:00 2:00	2:00 3:00	3:00 4:00
SAT		MED				NEUR		
SUN.							PED-SURG	
MON			SUR					
TUE.				PED				
WED		CARD			OBST			
THU						ORTHO		

I. Have all incomplete records ready on the appointed day and time, before the treating unit chief and his team of physicians visits the Medical Record Department to complete the records.

J. Clarify with the physicians any doubts or discrepancies regarding the information in the patient file.

K. Separate those patient files which are lacking investigation reports and attempt to collect these reports for record completion.

L. Ensure that final diagnoses and associated diagnoses, if any, are entered. Also, in the case of surgical procedures, enter the names and dates of operations performed.

M. Review completed records immediately and notify physicians of missing signatures and so forth.

N. Annotate with a checkmark the appropriate number in the incomplete record control register.

O. Forward these patient files to the inpatient coding unit and obtain their acknowledgment as a token of having received the files.

Supply of Records: The MRD is responsible for the supply of medical records for medical education and research purposes to authorized persons.

Registers to be maintained: The following registers have to be maintained in the hospital:

Outpatient Register: The outpatient register should contain: the Hosp.no/Patient's name/Sex/Age (DOB)/ID no/Nationality/Marital status/Occupation/Place of birth/Address and telephone no/Relative's name and telephone no/Clinic name.

Accident and Emergency Register; Accident and emergency register should contain: S.no./Date/A and E no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/ID number/Address/Time of arrival/Mode of arrival/Brought by/Illness or accident/Place of accident/Time of accident/Degree of urgency/Diagnosis/Treatment/MLC (Yes/No)/Time of departure/Follow-up/Remarks.

Medico-legal Register: Medico-legal cases (MLCs) should contain MLC no./A and E no./Hospital no./Patient name/Age/Sex/Nationality/Marital status/Occupation/Address/Date and time of arrival/Means of arrival/Nature, place and time of accident/Complaint/Diagnosis/Disposition/Date and time of discharge/Name of CMO/Remarks.

Admission Register: S.no./Date of admission/Date of discharge/Nature of discharge/(Discharge/Transfer/Lama/Died)/IP no./OP no./Name of the patient/Age/Sex/Address/Time/Provisional diagnosis/Final diagnosis/Ward/Nationality/Remarks.

Waiting List Register: The waiting list register should contain identification data plus service/unit/name of admitting doctor/date and time of registration in the waiting list/date and time of the patient to be admitted/remarks.

Ward Admission and Discharge Register: The ward admission and discharge register should be a single register; admissions on the left and discharges on the right side of the register.

Admission register: S.no./Hospital no./Patient's name/Sex/Age/ Nationality/Room no./Bed no./Date and time of admission/Service, unit/Provisional diagnosis.

Discharge register: S.no./Hospital no./Patient's name/Sex/Age/ Nationality/Room/Bed no./Date and time of discharge/Service/Unit/ Final diagnosis/Result/Remarks.

Operation Register: Operation register should contain: S. no. /Hospital no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/Date of admission/Date and time of operation/Diagnosis/Operation/Anesthesia type/Anesthetist/Surgeon/Assistant surgeon/Name of the OT nurse/Results/Remarks.

Anesthesia Register: S. no./Date/Hospital no./Name/Age/Sex/Diagnosis/Operation/Pre-medication/Anesthetic technique and drug used/Duration/Anesthetist/Remarks.

Birth Register: The birth register should contain: S. no./Name of the newborn/Sex/Father particulars (Name/Religion/Nationality/Occupation/Address)/Mother particulars (Name/Religion/Nationality/Occupation)/Date of birth/Particulars of place of birth/Destination of delivery attendant/Signature of registrar/Date of registration/Signature of notifier/Remarks.

Death Register: Death register should contain: S. no./Hospital no./Name of the deceased/Age/Sex/Nationality/Address and Telephone no./Ward/Date of admission/Time of death/Diagnosis (cause of death)/Signature of doctor certifying death/Relative's signature receiving the body.

Central Cancer Register: The central cancer register should contain: Full identification data plus CCR no./Disease/Date onset of the disease/Confirmed by histopathologically/treated as OP/IP/DOA/DOD/Service/Unit/Information sent to NCR on date/remarks.

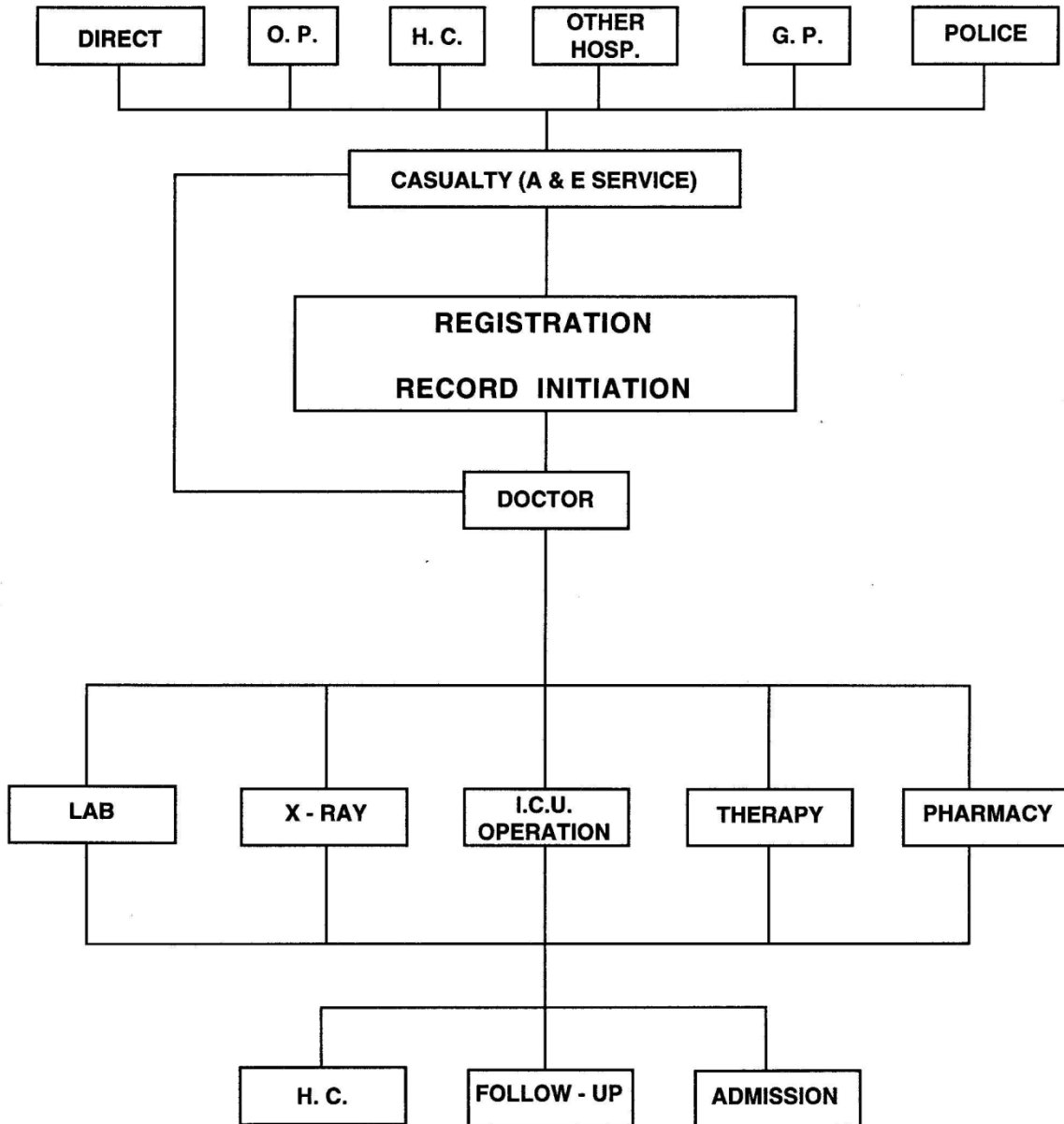
General Instructions

1. Every sheet of the patient medical file must have identification at least the complete patient's name and hospital number.
2. The treating staff whether medical, nursing, paramedical, or others have to sign and date wherever it is required. Generally, when information is written in the form, the note has to be attested and dated.
3. All written entries into the patient file including investigation requests, and reports must be clear and legible. Since patient files will be kept for a longer period, it is advisable to use dark color ink. Pencils must not be used. Each entry must be dated and include the name and status of the contributor.
4. Any section of the patient file should not be erased, if corrections are required, circle write over, and sign.
5. The patient should not be admitted to the ward without completing the admission and discharge advice form by the treating physician or any authorized medical officer.
6. The patient should not be discharged without the written discharge instructions by the treating physician.
7. A provisional or admitting diagnosis must be written at the time of admission wherever possible.
8. Diagnosis will be written in full without the use of abbreviations.
9. Standard abbreviations are listed separately as such only those should be used.
10. Prior to the discharge of a patient, the consultant physician or his authorized assistant should write the final diagnosis including primary and secondary. The condition of the patient on discharge, the result, and the advice given should be written.
11. The cause of death as recommended by WHO must be written in all death cases. If an autopsy is conducted, a note "autopsy done" and a report should be recorded.

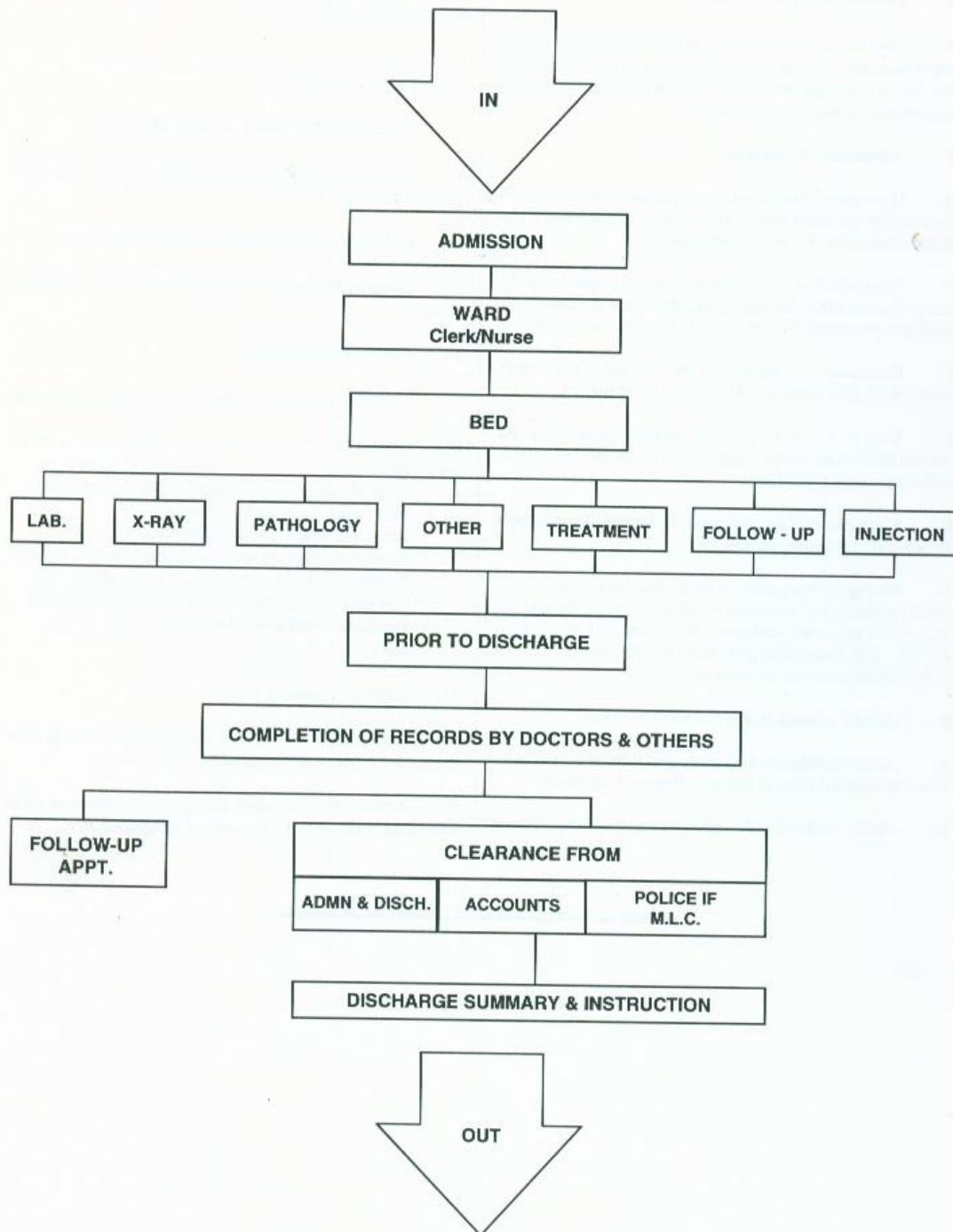
12. Prior to proceeding on leave, the physicians should get a no-objection certificate from the medical records department.

Flow Charts

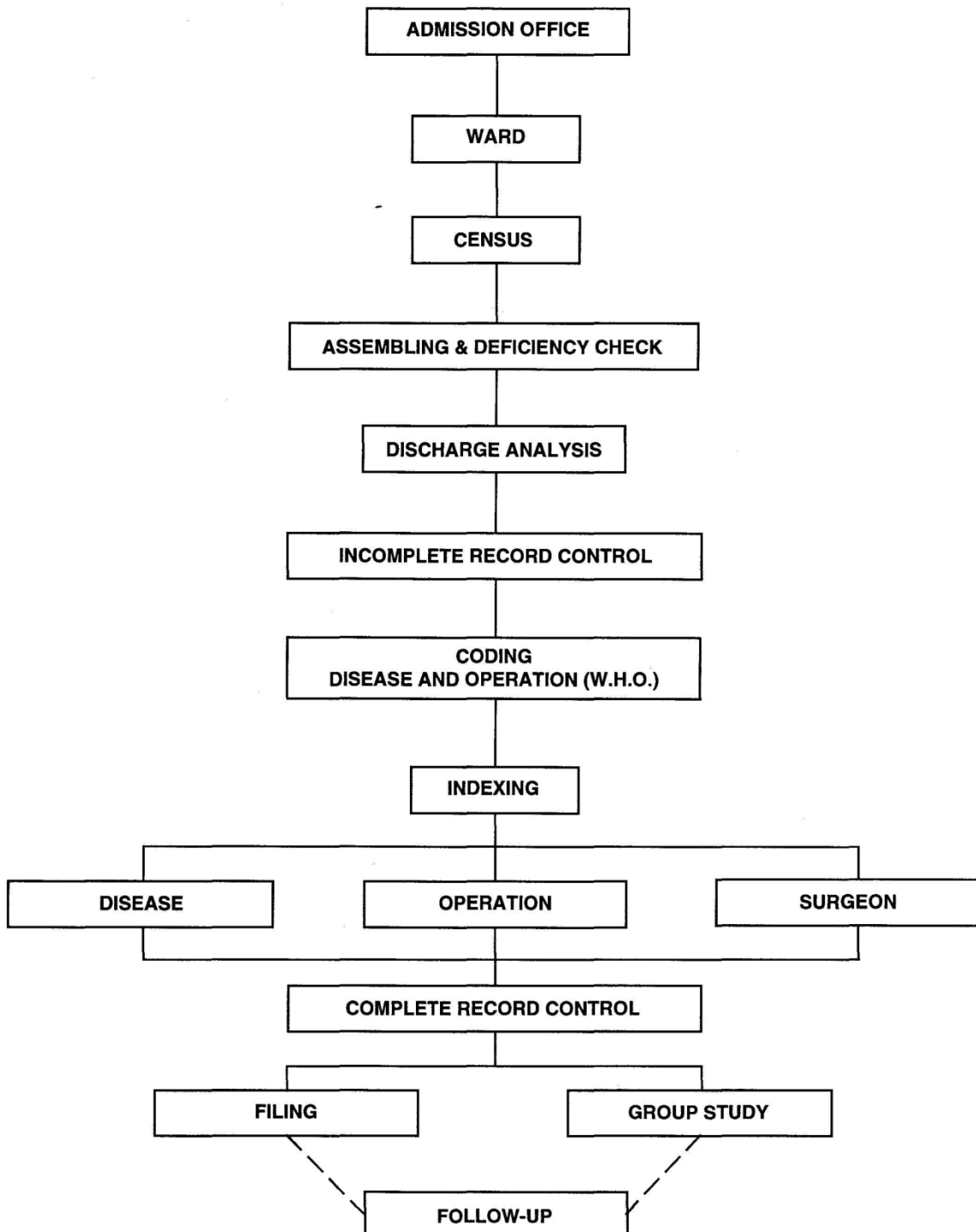
CASUALTY PATIENT TRAVEL FOR SERVICE



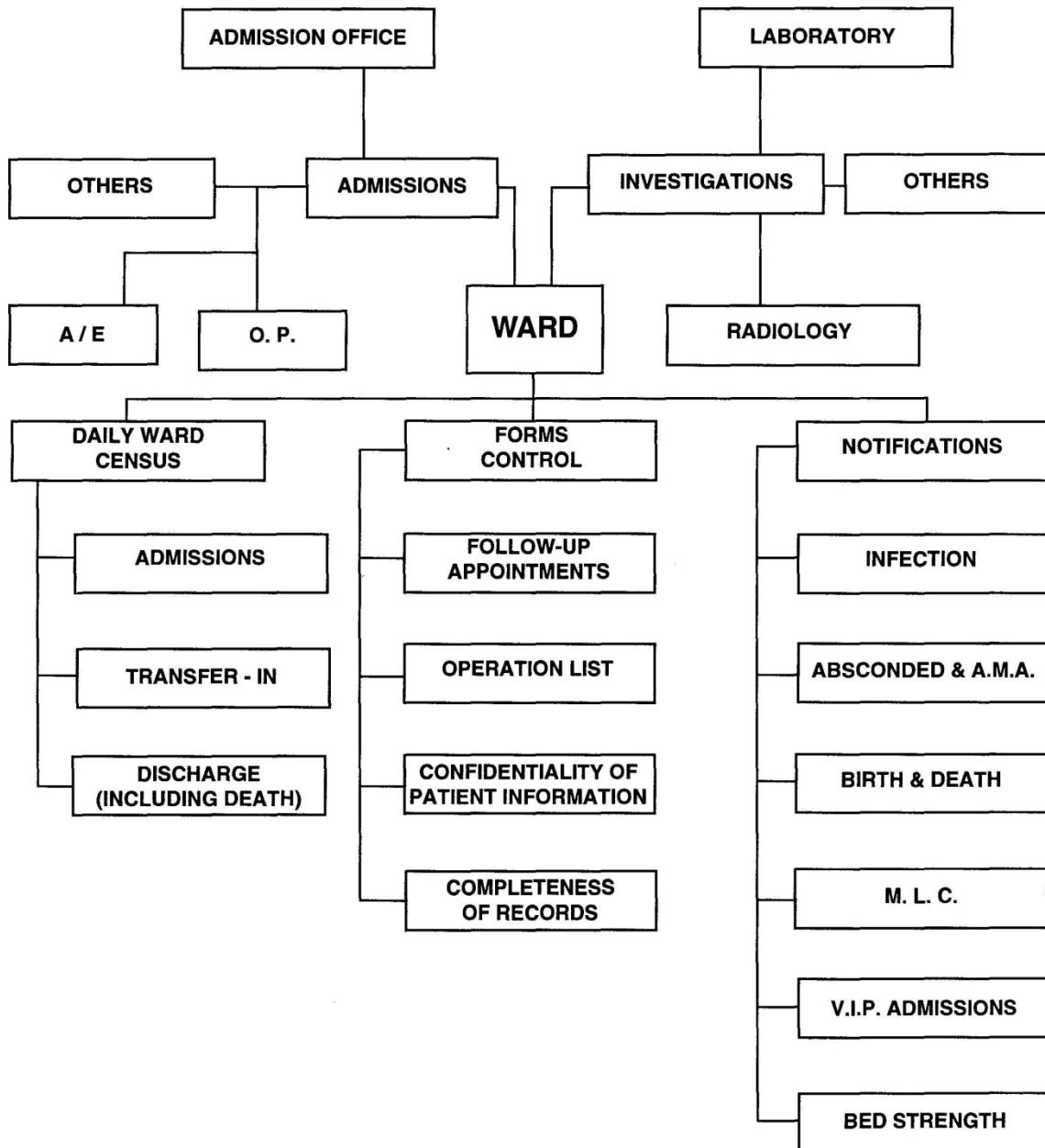
IN-PATIENT TRAVEL FOR SERVICE



INPATIENT RECORD FLOW & PROCESSING



WARD



Daily Ward Census

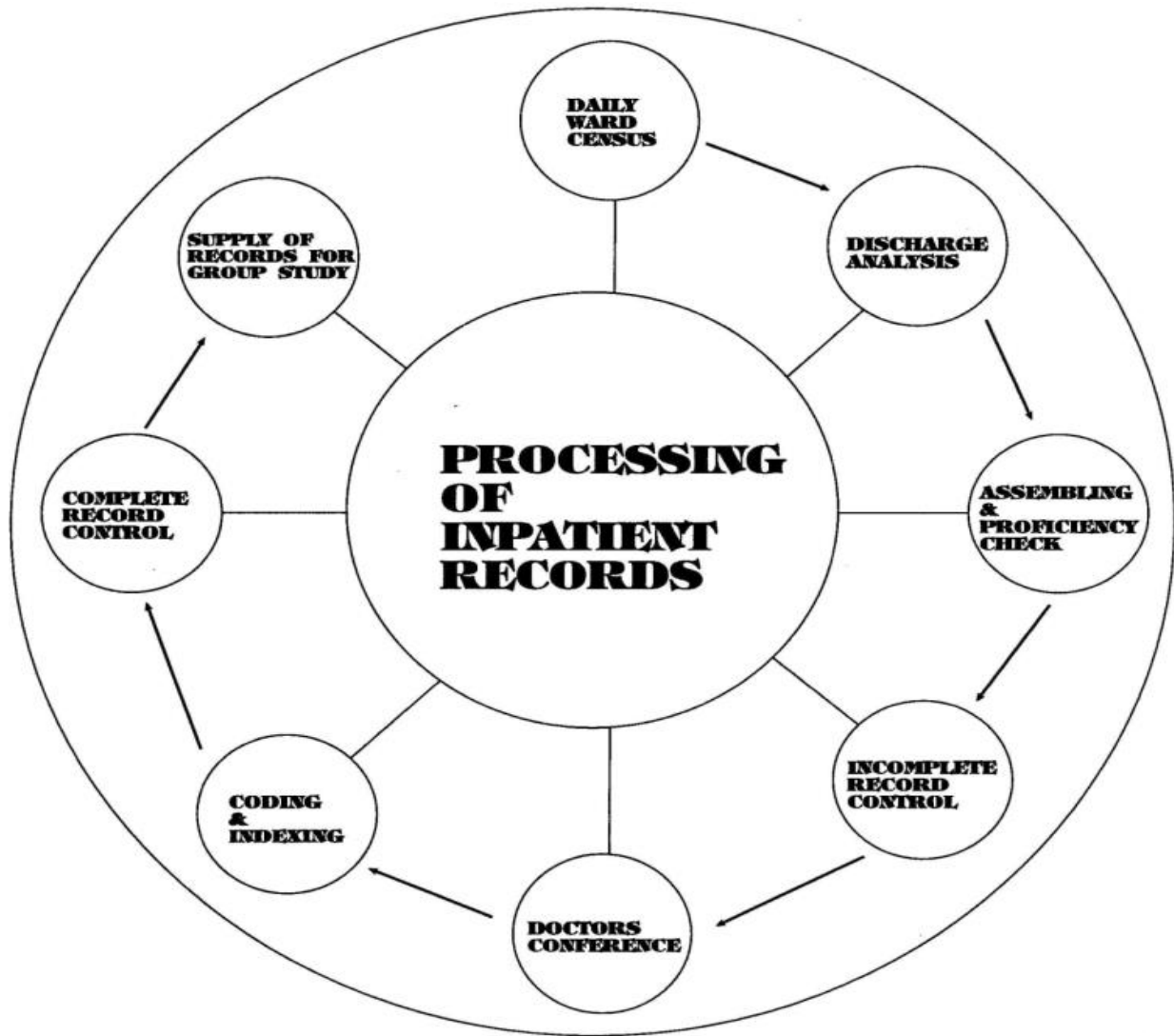
HOSPITAL
DAILY WARD CENSUS

DEPARTMENT..... WARD..... PVT.....
 BED CAPACITY..... GEN.....

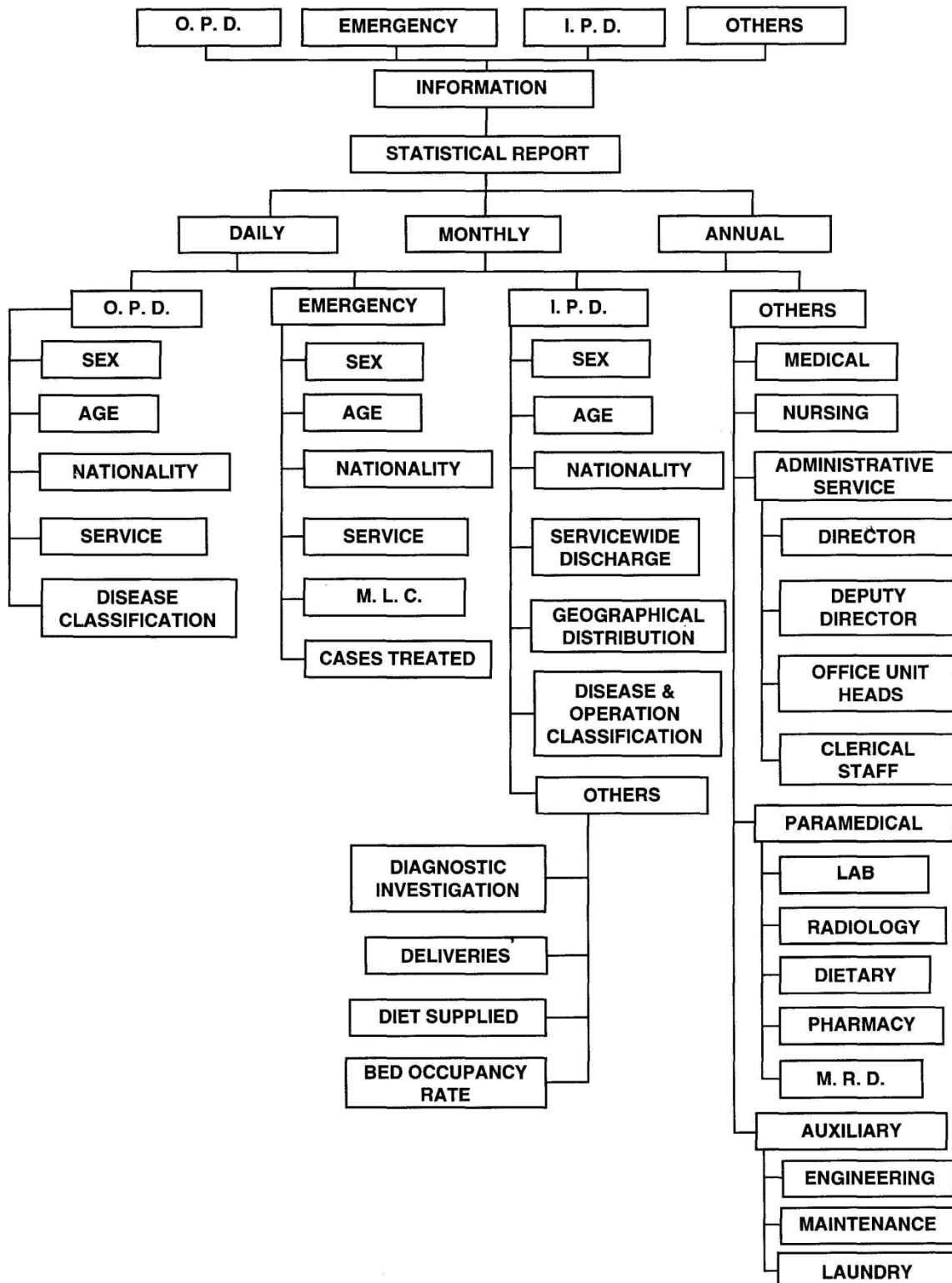
FOR THE HOURS ENDED MIDNIGHT
 DATE 19.....

HOSP NO	Room No. Type	Name of Patient	Age	Sex	Natio	DISCHARGED (record total on line 6 of summary)		Name of Patient	Age	Sex	Natio	
						Hosp. No.	Room No. Type					
RECEIVED by trans. from other ward (in 4 of summary) From (line 5 of summary)												
DISCHARGED by trans to other ward (line 8 of summary)												
ADMITTED & DISCHARGED SAME DAY (line 3&7 of summary)												
DIED (record total on line 9 of summary)												
STILLBIRTH (not to be recorded on summary)												
						Line No.		Summary for the Day		TOTAL		
						1	Remaining last report		ADULTS		CHILD	
						2	Admitted		M	F	T	M
						3	Admitted (& discharged same day)		F	T	M	F
						4	Received by Transfer from other ward		M	F	T	M
						5	Total (sum of 1, 2, 3, & 4)		M	F	T	M
						6	Discharged		F	T	M	F
						7	Discharged (& admitted same day)		M	F	T	M
						8	Discharged by Transfer to other ward		F	T	M	F
						9	Died		M	F	T	M
						10	Total of Disch. & Deaths (Sum 6, 7, 8, & 9)		F	T	M	F
						11	Remaining 12 Midnight (line 5 minus line 10)		M	F	T	M
						12	Beds vacant (bed capacity minus line 11)		PVT	GEN		

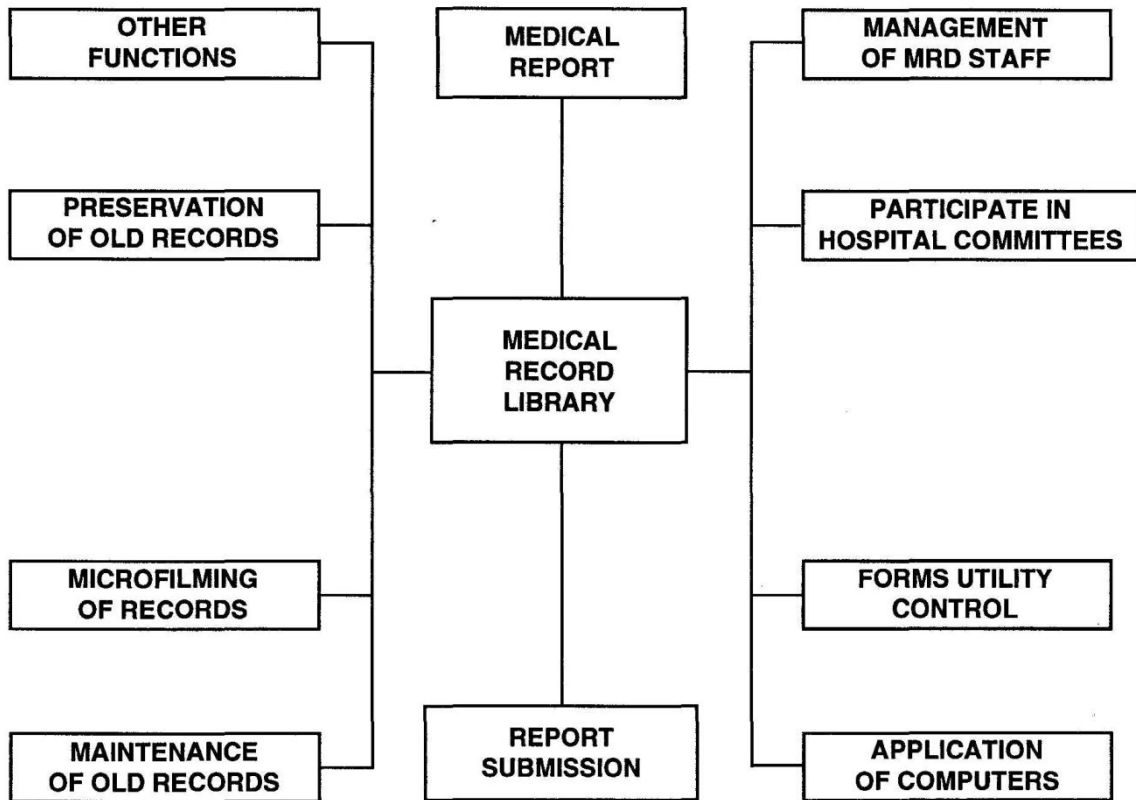
PROCESSING OF INPATIENT RECORDS



HOSPITAL STATISTICS



MEDICAL RECORD LIBRARY



Rights and Responsibilities of a Patient

• *Rights of a Patient*

1. To get considerate and respectful behavior from all staff in the hospital (from consultant to cleaner) and safe care by the hospital at all times.
2. To obtain from his physician complete, current information concerning his diagnosis, treatment, and prognosis in terms that the patient can be reasonably expected to understand.
3. To receive necessary information from his physician for giving consent prior to the start of any procedure or treatment.
4. To refuse treatment to the extent permitted by law and to be informed of the medical consequences of his action.
5. To give every consideration of his privacy concerning his own medical care program.
6. To expect that all communications and records pertaining to his/her care should be treated as confidential.
7. To accept his willingness to be transferred to another hospital.
8. To be advised if the hospital proposes to engage in or perform human experimentation affecting his care or treatment. The patient has the right to refuse to participate in such research projects.
9. To expect reasonable continuity of care. He has the right to know in advance the names and professional status of the people treating him/her and which physician is responsible for his/her care, date, and time of appointment.
10. To know what hospital rules and regulations are applicable to his conduct as a patient. The patient has the right to complain if something goes wrong in his or her case to the appropriate authority.
11. To be examined in privacy and to have a person of the same sex present when being examined or treated by someone of the opposite sex.
12. To obtain assistance in communicating with the people treating him/her in their vernacular or other language.

• *Responsibilities of a Patient*

- The patient is responsible for the following:
 1. To furnish correct and full identification information; full name, age (date of birth), occupation, father's/husband's name, nationality, complete address including telephone number.
 2. To give correct information regarding his/her previous visits to hospitals and furnish about present complaints, past illnesses, hospitalizations, and medications.
 3. To retain appointment (hospital number) card safely, and produce the same whenever he/she visits the hospital or health clinic.
 4. To inform the hospital authorities of the loss of the hospital number card so as to locate the correct hospital number.

5. To visit the hospital on the day and time of appointment and to avoid going to the hospital without a prior appointment except in the case of an emergency. If the patient is given a follow-up appointment for future visits, he/she should register his/her case and obtain a date and time for the next visit before leaving the hospital.
6. To report only to the authorized staff in the hospital for his/her appointments.
7. To observe the rules and regulations and strictly follow instructions of the hospital and they should not take away the hospital records except the patient appointment card and other documents given to the patient.
8. Making willful corrections in the records, giving wrong information producing wrong documents, or bringing documents of other patients for treatment will lead to legal prosecution and punishment.
9. To be considerate and respectful of the rights of other patients and of the hospital staff by assisting in the control of noise, limiting the number of visitors, and avoiding cigarette smoking whenever necessary.

The following terms that is very much in vogue in healthcare management, especially the patient care environment. The gist of each term is given in simple language for easy assimilation. The explanation has one more objective when manual records are being converted to electronic health records (E.H.R.) or while developing new E.H.R. software screens; the details given will be very useful. Moreover, to accomplish 360 degrees of a good medical record system any hospital should understand and ensure practice with utmost care to achieve swift, safe, improved, and cost-contained care for a patient

Referral

The recommendation of another healthcare professional or a specialist to a patient for a specified reason or for further diagnosis and treatment is defined as Referral. OR The process of directing or redirecting (as a medical case or a patient) to an appropriate specialist or agency for definitive treatment.

A written requisition is filled on the consultation form by the referring specialist indicating full details of the provisional diagnosis given to the patient or the object of consultation and related clinical notes on which he desires an opinion. The referred Consultant after making his own examination should record his findings and recommendations on the same form, date, and sign which can be feedback to the referral specialist

The Referral form can be used for referring a patient from:

- One Specialist to another specialist
- A physician's office to a hospital
- One hospital to another hospital
- One Healthcare to another healthcare
- One Dispensary to another dispensary

Once a patient is referred to another specialist or a hospital, the details of that patient including the diagnosis given to that patient are saved in the referred hospital or physician's office. Here the referred hospital sends the saved details of the patient to the referring hospital as feedback information. If the patient is treated as an in-patient, the detailed discharge summary is sent along with the referral form.

This Referral form is divided into three different sections. One for the patient's demographic information, the other for the details to be filled by the referring doctor, and the last one for the consultant's report (for the feedback information). The information that is included in this referral form is:

- Referral date
- Patient's demographic information (incl. age, sex, ssn, ph-numbers, nationality, etc)
- Referred From: and Referred To:
- History and Physical Examination Summary
- Provisional diagnosis
- Investigations

Reason for referral

Consultant report / Feedback report

Consultant's name

Date and Time the feedback report was completed.

More details of the functions

Referral Date: The date entered by the referral doctor when he examined the patient and referred him to another specialist or hospital.

Patient Demographic Information: The basic details of the patient are noted down like full name, address, age, sex, D.O.B., marital status, phone numbers, nationality, and SSN.

Referred from: Here, the name of the doctor or hospital is written who is referring the patient to another doctor or hospital for further diagnosis and treatment.

Referred to: Here, the name of the consultant/specialist or hospital in charge for further diagnosis and treatment of the patient is written by the referral doctor.

History and Physical Examination: The history and physical examination details of the patient are written which aids in determining the correct diagnosis and devising the treatment plan.

Provisional Diagnosis: Here, the temporary treatment given to the patient is noted down as the physician was assuming the most likely diagnosis based on what the patient was suffering from.

Investigations: Here some investigations are done by the doctors in order to give the best diagnosis for treating a patient. Only if the doctor feels that the patient has to be sent to another specialist for better treatment after examining the investigations, he will do so.

Reasons for Referral: The physician writes the object/reasons for consultation after examining the reports of the investigation and findings which may be helpful to the physician or hospital.

Consultant report / Feedback report: The consultant or the referred doctor examines the reports treats the patient accordingly and then sends the report back to the referral doctor in the form of feedback.

Date and Time the feedback report was completed: The referred doctor or hospital will enter the date and time the feedback report was completed and sent back to the referral doctor

Patient Demographic (Registration Module)

1). Functionality

The module is a central registration system and should be maintained for outpatients. With this module, each patient will have one unit record and one permanent number used for all episodes of care. Every patient has to register their name before receiving treatment from a physician. Patients may personally visit or send the information through a letter, a personal phone call, or an E-mail for registration. This module will maintain the following information about the patient:

Demographic information

Insurance information

Physician information

Employment information(Employer name , Designation, Address,etc)

Family information (Family members and Kin information)

Contacts information (Personal and Kin)

Diagnosis information

Associations information(Membership in other organizations)

2). The sequence of activities

a). The patient has to visit or send information through a person

Phone e-mail or any other way for registration.

If the patient is already registered, No need to register again

b). Allot one patient ID(MR.No)

c). Enter the personal information

c) Enter insurance information

e). Enter the other information

f). Get authorization from the insurance offices.

Progress Notes and Treatment by a physician or a nurse

In this form, the treatment given to the patient and his progress are noted down that are helpful for both the Physicians and the nurses in giving a better treatment.

The different fields that are present in this form are:

Patient's demographic information

Name of the ward, Room, and bed number

Date and time

Physician / Nurse's progress notes

Diet given

Treatment done

Signature of a physician or nurse

Consultation:

Meeting of two or more physicians or surgeons to evaluate the nature and progress of disease in a particular patient and to establish diagnosis, progress, and/or therapy.

This form/report is similar to that of the Referral form. The difference is that the physician or the specialist may refer the patient to another specialist in the same Hospital for a proper and complete diagnosis.

The Consultation is a provision of Healthcare services by consulting a physician whose opinion or advice is requested by another physician. (Once a patient is admitted to the hospital, the attending physician is responsible for requesting consultations). A consultation report is documented by the consultant and includes the consultant's opinion and findings based on a physical examination and review of the patient's records. For example, occasionally, a surgeon will request the general practitioner to evaluate the patient prior to the surgery to determine if there are any medical risks. To initiate a consultation, the attending physician:

Documents a physician order requesting a consultation with a particular doctor.

Documents progress notes that outline the reason for consultation.

Contacts the Consulting physician to discuss the patient's case and to agree to the consultant's role in the patient care, if any.

As part of the consultation process, the consulting physician:

Review the patient record.

Examines the patient

Documents pertinent findings

Provides recommendations and/or opinions

The functions included in this Consultation form are:

- 1) Patient's demographic information (incl. age, sex, SSN, DOB, ph-numbers, nationality, etc) including the referral date.
- 2) Referred To: (name of the Consultant In charge.) including his Designation and Specialty.
- 3) Date of Admission
- 4) Urgent or Not Urgent
- 5) Object of Consultation and Clinical Notes (incl. Investigations and Findings) by referral doctor

Provisional Diagnosis / Problems

Referred by: Date and Time

Investigations and Findings by the consultant in Consultant report / Feedback report

Recommendations

Date and Time the feedback report was completed.

More details of the above functions are as follows:

Patient's Demographic Information: The basic details of the patient are taken down like full-name, address, age, sex, D.O.B., marital status, phone numbers, nationality, and SSN. The date is entered by the referral doctor when he refers the patient to another specialist in the hospital.

Referred To: Here, the name of the consultant in charge of further diagnosis and treatment of the patient is written by the referral doctor.

Date of Admission: The date when the patient has been admitted in the hospital is written.

Urgent / Not Urgent: By selecting any one of them, the referred consultant will react accordingly to the situation, which is done by the referral physician.

Object of Consultation and Clinical Notes: The physician writes the object/reasons for consultation after examining the reports of the investigation and findings which may be helpful to the consultant.

Provisional Diagnosis / Treatment: Here, the temporary treatment given to the patient is noted down as the physician was assuming the most likely diagnosis based on what the patient was suffering from.

Referred By: Here, the name of the physician who is referring the patient to a consultant for treatment including the date and time.

Investigations and Findings by the consultant: The Consultant examines the reports after he himself investigates the patient's problems and gives the patient an appropriate verdict.

Recommendations: Once the consultant is done with the investigations of the patient reports, he recommends a proper medication to be followed which is noted down and sent back to the referral physician which can be as a feedback report.

Date and Time the feedback report was completed: Here the date and time is noted down when the consultant completes the treatment and fills the feedback report which has to be given to the patient and to the referral physician.

One of the most troublesome decisions is whether a visit is a consultation or a referral. A consultation is a description of advice or professional opinion, followed by a report of the Consultant's findings to the referring physician. A consultation visit results in the patient returning to the primary care physician who initiated the care. Diagnostic testing can be provided and billed in a consultation.

The following chart summarizes the difference between a consult and a referral.

	CONSULT	REFERRAL
Request	"Please see a patient for a consult." "Consulting services requested." Must be in writing	"Patient has been referred by..."
Problem	Suspected or known diagnosis Consulting physician unsure of condition or assumption of management	Identified problem
Treatment	Undetermined or possibly known	Known
Requesting Physician	Decide which physician will administer care Uncertain at the time of consult	Oversees and manages care
Report	Written report to requesting physician	A written report to the requesting physician is not necessary
CPT Code	Consult	New or established patient

References:

http://www.rheumatology.org/practice/document_code/consultationvreferral.asp

Admission request form

An admission note is written for any patient to be admitted to a hospital. Admission advice is given by a doctor to the patient when he wants him to be admitted to the hospital. Doctors use them to record a patient's baseline status and may write additional on-service notes. Therefore the doctor completes this admission request form and sends it with the patient.

The following are the fields required in the Admission request form:

- Demographic Information (Full name, DOB, Address, Age, Contact number, Martial status, Nationality, SSN, etc.)
- Relative's Name and Address along with Contact Number
- Patient's Insurance Details
- Provisional Diagnosis
- Admission Category (Elective, Urgent, Emergency)
- Attending Physician /Consultant Name
- Reason for Admission and proposed date of admission
- Surgery Date

- Special Requirements (for patient comfort, required test, equipment, expected duration of stay, etc.)
- Isolation Room (If required and the reason)
- Date and time:
- Admitting Physician's Name
- Signature:

Routine Admission

Routine Admission, no additional detail added

Routine elective (i.e. from waiting list as planned, excludes planned transfers)

Patient admitted on the day of decision to admission, or the following day, not for medical reasons, but because suitable resources are available

Planned transfers

Routine Admission, type not known

Urgent Admission

Urgent Admission, no additional detail added

Patient delay (for domestic, legal or other practical reasons)

Hospital delay (for administrative or clinical reasons e.g. arranging appropriate facilities, for tests to be carried out, specialist equipment, etc.)

Emergency Admission

Emergency Admission, no additional detail added

Patient Injury - Self-Inflicted (Injury or Poisoning)

Patient Injury - Road Traffic Accident (RTA)

Patient Injury - Home Incident (including Assault or Accidental Poisoning in the home)

Patient Injury - Incident at Work (including Assault or Accidental Poisoning at work)

Patient Injury - Other Injury (Inc. Accidental Poisoning other than in the home) - not elsewhere classified

Patient Non-Injury (e.g. stroke, MI, Ruptured Appendix)

Other Emergency Admission (including emergency transfers)

Emergency Admission, type not known

Other Admission

For other admission types, no additional detail is added

Home Birth (SMR02 only)

Maternity Admission (SMR02 only)

Neonatal Admission (SMR11 only)

Other

Admission

An inpatient episode is the period of time that an inpatient spends under the care of a consultant within a specialty of a hospital. It starts with an inpatient admission and ends with an inpatient discharge. The patients are referred from Outpatient or Emergency or Other hospitals or a Physician.

If the patient happens to visit the hospital for the first time, then firstly his demographic information has to be recorded prior to admission. If a patient is already registered, his / her demographic information has to be updated.

An inpatient admission is categorized as an emergency, urgent, or routine inpatient admission. The appropriate admission category depends on the clinical condition of the patient as assessed by the receiving consultant. The patient may or may not be on a waiting list.

The following are the fields required in the Admission form:

- Demographic Information (Full name, DOB, Address, Age, Contact number, Martial status, Nationality, SSN, etc.)
- Relative's Name along with Contact Number
- Patient's Insurance Details
- Allergies
- Reason for Admission
- Admission Category (Elective, Urgent, Emergency)
- Source of Admission (O.P, ER, Other Hospital, Other)
- Date and Time of Admission
- Internal Transfers (bed to bed, ward to ward, consultant to consultant, specialty to specialty)
- The attending Physician and the Consultant
- Provisional Diagnosis / Complaint
- Consultation
- Final (Principal) Diagnosis / Other Diagnosis
- ICD codes
- Surgical (Principal) Procedures and other procedures.

- ICD procedures codes (CPT)
- Anesthesia (General, Local, Spinal, Other)
- Results: Recovered, Absconded, AMA, Expired, etc
- (if expired) Cause of Death
- Maternity Information
- Normal Delivery / Abnormal Delivery
- Live Birth / Fetal Death / Twin / Abortion
- Male / Female
- Attended Physician and Signature
- Department Unit Head and Signature
- In Case Of Accident
- Date and Time of the accident
- Type of Injury
- Location
- Attended Physician and signature
- Department Unit Head and Signature
- Cause of Death
- Direct cause
- Antecedent cause
- The procedure to be followed for a patient admission:
 - Check the Admission request form to ensure that the data collected is complete and accurate including the Demographic Information data on all the forms.
 - Verify for a vacant bed and if available allot that bed to the patient by completing the admitting formalities.
 - Obtain the signature of the patient or guardian or relative as applicable on the GENERAL CONSENT FORM
- Send copies of the admission form to the Medical record department,
 - Admission Office and the original copy in the patient file.
- Correct the Bed Control Board on the basis of the current admission.
- Send the patient with his / her file to the appropriate ward and check for
 - the acknowledgement from the Ward.
- If there is no bed vacant, consult with the physician and send the
 - patient to the Waiting Room (Maintain a waiting list with patient records
 - in the admission office, collect the records 3 days prior to the admission
 - and contact the patient who fails to come as per the scheduled date).
- Submission of Admission List:
 - Medical Record Library
 - Hospital Central Library
 - Statistical Section
 - Computer Section

- Accounting Section

Admission of Live born Cases and Medico-legal Cases:

- Send the admission request form and other pertinent files to the central registration unit for the preparation of a unit record
 - Obtain the prepared unit record for the live-born case and complete all the admitting formalities including cross-referencing the child's hospital number in the mother's file and the mother's hospital number in the child's file
 - Send the newborn's record and other files received for admission to the ward and obtain an acknowledgment of receipt
- Enter a notation of MLC in the admission register corresponding with the name of the Medico-legal case admitted.
 - Inform the treating physician if the case is suspected to be medico-legal, but is not registered as a medico-legal case in the hospital.

If the patient does not attend clinic, the following are the required fields to be noted down:

Select from: No Show / Patient Could Not Attend / Physician Rescheduled

Reason:

(Send the photocopy of this request form to the Admitting Physician)

(Send the Original request form to the Medical Record Department for filing in the patient's chart)

Reference: <http://www.datadictionaryadmin.scot.nhs.uk/isddd/1772.html>

Bed Allocation: In this form, the details of the beds that are allotted to the patients coming in for admission are recorded. As this form maintains the status of the bed allocation, it would be helpful in allocating a vacant bed to the patient in need of it and if there is no bed vacant, they check when can be a patient discharged and then give the patient a date and time to come back for admission in the hospital.

The different fields that are present in this form are:

- Fixed beds
- Occupied beds
- Vacant beds
- Name of the ward
- Name of specialty
- Name of the Physician /Consultant

- Some specialties may have more sub-units.

The below table shows the number of beds that are available or occupied or maybe the proposed date of a patient discharge for each consultant of that particular ward.

Ward-wise Table:

WARDS	Date when cons. updated	CONSULTANT	Fixed Beds	Occupied Beds	Vacant Beds	Others
Ward 1	18-9-2022	1 Dr Vinay	10	8	2	
		2 Dr Raju	15	9	6	
Ward 2	19-9-2022	1 Dr Suman	20	20	0	2 pts discharge on 22/9
.....						

The below table shows the number of beds that are available or occupied or maybe the proposed date of a patient discharge of a particular ward/specialty for each consultant.

Consultant-wise Table:

Date when cons. Updated	CONSULTANT	WARDS	Fixed Beds	Occupied Beds	Vacant Beds	Others
	Dr Ramesh (Ortho)	Ward 1	10	10	0	2 pts discharge on 24/9
		Ward 2	10	8	2	
	Dr Sudha	Gynecology	20	14	6	

Therapy The below table shows the number of beds that are available or occupied or maybe the proposed date of a patient discharge of a particular specialty for each consultant.

Specialty	Consultant	Wards	BED AVAILABILITY			
			Fixed	Occupied	Vacant	other
		Ward 5	10	10	0	Discharge:22-10-

Neurology	Dr A					22-2022
		Ward 2	10	9	1	
	Dr B	Ward 1	5	4	1	
		Ward 2	10	10	0	Discharge:22-10-2022
	Dr C	Ward 12	3	3	0	Discharge:22-10-2022
		Ward 8	8	6	2	
		Ward 3	4	3	1	
Cardiology	Dr A	Ward 15	5	5	0	Discharge:22-10-2022
		Ward 7	5	3	2	
			
			
	Dr B	Ward 6	.....	.....	.....
		Ward 4	.....	.....	.....
		Ward 10	.....	.....	.....	Discharge:22-10-2022
	Dr C	Ward 8				
		Ward 11				
		Ward 13				
		Ward 15				
Medicine	Dr A	Ward 1				
		Ward 2				
		Ward 4				
	Dr B	Ward 5				
	Dr C	Ward 8				
		Ward 9				

Request of Admission

1. When the patient comes with the admission request, if the bed is available in the concerned specialty/ward, the admission is given to the patient by executing the admission formalities.

2. If the bed is not available, then the following procedure is followed:

If the patient is from an Out-patient clinic:

Check the admission request form including the X-rays, if any.

Verify and ensure that the patient file has correct and complete Identification data.

Make corrections and complete any incomplete data for patients who have already been registered.

Check the bed availability in accordance with the patient's requirement in the Specialty / Ward / Consultant.

If there is no bed available as per the admission request, the information has to be intimated to the admitting doctor for further guidance.

Issue an admission booking date and time for the patient to visit the hospital for admission.

File the admission request in the waiting list according to the date.

If the patient is from Casualty (A/E):

Check the admission request form including the X-rays, if any, and verify whether or not the patient has a unit record.

If patient happens to be new, visiting first time, and has no hospital registration number and medical record refer the admission request form to the Central registration unit for verification with the patient master index to determine whether the patient has a prior record or not.

If there an established record, the corresponding hospital number is written on the admission request form. Otherwise, a notification is made that the record is new.

If the patient requires emergency admission, refer him to the admission department and if the case is elective, then issue the date and time for admission.

If, the bed is available in the concerned specialty/ward, the patient is admitted by following the needed procedures.

If, bed is not vacant or available, then issue an admission booking date and time for the patient to visit the hospital for admission.

File the admission request in the waiting list according to the date.

The fields that are present in this waiting list of admission are:

Verifies the if beds are vacant or not from the Ward / Specialty / Consultant list respectively

Proposed date and time for a bed to be vacant

Register the name of the patient, Unique ID number, Date and time, and consultant name in the waiting list

Call the patient to inform them whether to come or not as scheduled.

Special Advice

If the patient fails to come as per scheduled, call them and reschedule their admission.

List of patients waiting for treatment.

If the patient fails to come as per the scheduled date and time, the bed can be allocated to any other patient

Maintain a waiting list with patient records in the admission office.

Collect the records, including the x-rays, of all patients prior to their admission.

File the records in a systematic order on the waiting list to facilitate their easy location on the day of admission.

Observe general admitting procedures when the patient arrives for admission.

Contact via telephone those patients who fail to appear for admission on the scheduled date.

The following table shows us the patients that are registered in the waiting list:

Master Table:

S.No	Date	UPI	Name of	Date of	Time of	Consultant	Ward	Surgery	C
------	------	-----	---------	---------	---------	------------	------	---------	---

	when Pt Regsd		the patient	admission	admission	& Specialty		Date	
1	15-9-2022	P0001	Prakash	18-9- 2008	2:30 PM	Dr. Vamsi Urology	Ward 12 / 9	21-9- 2022	C
2	16-9-2022	A1263	Ajay	20-9- 2008	3:30 AM	Dr. Khan	Ward 8	No	C
3	16-9-2022	A9864	Aparna	20-9- 2008	11:10 AM	Dr. Sapna	Ward 2	24-9- 2022	F 2
4	17-9-2022	S2001	Sudhakar	17-9-	7:20 PM	Dr. Kumar	Ward 7	18-9- 2022	

S.No	UPI	Name of the patient	Date of admission	Time of admission	Name of Consultant	Ward	Surgery Date	Confirma
1	P0001	Prakash	20-9- 2022	7:30 AM	Dr. Vamsi	Hepatology	No	Confirme
2	A1263	Ajay	20-9- 2022	3:30 PM	Dr. Khan	Urology	21-9- 2022	Confirme
3	A9864	Aparna	20-9- 2022	8:10 PM	Dr. Sapna	Gynecology	24-9- 2022	Read: 26- 2008
4	S2001	Sudhakar	20-9- 2022	11:20 PM	Dr. Kumar	Pathology	18-9- 2022	Canceled

S.No	Name of Consultant	UPI	Name of the patient	Date of admission	Time of admission	Ward	Reason	Confirma
1	Dr. Vamsi	P0001	Prakash	20-9- 2022	7:30 AM	Hepatology		Confirme
		J6478	Suresh	20-9- 2022	4.40 PM			Confirme
2	Dr. Khan	A1263	Ajay	22-9- 2022	3:30 PM	Urology		Confirme
		B2261	Bhaskar	23-9- 2022	7.15 AM			Read: 26- 2022
		S9375	Sandya	29-9- 2022	12.30 PM			Canceled
3	Dr. Sapna	A9864	Aparna	20-9- 2022	8:10 PM	Gynecology		Read: 26- 2022
4	Dr. Kumar	S2001	Sudhakar	20-9- 2022	11:20 PM	Pathology		Canceled

Consultant-Wise Table:

For old cases, submit the record request slip with a note indicating the date of the patient's admission when the record is needed, to the medical library and obtain the patient's file including X-rays, if any.

Location of the bed (name of the ward, room number, bed number)

The list of the patients waiting for the treatment.

List of the patients undergoing treatment

Consent Forms: Doctors will give the patient information about a particular treatment or test in order for the patient to decide whether or not the patient wishes to undergo such treatment or test. This process of understanding the risks and benefits of treatment is known as *informed consent*. It is based on the moral and legal basis of patient independence. The patient has the right to make decisions about their own health and medical conditions.

The patient or the patient's relative must understand and agree to informed consent for treatment and for most medical tests and procedures. The legal term for failing to obtain informed consent before performing a test or procedure on a patient is called battery (a form of assault).

There are different kinds of consents in the hospitals. They are:

1. General Consent
2. Special Consent (Surgical Procedures, Transplantation consent, Organ Donation consent, etc.)
3. Refusal of Admission
4. Release of Information
5. Patient Discharge: The patient can be discharged alive or dead including DAMA, LAMA, GAMA, and Absconded

Patient discharged alive: In case of live patient can go home on Treatment doctor's advice (medically discharged) date and time. Some patients are discharged on request. Some request discharge against medical advice.

Going against medical advice (DAMA, LAMA, and GAMA) In the DAMA case; the Patient or relative agrees to sign the consent form for going against medical advice. In the DAMA case the patient or relative is explained clearly the consequences of prematurely leaving the patient or taking the patient by a relative can cause any damage to health is the responsibility of the patient or relative and not the hospital.

In the case of LAMA & GAMA patients may not abscond but be in the mood of leaving the hospital or taking the patient rudely; without listening to the advice of a doctor or nurse. Almost in a bad or quarrelling mood and not even interested in listening to the doctor's advice "Leaving or taking the patient against medical advice can result in serious damage to health. However, in both cases, the treating physician, a nurse on duty with one more from management should present and record the incident stating that the patient was not in the mood to listen and signing the LAMA or GAMA form. The patient himself /herself or a relative has taken the patient without signing or refusing to sign the DAMA Form. The same is to be recorded in the patient progress record or prescribed form and signed by three persons with date and time, names, and their designation of those signed, At least two persons the training physician and duty nurse must sign and clearly explain the incident.

6. Patient Death: is considered as patient discharged. Death cases fall under the following categories:

A dead patient's body is claimed by relatives and taken. In the case of MLC, a dead body is handed over to the police department only and not to relatives or to anyone. There are unclaimed dead bodies; and none to claim due to varied reasons. The patient's relatives might have deliberately given wrong ID information with the intention not to take the body, and in some other cases like RT cases or medical emergency cases are brought and admitted; such patients have no ID information that cannot be traced the relations; hence the body to be handed over to police department.

7. Conducting Post-mortem and so on. Need the consent of the relative/s in non-medical legal cases while MLC-only police will take the responsibility?

The fields in the Consent Form are as follows:

1. Demographic Information (UIN, Full name, DOB, Address, Age, Contact number, Marital status, Nationality, SSN, etc.)
2. Date and Time
3. Reason for the Consent (where the patient or relative has to read and understand before signature)
4. Exceptions (if a patient is without any accompany / relative requires Lifesaving Emergency surgery)
5. Name of the Surgeon and his Signature
6. Name of the Patient and his Signature
7. Name of the Relative or Guardian and his Signature
8. Name of the Witness and his Signature

The messages on the above consents are as follows:

For General Consent,

I, the undersigned consent to his/her admission to the hospital and all the examinations, tests, and treatments recommended by the physician, also operations if required.

I agree that no one will remain in the hospital without administrative approval.

I, also declare that I will not carry any valuables or money during my stay in the hospital. Accordingly, no claim for lost property will be made against the hospital.

Patient's Signature:

Date and Time:

For Refusal of Admission,

I, the undersigned **decline** his/her admission to the hospital and all the examinations, tests, and treatments recommended by the physician

Patient's Signature:

Date and Time:

Special Consent,

The treating physician or his assistants are entitled to provide additional procedures as they believe reasonable and necessary, including administration of anesthesia and performance of pathology and radiology or excision of any part the surgeon thinks necessary during the operation.

I do also authorize the hospital to use their discretion in the hospital of my removed organ or tissue.

Patient's Signature: Date and Time:

Chapter X: Medical Records is the “Mother of Information”-it can Make or Break a healthcare institution

Introduction: It is said that the history of medical records runs parallel with the history of medicine. In the growth of scientific medicine, medical records have played an important role as a tool and as the basis for planning patient care. They provide a means of communication between the doctor and other professional groups contributing to the patient's care, furnish documentary evidence of the course of illness and treatment, and serve as a basis for review, study, and evaluation of medical care rendered.

Without facts, a proper concept and appreciation of health problems, time, effort, and funds cannot be expanded efficiently. Obtaining correct data concerning patients, their general health, and other hospital needs entails much paperwork which is often considered humdrum by physicians and others with limited vision concerning their local responsibilities. The hospital is built and maintained for the benefit of the patients. Failure to maintain comprehensive and accurate records may mean failure in one's duty to the patient and thus ultimately to the patient's family, the community, and the general public.

In view of the vital role played by medical records in the healthcare delivery system in general and hospitals in particular, it has become imperative to enlighten policy and decision-makers such as healthcare administrators and directors to have a clear concept of maintaining medical records in their hospitals. In order to provide the real facts of its strengths and weaknesses that could accrue by maintaining systematic records at par with international standards. In most of the hospitals in developing countries, it was felt that medical records maintenance was cumbersome and wasted not knowing the real facts thereby scant respect in establishing and equipping with qualified persons.

The technologically advanced countries have tasted the value of medical records and their paramount importance in patient care and the tremendous amount of value to the physician, hospital, medical education and research, and national and international organizations. No hospital in western and developed countries would be started without first establishing a medical record department. Its, realization of the importance of medical records has resulted in the efficient organization of medical record departments and the training of personnel. The medical record-trained personnel are vital members of the healthcare team and their services are used mainly in hospitals, clinics, health departments, data processing units, bio-statistical, ambulatory care centers, rehabilitation facilities, and medical research programs. To keep pace with the constant growth of medical sciences for effective health care delivery the demands of training personnel arise.

Medical Records can make or break healthcare institutions: When we discuss the topic of proper maintenance of medical records and their role in efficient healthcare, one striking remark is that the medical records were the “Mother of Health Information” and

they could “Make or Break” a health institution. For example, a well-organized and efficiently managed medical record department guided the hospital, leading to the smooth functioning of the institution. Otherwise, the management might generate excellent infrastructure including modern gadgets, and recruit highly qualified and experienced personnel, but if the Medical Record Department (MRD) was in poor shape or not properly organized with properly qualified staff, the system of the hospital was bound to collapse. There would be daily chaos in the outpatient and emergency departments, and also in the inpatient wards. This, in turn, led to inefficient and poor quality patient care, too much duplication in all the fields, and wasted efforts from everyone—at additional expenditure to the exchequer. It also led to dissatisfaction among policy and decision-makers who had invested huge amounts of money and effort, and the outcome would be poor. While the hospital management and the healthcare providers (including doctors, nurses, and other paramedics) would be spending more time carrying out the work, the paltry results would demotivate everyone and the ultimate result would be a bad reputation for the hospital.

Lack of proper medical record departments: It has been observed that high-level management always pays attention to vital fields and required manpower. For example, when a new hospital is commissioned, the policy and decision-makers think of a lovely huge hospital building equipped with sophisticated equipment, highly qualified medical and nursing staff, radiology and other labs, pharmacy, and other departments. But medical records are usually neglected, in the mistaken assumption that the service can be managed by any person with a little managerial knowledge. And thus, the hospital is started.

As the adage goes, “A new broom sweeps clean.” With the new administration and new employees, mostly young and enthusiastic, punctual and obedient, the problems take a little while to show. Initially, the patients avoided complaining because the institution was new and everyone was cheerful. But just being nice and working with dedication is not enough. The hospital must apply certain policies, standards, and procedures, and the work has to be standardized and rationalized so that all the employees are guided by general rules and regulations. Patients must flow properly to the important areas, which must be clearly numbered for easy locating of every department. This ensures that patients can easily find the required health services.

The majority of hospital outpatient clinics are overcrowded and in chaos: The healthcare provider’s focus should be on patients and their needs, and how best to meet those needs should be their target. If patients’ needs are understood and efficiently addressed, the patient (the customer) feels satisfied. In the absence of the aforementioned suggestions being met, the hospital will experience overcrowding, confusion, duplication, and delays, which will lead to chaos. All the managers would be kept extremely busy managing the crisis on a daily basis. With no way to emerge from

the tangle, this becomes the workplace culture. Unless the real cause of the problems is identified and addressed, this will remain a perennial issue.

How to avoid the chaos of the hospital: If one spared some time to visit well-known major hospitals, they would see much the same situation everywhere. All the hospitals are crowded, but it doesn't signify that they are badly organized. If the patient flow is systematic and everyone entering the hospital is taken care of, then no one gets upset. But if the system is not properly organized, then even a few people can create a lot of problems and an unhealthy scene with a lot of dissatisfaction, which would keep the administration in constant defense mode.

Realization of deficiency of properly organized and managed MRD: In some countries, the Ministry of Health (MOH) and especially the corporate hospitals established many health institutions on par with international standards or to be precise, the US or UK standards, and although the hospitals managed by the MOH had recruited highly qualified professionals and the system followed on par with the international standards, there was chaos and crowding in the outpatient areas, and managing them was difficult. Also, there were some flaws in the MRD which hampered the integrity of the proper maintenance of the medical record system. They never realized the underlying cause for the condition until an accreditation need arose such as the Joint Commission on International (JCI). The organizations started improving the standards of the hospital to invite the JCI to inspect. The JCI during their meticulous inspection found that despite meeting their required standards in other departments, most of the hospitals fail in the maintenance of medical records which author pointed out that the medical record is the mother of information like a "mirror" that reflects exactly the patient care services rendered and that is not found, then the need for well-organized and efficiently managed medical records department becomes indispensable.

Problems of patient cater in Semi-Developed Gulf Council Cooperation Countries (GCC) and Developing Countries?

The virtually semi-developed GCC counties have constructed huge hospitals equipped with excellent infrastructure and highly qualified professionals were appointed in almost all the fields, but there were innumerable issues that were hampering the smooth functioning of the hospital and creating too many problems for the patients, healthcare providers, and the hospital. Despite their continuous, serious efforts and hard work, no one was satisfied with the outcomes. The reasons could be many. However recruiting a senior expert in each specialized field prior to the starting of the hospital, and developing and imparting training to employees on policies, standards, and procedures along with patient rights and responsibilities would definitely lead the new institution onto the right path. Though there could be some initial tribulations, timely actions would gradually move everyone forward. This would result in efficient and quality care and greater patient satisfaction. Having run into difficulties, the administration realizes

the need to appoint a senior medical record consultant after one or two years to identify and solve the problems.

Health Information Manager (HIM) Professionals Role: HIM professionals may not deal with the patient directly, but help patients indirectly by maintaining their records or taking care of medical data and ensuring reliability, timeliness, accuracy, and completeness by collection, analysis, storage, use, and transmission of information to meet legal, professional, ethical, and administrative records keeping requirements of healthcare delivery. Their services are used in clinical, medical education, research, epidemiological, demographic, financial services also for insurance, public health or national health, and international health agencies. As HIM is a highly trained person, acquainted with the latest technology applications, policies, and procedures his responsibilities are becoming increasingly significant as the healthcare industry continues to transition to Electronic Health Records. HIM can play a pioneering role by coordinating with the entire hospital functions which can be classified into two main groups primarily patient care including swift, safe, quality, and cost-contained care, and medical education, research, insurance, reimbursement, and security and confidentiality of the patient. Secondly, management of hospital functions which are considered as secondary services, without first, the second is nullified HRM including medical, nursing and allied health and support services, finance, are part of hospital organization their financial expenditure need to be closely monitored for economic measures.

A lack of MR experts at the MOH had resulted in chaos in the new hospitals: During the Joint Commission International (JCI) accreditation assessment, inspections of the hospitals; the majority of them had revealed that the medical records, which were vital documents for the hospital had fallen short of the accreditation requirements despite having medical records departments staffed with qualified professionals. The JCI had pointed out the need for senior medical records consultants to oversee the medical records of all the hospitals and health institutions managed by the MOH.

The realization of the value of hiring a senior MR, Consultant comes much later: The MOH authorities confess they had not realized the vital role played by medical records in the hospitals' healthcare systems, as they had paid little attention to it and recruited some inefficient and untrained medical records officers. Further added that they realized they needed a person with an impressive portfolio and enormous contribution of that caliber and stature only can solve the problems that are very critical when dealing with the general public and highly qualified medical specialists representing different nations and typical administrators.

Why Medical Records is considered the “Mother of Information”?

Definition of Medical Record: As defined by Dr. Mogli “The medical record is an orderly written report of the patient, contains identification data, history, physical,

progress notes, lab, radiology findings, diagnosis, treatment including medical and surgical and course when complete it should contain sufficient data to justify the investigations, diagnosis, treatment, length of stay, and end result. Each medical record reveals information, always centered on a patient (who may be a man, woman, or child). In other words, the medical record can be defined as What, Where, When, Who, How, and Why of patient care”.

To be precise, the record should reflect what health condition the patient came to what was done, and in what condition is returned. It is hard to mention until the system is converted into numerical figures e.g. such as the patient came with 30% problems and after treatment, the patient left with 0% or 10%. An ordinary person can understand that the patient is fully recovered (0%) or 20% of problems have been reduced and so on. Instead, the hospital uses the terminology as recovered, cured, improved, status-quo or others and died.

Healthcare Institutions: The healthcare institutions are organized and managed mainly for rendering proper patient care to sick and injured; to ensure that the care provided is proper as per the laid down standards operating procedures; only the principal instrument is the ‘patient record- is a mirror’ which has related information to reflect exactly what was the health problem and how it was identified through clinical and other investigations, diagnosis, and who were the healthcare providers involved and what treatment rendered medically or surgically in accordance with the severity of the ailment. What therapeutic measures were taken, medications used and any expert opinion through consultations to carry the patient care in an appropriate manner to get fast recovery at the same time safety, and quality of care are taken care of so that the patient gets back to their full normalcy wherever possible. Any lack of proper documentation by concerned healthcare providers or not applying the required standards operating procedures will be detrimental to patient care and the outcome would be damaging.

The need for a reputable expert who could identify problems and provide suitable solutions: The MOH authorities pointed out that despite the well-equipped infrastructure and highly qualified professionals from around the globe, the hospitals were facing problems, and patients were undergoing some difficulties and complaining about the hospital services. They had heard about Dr. Mogli’s expertise and his efficient management in other countries. Moreover, they had some significant information from a few of their GCC country colleagues that he had exceptional expertise in identifying the problems in the hospitals and providing suitable remedial measures. Hence, they wanted him to join and help them improve their system.

Generally, the consultant requested them to spell out, clearly and frankly, what their expectation was from him so that he could focus on those issues and, as a part of the team, assist them in their endeavor to achieve the goal of good quality service and get

JCI accreditation. The MOH authority stated that his priority would be to identify the problems in the hospital management system in general (and medical records in particular) of major hospitals and provide them with suitable solutions as recommendations

Why do healthcare providers depend on the patient record?: One has to observe that any good hospital or any credible healthcare provider will seek past information, if the patient had any health problem earlier, as the record is like a mirror and barometer to indicate the factual patient's situation, in some cases patient himself or herself cannot express exactly their problem; especially the uneducated and mostly rural people. The patient's medical record is a mirror and reflects exactly what is done and recorded; enlightens the doctor and his inquiries with a variety of questions and examines the patient physically to elicit to reach the cause for ailment and if necessary carry investigations to confirm his own clinical diagnosis and treats the patient. The medical record is the mother of information that needs to be given proper respect by being documented meticulously either manually or electronically as it reflects like a "Mirror" so that in the absence of the same doctor, any other healthcare provider can understand and carry out the treatment without hindrance. The following information will elaborate on why it is called the "Mother of Information".

Justified M.R. is the Mother of Information; it can Make or Break the Healthcare Institution.

The author has not only worked as WHO Consultant and Sr. Consultant and Adviser to the ministries of health of nine nations to oversee the entire nation's healthcare delivery system in general and medical records in particular; and had the opportunity of visiting and getting acquainted with the working system of the healthcare institutions of varied countries including developing, semi-developed and developed and rendered guest lectures in 14 overseas countries, participated and presented papers in 24 international conferences conducted worldwide, and published 15 books and 131 papers in international journals of repute. His Hands-on Hospitals in India, the Middle East, and Developed Nations proved that M.R. is the Mother of Information and it Can Make or Break the healthcare institution.

Having served almost five decades in the healthcare field in multifarious healthcare institutions has clearly indicated that the role played by medical records in efficient healthcare delivery is enormous those who understood its value have gained tremendously and respected and implemented in 360 degrees and benefitted and proved that they are not only "Mother of Information but also; can make as one of the best healthcare institutions and; if not properly taken care of; it can break the healthcare institution into to most inefficient and disorganized institution resulting in dissatisfaction to everyone with enormous financial losses to exchequers. Patient care problems are not just confined to developing or semi-developed nations; it exist in

developed countries too, but in different methods and dimensions because of variations in population, poverty, geographical, cultural, technological, financial, and many other reasons.

Conclusion: It is evident that health institutions without well-organized and efficiently managed medical records departments cannot achieve the expected good quality results. To illustrate the statement “Medical Record is the “Mother of Information”-it can make or break a health institution, the following practical working experience will prove beyond doubt, why they experience innumerable patient care problems despite having the best infrastructure and highly qualified manpower. It also demonstrates how health institutions have achieved the best patient care quality services and not only improving the satisfaction of everyone including patients, healthcare providers, and policy decision-makers, but also dipping duplication of services and saving enormously the exchequers expenditure.

It needs to re-vitalize HIM in the field in the 21st century with extraordinary vigor due to tremendous dynamic communication and technology growth and the recent COVID-19 Pandemic shook the world with health problems taking away thousands of lives. This has created a new challenge not only for Epidemiologists, Scientists, and Research workers but healthcare providers. The HIM being the custodian of digital data of patients has ample opportunity to analyze systematically and scientifically the pattern and trend of diseases and can suggest in advance the possible damages caused by some diseases that will be an early warning to take measures before they could invade and alter into endemic or pandemic. The role of HIM shouldn't be traditional instead observe the slogan of “Change or Perish” to acquire the latest knowledge, skills, and positive attitude by all the global HIM professionals to render their services much efficiently so that healthcare providers will be able to do their services much effective in providing swift, safe, improved quality and cost contained care and save millions of lives.

Chapter XI: International Classification of Diseases -10th Revision

1. Introduction: Classification of diseases and operations is one of the most important functions of the Medical Records Department. A well-organized Medical Record Department selects one of the best-suited International Classification Systems to code and index diseases and operations for the collection of morbidity and mortality information. A classification disease is a system of grouping together morbid entities according to some established criteria. A medical nomenclature is a list or catalogue of approved terms for describing and recording clinical and pathological observations. Disease can be classified according to a variety of features. The most popular are (a) anatomical -i.e., the part of the body affected, (b) pathological - the changes caused in the body by the disease process; and (c) clinical - the way in which the disease manifests itself.

The International Classification of Diseases, Tenth revision, (ICD-10) is the latest revision published in the year 1993. It is used to translate diagnoses of diseases and other health problems from words into alphanumeric codes which permit easy storage, retrieval, and analysis of data.

What is coding? Coding is the translating of narrative descriptions of diseases, injuries and procedures into alphanumeric codes. Precisely, the process of assigning numbers to medical and health terms.

Coding is the process of assigning numbers to disease and procedural terms. The principal source of the information coded is the medical record. The face sheet lists final diagnoses and operations and is completed by the attending physician. A code number for each disease and operation is recorded on the face sheet by the coder. Coding is performed in order to group conditions and procedures that are similar for statistical tabulation. Medical and health care statistics are generally used to:

Why do we need to code? Coding is done in order to group conditions and procedures that are similar for statistical tabulation. Medical and health statistics are generally used to

- Plan appropriate health services
- Classify patterns of disease in a healthcare facility
- forecast health needs of communities, regions and nations
- Study epidemiology (incidence rates of diseases etc)
- Standard the reporting system for easy assimilation
- Provide teaching material for medical education
- Evaluate health care with appropriate measures

in order to have comprehensive information on morbidity and mortality for developing the best possible health care delivery system including preventive, curative, primitive, and rehabilitative, for any nation has the need for the disease classification acceptable throughout the globe. Hence, the development of the International Classification of Diseases has come to existence.

Classification of diseases: a classification of diseases may be defined as a system of categories to which morbid conditions are assigned according to some established criteria. Classification systems are used to organise health care data for classifying, storing, and retrieving patient health care information from patient medical records.

International Classification of Diseases: The International Classification of Diseases (ICD) permits systematic recording, analysis, interpretation, and comparison of morbidity and mortality data collected in different countries or areas and at different times. 10th Revision of the ICD published in 1993, is the latest in a series that was formalized in 1893 as the Bertillon Classification or International list of Causes of Death.

Based on the official version of WHO's 9th Revision of the International Classification of Diseases, the National Centre for Health Statistics, USA published the Clinical Modification of International Classification of Diseases (ICD-9CM) in 1978. In this version, diseases were further classified or sub-classified for more specificity.

Introduction of ICD-10: WHO has recommended implementing the ICD-10 with effect from 1994. Some of countries have already implemented and the rest of the countries are in the process.

This reference material gives the salient features of rules and regulations to be followed in coding and classifying the diseases of morbidity and mortality data as per the Tenth Revision of the International Classification of Diseases (WHO).

2. **History:** Sir George Knibbs, the eminent Australian statistician, credited Francois Bossier de Lacroix (1706-1777) better known as Sauvages, with the first attempt to classify diseases systematically (10). Sauvages' comprehensive treatise was published under the title *Nosologia methodica*. A contemporary of Sauvage's was the great methodologist Linnaeus (1707 - 1778), one of whose treatises was entitled *Genera morborum*. At the beginning of the 19th century, the classification of disease in most general use was one by William Cullen (1710-1790), of Edinburgh, which was published in 1785 under the title *synopsis nosologia methodica*.

The first known classification of diseases dates back to the year 17000, when the King of England charged his depute, Jon Grant, to estimate the proportion of live-born children who died before the age of six.

By the year 1853, the need for an international classification of diseases was recognized and the First International Statistical Congress was convened in Brussels. The prime mover was Dr. Willam Farr (1807 - 1883), Registrar General and Medical Statistician for England & Wales. All diseases were classified in 139 separate groups under five general headings. Statistics were needed for causes of death and for public health control especially because of contagious diseases. There was a particular need and a statistical classification was created to satisfy this need. This classification was revised at least three times.

The International Statistical Institute, the successor to the International Statistical Congress, at its meeting in Vienna in 1891, charged a committee chaired by Jacques Bertillon (1851-1922), chief of Statistical Services of the City of Paris, with the preparation of a classification of cause of death. It is of interest to note that Bertillon was the grandson of Achille Guillard, a noted botanist, and statistician, who had introduced the resolution requesting Farr and d'Espine to prepare a uniform classification at the first International Statistical Congress in 1853. Bertillon's Classification of Causes of Death received general approval and was adopted by several countries and it was suggested the classification should be revised every ten years. The first International Conference for the Revision of the Bertillon or International List of Causes of Death was held in Paris in August 1900, and a detailed revision consisting of 179 groups and an abridged classification of 35 groups, was adopted. The next conference was held in 1909 and succeeding conferences were held in 1920, 1929, and 1938.

In 1946, the International Health Conference held in New York City, entrusted the responsibility of subsequent revisions to the World Health Organisation. The Sixth Revision was published in 1948, then the Seventh in 1955, the Eighth in 1965, and the Ninth in 1977. The Tenth Revision, published in the year 1993, is the latest in the series.

2. Design of ICD-10:

3.

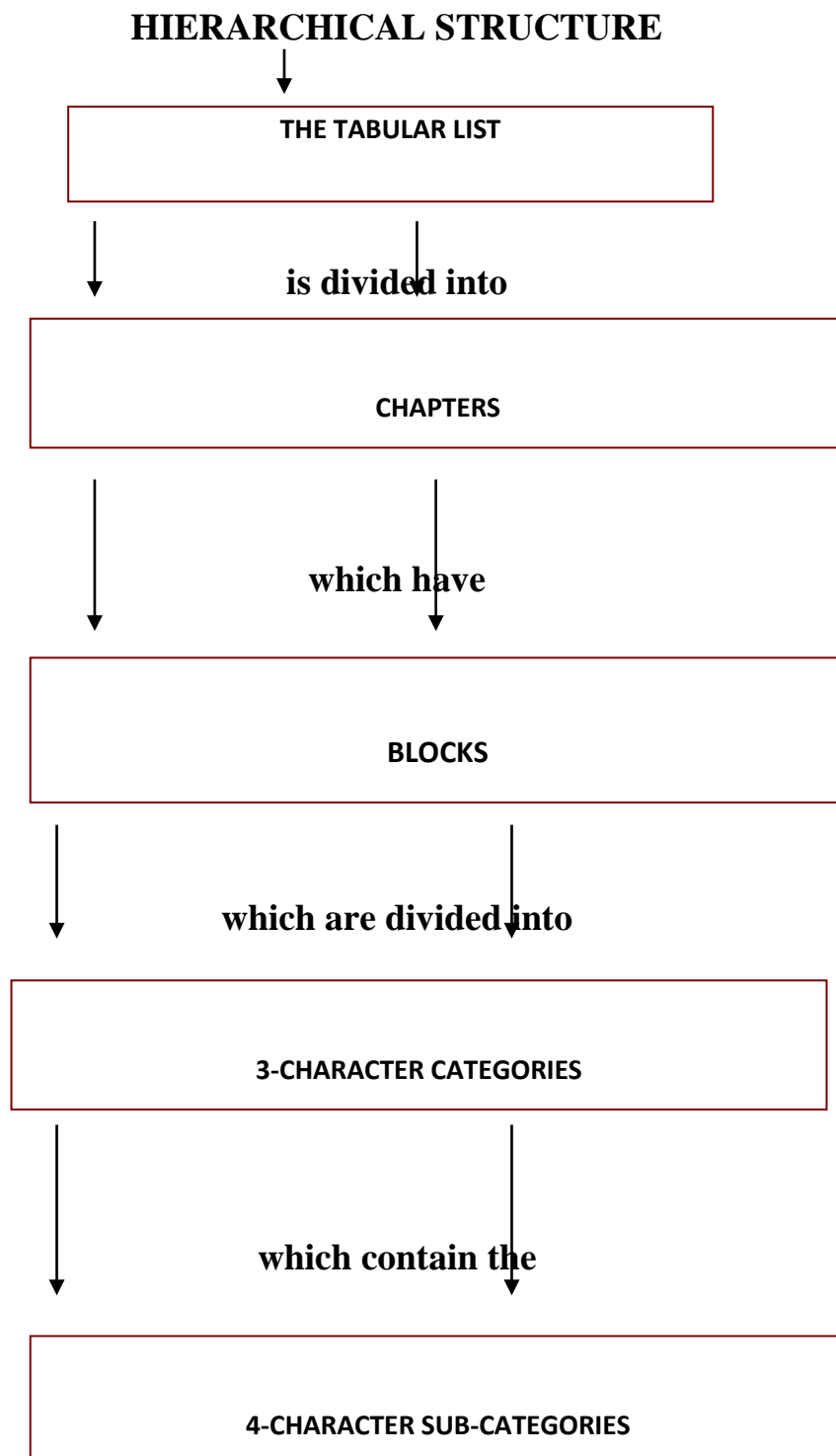
- Structure - Three volumes of ICD-10
- Chapters - 21 Chapters
- Codes - alphanumeric codes

3.1 Structure:

- ICD-10 contains 3 volumes
- This has been created by splitting: Volume 1 of ICD-9 into Volume 1 and Volume 2 and Volume 2 of ICD-9 becomes Volume 3

Volume 1 - tabular list:

- contains four main sections
 - List of three character categories (pages 29-104)
 - tabular list of inclusions and four-character subcategories (pages 105-1175)
 - morphology of neoplasms (pages 1177 - 1204)
 - special tabulation lists for mortality and morbidity (pages 1205 - 1231)
- British spelling is used in Volume 1
- Layout is similar to ICD-9, its hierarchical structure is as follows



Volume 2 - instructional volume

- Contains
 - descriptions and how to use ICD-10 (pages 1-29)
 - rules and guidelines for mortality coding including medical certification of causes of death (pages 30-96)
 - rules and guidelines for morbidity coding (pages 96-123)
 - statistical presentation (pages 124 -138)
 - History of the ICD development (pages 139-151)

Volume 3- alphabetic index

- contains
 - Introduction (pages 1-7)
 - alphabetical index to diseases and nature of injury (pages 9 - 572)
 - external causes of injury (pages 573-746)
 - Table of drugs and chemicals (pages 625 - 746)
 - Corrigenda to volume 1 (pages 747 - 750)
- Lead terms are now printed in bold text, to improve readability of the index, and the table of neoplasms has had some changes.

- American spelling is used in volume 3.

3.2 Chapters

- there are 21 chapters in ICD-10 compared to 17 in ICD-9
- four additional chapters in ICD-10 have arisen as follows:
 - ICD-9 Chapter IV Diseases of the nervous system and sense organs has been split into three chapters namely:

Chapter VI Diseases of the nervous system

Chapter VII Diseases of the eye and adnexa

Chapter VIII Diseases of the ear and mastoid process

- Bringing the two supplementary classifications (i.e E codes and V coded in ICD-9) into the main part of the classification, thus :

Chapter XX External causes of morbidity and mortality (E code in ICD-9)

Chapter XXI Factors influencing health status and contact with health Services (V code in ICD-9)

Chapters are:

- Chapter I Certain infectious and parasitic diseases (A00 - B99)
- Chapter II Neoplasms (C00 - D48)
- Chapter III Diseases of Blood and Blood forming Organs and Certain Disorders
- Chapter IV Endocrine, nutritional, and metabolic diseases (E00 - E90)
- Chapter V Mental and Behavioral Disorders (F00 - F99)
- Chapter VI Diseases of the Nervous System (G00 - G99)
- Chapter VII Diseases of the eye and adnexa (H00 - H59)
- Chapter VIII Diseases of the ear and mastoid process (H60 - H95)
- Chapter IX Diseases of the circulatory system (I00 - I99)
- Chapter X Diseases of the Respiratory System (J00 - J99)
- Chapter XI Diseases of the digestive system (K00 - K93)
- Chapter XII Diseases of the skin and subcutaneous tissue (L00 - L99)
- Chapter XIII Diseases of the musculoskeletal system and connective tissue (M00 - M99)
- Chapter XIV Diseases of the genitourinary system (N00 - N99)
- Chapter XV Pregnancy, Childbirth and the Puerperium (O00 - O99)
- Chapter XVI Certain conditions originating in the Perinatal period (P00 - P96)
- Chapter XVII Congenital malformations, deformations, and chromosomal abnormalities (Q00 - Q99)
- Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00 - R99)
- Chapter XIX Injury, poisoning, and certain other consequences of external causes (S00 - S99, T00 - T98)
- Chapter XX External causes of morbidity and mortality (V01 - V99, W00 - W99, X00 -X99, Y00 - Y98)
- Chapter XXI Factors influencing health status and contact with health Services (Z00 - Z99)

Descriptors:

- Each chapter has an alphabetical letter or letters associated to the codes contained within it.
- Fourteen chapters have a signal alphabetical letter assigned to them and use most of the 100 categories available.
- Four chapters use more than one alphabetical letter in defining the categories

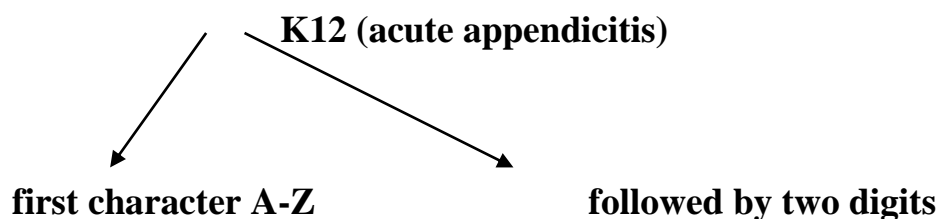
These are:

Chapter	Description	alphabetic
I	Infectious	A, B
II	Neoplasms	C,D
XIX	Injury & Poisoning	S, T
XX	External causes	V, W, X, Y

- the letter ‘U’ is omitted from the chapters and has been left vacant for further expansion
- the letter ‘H’ covers both Chapter VII (Eye and adnexa) and VIII (Ear and mastoid process)
- NB: Each chapter should be referred to by its number and not by the letter or letters of the codes associated with it.

3.3 Codes: Structure of codes:

- major change is the move to alphanumeric codes
- in ICD-10, the category code is made up of one alphabetic character followed by two numeric digits (as opposed to three numeric characters in ICD-9). For example:



Volume of codes:

- By the use of alphabetical characters in ICD-10, it has provision to use 2600 categories. However, presently just over 2000 categories are used.
- Increase in codes is not uniform but rather concentrated in chapters relating to signs and symptoms, congenital abnormalities, and perinatal conditions.
- Majority of codes in ICD-10 are four-character codes.

4. Converting ICD-9 to ICD-10.

Major changes:

Structure	-	there are now three volumes of ICD-10
Chapters	-	there are now 21 chapters
Codes	-	the structure of the code has changed

Structural Changes:

- ICD-10 contains 3 volumes
- This has been created by splitting;

Volume 1 of ICD-9 into volume 1 and volume 2

Volume 2 of ICD-9 becomes Volume 3

A number of chapters:

There are 21 chapters in ICD-10 compared to 17 in ICD-9

Four additional chapters in ICD-10 have arisen as follows:

ICD-9 Chapter IV Diseases of the Nervous System and sense organs has been split into three chapters namely:

Chapter VI Diseases of the nervous system

Chapter VII Diseases of the eye and adnexa

Chapter VIII diseases of the ear and mastoid process

Bringing the two supplementary classifications 9 i.e (E codes and V codes) into the main part of the classification, thus:

Chapter XX External causes of morbidity and mortality (E code in ICD-9)

Chapter XXI Factors influencing health status and contact with health services (V code in ICD-9). This chapter should not be used for international Comparisons for primary mortality coding

Reassignments:

- Conditions with a recently discovered etiology or new treatment protocol have been reassigned to a more appropriate chapter in ICD-10. These include:

Condition	ICD-10	ICD-9
Gout	Musculo	Endocrine
Bradycardia	Symptoms	Circulatory
Sarcodiosis	Blood	Infectious
Refractory Anemia	Neoplasms	Blood

Other Changes:

In brief, what you would find as new in ICD-10 is highlighted as follows:

- Replacement of the traditional numeric coding system with an alphanumeric system with the aim of stabilizing the coding system and minimizing disruptions at future revisions.
- Greatly expanded explanatory notes and instructions for use.
- Considerable expansion of the dagger and asterisk system of dual classification, with the asterisk information contained in homogenous categories at the 3-character level.
- New chapters for diseases of the eye and adnexa and diseases of the ear and mastoid process
- Revised definitions, standards, and reporting requirements for maternal, fetal, Perinatal, neonatal and infant mortality.
- New categories for coding post-procedural disorders
- Greater coding precision for drug-induced conditions

To make it more convenient for you to quickly grasp the main differences between ICD-9 and ICD-10 a table is provided in the following table to highlight the important differences.

Difference between ICD-9 and ICD-10

ICD-9	ICD-10
Introduced IN 1977	Introduced in 1992
Entitle “International Classification of Diseases, injuries and causes of Death”	Entitled “International Statistical Classification of Diseases and Related Health Problems”
Brought out in 2 volumes: (Vol. 1 Tabular List) (Vol. 2 Alphabetical Index)	Brought out in 3 volumes (Vol. 1: Tabular List) (Vol. 2: Instruction Manual) (Vol. 3: Alphabetical Index)
Totally numeric in nature	Alpha-numeric in nature
Has 17 main chapters and 2 special, supplementary chapters	Has 21 chapters and no special, supplementary chapters

Has “E” & “V” supplementary classifications	“E”&” V” supplementary classifications are incorporated as a part of the core classification
Includes the “Basic Tabulation List’	“Basic Tabulation List” withdrawn
Two short lists (each of 50 causes) were introduced to list morbidity & mortality	these short lists were withdrawn and replaced by 5 newly designed lists.
A separate classification, termed “Classification of Industrial Accidents, According to Injury” was introduced.	This classification scheme withdraws altogether.
“Medical Certification & Rules for Classification” component as part of Vol.1 of the Tabulation List	This component was removed from Vol.1 and features, in greatly revised form, in Vol. 2, the Instruction Manual
Cause of Death component of the standard WHO Death Certificate has 3 lines (a, b, & c)	An additional line (Line ‘d’) has been introduced to bring greater accuracy in determining the exact underlying cause of death.
Provided no guidelines about presenting statistical data in a standard format	has a special chapter in Vol.2 (“Statistical Presentation”) for this purpose.
Alternative forms of diseases or conditions are indicated by identifying them under the main condition	use of “bullets” (.) to indicate alternative forms of a disease or condition
“Diseases of the Nervous System & Sense Organs” presented in Chapter VI	Chapter VI has been split into 3 chapters (Dis of Nerv. System, Dis. Of eye & Adnexa, & Dis of ear & mastoid process)
No provision for Post-Procedural disorders which often constitute a medical care problem in their own right	New categories are created at the end of certain chapters for post-procedural disorders
Provisions of separate “late Effects” categories for each intent (i.e suicide, accident, homicide, etc.) for an injury	All such categories have been brought together in a block entitled “Sequelae of External causes of Morbidity & Mortality.”
“Type of Injury” was used as the	Injuries are coded first to the “Body

axis of classification and then sub-classified the type of injury according to the “Site of Injury”	Region” where the injury has occurred, then to the “type of Injury”
The main axis of classification for land transport accidents was whether the event was a traffic or non-traffic accident	the main axis for this type of accident is now the injured person’s “mode of transport”
“Corrosion” and “Burns” were coded to the same set of codes as all other types of burns	Each 3-character category is the block that identifies “Corrosions” and “Burns” separately at the 4-character level.
“Friction Burns” were classified as “Superficial Injuries”	“Friction Burns” are included with “Burns”
No “Activity Code” existed in the chapter for External Causes of Injury & Poisoning”	An “Activity code” is provided in Ch.XX (External causes of Injury and poisoning) for optional use to indicate the activity of the person at the time of the accident.
Both the “lead term” and “modifiers” in vol.2 (Index) were printed in usual normal-size letters	The “lead terms in vol.3 (Index) are printed in bold letters to improve the readability of the Index.
No provision for updating the ICD between Revisions - such activity is only possible after every ten-year	Provision for updating ICD between Revisions by issuing a small number of amendments annually

5. How to use ICD:

5.1. How to use Volume1:

Volume 1 of the ICD contains the classification itself. It indicates the categories into which diagnoses are to be allocated, facilitating their sorting and counting for statistical purposes. It also provides those using statistics with a definition of the content of the categories, subcategories, and tabulation list items they may find included in the statistical tables.

Most routine statistical users of the ICD involve the selection of a single condition from a certificate or record where more than one is entered. The rules for this selection in relation to mortality and morbidity are contained in Section 4 of Volume 2.

5.2 How to use Volume 3:

The Introduction to Volume 3, the Alphabetical Index to ICD-10, gives instructions on how to use it. These instructions should be studied carefully before starting to code. A brief description of the structure and use of the index is given below.

Arrangement of the Alphabetical Index:

Volume 3 is divided into three sections as follows:

Section I lists all the terms classifiable to Chapters I-XIX and Chapter XXI, except drug and other chemicals.

Section II is the index of external causes of morbidity and mortality and contains all the terms classifiable to Chapter XX, except drugs and other chemicals.

Section III, the Table of Drugs and Chemicals lists for each substance the codes for poisoning and adverse effects of drugs classifiable to Chapter XIX, and the Chapter XX codes that indicate whether the poisoning was accidental, deliberate (self-harm), undetermined, or an adverse effects of a correct substance properly administered.

5.3. Structure:

The Index contains “lead terms” positioned to the far left of the column with other words (“modifiers” or “qualifiers”) at different levels of identification under them.

Example

Insufficiency

- mitral I34.0
- with
- --Aortic Valve disease I08.0
- ----- with tricuspid (value)
disease I08.3

In section I, these indented modifiers or qualifiers are usually varieties, sites, or circumstances that affect coding. In Section II they indicate different types of accidents or occurrences, vehicles involved, etc. Modifiers that do not affect coding appear in parentheses after the condition.

5.4. Code Numbers:

The code numbers that follow the terms refer to the categories and subcategories to which the terms should be classified. If the code has only three characters, it can be assumed that the category has not been subdivided. In most instances where the category has been subdivided, the code number in the Index will give the fourth character. A dash in the fourth position (003.-) means that the category has been subdivided and that the fourth character can be found by referring to the tabular list. If the dagger and asterisk system applies to the term, both codes are given.

Conventions used in the Tabular list: In listing inclusions and exclusion terms in the tabular list, the ICD employs some special conventions relating to the use of the abbreviations “NOS”, “NEC” use of parentheses, square brackets, colons, braces, the word “and” in titles. These need to be clearly understood both by coders and by anyone wishing to interpret statistics based on the ICD.

5.5. Abbreviations:

NOS Not other specified. This abbreviation is the equivalent of “unspecified”

NEC is Not elsewhere classifiable. The category number for the term including NEC is to be used only when the coders lack the information necessary to code the term to a more specific category:

Punctuation:

() Parentheses are used to enclose supplementary words that may be present or absent in the statement of disease or procedure without affecting the code number to which it is assigned.

[] Brackets are used to enclose synonyms, alternative wordings, or explanatory phrases.

:

Colon is used in listings of inclusion and exclusion terms when the words that precede it are not complete terms for assignment to that rubric.

{ }

Braces are used to enclose a series of terms, each of which is modified by the statement appearing at the right of the brace.

Cross-references:

Cross-references are used to avoid unnecessary duplication of terms in the Index. The word “see” requires that the coder refer to the other term; “see also” directs the coder to refer elsewhere in the Index if the statement being coded contains other information that is not found indented under the term to which “see also” is attached.

Basic coding guidelines:

the alphabetical index contains many terms not included in Volume I, and coding requires that both the index and tabular list should be consulted before a code is assigned.

Before attempting to code, the coder needs to know the principles of classification and coding and to have carried out practical exercises.

The following is a simple guide intended to assist the occasional user of the ICD.

1. Identify the type of statement to be coded and refer to the appropriate section of the alphabetical index. (if the statement is a disease or injury or other condition classifiable to chapters I to XIX or XXI, consult section 1 for the Index. If the statement is the external cause of an injury or other even classifiable to chapter XX, consult section II)
2. Locate the lead term. For diseases and injuries, this is usually a noun for the pathological condition. However, some conditions are expressed as adjectives or eponyms or included in the Index as lead terms.
3. Read and be guided by any note that appears under the lead term.
4. Read any terms enclosed in parenthesis after the lead term (these modifiers do not affect the code numbers), as well as any terms intended under the lead term (these modifiers may affect the code number), until all the words in the diagnostic expression have been accounted for.
5. Follow carefully, any cross-references (“see” and ‘see also’) found in the index.
6. Never code directly from the Alphabetic Index.
7. Refer to the tabular list to verify the suitability of the code numbers selected. Note that a three-character code in the index with the – in the fourth position means that there is a fourth character to be found in Volume 1. Further, subdivisions to be used in a supplementary character position are not indexed and, if used, must be located in Volume 1.
8. Be guided by any inclusion or exclusion terms under the selected code or under the chapter, block or category heading.
9. Assign the code.

The “dagger and asterisk” system: The primary code is for the underlying disease and is marked with a dagger (+); an optional additional code for the manifestation is marked with an asterisk (*). This convention was provided because coding to underlying disease alone was often unsatisfactory for compiling statistics relating to particular specialties, where there was a desire to see the condition classified to the relevant chapter for the manifestation when it was the reason for medical care.

Diabetes mellitus, Insulin-dependent with renal complications E 10.2 +

Diabetic Nephropathy N08.3 *

Other optional dual coding: There are certain situations, other than in the dagger and asterisk system that permit two ICD codes to be used to describe fully a person's condition. The note in the tabular list “Use additional code, if desired”, identifies many of these situations.

For those wishing to identify the histological type of neoplasm, comprehensive separate morphology codes are provided on pages 1177 - 1204 of volume 1. These morphology codes are derived from the second edition of the International Classification of Diseases for Oncology (ICD_O) which a dual-axis classification is providing independent coding systems for topography and morphology.

External causes of morbidity and mortality (V01 - Y98) which in the previous version of ICD-9, constituted a supplementary classification (E Code) permits the classification of environmental events and circumstances as the cause of injury, poisoning, and other adverse effects. Where a code from this section is applicable, it is intended that it shall be used in addition to a code from another chapter classification indicating the nature of the condition.

Most often, the condition will be classifiable to Chapter XIX, Injury, Poisoning, and certain other consequences of external causes (S00 - T98). Causes of death should preferably be tabulated according to both Chapter XIX and Chapter XX, but if only one code is tabulated then the code from Chapter XX should be used in preference. Other conditions that may be stated to be due to external causes are classified in Chapters I to XVIII. For these conditions, codes from Chapter XX should be used to provide additional information for multiple-condition analysis only.

Definition of Diagnosis:

Diagnosis: diagnosis is made on the basis of extensive knowledge about the patient such as family history, physical examination, and investigation including x-rays and laboratory tests. The following are some of the different kinds;

Clinical Diagnosis: based upon symptoms shown during life, irrespective of the morbid changes producing them.

Principle Diagnosis: The condition established after the study is chiefly responsible for occasioning the admission of the patient to the hospital for care.

Note: (I) Not necessarily the symptoms presented by the patient on admission nor the conditions the physician suspects on admission (ii) The diagnosis determined by the physician after diagnostic tests and work-up of the patient are completed.

Pathological Diagnosis: based on gross and microscopic examinations of the structural lesions present.

Differential Diagnosis: based on symptoms and physical signs of two contrasting diseases.

Provisional Diagnosis / Tentative Diagnosis: Based upon the availability of sources of information but subject to change.

Pre-operative Diagnosis: made before operation and based on clinical findings.

Post-operative Diagnosis: based upon findings observed during the operation.

Other Diagnosis: All conditions which co-exist at the time of admission or develop subsequently and which affect the treatment received and/or the length of stay.

Note: Diagnosis that relates to earlier episodes of care and has no bearing on treatment or length of stay is excluded.

Example: Myocardial Infarction, an old broken hip.

The old broken hip would not be coded as it does not affect the length of stay or treatment of the myocardial infarction.

Principle procedure: the procedure most related to the principal diagnosis and/or one which is performed for definitive treatment rather than for diagnostic or exploratory purposes or one necessary to take care of a complication.

Other procedure: Any procedure that carries an operative or anesthetic risk; requires highly trained personnel or requires a special facility or equipment.

G. OTHER ICD CLASSIFICATION SYSTEMS:

- Application completed or in development include:
 - Congenital information
 - Dentistry and stomatology
 - Dermatology
 - Mental and Behavioural disorders (already available in several languages)
 - Neurology (ICD-10 NA)

Oncology (ICD-)-2, is already available in several languages and implemented in a number of countries)

- Paediatrics
- Psychiatry in primary care
- Rheumatology and Orthopaedics (ICD- R&O)

Plans are well advanced for two further speciality-based applications of ICD-10, these being:

- Hereditary diseases with the Unit of Human Genetics
- External causes with the WHO Safety Promotion and Injury Control Unit and Nordic medico-Statistical Committee.
- International Classification of Impairments, Disabilities and Handicaps (ICDDGýH)

Revisions are taking place in the following areas:

- handicaps - revising codes for the handicap section, as well as how to define “handicap” in a way that distinguishes it from “disability”
- Environmental factors - ensuring that the social and environmental barriers affecting disability and handicap are appropriately recognized in proposed new classifications.
- Child disabilities / mental and behavioral health / cognitive and behavioral disabilities disability policy - task forces in these areas are changed ensuring the new classifications of I, D, and H are useful for applications in programs for children and persons with mental illness, and in social policy.

THERE ARE NO SHORT CUTS!!

In the absence of a qualified medical records officer, or a medical record technician, a medical secretary is best suited for the position of coder. Medical secretaries should have been trained in anatomy, physiology, medical terminology, and the fundamentals of disease pathology; this knowledge is essential in the coding procedure. Understanding how to spell medical terms is also important.

Principles and Rules of Coding:

- I. The Alphabetic Index is utilized to locate the main entry term. The primary arrangements of the Alphabetic Index are by condition in the disease index.
- II. Conditions may be expressed as adjectives, nouns, or eponyms in the Alphabetic Index of terms. Some conditions have more than one listing and may be located under either one.
- III. To select the appropriate code, read and be guided by any note that appears under the main term:
 - a. terms enclosed in parentheses following the main entry as well as sub-terms under the main entry;
 - b. appropriate sites or modifiers listed in alphabetical sequence under the main terms with further sub-terms listings as necessary;

c. eponyms appearing as both main term entries and modifiers under such main terms as diseases or syndromes;

d. conditions expressed as adjectives appearing in the list of main terms;

e. cross references to synonyms, closely related terms, and code categories beginnings with "see" and "see also".

iv) Read and be guided by the list of inclusions or exclusions that may appear not only under the particular code but also under the category code or section title for that particular code. Never code directly from the Alphabetic Index, for important instructions often appear in the Tabular List. Watch for exclusion notes.

v) Remember these special points:

(a) Follow the instructions to "code also", "code also underlying disease", or "use additional code if desired" whenever it appears, in order that all the component elements of a complex diagnostic statement or procedure may be fully identified.

Two or more codes may be necessary.

(b) The coder should continue coding a diagnostic statement until all of the component elements of a complex diagnostic statement or operation are fully identified.

(c) In some instances it may be necessary to ask the physician to add additional diagnoses when the content of the medical record suggests that the listing of diagnostic statements is incomplete.

(d) Only diagnoses that relate to the current episode of care need to be coded. Medical records often contain statements like "status post hysterectomy" or "history of the congenital heart disease" which show no relationship to the current episode of care. A history of past conditions not relevant to the current episode of care should be omitted for coding purposes.

(e) If an inpatient diagnosis is stated as "suspected", "questionable", "possible", "likely", or in other similar terms, code the condition as if it existed or was established.

(f) Inconclusive diagnoses expressed in terms of differential conditions should be coded as follows:

- Comparative and contrasting diseases or conditions should be coded as being a suspected conditions. Example: Acute pancreatitis vs. acute cholecystitis: use K85 and K81.

- Comparative and contrasting aetiologies should be coded to disease or condition, cause not otherwise specified. Example: Acute peritonitis, bile, or generalized: use

K65.9.- Symptoms followed by contrasting and comparative diagnoses should be coded with the symptom as the principal diagnosis code. All of the contrasting diagnoses should be coded as suspected conditions. Example: Fatigue due to either depressive reaction or hypothyroidism: use R53, F32.9, and E39 (in this sequence).

(g) The terms "rule out", "ruled out", "suspected", or "probable" do not appear in the Alphabetic Index. However, there are rules to govern the coding of diagnoses modified by these terms. The diagnosis is to be coded as if it exists because the physician feels that there is a strong probability that it does exist. But when the diagnosis is modified by the term "ruled out", it is not coded because the physician has eliminated this possibility as a reason for the patient's symptoms. In this instance, the patient's symptoms would be coded. Example: Chest pain, rule out Myocardial infarction. In this case, code the Myocardial Infarction, I21.9. Example: Chest pain and myocardial infarction ruled out. In this case, code Chest pain, R07.4.

(h) When a specific condition is stated as both acute (or sub acute) and chronic, and the Alphabetic Index provides codes at the third, fourth, or fifth digit level for acute and for chronic, use both codes. Example: Acute and chronic nonrheumatic pericarditis: use I30.9 and I31.9.

Other nomenclatures and classifications:

A number of other nomenclatures and classifications are currently in use or have been used in the past. Therefore, it becomes imperative to keep the previous classification books intact for retrieval of past information from the disease indexes maintained earlier.

International Classification of Procedures in Medicine:

The World Health Organisation has published a supplement to the Ninth Revision of the International Classification of Diseases, the International Classification of Procedures in Medicine in two volumes. This classification is intended to present in a systematic fashion, the many procedures (including surgical) used in different branches of medicine.

Volume I consist of:

1. Procedures for medical diagnosis
2. Laboratory procedures
4. Preventive procedures
5. Surgical operations
8. Other therapeutic procedures
9. Ancillary procedures

Volume II consists of:

3. Radiology and certain other applications of
Physics in medicine

7. Drugs, medicaments, and biological agents

The International Classification of Procedures in Medicine has a structure similar to that of the ICD, with a tabular list and an alphabetical index. The complete series of categories for the nine chapters are numbered from 1 - 100 to 9 -823, the first digit denoting the chapter number. The use of this classification should not present significant problems for coders, since the steps for assigning the code numbers are similar to those followed for coding with ICD.

Indexing of Diseases and Operations: The coded patient cases have to be indexed on appropriate index cards for rapid retrieval of information. The indexing procedures have been dealt with in part two of this book.

Morbidity International Codes for National Ayurveda-Siddha and Unani

The Ministry of AYUSH, Govt. of India has developed National A-S-U Morbidity Codes, a comprehensive classification of diseases described in A-S-U as well as Standardized Ayurveda Terminologies (SAT). These have been made available on the National AYUSH Morbidity and Standardized Terminologies Electronic Portal (NAMASTE Portal) developed by the Ministry which is available to the public on the URL <http://namstp.ayush.gov.in>.

The inclusion of the TM chapter in ICD will have critical and positive long-term impacts on TM in areas such as improved service quality, patient safety, education, research, and regulation. In addition, this initiative contributes to the possibility of progressive reforms of healthcare systems across the globe, through informed, evidence-based, and appropriate integration of TM with conventional medicine within the existing health systems. ICD-11 would facilitate this process by the possibility of dual coding that is integral to the TM Chapter. The coding would always include a category from Chapters 1-24 of the ICD-11. TM coding will be supplementary to this, which shall allow the users to easily cross-reference diagnosis and data from the perspectives of diverse medical systems.

Medical System details of Morbidity Codes available on the NAMASTE Portal

Morbidity Code Category	Details
National Ayurveda Morbidity Codes (NAMC)	<ul style="list-style-type: none">• 2971 codes divided into:• Disorder (20 Subcategories from A to T),• 2. Natural Patterns (3 Subcategories U-W)
National Siddha Morbidity	1623 Codes (with 29 subcategories from

Codes (NSMC)	A-Z#)
National Unani Morbidity Codes (NUMC)	<ul style="list-style-type: none"> • 1354 categorized into: • Disorder (14 Subcategories from A to N), • 2. Natural Patterns (10 Subcategories)

Example of coding Morbidity conditions: -

Ayurveda: -

NAMC(National Ayurveda Morbidity Codes)	Disorder name	Short Definition
AAE-16	Sandhigatavath	vitiated vāta in joints
AA	Vatavyadhih	disorders due to vāta
EA-3	Kasah	cough
ED-4	Kustham	integumentary disease
EE-3	Arsah	hemorrhoids

Siddha:-

NSMC(National SIDDHA Morbidity Codes)	Disorder name	Short Definition
CAB1.1	Azalkil Vayu	Osteoarthritis
A	Valarcitai Mārā Noykal	metabolic disorders.
Z34	tantaka vātam	Lumbar spondylosis
ABC1.2	Kunma Mañcal Noy	jaundice with dysentery
DB	Irumal Noy	Cough

Unani:-

NUMC(National Unani Morbidity Codes)	Disorder name	Short Definition
L-4	Waja al-Mafasil	Polyarthritis
J-1	Baras	Vitiligo/ Leukoderma
F-10	Fasād al-Hadm/Su'al-	Dyspepsia

	Hadm	
D-7	Su'al-o-Surfa	Cough/Bronchitis
F-96	Bawasir	Piles/Hemorrhoid

- A double coding System for reporting is followed in the case of the Ayurveda-Siddha-Unani system of medicine.
- However, the Homeopathy Yoga and naturopathy system of Medicine was reported by a single coding system by ICD-10/11 of the World Health Organization.

Scope of Inclusion of Ayurveda, Unani, and Siddha system of Medicine under Traditional Medicine Chapter as Module-2 in ICD-11.

In India, the AYUSH systems have attempted to use the ICD coding developed for conventional medicine but found it unsuitable for classifying their diagnoses. Developing its own ICD codes for AYUSH systems will improve the utilization of these systems not just in India, but internationally. The latest iteration of ICD i.e. ICD-11 for the first time has a chapter on Traditional Medicine (ICD-TM). This chapter has its First Module devoted to Traditional Chinese Medicine (TCM).

A Donor Agreement between the Ministry of AYUSH and WHO to work towards developing a second module in the Traditional Medicine (TM) Chapter of the International Classification of Diseases - 11 (ICD-11) was signed on 11 February 2020. The development of the ICD-11 TM Chapter Module- 2 will focus on creating a union set of diagnostic categories derived from Ayurveda, Siddha & Unani systems, to develop ICD codes for Ayurveda, Unani, and Siddha systems of medicine for the purpose of inclusion in the ICD-11 TM chapter, as its Second Module.

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Chapter XII: What is New in ICD-11 for the Healthcare Delivery System?

Introduction: The International Classification of Diseases (ICD) permits systematic recording, analysis, interpretation, and comparison of morbidity and mortality data collected in different countries or areas and at different times. The 10th Revision of the ICD published in 1993, was the last in a series that was formalized in 1893 as the Bertillon Classification or International list of Causes of Death. Classification of diseases may be defined as a system of categories to which morbid conditions are assigned according to some established criteria. Classification systems are used to organize health care data for classifying, storing, and retrieving patient health care information from patient medical records.

Classification of diseases and operations is one of the most important functions of the hospital. A well-organized Medical Record Department selects one of the best-suited International Classification Systems to code and index diseases and operations for the collection of morbidity and mortality information. A classification disease is a system of grouping together morbid entities according to some established criteria. A medical nomenclature is a list or catalog of approved terms for describing and recording clinical and pathological observations. The disease can be classified according to a variety of features. The most popular are (a) anatomical -i.e., the part of the body affected, (b) pathological - the changes caused in the body by the disease process; and (c) clinical - the way in which the disease manifests itself. The International Classification of Diseases, Tenth Revision, (ICD-11) is the latest revision published in the year 2021.

What is coding? Coding is the translating of narrative descriptions of diseases, injuries and procedures into codes. Precisely, the process of assigning numbers to medical and health terms. Coding is the process of assigning numbers to disease and procedural terms. Coding is done in order to group conditions and procedures that are similar for statistical tabulation. Medical and health statistics are generally used to

- plan appropriate health services
- classify patterns of disease in a healthcare facility
- forecast health needs of communities, regions and nations
- study epidemiology (incidence rates of diseases etc)
- standardize the reporting system for easy assimilation
- provide teaching material for medical education
- evaluate health care with appropriate measures

In order to have comprehensive information on morbidity and mortality for developing the best possible healthcare delivery system including preventive, curative, primitive, and rehabilitative, any nation has evoked the need for the classification of the disease acceptable throughout the globe. Hence, development of the International Classification of Diseases has come to existence.

What is new in ICD-11: The International Classification of Diseases (ICD): is the foundation for identifying global health trends and statistical data, Health practitioners can interchange standardized information globally thanks to the ICD's shared language. With more than 120, 000 cod-able terms and over 17,000 unique codes for illnesses, injuries, and mortality causes, it serves as the basis for identifying global health trends and statistics. More than 1.6 million clinical scenarios can now be coded utilizing code combinations. This provides a common coding language that allows health professionals from all around the globe to start sharing healthcare data. This preview release will allow members of countries to plan how to use the latest version, start translation planning, as well as instruct health professionals across the country. All member States utilize ICD, which has been translated into 43 languages. The system is used by the majority of nations (117) to report mortality data, which is a key indicator of health. Researchers, health information managers and coders, health information technology professionals, policymakers, insurers, and patient organizations are just a few of the users including doctors, nurses, and other healthcare practitioners. For reporting mortality and disease statistics, all Member States are required to utilize the most recent version of the ICD (according to the WHO Nomenclature Regulations adopted by the World Health Assembly in 1967). The ICD is also used by insurance companies whose reimbursements are based on ICD coding, public healthcare program directors, data collection experts, and professionals who track and distribute health resources on a global scale.

ICD-11 includes new chapters: Moreover, the new ICD includes new chapters, including one dedicated to traditional and complementary medicine. which, despite being used by billions of individuals, has never previously been classified in this system. Another new chapter on sexual health classifies and describes conditions that were previously classified or described in different ways (for example, gender dissonance was listed under mental health conditions). The chapter on psychiatric disorders has been augmented to include gaming disorders. The most recent ICD-11th revision also takes into account advances in medicine and scientific understanding. For example, antimicrobial resistance codes are more closely aligned with the World System for Monitoring Antimicrobial Resistance (GLASS). ICD-11 can also better capture data on healthcare safety, which means that possibly hazardous occurrences, such as risky medical practices, can be listed and cut in half.

Proposals for ICD-11 to improve further: All interested parties can submit proposals for ICD-11 revisions or additions, which can then be transparently reviewed and discussed. The ICD-11 translation tool guarantees accurate translations that adhere to international standards and adds locally relevant words. ICD-11 is a significant improvement over earlier versions. It aligns classification with the most recent understanding of illness and its prevention, reflecting major advances in science and medicine. Compared to ICD-10, clinical content seems to be more insightful. Immune

system diseases, sleep-wake disorders, and conditions affecting sexual health are among the new key chapters.

The assessment of functionality and the optional recording of traditional medical diagnoses are made possible by new supplemental chapters and sections. The accessibility of both online and offline functionality, as well as the enhanced accessibility and accuracy of coding that requires less training courses than ever before, are significant features of ICD-11, which has a unique API and is designed for use in different IT systems for digital health. It is offered along with a number of web services, such as built-in user manuals and compatibility for multiple languages.

ICD-11's general coding improvements enable more exact and comprehensive data collection and recording. Clinical accuracy, however, is now achievable.

Examples comprise: Antimicrobial-resistant codes in compliance with GLASS 1

Codes represent the subtypes of basalioma and melanoma, two predominant skin malignancies. The classification of pulmonary hypertension and heart valve illnesses now corresponds to the capabilities for diagnosis and therapy. The WHO patient safety framework is followed by the codes for full documentation of patient safety, and ICD-11 fully incorporates the necessary information for cancer registration. HIV clinical stages are coded specifically, and diabetic complications are coded more clinically relevantly. Coding for automobile accidents and injury-causing factors is now compliant with accepted international standards for data documentation and analysis.

ICD-11 adds more significant chapters: than the previous version, the ICD-10th revision, which had fewer chapters for major diagnoses. This allows for more thorough reporting and the gathering of data. New elements that have been incorporated into the new ICD edition include:

1. Old Age
2. Chronic fatigue syndrome
3. Congenital Lyme Diseases
4. Gaming Disorder
5. Gender incongruence and transgender health in the ICD
6. Parental alienation
7. Traditional and Complimentary medicine

ICD-11 Deleted Diagnoses:

1. Acute Stress Disorder
2. Discrepancy in Gender
3. Personality Disorders

Post-Coordination, ICD-11

ICD-11 codes have a distinct structure compared to ICD-10: It has a more straightforward structure than ICD-10 codes. In addition, ICD-11 adds two significant features: extensions and clustering, which allow for two different types of post-coordination (joining many codes to represent a notion) and the addition of specific information to coded items. The ICD-11 code data may be improved by both aspects. ICD-11 extensions are non-diagnosis codes that give the classification more flexibility. Extensions are meant to be attached to a stem code rather than used on their own, taking the place of ICD-10 adjunct codes. Laterality, sensitivity, severity, and other aspects of damage and outside causes are indicated by extension codes. Combining two or more ICD-11 codes to describe a recognized clinical concept is known as cluster coding. ICD-11 uses this method to correctly define codes that post-coordinate to represent the same condition. There must be a mechanism to link diagnostic statements that have been simplified into their component pieces in the coded record; clustering is the feature that makes this possible. It makes it possible to link fundamental diagnostic concepts (i.e., stem code concepts) when needed and/or to supplement fundamental stem code concepts with clinical concepts recorded in extension codes. ICD-11 codes are linked together to form a diagnostic "sentence" using the "with" operator, which can be either a forward slash (/) or an ampersand (&). This practice is known as cluster coding.

ICD-11 has the potential to have a significant impact on resource allocation, healthcare financing, and care delivery, just like previous ICD versions. ICD-11's enhanced detail and adaptability, along with its electronic format, will enable it to function as a living record suitable for numerous applications, assuring its longevity. A standardized classification that is based on the most recent medical and scientific information is the best way to provide data that is useful for prevention, resource allocation, or evaluation.

ICD-11 is a flexible system that does away with the requirement for regional variations and enables the documentation of all types of clinical information. It can be smoothly included in the routine of clinical documentation in this way, together with the reduced coding.

Improving National Surveillance Systems: The WHO supports the implementation of ICD-11; it offers technical assistance to nations as they establish their national implementation plans and strengthen their health and surveillance systems in response to Member States' needs for implementing the ICD-11. Several WHO Regions have already held training seminars. Early adopters begin implementation, giving other nations useful insights into that process. Instructions on how to use the translation platform and incorporate ICD-11 coding tooling into a local information system are part of WHO's technical support. All information, resources, training materials, mapping

tables, and other materials necessary to support the use of the ICD are included in the ICD-11 implementation package.

The ICD-11 Proposal platform and translation tool enable the continuing update process and are accessible to all interested parties. The translation tool permits translations by the clinical community who utilize ICD.

Since there is better knowledge than ICD-10, huge changes have occurred. When compared to the previous version, ICD-11 dominates the combination of superior illness descriptions and categorizations. When compared to earlier iterations of coding and browsing tools, information technology is being turned into a great mode. Though the means for gathering health information are changing, the new era of globally based real-time data collection is improving. The transition will be made possible by the new ICD tool's superior architecture and foundation.

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7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8577172/>

Chapter XIII: Hospital Statistics and Bed Allocation

Statistical Formulas: The medical records from which hospital statistics are collected provide valuable information if they are interpreted with due regard to the selective nature of these data. Statistics indicate the kinds of diseases or injuries for which medical facilities render care, with an indication of the seasonal and annual variation in diseases as reflected by changes in admission patterns.

Serious consideration has been given by agencies in many countries as well as by the World Health Organization to define various terms that frequently appear in hospital statistics. However, the difference in the quality of medical services varies so widely that the best hospital in one country may not compare favorably with one regarded as poor in an advanced country, and therefore adherence to uniform terminology does not supply strictly comparable data. The terminology used in publishing statistics should theoretically and ideally mean the same thing to the reader as to the writer of a report.

The following are common rates and ratios that are required to be prepared by the statistical section of the Medical Record Department for the preparation of statistical reports.

Average Daily Census:

$$\frac{\text{Total number of inpatient days (exclusive of the newborn) of care for a period}}{\text{Total number of days in the period}}$$

Bed occupancy Rate:

$$\frac{\text{Total inpatient service days for a period} \times 100}{\text{Total inpatient bed count days} \times \text{number of days in the period}}$$

Average Length of Stay:

$$\frac{\text{Total number of inpatient (exclusive of the newborn) days of care rendered to discharged patients}}{\text{Total number of inpatients (exclusive of newborns) discharged or died}}$$

Percentage of Discharges in a Specialty:

$$\frac{\text{Total number of discharges in a specialty} \times 100}{\text{Total number of discharges for the hospital}}$$

Hospital Death Rate (Gross Death Rate):

$$\text{Total number of deaths of inpatients (including newborns) for a period} \times 100$$

Total number of discharges (live and death) including (newborn) for a period

Hospital Net Death Rate (Institutional Death Rate):

Deaths (including newborns) minus those under 48 hours for a period x 100

Total number of discharges (including deaths and newborns) minus deaths under 48 hours for the period

Neonatal Death Rate (Infant Mortality Rate):

Total number of newborn deaths for a period x 100

Total number of newborn infant discharges (including deaths) for the period

Fetal Death Rate (Still Birth Rate):

Total number of intermediate or late fetal deaths for a period x 100

Total number of births including intermediate and late fetal deaths (stillbirths) for the period

Cesarean Section Rate:

Total number of cesarean sections performed in a period x 100

Total number of deliveries in the period

Infection Rate:

Number of infections in clean surgical cases x 100

Number of surgical operations performed

Anesthesia Death Rate:

Total number of deaths caused by anesthetic agents for a period x 100

Total number of anesthetics administered for the period

Gross Autopsy Rate:

Total inpatient autopsies for a given period x 100

Total inpatient deaths for the period

Net Autopsy Rate:

Total inpatient autopsies for a given period x 100

Total inpatient deaths minus un-occupied "coroners or medical examiners" cases for the period

Hospital Autopsy Rate (Adjusted):

Total hospital autopsies in a given period x 100

Number of deaths of hospital patients whose bodies are available for hospital autopsy
for the period

Maternal Death Rate (Maternal Mortality Rate):

Total number of direct maternal deaths for a period x 100

Total number of obstetrical discharges (including deaths) inpatients for the period

Direct Maternal Death Rate:

Total number of direct maternal deaths for a period x 100

Total number of maternal discharges (including deaths) for a period

Post-Operative Death Rate:

Total number of deaths within ten days post-operative for a period x 100

Total number of patients operated upon for the period

Perinatal Mortality Rate:

Total number of both intermediate and late fetal deaths, and infants (less than 28 days
from birth) x 100

Total number of births including both intermediate and late fetal deaths, and infants
(less than 28 days from birth) for the period

Consultation Rate:

Total number of patients who received consultations for a period x 100

Total patients discharged (including deaths) for the period

Bed Turnover Interval:

Number of vacant bed days for a given period

Number of discharges including deaths for the period

Bed Turn Over:

Total number of bed days for each bed in a given period

The average length of stay for the period

Daily Average Outpatient Attendance:

Total number of outpatient attendance during a period x 100

Number of working days during the period

Average Outpatient Attendance per Patient

Total number of outpatient attendance during a period x 100

Total number of new cases during the period

Statistical Tables: The statistical tables recommended by the World Health Organization are furnished for the benefit of healthcare institutions. The degree of detail in cross-classification by etiology, sex, age, and area of the territory depends partly on the purpose and range of the statistics and partly on the practical limits regarding the size of particular tables. The following patterns, designed to promote international comparability, consist of standard ways of expressing various characteristics. Where a different classification is used (e.g., in age grouping) in published tables, it should be so arranged as to be reducible to one of the recommended groupings.

(a) Analysis by the International Classification of Diseases should, as appropriate, be in accordance with:

- (i) the detailed list of three-digit categories, with or without fourth-digit sub-categories;
- (ii) the basic Tabulation List of 307 Causes;
- (iii) the Mortality List of 50 Causes;
- (iv) the Morbidity List of 50 Causes.

(b) Age classification for general purposes

- (i) Under 1 year, single years to 4 years, 5-year groups from 5 to 84 years, and 85 years or over;
- (ii) Under 1 year, 1-4 years, 5-14 years, 15-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, 65- 74 years, and 75 years or over;
- (iii) Under 1 year, 1-4 years, 15-44 years, 45-64 years, and 65 years or over.

(c) Age classification for special statistics of infant mortality

- (i) By single days for the first week of life (under 24 hours, 1, 2, 3, 4, 5, 6 days), 7-13 days, 14-20 days, 21-27 days, 28 days up to, but not including, 2 months, by single months of life from 2 months to 1 year (2, 3, 4, 5, 6, 7, 8, 9, 10, 11 (months));
- (ii) Under 24 hours, 1-6 days, 7-26 days, 28 days up to, but not including, 3 months,

- 3-5 months, 6 months but under 1 year;
- (iii) Under 7 days, 7-27 days, 28 days but under 1 year.

(d) Age classification for early neonatal deaths

- (i) Under 1 hour, 1-11 hours, 12-23 hours, 24-47 hours, 48-71 hours, 72-167 hours;
- (ii) Under 1 hour, 1-23 hours, 21-167 hours.

(e) Birth weight classification for perinatal mortality statistics by weight intervals of 500 g, i.e. 1000-1499 g, 1999 g, etc.

(f) Gestational age classification for perinatal statistics

Under 28 weeks (under 196 days), 28-31 weeks (196-223 days), 32-36 weeks (224-258 days), 37-41 weeks (259- 293 days), 42 weeks and over (294 days and over).

(g) Classification by area should, as appropriate, be in accordance with:

- (i) each major civil division;
- (ii) each town or conurbation of 1,000,000 population and over, otherwise the town with the largest population;
- (iii) the national aggregate of urban areas of more than 100,000 population;
- (iv) the national aggregate of urban areas of less than 100,000 population;
- (v) the national aggregate of rural areas.

Note 1: Statistics relating to (iii), (iv), and (v) should be accompanied by the definitions of urban and rural used in them.

Note 2: In countries where coverage of medical certification of cause of death is incomplete or limited to certain areas, separate figures should be published for medically certified and other deaths.

Bed Allocation:

Bed Complement: Bed complement is the number of hospital beds, exclusive of newborn bassinets, normally available for use by inpatients.

Maximum Bed Capacity: Maximum bed capacity is the largest number of available hospital beds, exclusive of newborn bassinets, which could be established at any given time within the space, intended for such use, whether or not the beds are installed.

Constituents of Bed Complement: The following beds should be included in the bed complement:

- a. Quiet rooms attached to the ward for use by patients whose condition makes them unsuitable for a multiple-bed ward;
- b. Beds in the reception or observation wards that accommodate patients pending transfer to regular wards;
- c. Beds in the hospital proper designated for use by sick or injured staff nurses, interns, or employees, which could be used for other patients;
- d. Bassinets permanently placed in rooms other than the nursery, for newborn infants and in maternity patients' rooms and used for the care of infants other than newborns;
- e. Isolation beds held in reserve for ill or infected obstetrical patients.

The following beds should not be included in the bed complement:

- a. Labor beds are used only for a short period while the patient's regular bed in a room or a ward is being reserved;
- b. Beds in the emergency department on which patients may rest following treatment or minor operations performed on an outpatient basis;
- c. Beds located in special diagnostic or therapeutic departments such as radiology, physical therapy, blood bank, etc., on which patients may rest following examination or treatment on an outpatient basis;
- d. Beds in the outpatient department on which patients may rest for a short period following treatment or minor operations;
- e. Beds located in the nurses' residence or other employee quarters and used exclusively for the care of sick or injured staff nurses and employees;
- f. Anesthesia recovery beds are used temporarily by postoperative patients prior to discharge or transfer to regular beds.

Permanent Changes Affecting Bed Complement: Permanent changes e.g. conversion of a private room into a semi-private room, conversion of patient rooms or wards into utility rooms, examination rooms, etc., and enclosure of a sun porch to add permanent bed accommodations are examples of permanent changes which affect the bed complement.

The following changes or conditions do not affect the total bed complement:

- a. Setting up cots or beds in a ward temporarily filled to capacity;

- b. Temporarily diverting private or semi-private rooms for use by ward patients because of a shortage of ward beds;
- c. Temporarily withdrawing bed facilities for patients from active service because of a decreased demand for beds;
- d. Removing rooms or units temporarily out of service because of quarantine restrictions;
- e. Removing rooms or wards temporarily out of service because of alterations, painting, etc.;
- f. Withdrawing beds from service for an extended period of time because of a lack of personnel.

Chapter XIV: Dr. Mogli's Formula for Calculating Bed-Occupancy Rate With and without Day-Care Cases

Introduction: As day surgery cases are increasing in almost all hospitals; there is a need to maintain a separate bed complement so that one can get an accurate bed occupancy rate. And also find solutions to the problems encountered by the hospital staff in calculating occupancy rates on prescribed definitions. The given information below can be found in two; published books.

- 1. "Dr. Mogli's Healthcare Technologist Handbook for All Healthcare Professionals" (Chapter 51 – Hospital Statistics (PP397-398))**
- 2. "Dr. Mogli's Health Information Management & Health Informatics Professionals Handbook" (Chapter 24- Hospital Statistics (PP 215-216))**

Patient: a person receiving or registered to receive medical treatment.

Day-care surgery hospitalizations are those where patients receive "surgical" services in the hospital without staying overnight in the hospital.

In day-care or **ambulatory surgery**, a patient does not stay overnight at a healthcare center but gets discharged within a few hours of the procedure. As the patient is treated in an outpatient setting, it is also known as outpatient surgery.

Definition of Inpatient: A patient who is admitted to a hospital or clinic for treatment; occupies a bed; and requires at least one overnight stay. (**This definition doesn't hold well in the case of dead patients, who absconded or went against medical advice without staying overnight**)

Definition of Day Surgery by medical dictionary: Day care surgery also known as same-day surgery, is a model of care that means within 23 hours of undergoing a surgical procedure, patients will be able to leave the hospital and return to recover without occupying an overnight bed.

Day-care and bed occupancy: The **day of admission** counts as one **bed-day** so **day cases** (patients admitted for a medical **procedure** or **surgery** in the morning and released before evening are also considered one-bed days. The exception is that if the bed is used by another patient then- day surgery care counts as an inpatient with zero length of stay rather than day.

The exception to this rule: A patient admitted in the morning and died before evening; though he or she has not stayed overnight stay, counted as one day. Similarly, patients admitted in the morning and against medical advice or absconded from the hospital are counted as one-day occupancy. The day-care surgery falls in the same situation. Since

the day surgery cases are increasing in almost all hospitals; there is a need to maintain a separate bed complement so that one can get an accurate bed-occupancy rate;

Bed Occupancy rules may not apply to all the departments: Information on bed occupancy requirements varies from department to department; the dietician has supplied food on the day of admission and also on the day of discharge; the ward nurse has given medicines including injections to the patient on the day of admission and also on the day of discharge; this will not tally with LOS rules. Calculation of room rent is another aspect; though these definitions were made decades ago; at that time only minor day surgery was done either in the outpatient clinics or in emergency rooms. Currently due to the high admission rate and shortage of beds coupled with optimum utilization of beds for inpatients that need overnight care; the daycare surgery patients are occupying for a few hours but still, they are admitted as inpatients, and the same bed is used by another patient on that day; then daycare surgery case can be considered zero length of stay otherwise to be counted as one-day occupancy

Addendum to: Advantages of conducting more Day Care Surgeries vs. Problems encountered by the hospital staff on accurate bed occupancy rates on prescribed definitions.

Bed Occupancy Rate (Without Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Ward Census) for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

Bed Occupancy Rate (With Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Remained Census} + \text{Total No. of Daycare cases admitted for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

Concept of Day-care: In order to cope with the high demand for inpatient beds, the Day-care concept was born - not admitted into the ward as an inpatient and to be treated as "Day-care except using the OTs and Recovery Room for a few hours. Day-care patients due to complications or any medical emergencies are admitted as an inpatient.

Due to the heavy demand for beds coupled with good medical facilities and expertise in the specialty wards; the Daycare cases are being admitted into the ward which means it is an inpatient in principle. Currently, the recovery rooms are swiftly vanishing and ICU, ICCU, and NICU replacing them. Having admitted into the ward beds is expected to increase the bed occupancy this is not happening due to the fact these cases don't meet the definition of inpatient staying overnight.

The concept of Calculating Bed Occupancy Rate for Daycare is incorrect: This could be implemented only when a separate Day-care ward with a fixed number of beds

is allotted then; one can calculate the utility of beds. This might happen in the future; when Day-care surgeries have become very popular and in high demand universally.

Hypothetical Example: (for the month of April (30 days)

X hospital has bed strength of 510 (used for the ward patients)

The inpatient service days or ward midnight census: 12050

Daycare cases: 1020

I. Bed Occupancy Rate (without Day Care Cases)

510 x 30 = 15300 bed days

The inpatient service days (Ward-Census for the month of April (30 days) is 12050

12050 /15300 x 100 = 78.758 OR Bed Occupancy Rate is 79%

II. Bed Occupancy Rate (with Day Care Cases)

Add Daycare cases to Inpatient service days OR Ward-Census): 12050 + 1020 = 13070

13070/15300 x 100 = 85.424 OR 85.4% OR Bed Occupancy Rate is 85%

Exception: If Daycare cases stay overnight due to medical complications or any other reason to be deducted from the Daycare cases.

The difference between Without Day Care and with Day Care is 6.66%

An additional 6.666% is due to Inpatient beds occupied by the Daycare cases.

III. Day-care cases can be considered as 100% occupancy: In the absence of fixed exclusive beds for Daycare cases coupled with “Daycare cases vary daily and there is no constant number; better to treat them as a **hundred percent occupancy** irrespective of a number of Daycare cases every day. OR simply quote a number of Daycare cases instead of a percentage.

Recommended:

Hospitals that do not admit Daycare cases into inpatient wards can use example I -Hospitals that admit Daycare cases into inpatient wards can use example II Hospitals don't fall into either I or II; they can consider example III.

Chapter XV: Mogli's Reckoner for Counting Hospital Days (LOS)

This Mogli's Ready Reckoner has TWO main purposes: Firstly can be used to calculate the hospital length of stay (LOS) and secondly can be used for booking appointments; (booking clerks can use the reckoner for scheduling patients for a clinic visit days or weeks ahead) A printed copy can be and pinned up in front of clerks who need to do the job.

ate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151		212	243		304		365

(Published in the International Federation of Health Records Organizations; journal Series 2, No.2. 1977 and "MEDICAL RECORD AND HEALTH CARE INFORMATION JOURNAL" of U.K., Vol. 10, No. 1, February 1978, pages 350-360. Also published by, many national journals.

The Ministry of Health, Govt. of India circulated to all the Health Ministries to be used by the hospitals in the year 1979.)

Instructions: 1. First note the total days to the date of discharge and from that number subtract the date of admission. The resulting number is the inpatient stay. For example:

A case was admitted on 4.1.2022 and discharged on 6.4.2022.

6.4.2022 96

4.1.2022 4

Days of Hospital stay: 92

2. In case of a leap year e.g., 2000, 2004, 2008, 2012, 2016, 2020, and so on. If a patient is admitted before February 29 and is discharged on or after February 29 then add one extra number to the previous procedure. If a patient is both admitted and discharged after or before February 29, then procedure number one is still applicable.

3. If a patient was admitted one year and was discharged in the next year, e.g. admitted on 15.11.2021 and discharged on 20.1.2022, use the following procedure: from the number 365 subtract the number of the date of admission, then add up the number of the date of discharge. Admitted on 15.11.2021 and Discharged on 20.1.2022 For Example: (365 – 319 = 46 + 20 = 66 days)

No. of date of admission in the year 2021: 319 deduct from 365 = 46

No. of date of discharge in the year 2022 20
66

Appointments: Look up the number for the current date. Add to that number, the number of days ahead that the patient is scheduled for an appointment. Determine what date the number refers to.

Example: On 16th November 2021: The number (in Ready Reckoner) is 320
Schedule patients for clinic visits five weeks ahead (35 days) Look up 320+ 35 = 355 = December 21 which is the appointment date. If the schedule data happens to be a holiday; give the next appropriate date.

Chapter XVI: Quality Assurance

What is Quality Assurance? *Definition of quality assurance:* Richard Thompson defines quality as the optimal achievable result of each patient. The avoidance of physician-induced complications and the attention to patient and family needs in a manner that, is both cost-effective and reasonably documented.

Assurance of quality begins with an inquiry into or surveillance of three aspects of the care being given: (1) the structure within which the care is given (hospital), (2) the process of providing the care (providers of care), and (3) the outcome (the end result of care). The term quality assurance includes several components among them utilization review, medical care evaluation, risk management, and peer review. The objectives of the risk management plan are to provide a safe environment for its patients. Implementation of corrective action is to reduce identified risk and prevent future exposures through appropriate individuals or through designed mechanisms.

What is a quality assurance program? The quality assurance program is a comprehensive and coordinated network of formal mechanisms that provide an on-going objective assessment of patient care services and correction of identified problems.

The Joint Commission on accreditation of Hospitals (JCAH) was established in 1952. In 1955, JCAH began to stress the concept of medical audits, since then JCAH is played a very important role in updating standards and contributing significantly to quality assurance programs.

Quality Assurance Program: The assurance of quality implies a commitment beyond simply measurement and evaluation. It implies a commitment to take corrective action if the care rendered does not meet the criteria of quality. A good quality assurance program is imperative to the hospital organization. The process investigates three aspects of care, namely, the framework within which care is provided. The term quality assurance is a broad term that encompasses several components, i.e. Utilization Review, Medical Care Evaluation, Risk Management, and Peer Review. The administration, in coordination with the hospital's overall QAP, is to be designed to assure, that the activities are monitored and evaluated by each and every department regularly. Necessary information is communicated among the departments and services to either identify or solve problems to improve patient care. The objective, scope, organization, and effectiveness of QAP shall be evaluated at least annually and revised as necessary.

Quality of Patient Care: Hospitals are committed to providing the safest and highest quality care to patients. The hospitals have to measure the performance against the standards as well as compare the outcomes of care with top medical centers/institutions nationwide in an effort to continually improve the quality of care that they provide. Optimal quality care could be defined as:

- Better consistent care for better outcomes
- Excellent patient safety and prevention from adverse effects
- Timely render apt care
- Fair and unbiased access to healthcare from the right healthcare provider

Quality Improvement and Patient Safety:

The following six characteristics could be applied for high-quality healthcare:

Care must be safe: Patient safety is fundamental to high-quality healthcare. They couldn't believe that millions of people were harmed annually because of errors, and many patients died. Most errors occur as a result of multiple interrelated contributing factors just the behavior of one individual. Assuring that all care is safe for all patients requires examining the systems and processes of care, identifying the points of failure, and modifying the factors that cause systems to break down.

Care must be effective and reliable: Effective care means that patients do not receive care that cannot help them and/or where the risks of care outweigh the benefits and that patients reliably receive care where the known benefits outweigh the risks. To say that healthcare is effective implies that there is an evidence base to support that claim. Unfortunately, for many aspects of healthcare, the data to support best practices are inconsistent and do not reflect the full range of conditions and treatments relevant to day-to-day practice.

Reliable care implies that patients will consistently receive the same standard of care regardless of when, where, and from whom they receive care. However, there continues to be significant variation in the quality of care that patients rec

Chapter XVII: Role of HIM in improving the Quality of Patient Care in the Hospital

(Courtesy of Mrs. N. Annapoorna, MRO, SSSIHMS, Puttaparthi, AP, India)

Introduction: A well-designed Healthcare Information management system (HIMS) and Electronic health records (EHR) form the backbone of any good healthcare system. It is central to achieving better health outcomes in any setup. Medical records have evolved from paper records of those days to the current electronic health records with the support of Information Technology.

Paper Records: Medical Records are a storehouse of knowledge concerning the patient and his care. It is an orderly written report of the patient's complaints, the diagnostic findings, treatment given, and end results that form a complete clinical picture. It contains sufficient data written in a sequence of events to justify the diagnosis and warrant the treatment and end result. It is a record of all that happened to the patient during his entire stay in the hospital. Thus, a Medical Record is basically the Who, What, Why, Where, When, and how of patient care during hospitalization. These records were maintained on paper.

Electronic Medical Records: The invention of computers and their introduction in work areas brought a revolution in the medical field too. Electronic Medical Records (EMR) was introduced. Basically, EMRs were "medical", they were used mostly by clinical staff for recording and retrieval of diagnosis and treatment of patients. The scope got widened to make the patient health data available to a larger circle of clinical staff even outside the institution. Hence EMR expanded to Electronic Health Records (EHR).

Electronic Health Records (EHR) does all the things an EMR does and much more. EHRs focus on the total health of the patient—going beyond standard clinical data collected in the hospital. EHRs are designed to reach out *beyond* the health organization that originally collects and compiles the information. They are built to share information with other healthcare providers, such as other hospitals, laboratories, and specialists, so they contain information from *all the clinicians involved in the patient's care*.

Health Information Management System (HIMS): A properly functioning HIMS gets the right information into the right hands at the right time, enabling policymakers, managers, and individual service providers to make informed choices about everything from patient care to budgets.

HIMS basically functions on top of EHR and provides ways and means to record, track, and monitor, events and procedures, which form the basis to improve quality. It also helps to reduce the cost of care provided and lends support to the administration in analysis and control. Administrators want a system that will capture all patient charges and work output whereas, clinicians want immediate access to the patient records,

imaging, and diagnostics data. The clinician also wants timely alerts in case of any abnormality in diagnostic tests/procedure data. Hence a good HIMS must cater to the needs of both administrators and clinical staff.

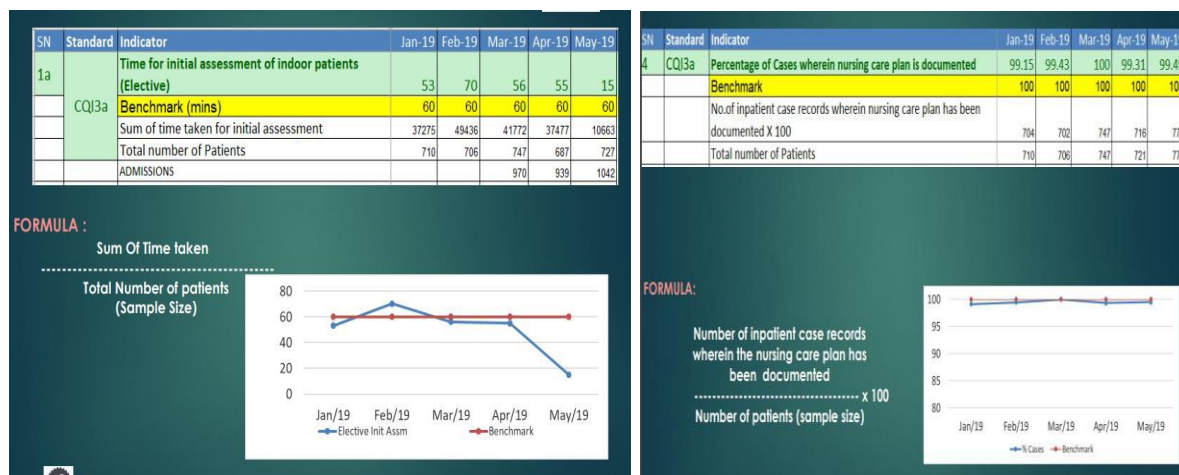
Role of HIMS in Quality Care: The provision of health care and its continued improvement is dependent to a large extent on the information generated, stored, and utilized appropriately by the organization.

The hospital should collect data on structures, processes, and outcomes under two major categories; Managerial and Clinical, as they are the major category of users of HIMS. The Data thus collected is analyzed and presented monthly and 3 monthly in the form of quality indicators, Incidents, and sentinel events.

An indicator is a quality unit that is quantifiable and can be measured and compared against a standard.

An incident is any event in the process of patient care that is *inconsistent* with the patient outcome or routine.

Role of HIMS in Improving the Quality of patient Care in the Hospital



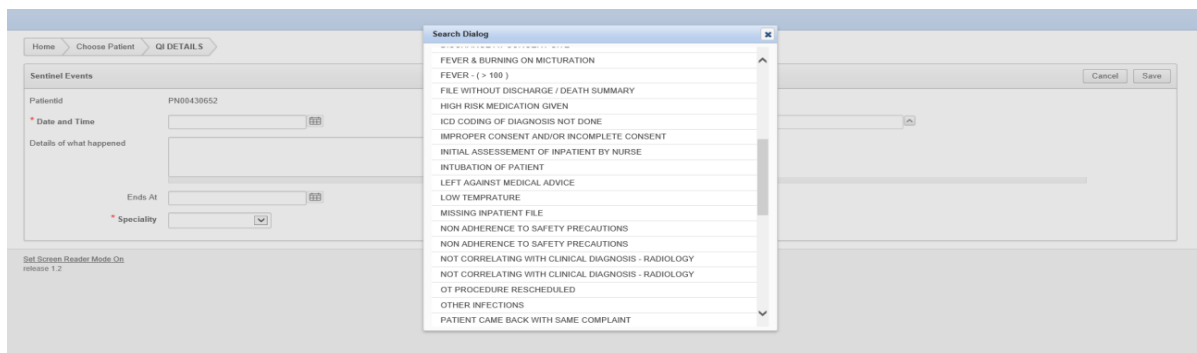
We will now see the QIs regarding Medical Records.

• **Standard to implement: Monitoring Availability and Content of medical records**

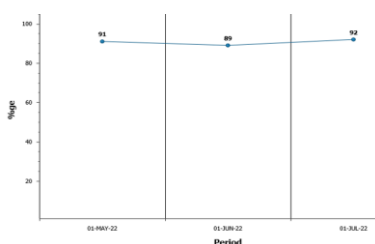
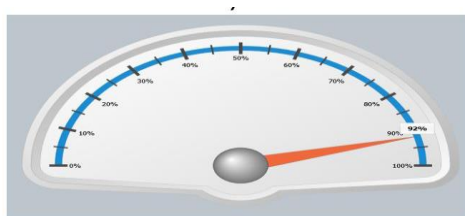
It has the following KPIs to implement and monitor.

- Percentage of medical records not having discharge summary.
- Percentage of medical records not having codification as per ICD.
- Percentage of medical records having incomplete and/or improper consent.
- Percentage of missing records.

♣ *EHR implementation: We capture these indicators in the system in the screen shown below against each in-patient*



Role of HIMS in Improving the Quality of Patient care in the hospital



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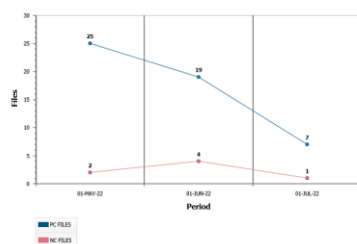
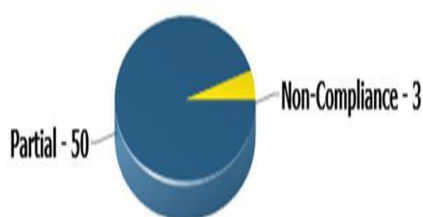
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§ *EHR implementation: We capture these indicators in the system in the screen below against each in-patient*

Once Captured, this data is then analysed monthly by department/specialty, and for three months for trend analysis. It also shown below. FILE DEFICIENCY ANALYSIS.

OVERALL HOSPITAL - NC PC RATIO



DEPARTMENT LEVEL

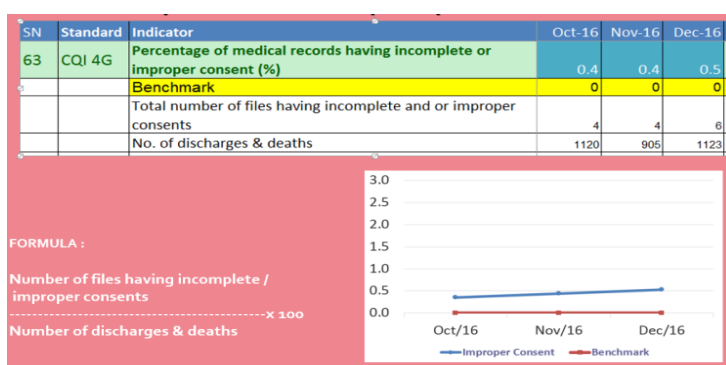
Doctors	Nurses	Total
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MR_FORM	STATUS	FILES
DOCTORS ORDER	Non-Compliance	1
HISTORY & PHYSICAL	Partial	1
SURGERY CONSENT	Partial	1
Report Total:		3

MR_FORM	STATUS	FILES
DISCHARGE SUMMARY	Partial	3
DOCTORS ORDER	Partial	1
NURSES CHART	Partial	2
PAIN ASSESSMENT CHART	Partial	1
RESTRAINT FLOW CHART	Partial	4
Report Total:		11

Discharges	54
Deficient Files	11
Deficiency %	20%

Sample Quality indicator is presented in this format:



Role of HIMS in Improving the Quality of Patient Care in the Hospital

• **Prescription Audit: Standard to implement: Documented policies and procedures guide the safe and rational prescription of medications**

This standard has 13 objectives defined under it. We will analyze one of them
o Audit of medication orders/prescriptions is carried out to check for safe and rational prescription of medications

This prescription audit has the following components to be checked:

- i. Legibility, use of capitals in written orders
- ii. The appropriateness of the drug, dose, frequency, and route of administration
- iii. The presence of therapeutic duplication
- iv. The possibility of drug interaction and measures taken to avoid the same
- v. The possibility of food-drug interaction and measures taken to avoid the same

These are done by a pharmacist or any designated person with knowledge of drugs and medicines, their composition, and interactions. The prescription of the doctor must be written clearly, using generic names of medicines, with terminology that can be easily read and comprehended by a common man. The doctor must not use nonstandard abbreviations in the prescription. The prescription must be written preferably in

CAPITALS. The auditor checks on these points and enters the same in the system by ward, by patient and doctor, and by date using the following screen.

EHR implementation:

Form on PRESCRIPTION_AUDIT

Date of Audit
31-AUG-22

Ward
Cardiology

Patientid
[REDACTED]

Doctor Name
[REDACTED]

* Doctor name Yes No

* Doctor Signature Yes No

* Legibility Yes No

* Capitals Yes No

* Drug Details in full Yes No

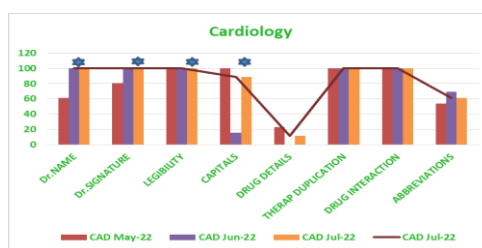
* Therapeutic Duplication Yes No

* Drug Interaction Yes No

* Abbreviations Yes No

Role of HIMS in Improving the Quality of patient Care in the Hospital
It is then analysed as follows (sample size 100)

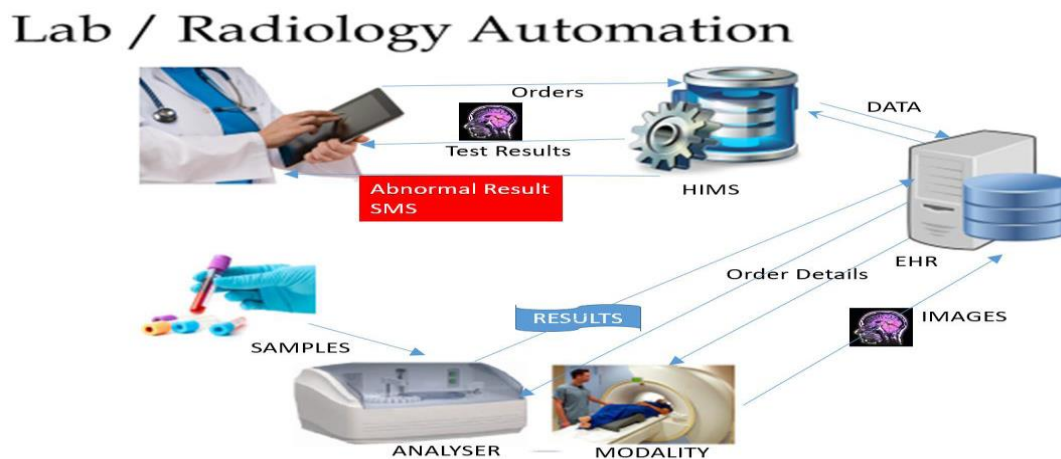
CARDIOLOGY - JUNE 2022						
LEGIBILITY	CAPITALS	DRUG DETAILS	DRUG THERAPY DUPLICATION	DRUG INTERACTION	ABBREVIATIONS	
100	100	23	100	100		54
100	15	0	100	100		69
100	88	12	100	100		62
100	88	12	100	100		62



Our HIMS has the facility to capture data for all the 64 quality indicators defined by NABH standards and provide analysis for any given period. This is used by us effectively to present data to the Quality Assurance Committee members, who in turn implement quality control in our hospital. The latest technological advances need to be implemented by IT to enhance patient care. For example, in our hospital, the Lab / Radiology order is directly interfaced with the modality/analyser to execute the test/order.

The clinician orders the required tests for a patient on the HIMS. The patient goes to the sample collection centre and gives the sample. The order is checked there for

unnecessary repeats within prescribed time limits. Duplicate test orders are also cancelled if present for a patient. The lab technician now proceeds to register the sample and generate a sample id and link it to the patient id. The sample id is printed as a barcode label and pasted on the patient's sample tube(s) and transferred to the modality/analyser. The machine reads the barcode, extracts the sample id, and also reads the orders associated to that sample. The ordered tests are executed by the modality on the sample and then the results are sent to the HIMS through protocols like serial communication or HL7 messaging by sample id. So far the sample results are still in the withheld state. Now the lab/radiology technician validates the results of each test of the patient and then releases it. The results of the patient are now accessible to everyone on the HIMS. When the test values are in the critical range, an SMS alert / What Sapp Message is sent to the clinician who ordered the test directly from the HIMS system. The minimum turnaround time from the time of placing the order to the release of results achieved by is 20 minutes. An illustration of the process is provided below: Role of HIMS in Improving the Quality of patient Care in the Hospital



Thus with the support of IT, our EMR with HIMS can to great extent support providing quality care to patients. HIMS is a boon to the clinicians and the administrators of any hospital as they can get the exact data they need at a click of a button, for quick decision-making and effective control. Thus HIMS plays a major role in Improving the Quality of Patient Care in the Hospital.

Chapter XVIII: Role of Health Information Manager (HIM) **In the next 10 to 20 years**

Introduction: The role of the Health Information Manager will change in the next 10 to 20 years due to many issues that the world is facing presently **and the most priority issue is** the COVID-19 pandemic has shaken the entire globe and not leaving any nation, and taking away thousands of lives. Even if the coronavirus pandemic comes to a complete halt after some time or later; the post-effect will continue for many more months. Most of the nations executed “Lockdown and social distance”. However, these stringent methods will not continue for long, if they continue; the global population will face many serious consequences. Thus it is essential to improve individual immunity to protect not only from coronavirus and re-occurrences but from any other severe infections to carry on the work as usual as prior to the COVID-19 Pandemic. In view of this development, there would be a great transformation in the functioning of the national governments in general and health organizations in particular. The conventional methods of rendering healthcare services will undergo massive changes and with that HIM education and the role of HIM would also need to gear to meet the healthcare policy and decision-makers objectives.

Expected changes:

- The Health Care Delivery System (HCD) and its functioning
- Usage of the latest Communication and Technology systems in HCD
- Role of HIM in post-COVID-19 Pandemic effect to serve HCD
- HIM education system to make HIM play an effective role in inefficient HCD

The Healthcare Care Delivery Systems and its functioning: The entire healthcare delivery system can be briefly classified into three major parts: The transformation would be as follows:

1. **Primary Health Care Centers:** The new system would deal mostly with Obstetrics and Gynecology, Child Health, School health, hygiene of the general population, and treatment of all cases of minor nature for curative and promotive, etc. but preventive medicine will play a very vital role by imparting healthy living habits in the population.
2. **Secondary Care Hospitals:** These hospitals will provide care for all non-major surgical cases of all specialties including obstetrics and gynecology and also psychiatry and other infectious hospitals (placed at a different location under the category of secondary hospitals)
3. **Tertiary Care Super specialty hospitals:** All major surgical cases of all specialties including cancer will be located either under one building or one campus.

This is the most sophisticated and well-equipped infrastructure to deal with only well-screened cases by highly trained experts.

Methodology and Mechanism: It is foreseen in the course of the next few years, the present conventional environment of hospitals, health centers, and clinics will undergo a complete transformation. The patient may not have to leave the home for medical attention, nor will the doctor have to visit the patient. The Internet will be used to input vital signs like pulse rate, blood pressure, heart rate, temperature, blood samples, x-ray, ECG, EEG, CAT scan, MRI, etc., that would be processed by the regular desktop or mobile device through the internet. A doctor's prescription will be transmitted to the nearest pharmacy, and it will be delivered immediately.

Mobile nursing units and video conferencing will be very common; hence the patient and doctor may not be in the same city or country. Access to other patients with similar ailments on a manually consensual basis with anonymity, if desired, would be possible. Electronic chips or bands on patients to monitor the vital signs of the patients round the clock, with this doctor's input, will be automatically logged into the patient's record. There will be only one medical record for a patient from birth to death containing vital information such as vaccination, drug reactions, current medications being administered, etc., one major possibility of implementing Personal Health Records (PHR); which can be accessed globally. The electronic chip will be used to administer the exact dosage on schedule and to observe the feedback from the patient. In the future, more ATM types of health centres for the purposes of investigations, diagnostics, consultation, prescriptions, and delivery of medicines will be operational in each urban and sub-urban locality. HIM has a role to play in helping inhabitants.

Doctors, instead of writing or recording will just speak into the medical record (voice recognition software will convert it into the text and store it in an audio file). Diagnosis will be more accurate, due to new sources of information through the Internet. Minimal hospital stay would be required as treatment will be administered at home, with the doctor monitoring using electronic devices over the Internet. The benefits of a single online medical record are huge. Doctors gain insight into the cause of diseases by cross-referencing other patients' records and also those of relatives. This can also help in the discovery of causes, prediction of trends, etc. The availability of inference engines (online chatting) on the Internet that will diagnose based on the answers to the questions will prevent doctor's visits for minor ailments. Global health insurance will ensure the availability of care from any country without leaving the shores, especially in remote/rural areas. Technological advances such as these indicate that conventional educational background will not be adequate in the future.

The role of HIM professionals depends on the type of healthcare services rendered by health institutions of different categories and HIM education including syllabus course content is prepared to equip the HIM professionals with the required knowledge, skills,

and positive attitude to render those services methodically and efficiently to meet the needs of the HCD system.

Role of Health Information Manager: There would be three categories of HIM professionals e.g., a. Managerial; b. Supervisory and c. Operational and each category will have a different educational background. Though all three categories will have similar basic professional knowledge and skills; however the supervisory and managerial will add additional specialized knowledge and skills by undertaking special PG certificates, diplomas, or degrees. The minimum qualification for operational staff would be a Pre-university degree (preferred graduation) and supervisory staff would be professional degrees and master's degrees for the managerial category. The managerial and supervisory professionals will be placed mostly in the tertiary, and secondary care institutions while the supervisory and operational will be in the Primary healthcare institutions.

Theme Change or Perish: HIM leader with digital information has to bring change in healthcare in identifying the pattern of diseases being treated and new emanated diseases to be tracked regularly and concurrently by all the healthcare institutions and the cost and improve efficiency to accomplish HIM application and popularization of HIM in the global healthcare environment. HIM application and popularization drive needs to adopt the following.

Modification of HIM traditional education to the corporate competing syllabus to generate innovatively leaders

- HIM monitors patient care information to identify the pattern of diseases and their trends for better or worse have to be identified concurrently.
- HIM moved from a conventional safe zone to a threatening challenging role in controlling healthcare, improving quality, and controlling the cost of the hospital
- IFHIMA to develop basic HIM standards of practice to be followed by all countries
- FIFA makes the standards of football games followed throughout the globe
- Establish HIM national association in each country; if possible as mandatory
- Establish a central HIM department in the Ministry of Health (MOH) to oversee the HIM programs in the county
- Establish the HIM Council of the country at par with the Medical and Nursing Councils of nations to guide education, standardize of HIM system, and uphold professional standards and esteem

➤ Revenue-producing department employees of IT and Petroleum are paid more with esteem, making HIM raise revenue through their excellent digital information leadership.

➤ IFHIMA Newsletter to all the nations about how HIM plays a vital role in inefficient management of the hospital

HIM Professional Role: HIM professionals may not deal with the patient directly, but help patients indirectly by maintaining their records or taking care of medical data and ensuring reliability, timeliness, accuracy, and completeness and by collection, analysis, storage, use, and transmission of information to meet legal, professional, ethical, and administrative records keeping requirements of healthcare delivery. Their services are used in clinical, medical education, research, epidemiological, demographic, financial services also for insurance, public health or national health, and international health agencies. As HIM is a highly trained person, acquainted with the latest technology including Artificial Intelligence (AI), Machine Reading (MR), and Robotics applications, policies, and procedures his responsibilities are becoming increasingly significant as the healthcare industry continues to transition to Electronic Health Records. HIM can play a pioneering role by coordinating with the entire hospital functions which can be classified into two main groups primarily patient care including swift, safe, quality, and cost-contained care, and medical education, research, insurance, reimbursement, and security and confidentiality of the patient. Secondly, management of hospital functions which are considered as secondary services, without first, the second is nullified HIM Manager including medical, nursing and allied health and support services, finance, are part of the hospital organization their financial expenditure need to be closely monitored for economic measures.

Release of Information: A release of information is a document that gives a consumer the opportunity to decide what material they want to be released from their medical record or file, who they want it delivered to, how long the data can be issued, and under what statutes and guidelines it is released. A release of information also allows for the protection of both the consumer and the provider in releasing confidential information.

Why and who needs the information? There are many reasons that may require a medical release of information e.g., to submit to settle the hospital bills, prove that they were hospitalized or that they are born on a particular date and time in a particular place or hospital, etc. by the patient himself or herself; or his or her close kith and kin; or third party who they authorize to collect on behalf of them as far as individual or concerned. Other than this, the government, court of law, Insurance—general, life and other companies, workplace to settle workman compensation or sanctioning of medical leave, or authorizing the husband or wife or children to claim certain income or property, etc.

Release of Information: Who are the customers and what type of information is required? The following are the customers who request the medical records or related information;

Patients, Hospitals, Nursing Homes, and healthcare providers	Insurance companies general, life & other for settling healthcare bills/ Workplace for settling workman compensations	Courts/Police/ Prisons Government or Healthcare organizations. Advocates; Or workplace to settle litigations	Work-Place; Schools,
Patient records/discharge summaries/ Med reports/ reports of diagnostics for patient care.	Health Insurance and Life- insurance settlements and other health-related claims settlements.	Official Patient Records or registers, Data for legal proceedings, and settlement	Medical Certificates Attendance; Admission; Discharge, AMA
Impotence, Sex determination	Medical billing; Reimbursement- billing settlements.	Birth and Death certificates Accidental, homicidal, and suicidal certificates	Age examination
Medical fitness;	Third party payers	Examination of injuries, alcohol and other	Disability
		Sexual offenses etc. to produce in the court	Medical Fitness
<p>Note: When medical certificates are issued; the duplicate copy of the original certificate duly signed must be retained in the MRD. Any staff issuing any medical report or certificate to a patient or anyone; needs to send a duplicate of the original to MRD for future reference. These procedures are to be observed meticulously to avoid legal litigations.</p>			

How these reports or information are released: There are two types of release of information- firstly dealing with the government, courts or police, or healthcare organizations there should be a mandatory written policy that they take all stringent measures to protect the security and confidentiality of patient information in all aspects. If that understanding is done, no need to take every time the officially prescribed release form is duly signed. Or the patient himself or his kith and kin or close relations producing documentary evidence of their relationship- there is no need to sign a release of information certificate.

In all other cases; there is a need to take the signatures of those receiving the documents – with clearly indicating the names of documents –original or duplicate etc.

Official Release Form: The purpose of this form is a protective measure against unauthorized accessing of the medical information being disclosed. Health and medical records of any kind are confidential; one party's medical records can only be accessed by them unless otherwise specified by law. There can be medical records or information release forms; such as Release and recipient; or Personal representative. At times; individuals appoint a third party as their medical power of attorney. This title gives the third party individual powers to obtain medical information.

Adult or Guardian: Under the law, adults and legal guardians are legally authorized to obtain the medical information of a minor. An effective release of information should prevent the risk, delays, and costs of lawsuits. There are many technicalities involved when comes to the release of information, we have to observe strictly the existing rules and regulations of the land.

Guidance for Release Information on Hospital Patients: Hospital systems are responsible for protecting the privacy and confidentiality of their patient information. Patients have the right to ask that information be withheld except in some cases such as MLC, birth, and death, or suffering from infectious or notifiable communicable diseases or court orders. As long as a patient has not made his request, hospitals can release the following information without obtaining prior patient authorization.

1. Name- Information can be released to those people (media included) who ask for the patient by name. Information cannot be released to an individual unless that person knows the patient's name.
2. Condition one-word explanation of the patient's condition can be released.
3. Location within the hospital; -can be released unless the law prohibits it.

Medical Records Release Authorization Forms: Is a document that allows a person to disclose protected health information to a third party? Protected health information – such as test results, diagnoses, medical histories, and other personally identifiable information- is confidential. The hospitals must take every step necessary to keep patients' medical information private. However, in some cases, a patient may wish to release the information to another entity or obtain it for personal use. The release form or authorization is to be obtained.

Release of information with consent: By signing an authorization to release information, a party is consenting to provide another party with access to otherwise confidential information or records about an individual. However, signing a release doesn't mean the complete loss of confidentiality because most authorization forms are subject to limitations.

Implementation of Personal Health Records (PHR): It is highly recommended to use of Personal Health Record (PHR) by all the inhabitants. Maintaining one's own personal health record is one of the best ways to have constant access to his /her health information over the course of time. Whether one changes physicians or the physician relocates or retires, by keeping their own PHR, the person and his family will have vital information at their disposal at any time whether they stay or travel. With this information, one can provide information to new caregivers, and discuss easily all aspects of one's health problems.

HIM professionals can act like Medical Practitioners having clinics in each locality or town; similarly, the HIM professionals can help maintain the PHR of inhabitants of a certain catchment area and be the liaison between the patient (inhabitant) and health institutions. HIM professionals can be a source for registered cases when they have any medical issues such as investigations, diagnostic or treatment hospitalization, or insurance or reimbursement can be dealt with as private HIM Consultants.

A better healthier lifestyle in the global population: Transformation results in healthcare better healthcare including safety, effectiveness, patient-centeredness, communication, education, timeliness, efficiency, and equity. And better health by encouraging healthier lifestyles in the entire population, including increased physical activity, better nutrition, avoidance of behavioral risks, and wider use of preventive care. Improved efficiencies and lower healthcare costs by promoting preventive medicine and improved coordination of healthcare services, as well as by reducing waste and redundant tests. And better clinical decision-making by integrating patient information from multiple sources. By using electronic health records one can gain the optimum benefit of providing swift, safe, improved, and cost-contained care.

Healthcare Transformation through AI, ML, and Robotics: AI coupled with robotics and machine learning is a breakthrough dedicated to transforming healthcare, brings together high-quality peer-reviewed research and impactful content dedicated to the advancement of artificial intelligence, automation, and robotics in healthcare delivery, education, technology, innovation, and discovery. The concepts of the future, debate current models, and provide an invaluable resource of best practices for everyone involved in healthcare is concerned with the transformation of healthcare. AI, automation, and robotics, together with telemedicine, sensors, and other technologies will improve patient outcomes, increase productivity, and expand access to care.

Healthcare Transformation coverage includes:

- Clinical practices incorporating AI, robotics, telemedicine, sensors, and other advanced technologies
- Emerging technology-based applications for consumer health
- Public policy and regulation affecting the use of technology in health delivery
- AI-based clinical decision-making

- Advances in robotic applications in health delivery, pharmaceutical, and related areas

Services using an integrated approach of multiple technologies that are both interoperable and work harmoniously, which result in significant improvements in healthcare quality?

Conclusion: In order to achieve the theme “Change or Perish” HIM leader with digital information has to bring change by playing a vital role in monitoring concurrently in identifying the pattern of existing diseases and newly emanated diseases so that healthcare providers can take instant measures to control the diseases before it’s become endemic or pandemic. Other measures are healthcare cost and improved efficiency to accomplish HIM application and popularization of HIM in the global healthcare environment.

The HIM professionals, besides the hospital environment, also work for accounting firms, insurance companies, information systems vendors, government agencies, pharmaceutical research companies, and others. They often bridge roles such as connecting clinical, operational, and administrative functions that affect the quality of patient care at every touch-point in the healthcare delivery cycle. Besides, the HIM professional manages people and operational units like the release of information, file room, transcription, coding, billing, etc., participates in administrative committees, and prepares budgets. And interact with all levels of an organization such as clinical, financial, administrative, and information systems. HIM professional is an expert who possesses comprehensive knowledge of medical, administrative, and legal requirements related to healthcare delivery.

Most vital role they will have the expertise to provide high-level consultation and advice besides HIM services; on many issues of efficient management of health, institutions not only provide swift, safe, improved quality and cost-contained care but also assist in medical education, research, public health epidemiology, insurance, reimbursement, and national and international health agencies that will save millions of dollars of exchequers. Last but not least he has to revolve around the patient (inhabitant) as entire healthcare organizations exist because of the patient; HIM is the only professional who is throughout the care cycle e.g. deals with his or her health issues from the starting for care as an OP, ER, or IP till discharge. In some cases even after the discharge, he has a role to help him. The HIM will play a great role when one has passion and commitment to the field through persistent, able, and kind leadership.

Chapter XIX: Modification of HIM Traditional Education

Introduction: In view of emerging technology and implementation of electronic health records, AI, ML, and Robotic; the conventional responsibilities of HIM department will diminish and need a revision of HIM traditional education to the corporate competing syllabus to generate innovative HIM leaders on modern lines to meet the new challenges of maintaining paperless records. There is a need to engross in the effective and efficient management of hospital administration that brings the healthcare the cost which is a burning issue for all the healthcare institutions across the globe. And thorough information on disease patterns and trends by concurrently analyzing the data to discover any variation from normal will help in swift measures in controlling prior to any endemic damage is done. In order to produce innovative HIM professionals to meet the needs of the 21st century, it is imperative that educational programs must encompass with most pioneering theoretical and practical programs in HIM education.

With this goal, this Innovative HIM Education program is prepared to take into all educational requirements e.g., syllabus, course content, mock-up lab and directed internship practice and project program at par with other reputed International University standards.

Objective: To provide adequate fitting HIM professionals with modified innovative education and training to meet the needs of the ever-changing healthcare system in the next 10 to 20 years.

Syllabus and Course content: Four-year degree program, six semesters for theoretical and mock-up laboratory practice. The subjects taught are Anatomy, Physiology, Medical Terminology, Allied Health Sciences, Fundamentals of diseases, HIM, Biostatistics, Research, ICD, Hospital Management including; Ethical, Insurance, Reimbursement, Legal, Quality Management, Information, and Communication Technology, Hospital Information Systems, EHR, AI, ML, and Robotics; Health Data Management. The program has 106 credit hours including, 61 lectures, 46 laboratories, and 2190 total hours. The hospital's practical one-year training is designed to offer experience in the HIM department that develops the student's cognitive, affective, and psychomotor skills with a positive attitude to produce a qualified innovative HIM professional.

Evaluation Methods: Regular assessment of theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student deficiencies are identified and corrected.

Teaching Faculty: One professor, 3 Asst. Professors, 3, Clinical instructors and supported by part-time and guest lectures.

The methodology of teaching and learning: The focus is on faculty to learn more and teach less and students to teach more and learn less, this means more student interaction, inside and outside the classroom. Students are given topics in advance to prepare and answer, while the teacher is to ensure that they are on the right path. Students during lecture breaks spend most of their time in mock-up labs located within the institution to gain more work culture and innovative thinking. Students hands-on directed practice gets under the qualified supervisors in the hospital. In order to gain comprehensive assimilation of practical knowledge, required skills, and the right attitude to perform given tasks, students to be placed initially in the “Mock-up MR Simulation laboratory and later in the HIM Departments of hospitals to have practical hands-on experience. This experience will make the student a competent HIM worker and an efficient manager.

HIM educational and training (HIMET) institutions: There will be three types of HIMETs; the first type is without walls and the students remain at their own places of stay; with the newly created innovative different apps will cover the education and training program they can practice with the special guidelines and complete either from their own place of stay or from any other areas. The second type with HIMETs with walls where the traditional methods will be followed; the third method will be having both (hybrid) the combination of first and second; to meet the needs of developed and third world nations; in other words, those institutions with modern technology dealing with only paperless record system and those who deal with only a manual or combination of both (hybrid) nations. Thus the HIM education designed program in detail furnished below for the benefit of technologically advanced, less advanced, and those transforming from less to advanced. The entire program will be designed with special innovative apps to make it easy and simple to learn under the guidance.

4 four-year Degree in Health Information Management (HIM) Program comprises Lectures, Lab Practice and Total Credit and Hours

S. No.	Subject	Lectures	Lab	Total Hrs	Credit Hrs
1	English Language and Communication Skills	2	4	150	6
2	Anatomy and Physiology	2	2	90	4
3	Medical Terminology	2	2	90	4
4	Healthcare Delivery Systems including Public Health and Community Care	4		60	4
5	Basic & Allied Health Sciences: Basic including introduction to biology, physics, chemistry & Allied Health Sciences	7	1	135	8
6	Health Information Management (HIM)- Medical Legal, Ethics, MR Quality Management, Medical Legal, Privacy, Confidentiality, Medical Transcription,	7	8	345	15

	Telemedicine, and Application of HIM in Non-Traditional settings.				
7	Information Management (IT): Basic computers, Computer applications, Database management system, Communication, IT system data information, File structure, Data storage and retrieval, Healthcare Information System	5	6	255	11
8	General and Bio-Statistics, Research Methodology, Healthcare statistics, Biomedical Research	4	5	210	9
9	Hospital Organization and Management: Introduction to various departments of the hospital. Medical Laws, Ethics, Consumer Protection Act, Healthcare Policies and Standards, Reimbursement, Insurance & Cost-Analysis	7	1	135	8
10	International Classification of Diseases (ICD): Indexing methods of diseases and procedures	2	3	120	5
11	Quality Assurance & Quality Management, Research, and Performance Management	4	2	120	6
12	Hospital Information System (HIS)	2	2	90	4
13	Principals of Organization & Management (POM): Strategic Planning, Organization and Development, Project & Operational Management HR Management, Financial & Resource Management, Reimbursement, Insurance, and Cost-Analysis	6	2	150	8
14	Health Data Management: Overview, Health Data Structure, Content, Standards, Health Information Requirements and Standards, Clinical Classification System	7	7	315	14
		61	45	2265	106
	Practical Training and Project work	Semester			
15	Practical (Directed Practice) Training at Hospital	7 th Semester			
16	Project work for implementation and improvement	8 th Semester			

Evaluation Methods: Regular assessment of theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student

deficiencies are identified and corrected. The grading should be based on an assessment sheet, written reports by students, a Student Log, an Observation of a job duties explanation, and a Written Test.

Grading Points:

Grade	Percentage of Marks	Reported as	Points
A	>90% (>95% = A+ ; >90% =A)	Excellent	4
B	>80% (>85% = B+; >80% =B)	Very Good	3
C	>70 % (>75% = C+; >70% =C)	Good	2
D	>60%) (>65% = D+; >60% =D)	Pass	1
E	< 60%	Fail	0

Conclusion: The idea of innovative HIM education with mock-up lab and practical training to encompass the syllabus and course content to enable the HIM student to gain the utmost knowledge, skills, and required attitude to deal with the latest technology and challenging issues faced by the hospitals in view of spiraling cost and high expectation of quality of care by patients. HIM professionals have to work with passion, and dedication and have to widen their focus and broaden their horizons. Everyone has to prove their skills and provide vision to the organization. In view of finding ways to contain costs without sacrificing the quality of care, the hospital management needs help to address this continual problem. This is an opportunity for Health Information Managers to assume leadership roles and be part of the senior management team to support them in providing facts for business opportunities, clinical care improvement, efficient Revenue Cycle Management, etc. This can lift the status of the HIM professional to a new level, with different dimensions of roles and functionalities with the emergence of EMR that would play a pivotal role in planning and executing data collection and performing big data analytics, educating physicians and care providers on documentation needs and providing extensive support in revenue cycle management. This Can be achieved by having continuous audits and quality assurance programs involving all the healthcare providers. Although technology is taking over traditional methods, HI Managers have to be vigilant with their educational background and professional expertise to prove indispensable to healthcare team members.

2` - Year Diploma in Health Information Management (HIM) Program comprises Lectures, Lab Practice and Total Credit and Hours

S. No.	Subject	Lectures	Lab	Total Hrs	Credit Hrs
1	English Language and Communication Skills	2	2	90	4
2	Anatomy and Physiology	2	2	90	4
3	Medical Terminology	2	2	90	4

4	Healthcare Delivery Systems including Public Health and Community Care	2		30	2
5	Basic & Allied Health Sciences: Basic including introduction to biology, physics, chemistry & Allied Health Sciences	3	2	105	5
6	Health Information Management (HIM)- Medical Legal, Ethics, MR Quality Management, Medical Legal, Privacy, Confidentiality, Medical Transcription, Telemedicine, and Application of HIM in Non-Traditional settings.	3	1	75	3
7	Information Management (IT): Basic computers, Computer applications, Database management system, Communication, IT system data information, File structure, Data storage and retrieval, Healthcare Information System	3	2	105	5
8	General and Bio-Statistics, Research Methodology, Healthcare statistics, Biomedical Research	2	2	90	4
9	Hospital Organization and Management: Introduction to various departments of the hospital. Medical Laws, Ethics, Consumer Protection Act, Healthcare Policies and Standards, Reimbursement, Insurance & Cost-Analysis	2	1	60	3
10	International Classification of Diseases (ICD): Indexing methods of diseases and procedures	2	3	120	6
11	Quality Assurance & Quality Management, Research, and Performance Management	2	1	60	3
12	Hospital Information System (HIS)	2	2	90	4
13	Principals of Organization & Management (POM): Strategic Planning, Organization and Development, Project & Operational Management HR Management, Financial & Resource Management, Reimbursement, Insurance, and Cost-Analysis	2	1	60	3
14	Health Data Management: Overview, Health Data Structure, Content, Standards, Health Information Requirements and Standards, Clinical Classification System	2	1	60	3

		31	22	1125	53
	Practical Training and Project work	Semester			
15	Practical (Directed Practice) Training at Hospital	7 th Semester			
16	Project work for implementation and improvement	8 th Semester			

Evaluation Methods: Regular assessment of theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student deficiencies are identified and corrected. The grading should be based on an assessment sheet, written reports by students, a Student Log, an Observation of a job duties explanation, and a Written Test.

Grading Points:

Grade	Percentage of Marks	Reported as	Points
A	>90% (>95% = A+ ; >90% =A)	Excellent	4
B	>80% (>85% = B+; >80% =B)	Very Good	3
C	>70 % (>75% = C+; >70% =C)	Good	2
D	>60%) (>65% = D+; >60% =D)	Pass	1
E	< 60%	Fail	0

1- Year Certificate in Health Information Management (HIM) Program comprises Lectures, Lab Practice and Total Credit and Hours

S. No.	Subject	Lectures	Lab	Total Hrs	Credit Hrs
1	English Language and Communication Skills	1	1	45	2
2	Anatomy and Physiology	1	1	45	2
3	Medical Terminology	1	1	45	2
4	Basic & Allied Health Sciences: Basic including introduction to biology, physics, chemistry & Allied Health Sciences	1	1	45	2
5	Health Information Management (HIM)- Medical Legal, Ethics, MR Quality Management, Medical Legal, Privacy, Confidentiality, Medical Transcription, Telemedicine, and Application of HIM in Non-Traditional settings.	2	1	60	3

6	Information Management (IT): Basic computers, Computer applications, Database management system, Communication, IT system data information, File structure, Data storage and retrieval, Healthcare Information System	1	1	45	2
7	General and Bio-Statistics, Research Methodology, Healthcare statistics, Biomedical Research	1	1	45	2
8	Hospital Organization and Management: Introduction to various departments of the hospital. Medical Laws, Ethics, Consumer Protection Act, Healthcare Policies and Standards, Reimbursement, Insurance & Cost-Analysis	2	1	60	3
9	International Classification of Diseases (ICD): Indexing methods of diseases and procedures	1	1	45	2
10	Quality Assurance & Quality Management, Research, and Performance Management	1	1	45	2
11	Hospital Information System (HIS)	1	1	45	2
		13	11	525	24
12	Practical (Directed Practice) Training at Hôpital	1st and 2 nd Semester			
13	Project Assignment	1st and 2 nd Semester			

Evaluation Methods: Regular assessment of theoretical lectures, lab work, assignments, and hands-on practical work at hospitals. Student deficiencies are identified and corrected. The grading should be based on an assessment sheet, written reports by students, a Student Log, an Observation of a job duties explanation, and a Written Test.

Grading Points:

Grade	Percentage of Marks	Reported as	Points
A	>90% (>95% = A+ ; >90% =A)	Excellent	4
B	>80% (>85% = B+; >80% =B)	Very Good	3
C	>70 % (>75% = C+; >70% =C)	Good	2
D	>60%) (>65% = D+; >60% =D)	Pass	1
E	< 60%	Fail	0

Chapter XX: Transformation of HIM Status in Developing Countries (DC) including India in the next 10 to 20 years

Introduction: The drive behind the transformation of HIM status in developed countries (DC) during the next two decades is due to the poor situation of the HIM field although there has been tremendous transformation after the advent of communication and electronic health records technology much has been changed in the healthcare field especially teaching and urban-oriented healthcare institutions of many DC countries. Earlier most of the hospitals were managed by the national governments and there used to be some standardization and rationalization of systems in healthcare institutions. But this has changed, currently, most of the healthcare institutions are managed and run by private corporate organizations and each institution or group of institutions in the country is independent of its own system including health records. There is no HIM leadership at the national level or regional level to oversee the progress of the HIM field. This trend has made it difficult to improve the standards of health information system and the HIM field still lag behind in many respects with low esteem. This is the way it hampering the formation of the professional association at a national level and having a HIM unit or department at the health ministry level to oversee the entire HIM development including related educational programs and growth of professional quality service. Despite the DCs having made good progress in many fields, the HIM status remained poor and faced many problems and challenges.

The problems of HIM experienced four decades back exist even today in many DCs: The following statement will affirm the same; “Dr. G. D. Mogli as a Chairman of the Developing Countries (DC) Committee of the IFHRO for the period 1980-1984, conducted and surveyed within members of 13 Developing countries of IFHRO to assess the status of Medical Record System and presented the report with recommendations to improve the system and protocol for 1984-1988 in the Ninth International Congress held in the year 1984 in New Zealand. For his work; the IFHIMA (World) awarded him “Champion of Developing Countries”. He served almost in nine DC countries from 1959 to 2008 and visited many other nations, and found that there central health record department at the ministry level to oversee the overall progress has a much better system with the required infrastructure and manpower. In other places despite excellent medical facilities, the quality of health records as well as healthcare services was found to be of poor quality. Despite, dynamic changes in the medical field some of the healthcare services, as well as health records maintenance problems furnished below, existed four decades earlier and are there in many DCs even today.

Due to lack of well-organized medical record departments coupled with inadequate educational facilities had hindered professional progress. There were no written policies indicating the importance of having the MR Department in a hospital. Retention and preservation of medical record schedules were not present. There was no

recommended staff pattern, basic requirements like space, equipment, etc., and maintenance of basic medical records and statistics. The majority of medical record departments either absorbed only inpatient records or only engaged in outpatient records and very few had both the system.

As regards medical staff, those who served in mission and teaching hospitals preferred to have comprehensive records and fully cooperated with the MRD, while many were not interested in documenting and maintaining proper records. Obviously, the workload in the hospital was too much, and inadequate medical and nursing staff resulted in incomplete documentation, as doctors felt that caring and saving patient lives were more important than spending time on documentation which they considered as clerical. Due to not having standardized medical record forms, and missing investigation reports, and records made them less interested in completion. At least some personnel were employed in hospitals or large health centers, but rural primary health centers and sub-centers were managed by health workers without any training or proper instruction in the field of record-keeping and reporting. Hospitals believed more in keeping registers rather than individual patient records. e.g., for pregnant mothers, infants, preschool children, school children, adult outpatients, etc., the information was scattered, and no integration of information.

Need for forming a National Association for HIM field: The purpose of this article is to enlighten fellow members of IFHIMA, especially from Developing Countries (DC), that there is a dire need of HIM association at the national level. This is to be formed by the HIM personnel in order to improve the healthcare delivery system including primary, secondary, and tertiary care at all levels of the nation through improving the HIM system. Adequate professionals are needed to manage the HIM departments in health institutions. Without the health institutions especially, the hospitals have to function without HIM departments or with non-qualified persons. Despite, commitment to their profession, if they work isolated, it would be difficult to standardize and integrate of the health record management system in the country, since this field, is least recognized and scant respect for the professionals in most of DCs, this further, validates forming the national association.

Demand for HIM Professionals globally: There is a high demand for HIM professionals throughout the globe; especially in Developing Countries. The national professional members could take advantage of the International Federation of Health Information Management Association (IFHIMA) in drafting the constitution for forming the national association and its various activities that could be used for building the HIM system in the respective country. The main objective of the association is to provide the best possible healthcare to the sick and injured. To achieve that, a national association is one of the most needed tools for HIM workers; they can contribute effectively to the growth of the profession.

Forming the National Association: At the outset to ensure that there is a national association for the HIM field, once that is achieved, the association should collaborate and cooperate with all related personnel and departments to ensure that representation is given to all committed personnel, who can selflessly work for the cause of the association. Make an Action Plan with the scheduled program and attach the responsibilities. The most important aspect is to ensure that all the employees working for the HIM department are made a member of the association and that all the employees are involved in educational and professional growth activities with the support of workshops, seminars, and conferences at the institute, local, regional, and national levels. To form different committees at the local and national level that will facilitate in contributing in standardization and improved quality of the HIM system with the support of information technology.

Government participation: The next step would be involving the Government including Federal and State in the activities of the HIM national association, by communicating the progress made and seeking support for further improvements. The HIM's attention should be improving the health institutional records and their efficient management to provide the best possible healthcare. In order to do that, the need for enhancing the HIM professional's standards and status is vital. This could be achieved by having modern HIM educational and training centers in the country. The three-tier educational programs can be developed for the operational level (Asst. Technician), supervisory level (Technician), and manager level (HI Manager). Gradually, the higher professional programs such as master's and doctoral can be planned in collaboration with universities and started later as the association progresses. Most important is dedication and commitment and good teamwork by all the members. The leading personnel should act as Coordinators to ensure the action plan is put into execution as per the schedule and try to accomplish the set goals.

Suggested remedies:

- Establish a central HIM department in the Ministry of Health to be headed by a senior HIM professional to oversee the development of HIM programs in the county
- Setting of national standards for medical records/health information management
- Improve the quality of HIM professionals and HIM numbers
- Initiating HIM educational and training programs to generate needed manpower
- Conduct workshops, seminars, and conferences for the benefit of HIM and institutions.
- Develop HIM policies and procedures including, the budget, staff pattern, etc.
- Participate and assist the government in the improvement of the healthcare delivery system
- Develop a partnership with IFHIMA and similar associations to enhance the HIM status

- Strive to advance the eHealth technology to meet the dynamic progress of medicine

IFHIMA's Role: The IFHIMA can play a vital role in increasing the number of member nations especially Developing Countries to ensure that the activities of the association reach to as many nations as possible in order to bring greater unification and standardization for easy global link and ultimately to accomplish the association's objectives. The IFHIMA President should visit the potential and selected Developing Countries to meet the government to develop a rapport for collaboration and coordination relating to the HIM field of the country concerned.

Conclusion: With the advent of technology and communication systems, the global nations have to be closure, hence, as many nations as possible, especially the developing countries being a majority in number and they need great help should be members of the IFHIMA to strengthen the association and to avail the benefits it provides through international integrated work by designing, developing and conducting the educational programs for the benefit of member countries. The causes are many for being a member of IFHIMA. The priority would be if some senior committed leader professionals could serve the nation by bringing together the professionals to form a national association, if not existing, and get affiliated with the IFHIMA. This way the IFHIMA will be one of the world leaders in guiding the healthcare field; at the same way, the affiliated member nations will have tremendous scope to improve the HIM field to serve efficiently the healthcare providers, policymakers, and the nation through their expertise and gain the utmost esteem.

Chapter XXI: Health Information Manager (HIM) & Health Informatics professional Education and Training in the next 10 to 20 years.

Introduction: The HIM education and training will change in the next 10 to 20 years due to many issues that the world is facing presently **and the most priority issue is** the COVID-19 pandemic has shaken the entire globe and not left any nation, and taken away thousands of lives. Even coronavirus pandemic comes to a complete halt after some time or later; the post-effect will continue for many more months. Most of the nations executed “Lockdown and social distance”. However, these stringent methods will not continue for long, if it continue; the global population will face many serious consequences. Thus it is essential to improve individual immunity to protect not only from coronavirus and re-occurrences but from any other severe infections to carry on the work as usual as prior to the COVID-19 Pandemic. Due to economic growth; people’s lifestyles and the demand for swift, safe, improved, and cost-contained healthcare services have grown unbelievably and their expectations are very high. In view of this development, there would be a great transformation in the functioning of the national governments in general and health organizations in particular.

The conventional methods: of rendering healthcare services will have a massive transformation in minimizing the hospitals and also the number of inpatient beds? Available beds would be used to the optimum for only major surgical purposes of all specialties in tertiary specialty hospitals, and non-major surgical and elective cases will be treated in secondary care hospitals as outpatients and very essentially required cases as Inpatients. The rest of the cases will be treated in primary care centers as an outpatient and mostly at home of the patient itself. There will be many healthcare guiding centers or booths at different localities on similar lines like vending machines and bank ATMs to provide investigations, diagnostics, consultations, treatment, prescription, and delivery of medicines.

Healthcare Transformation through Technology e.g., AI, ML, and Robotic: AI coupled with robotics and machine learning is a breakthrough dedicated to transforming healthcare, brings together high-quality peer-reviewed research and impactful content dedicated to the advancement of artificial intelligence, automation, and robotics in healthcare delivery, education, technology, innovation, and discovery. The concepts of the future, debate current models and provide an invaluable resource of best practices for everyone involved in healthcare is concerned with the transformation. AI, automation, and robotics, together with telemedicine, sensors, and other technologies will improve patient outcomes, increase productivity, and expand access to care

Healthcare Transformation coverage includes:

- Clinical practices incorporating AI, robotics, telemedicine, sensors, and other advanced technologies
- Emerging technology-based applications for consumer health

- Public policy and regulation affecting the use of technology in health delivery
- AI-based clinical decision-making
- Advances in robotic applications in health delivery, pharmaceutical, and related areas
- Services those using an integrated approach of multiple technologies that are both interoperable and work harmoniously, which results in significant improvements in healthcare services.

Health Information Management System: The traditional medical record including electronic health record systems along with AI, ML, and Robotics will be modified to practical methods to originate the information that would assist the healthcare providers to take required measures in providing the best possible swift, safe, quality, and cost contained care. The implementation of Personal Health Records (PHR) for each inhabitant of a nation will play a vital role and HIM professional has a special challenge to maintain them and help the inhabitants with their healthcare needs at any time, or anywhere. Accordingly, the HIM education and training programs have to be planned and designed and also geared to meet the healthcare policy and decision-makers objectives. The HIM education system including syllabus and course content and practical training should inculcate such methods so that the trained or qualified HIM professional should be fully equipped with the required knowledge, skills, and positive attitude to carry out the given roles effectively and efficiently.

Role of Health Information Manager: There would be three categories of HIM professionals e.g., a. Managerial; b. Supervisory and c. Operational and each category will have a different educational background. Though all three categories will have similar basic professional knowledge and skills; however the supervisory and managerial will add additionally specialized knowledge and skills by undertaking special PG certificates, diplomas, or degrees.

Modification of HIM traditional education: In view of emerging technology and implementation of electronic health records, AI, ML, and Robotic; the conventional responsibilities of the HIM department will diminish and need a revision of HIM traditional education to the corporate competing syllabus to generate innovative HIM leaders on modern lines to meet the new challenges of maintaining paperless records. There is a need to engross in the effective and efficient management of hospital administration that brings the healthcare the cost which is a burning issue for all the healthcare institutions across the globe. And thorough information on disease patterns and trends by concurrently analyzing the data to discover any variation from normal will help in swift measures in controlling prior to any endemic damage is done. In order to produce innovative HIM professionals to meet the needs of the 21st century, it is imperative that educational programs must encompass with most pioneering theoretical and practical programs in HIM education.

With this goal, this Innovative HIM Education program is prepared to take into all educational requirements e.g., syllabus, course content, mock-up lab and directed internship practice and project program at par with other reputed International University standards.

Objective: To provide adequate fitting HIM professionals with modified innovative education and training to meet the needs of the ever-changing healthcare system in the next 10 to 20 years.

Syllabus and Course content: Four-year degree program, six semesters for theoretical and mock-up laboratory practice. The subjects taught are Anatomy, Physiology, Medical Terminology, Allied Health Sciences, Fundamentals of diseases, HIM, Biostatistics, Research, ICD, Hospital Management including; Ethical, Insurance, Reimbursement, Legal, Quality Management, Information, and Communication Technology, Hospital Information Systems, EHR, AI, ML, and Robotics; Health Data Management. The program has 106 credit hours including, 61 lectures, 46 laboratories, and 2190 total hours. The hospital's practical one-year training is designed to offer experience in the HIM department that develops the student's cognitive, affective, and psychomotor skills with a positive attitude to produce a qualified innovative HIM professional.

Evaluation Methods: Regular assessment of theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student deficiencies are identified and corrected.

Teaching Faculty: One professor, 3 Asst. Professors, 3, Clinical instructors, and supported by part-time and guest lectures.

The methodology of teaching and learning: The focus is on faculty to learn more and teach less and students to teach more and learn less, this means more student interaction, inside and outside the classroom. Students are given topics in advance to prepare and answer, while the teacher is to ensure that they are on the right path. Students during lecture breaks spend most of their time in mock-up labs located within the institution to gain more work culture and innovative thinking. Students hands-on directed practice gets under the qualified supervisors in the hospital. In order to gain comprehensive assimilation of practical knowledge, required skills, and the right attitude to perform given tasks, students are to be placed initially in the “Mock-up MR Simulation laboratory and later in the HIM Departments of hospitals to have practical hands-on experience. This experience will make the student a competent HIM worker and an efficient manager.

HIM educational and training (HIMET) institutions: There will be three types of HIMETs; the first type is without walls and the students remain at their own places of stay; the newly created innovative apps will cover the education and training program

can practice with the special guidelines and complete either from their own place of stay or from any other areas. The second type with HIMETs with walls where the traditional methods will be followed; the third method will be having both (hybrid) the combination of first and second; to meet the needs of developed and third world nations; in other words, those institutions with modern technology dealing with only paperless record system and those who deal with only a manual or combination of both (hybrid) nations. Thus the HIM education designed program in detail furnished below for the benefit of technologically advanced, less advanced, and those transforming from less to advanced. The entire program will be designed with special innovative apps to make it easy and simple to learn under the guidance.

The Need of HIM Professionals: The HIM professionals are experts in processing, analyzing, and reporting information vital to the healthcare industry. HIM professionals have a great role in initiating and maintaining documentation manual or electronic that will support in-efficient patient care helping the physician in his clinical management and the hospital depends on health information to monitor the performance of all the professionals quantitatively and qualitatively. The dramatic change in health information management demands new thinking, about how we educate tomorrow's professionals. Redefining roles, competencies, and educational progression should be the foundation of the College of HIM Education. When tomorrow's graduates enter the HIM workplace, they will have to be ready for the e-HIM environment and newly Emerging exigencies such as the COVID-19 Pandemic. The HIM program objective should be to develop a curriculum that would meet the HIM professional who after successfully completing the Bachelor's degree in HIM should be able to:

- Endow with the knowledge and skills necessary to become self-directed learners.
- Solve problems by critical thinking
- Acquire informatics skills, communication, and interpersonal skills.
- Instill a commitment to lifelong learning and important ethical values.
- Foster the acquisition of leadership abilities.
- Adapt careers within a changing healthcare environment.
- Serve society and the profession through collaborative practice.
- Provide innovative teaching by generating and application of new knowledge
- Conduct research devoted to HIM in an electronic environment
- Carry out activities that are focused on evolving the strategic and operational relevance and robustness of clinical information resources of the healthcare industry & PH sector.
- Participate actively in quality and performance improvement management
- Collaborate and cooperate with the IT department in developing EHR

Selection method for HIM Bachelor Program: The curriculum should be designed to attract individuals from a variety of educational backgrounds and disciplines. This background and discipline may include individuals with prior coursework at an undergraduate level in HIM or those with a baccalaureate or advanced degree in another area of study.

Mock-up (Simulation) Medical Record Laboratory at the College Site: The mock-up medical record laboratory is essentially required to provide a student with real-life experience in areas of maintaining and managing medical records (Health Information) Department. The student will have a clear concept of the hospital medical record system; they will have a better understanding when their hands-on different sections of the Medical Record Department. They will be able to absorb and learn with ease. This exposure will give them the opportunity to critically examine and learn the systems, methods, and procedures that are being practiced in the hospitals. Therefore, prior to posting to hospital fieldwork, the exposure in the mock-up lab will allow for spending more time on important sections in MRD.

Generally, students can be posted to the “Mock-up” lab from the 2nd or 3rd year onwards and to the hospital from the 4th year. With this mechanism, the students will have a clear idea about the sections and type of work they are going to do and learn in the hospitals. First of all, they will be too curious and critical to analyze the system practiced in the hospital with their theoretical knowledge and exposure to the “mock-up” lab will help them extremely and will motivate the students to be involved with the system effectively.

Typical Sample of Mock-up (Lab) Practice in the Institute

Day / Time	9-10	10-11	11-12	12-01	01-02	02-03	093-04
Monday	Classroom	Lab	Classroom	Classroom		Lab	Classroom
Tuesday	Classroom	Classroom	Lab	Classroom		Classroom	Lab
Wednesday	Lab	Lab	Classroom	Classroom		Lab	Classroom
Thursday	Classroom	Classroom	Lab	Lab		Classroom	Lab
Friday	Classroom	Lab	Classroom	Lab		Lab	Classroom
Saturday	Classroom	Lab	Lab	Classroom		Lab	Lab

The students are posted in all the sections of the laboratory with dates and time schedules to cover all the functions under the supervision of a clinical instructor or demonstrator. During the postings and rotation, the student should maintain a log that will gauge the effectiveness of laboratory practice.

(DAILY TIME SCHEDULE LABORATORY LOG)

Student's Name:

ID #

Year:

Semester:

Section/ Functions	Date	Time		Activities carried out	Clinical Instructors Remarks
		From	To		

Directed Practice at the Hospital Site: The Directed Professional Practice Internship and Project Handbook needs to be prepared at par with the international standards universities to help the students/interns, mentor or supervisor or adviser and the hospital or health institution where the intern gets the directed practice under the authorized supervisor/s the required practice. The professional practice is designed to offer experience in a medical record department or (HIM department) that develops the student/intern's cognitive, affective, and psychomotor skills to produce a qualified Health Information Management and technology professional. The HIM department is a hub of hospital organization, and has many sections; the work is performed by different categories of staff; some are operational, supervisory, and managerial levels. The students have to be exposed to all the sections without fail as each section /division has some important functions to carry out. Upon completion of Directed Practice at Mock-up Lab and at hospitals/health institutions, the student should be able to manage the HIM department effectively and efficiently.

Conclusion: The idea of innovative HIM education with mock-up lab and practical training to encompass the syllabus and course content to enable the HIM student to gain the utmost knowledge, skills, and required attitude to deal with the latest technology and challenging issues faced by the hospitals in view of spiraling cost and high expectations of the quality of care by patients. Also, the HIM leader with digital information has to bring change by playing a vital role in monitoring concurrently in identifying the pattern of existing diseases and newly emanated diseases so that healthcare providers can take instant measures to control the diseases before it's become endemic or pandemic. Other measures are healthcare cost and improved efficiency to accomplish HIM application and popularization of HIM in the global healthcare environment.

Chapter XXII: Future of Health Information Manager (HIM)

Introduction: HIM besides having good academic and professional qualifications should have various different characteristics and skills; passion, dedication, and determination to accomplish the set goal. In our arena; we are mostly concerned with how to meet the needs of healthcare organizers and healthcare providers in delivering the best healthcare delivery it's the inhabitants of the nation through the 3-tier-built-in healthcare delivery system such as Primary, secondary, and tertiary. Since the HIM is mostly engaged in the secondary and tertiary care hospitals we should focus on these facilities and how we can deliver expected services with our expertise to ensure the patient gets swift, safe, improved quality, and cost-contained care. To accomplish the set objectives; we should understand the Healthcare Transformation that is happening around the globe and how HIM to be equipped to meet those challenges.

Healthcare Transformation coverage includes:

- Clinical practices incorporating AI, robotics, telemedicine, sensors, and other advanced technologies
- Emerging technology-based applications for consumer health
- Public policy and regulation affecting the use of technology in health delivery
- AI-based clinical decision making
- Advances in robotic applications in health delivery, pharmaceutical, and related areas
- Services use an integrated approach of multiple technologies that are both interoperable and work harmoniously, resulting in significant improvements in healthcare quality.

As medicine is dynamic; to meet the needs of healthcare policy and decision-makers, healthcare institutions including healthcare providers and all related services are applying various methods; technologies, and other possible avenues. As we know, information and communication technology is moving super-fast and we, HIM cannot be static we need to transform the HIM field too especially in the following fields on a priority basis.

- HIM Professional Role
- HIM education
- Information Technology Skills
- Managerial Skills

HIM Professional Role: HIM professionals may not deal with the patient directly, but help patients indirectly by maintaining their records or taking care of medical data and ensuring reliability, timeliness, accuracy, and completeness and by collection, analysis, storage, use, and transmission of information to meet legal, professional, ethical, and administrative records keeping requirements of healthcare delivery. Their services are used in clinical, medical education, research, epidemiological, demographic, and

financial services as well as for insurance, public health or national health, and international health agencies. As HIM is a highly trained person, acquainted with the latest technology including Artificial Intelligence (AI), Machine Reading (MR), and Robotics applications, policies, and procedures his responsibilities are becoming increasingly significant as the healthcare industry continues to transition to Electronic Health Records.

HIM can play a pioneering role by coordinating with the entire hospital functions which can be classified into two main groups primarily patient care including swift, safe, quality, and cost-contained care, and medical education, research, insurance, reimbursement, and security and confidentiality of the patient. Secondly, management of hospital functions which are considered as secondary services, without first, the second is nullified HIM Managers including medical, nursing and allied health and support services, finance, are part of the hospital organization their financial expenditure needs to be closely monitored for economic measures.

Role of Health Information Manager: There would be three categories of HIM professionals e.g., a. Managerial; b. Supervisory and c. Operational and each category will have a different educational background. Though all three categories will have similar basic professional knowledge and skills; however the supervisory and managerial will add additional specialized knowledge and skills by undertaking special PG certificates, diplomas, or degrees. The minimum qualification for operational staff would be a Pre-university degree (preferred graduation) and supervisory staff would be professional degrees and master's degrees for the managerial category. The managerial and supervisory professionals will be placed mostly in the tertiary, and secondary care institutions while the supervisory and operational will be in the Primary healthcare institutions.

HIM Education: It would be quite apt, that we should use the theme of change or perish. **Theme Change or Perish:** HIM leader with digital information has to bring change in healthcare in identifying the pattern of diseases being treated and new emanated diseases to be tracked regularly and concurrently by all the healthcare institutions and the cost and improve efficiency to accomplish HIM application and popularization of HIM in the global healthcare environment. HIM application and popularization drive needs to adopt the modification of HIM traditional education to the corporate competing syllabus to generate innovatively leaders to be equipped with

- Ø HIM monitors patient care information to identify the pattern of diseases and their trends for better or worse have to be identified concurrently.
- Ø HIM moved from a conventional safe zone to a threatening challenging role in controlling healthcare, improving quality, and controlling the cost of the hospital
- Ø Revenue-producing department employees of IT and Petroleum are paid more with esteem, making HIM raise revenue through their excellent digital information leadership.

Acquiring Information Technology (IT) skills: In the Information and communication drive technology age; the HIM need to acquire the implementation of electronic health records that provides all the expected service and fulfills the role of HIM in accomplishing their related responsibility of maintaining an accurate, timely, relevant, and complete record and also other priorities such improving the quality and controlling the patient care cost. Frequently, IT experts are innovating and coming into the market with the latest technology that enhances patient care, and HIM Professionals need to have a clear knowledge of the product and proper utility so that we can guide the hospital administration in its suitability in buying and installing for the use of the hospital.

Lately, AI, MR Robotics, Mobil, and a variety of technologies are used for healthcare purposes; we need not know the mechanism of how it runs but we should have its utility and its feasibility of applying the effectiveness of h qualify and cost. Otherwise; IT will supersede and we lag behind in every aspect and lose the vitality of its existence. In conclusion; we need to update regularly with the information and communication technology development and utility to healthcare in general and hospital including clinical, non-clinical, and financial managerial.

Managerial Role: The HIM will play a great role when one has passion and commitment to the field through persistent, able, and kind Leadership. The HIM should have other characteristics besides professional qualifications: For Example; Managerial competencies including good leadership and motivational qualities especially good communication skills to outshine and succeed.

Managerial Communication Skills: Besides having good qualifications academically and professionally and acquired expertise by serving a number of years one will realize; that those who have good communication skills are the ones usually very successful in their business or negotiations or convincing the higher officials in getting their required project or budget sanction and also their communication skills are such by they easily influence the decision-makers to take certain decisions that really benefits to many. Good communication skills are a great weapon for any individual especially those in managerial positions that not only outshine the officials but also unknown and known personnel. In the course of any job, one would have realized its real worth, not in terms of finance or attaining political or any power but in making the process smooth swift, and favorable decisions. It is a simple psychological ingredient one should possess that makes the working system very effective with good team spirit in achieving the set goal.

Acquiring good communication skills comprehensively and learning regularly makes you a masterly entity that will go a long way in serving you. It has become a necessity that every manager needs to improve interpersonal skills coupled with the knowledge of how to engage team members and build effective relationships can make a terrific

difference. Some have a feeling that powerful communication skills are already built-in in intelligent or popular persons, it is not true but anyone can improve their skills by learning or taking tips from experienced or successful persons. The following are a few essential communication skills one should possess the characters such as Action-Oriented; Amiability: Clear and Confidence; Brainstorming: Building Consensus: Orienting and Training (COT); Emotional Control: Empathy.

Leadership Skills: Leadership is the strengths and abilities individuals demonstrate that help oversee processes, guide initiatives, and steer their employees toward the achievement of goals. Valuable leadership skills include the ability to delegate, inspire, and communicate effectively. Leadership is the act of providing guidance, direction, and motivation to those around you to help reach a goal or objective. Having strong leadership skills, whether in a managerial role or not, can help you work efficiently and influence those around you to produce quality work as well. Top leadership skills mainly; include i. Decisiveness, ii. Integrity, iii Relationship Building; iv. : Problem-solving, v. Dependability vi Ability to teach and monitor.

A good leader has to be a good listener too. Listening is the most significant element in communication skills. One has to be a good listener; it is common for many who have no patience either in official for formal or friendly informal meetings or discussions; to listen and are in a hurry to interrupt the discussion and give their opinion without knowing the full gist of the discussion. It is hard for these people to change and to become good listens either they are dominant nature, or their earlier experience could have been they didn't get the opportunity to put their points of view in the group where some always dominate by their rhetoric skills despite their points may not have a close relation to discussion.

A leader is "a person who influences a group of people towards the achievement of a goal". "Trust is the emotional glue that binds followers and leaders together." - Warren Bennis and Bert Nanus.

Trust is the foundation for every successful leader's accomplishments. When people don't trust the leader, they won't follow very far. Creating an environment of trust is a tricky issue. People carry past hurts with them. Some people expect more from their leaders than they are willing to give themselves. We hear people say that they want to perform at a higher level, but they don't trust that they will be recognized or rewarded. The most important point to be observed here is Leadership Talk doesn't drive purpose. Purpose drives the Leadership Talk. There is one and only one purpose of the Leadership Talk: that's to motivate.

Qualities of a Leader: "One's ability to get others to willingly follow the top ten leadership qualities".

1. **Vision:-**Dream, hallucination, apparition, idea, mental picture, image, visualization, revelation.

2. **Integrity**:--Honesty, Truth, truthfulness, honor, veracity, reliability, and uprightness.
3. **Dedication**:--devotion, commitment, enthusiasm, keenness, perseverance, allegiance, ardor, and loyalty.
4. **Magnanimity**:--nobility, generosity of spirit, high-mindedness, fairness.
5. **Humility**:--humbleness, modesty, unassuming nature, meekness.
6. **Openness**:--Honesty, Directness, Frankness, Sincerity, Candidness, Ingenuousness
7. **Creativity**:--originality, imagination, Inspiration, Ingenuity, Innovativeness, resourcefulness.
8. **Fairness**:--justice, equality, evenhandedness, Sprite
9. **Assertiveness**:--Not aggressiveness, Boldness, brazenness, forcefulness, insolence
10. **Sense of Humor**

Motivation Skills: Another feature is motivational skills; which are very vital for leaders to lead from the front in order to get the task done effectively and on scheduled time. To motivate the team, you need to apply the following skills. i. Give recognition to the team's achievement. ii. Giving respect would motivate people to give their best.

Dealing with High Officials: We as HIM managers need to deal with high officials almost daily or frequently through oral or written communication. We need to know which one is more suitable for us to get the needs of our department or given assignment or project to be successful. I would strongly suggest non-verbal communication in case of important decisions have to be made such as approval of certain educational programs; recruiting officials, getting additional budgets, or any other issue that requires high official approval.

Non-verbal Communication: One has to appreciate the non-verbal communication message will be effective if one's body language is synchronized with the communication. Expert Consultants whenever they want to discuss with high officials including the CEOs of a big company or with the Secretaries or the Ministers they would prefer face-to-face discussion; that helps put any vital proposal in front to get the approval; they observe the body language of the official; if it is conducive then they place the proposal and most of the time they are successful. If their mood is not favorable due to other pressing issues that keep them under pressure, will generally outcome negativity and become not only difficult to get it sanctioned but it will be shelved for a longer period. That is why body language including hand gestures, tone of voice, facial appearance; eye contact, etc. plays a very vital role in non-verbal communication.

Oral Communication: Obviously; oral communication is widely practiced communication in almost all organizations. When oral communication is ineffective, written or email communication is used for record purposes that attach responsibility to everyone, while oral communication has little legal value when it is communicated only between two persons. Matter of fact, oral communication has immense benefits, especially in well-organized and efficiently managed corporations. This is the most economical and time and money-saving mechanism and is extremely successful.

Writing Skills: Writing is built-in of us; the question is how best we have the writing skills that are essential elements for effective communication. Whenever we write; remember, it is a legal document, one has to be careful using the right words for the right purpose, written at the right time for the right persons. The written document should be simple and clear language that reflects your views; and your personality and try to distinctly understand and avoid giving any scope for double meaning or misinterpretation.

Orientation to employees: Make sure employees understand the vision, mission, and goals of the organization and how they become part of the management. Constantly communicate the “What is” behind the business plan: why the plan is important, the role the team plays, and the critical role individual employees play. Every time you communicate with an employee, answer the questions: What’s in it for the organization why should they be involved, and how they improve their performance? Compare and link what’s happening at the larger organization to your department in real-time, and make it a point to talk about how employees’ work relates to the company’s success. One most vital communication skills is repeat, repeat, repeat; people are satisfied once they have done the given work and they are under the impression that the job is done well.

Conclusion: The HIM professional role is more vital than one may think. Without the HIM department, the hospital is not on wheels. I quote Dr. Mogli’s adage: “**Medical Records are the Mother of Information; it can Make or Break the healthcare institution**”. In brief, the “HIM Capabilities within HIM Lifecycle” has major three priorities: Firstly the organizing and managing HIM department to ensure the record system meets the needs of the healthcare delivery system effectively. Secondly ensures the management is on the right track in case of patient service, legal, insurance, or reimbursement payments with utmost care to bring down the patient care cost lastly and most vital in view of the COVID-19 Pandemic, the HIM has a herculean task in concurrently coding and classifying the diseases on a daily basis to track any new illness that is appearing or increasing rapidly can be brought to the notice of public health for swift action before it could spread as an epidemic or endemic like COVID-19.

Chapter XXIII: Why HIM should leave the Safe Zone & take a Corporate Competitive Role to Outshine and succeed

ABSTRACT: Most employees need the motivation to feel good about their jobs and perform optimally. Some employees are money-motivated while others find recognition and rewards personally motivating. Motivation H within the workplace has a direct impact on employee productivity. Workers who are motivated and excited about their jobs carry out their responsibilities to the best of their ability and production numbers increase as a result. Employee motivation has always been a central problem for leaders and managers. Unmotivated employees are likely to spend little or no effort in their jobs, avoid the workplace as much as possible, exit the organization if given the opportunity, and produce low-quality work. On the other hand, employees who feel motivated to work are likely to be persistent, creative, and productive, turning out high-quality work that they willingly undertake. There has been a lot of research done on motivation by many scholars. Employers need to get to know their employees very well and use different tactics to motivate each of them based on their personal wants and needs. In this paper, we would like to emphasize the importance of motivation in the workplace to improve employee performance and productivity. Even we would like to present the theories and techniques of motivation in the workplace.

Introduction: Motivation results from the interaction of both conscious and unconscious factors such as the intensity of desire or need, incentive or reward value of the goal, and expectations of the individual and of his or her peers. These factors are the reasons one has for behaving a certain way. An example is a student who spends extra time studying for a test because he or she wants a better grade in the class. Internal and external factors stimulate the desire and energy in people to be continually interested and committed to a job, role, or subject, or to make an effort to attain a goal.

Most employees need the motivation to feel good about their jobs and perform optimally. Some employees are money-motivated while others find recognition and rewards personally motivating. Motivation levels within the workplace have a direct impact on employee productivity. Workers who are motivated and excited about their jobs carry out their responsibilities to the best of their ability and production numbers increase as a result. An incentive is a motivating influence that is designed to drive behavior and motivate employees to produce quality work. Employers use several types of incentives to increase production numbers. Employee incentives come in a variety of forms including paid time off, bonuses, cash, and travel perks. Incentives drive employee motivation because they offer workers more to strive for than a regular paycheck. Many employees need recognition from their employers to produce quality work. Recognition and employee reward systems identify employees who perform their jobs well. Acknowledging a job well done makes employees feel good and encourages them to do good things. Employers recognize workers by tracking progress and

providing feedback about how they have improved over time. Public recognition is also a motivating factor that drives worker productivity.

Some employees are motivated by feeling a sense of accomplishment and achievement for meeting personal and professional goals. Many workers are self-disciplined and self-motivated. Incentives and rewards have little effect on employees who feel motivated only when they are confident in their abilities and personally identify with their role within the organization. These individuals perform productively for the sake of the personal challenge their work provides. There are several ways employers can motivate employees and drive worker productivity. Because different factors influence workers in different ways, employers can utilize motivation strategies that encompass several techniques. For example, to influence workers who are money-motivated, an employer may implement a daily "spiff" that pays cash instantly to employees who meet short-term production goals. To achieve long-term production goals, an employer could implement a program that encourages friendly competition between workers to meet production numbers. At the conclusion of the program, employers can publicly recognize top performers for a job well done.

II. Employee Motivations so Important for Performance: Managers need to find creative ways in which to consistently keep their employees motivated as much as possible. Motivation is highly important for every company due to the benefits that it's able to bring. Such benefits include:

1. Human Capital Management: A company can achieve its full potential only by making use of all the financial, physical, and human resources that it has. It is through these resources that the employees get motivated to accomplish their duties. This way, the enterprise begins to glisten as everyone is doing their best to fulfill their tasks.

2. Meet Personal Goals and Help an Employee Stay Motivated: Motivation can facilitate a worker reaching his/her personal goals and can facilitate the self-development of an individual. Once that worker meets some initial goals, they realize the clear link between effort and results, which will further motivate them to continue at a high level.

3. Greater Employee Satisfaction: Worker satisfaction is important for every company, as this one factor can lead towards progress or regress. In the absence of an incentive plan, employees will not feel ready to fulfill their objectives. Thus, managers should seek to empower them through promotion opportunities, monetary and non-monetary rewards, or disincentives in case of inefficient employees.

4. Raising Employee Efficiency: An employee's efficiency level is not strictly related to his abilities and qualifications. In order to get the very best results, an employee needs to have a perfect balance between ability and willingness. Such balance can lead

to an increase in productivity, lower operational costs, and an overall improvement in efficiency, and can be achieved only through motivation.

5. A Higher Chance of Meeting the Company's Goals: Any enterprise has its goals, which can be achieved only when the following factors are met:

- There is a proper resource management
- The work environment is a cooperative one
- All employees are directed by their objectives
- Goals can be reached if cooperation and coordination are fulfilled at once through motivation

6. Better Team Harmony: A proper work environment focused on cooperative relationships is highly important for an organization's success. Not only that it can bring stability and profits, but employees will also adapt more easily to changes, a fact which is ultimately to the company's benefit.

7. Workforce Stability: The stability of the personnel is highly important from a business point of view. The staff will stay loyal to the enterprise only if they meet a sense of participation within the management side. The abilities and potency of staff can be used to their own advantage, but also for the benefit of the company. This may cause an honest public image within the market which can attract competent and qualified individuals into the business.

III. Intrinsic versus Extrinsic Motivation: There are many frameworks, models, and theories that focus on employee motivation. A few of the most common are quickly summarized below. While they are each based on good research and have some degree of universal applicability, none are the absolute doctrine on motivation. In fact, few motivation concepts are universal. However, one idea that is acknowledged by all frameworks that address motivation is that there are extrinsic and intrinsic motivational factors.

1. Extrinsic Motivation: Extrinsic motivation is the motivation that comes from things or factors that are outside the individual. For example, being motivated to work hard at the office because you are looking for a promotion is a type of extrinsic motivation. Social recognition, money, fame, competition, or material achievements are all examples of extrinsic motivation.

2. Intrinsic Motivation: Intrinsic motivation is the motivation that comes from within. It comes from the personal enjoyment and educational achievement that we derive from doing that particular thing. For example for people who love music, their motivation to practice the instrument, attend classes, etc., is intrinsic motivation. Intrinsic motivation is crucial in today's work environment. Research shows that it is a key factor in performance and innovation. At a personal level, intrinsic motivation makes your work

fulfilling. It's a major reason for deciding to stay on a job. It helps keep your stress level down.

IV. Techniques of Employee Motivation:

1. Job Enlargement: Job enlargement involves expanding the job of an employee that has them doing more work of a similar nature to what they already do. This may allow them to complete the whole task instead of just part of it, for example, packaging the products as well as manufacturing them. This process ideally removes the boredom from the job by eliminating the repetitiveness of tasks and allowing them to complete the whole process, further increasing their responsibility.

2. Job Enrichment: Job enrichment is an attempt to give workers more control over their tasks and more responsibility for design, execution, and output. The worker assumes some of the functions previously carried out by his or her immediate supervisor or by other staff.

3. Job Rotation: Job rotation is a practice whereby each employee learns several operations in the manufacturing process and rotates through each in a set period. Job rotation has important implications for firm learning. On one hand, when employees rotate, the firm receives information about the quality of various jobs - employee matches. On the other hand, without rotation, the firm receives only direct information about one match, but the information it gets about this one match is very reliable.

V. Conclusion: Managers' duties in today's corporate world are multi-faceted. Not only do managers need to be versed in finance, economics, and information systems; it is now essential for them to have a firm grasp on organizational behavior and psychology. They must know how their people think and what makes them do so. Making sure managers are aware of this psychology is the job of the human resource department, but all managers of the organization have a responsibility to understand it. A key aspect of organizational psychology is motivation. Managers must know why their people behave the way they do so that these buttons can be pushed at the manager's discretion. A motivator is that which impels or compels an individual to act toward meeting a need. Some major motivational theories will also be explored. Practical ways of applying these theories to real people will be considered.

When looked at the first time, the link between employee motivation and performance seems to be quite obvious. That's because every time we deem a task to be important and valuable to us, we act with a high level of dedication and enthusiasm to its completion. However, the relationship between these two things is in fact a lot more complex. With that in mind, managers need to find creative ways in which to consistently keep their employees motivated as much as possible.

Motivation is very important for every company to improve the employee performance and productivity of the organization.

Recognizing the importance of motivation for work, management organizations are making great efforts to better understand and understand the phenomena that form the basis of man's need to create, develop, to progress. The level of motivation of employees is actually a topic that both theoreticians and practitioners approach with increasing interest since the motivation of employees occupies a significant place in the research of organizational behavior. Today, the focus of the researcher focuses on intrinsic criteria for job satisfaction, where, apart from the personality trait, attention is focused on examining the impact of the organization and family balance on the motivation of the employee, or in general his satisfaction with the quality of life.

Modern motivation theories indicate that the motivation that employees feel about their work is less related to material rewards and more to the job design itself. As a result, initiatives for expansion, i.e. "enrichment of work", have been used as key terms: empowerment, creativity and innovation, flexibility, autonomy, intrinsic motivation, and teamwork...

The motivation of employees represents the level of energy, dedication, and creativity that the employees of the organization bring to their jobs. Motivated employees help organizations to survive and advance, they are more dynamic and productive, but realizing the importance of employee motivation raises the question of how to enable it in the context of modern fast-changing jobs. The starting point of each manager is to see and understand what motivates employees in the context of the roles they perform, because of all the functions that the manager does, the motivation of employees is certainly the most complex, given the fact that what motivates employees is constantly changing.

Chapter XXIV: Strategies Role of National HIM Association (HIMA in the 21st Century – (Past –Present-Future)

Introduction: *The purpose of this paper is to enlighten fellow members of HIM Professionals, especially from Developing Countries including India, about the dire need for health records/information management association at the national level to improve the healthcare delivery system-including primary, secondary, and tertiary care at all levels of the nation. Which adequate professionals are required to manage the HIM departments in health institutions? Without which the health institutions have to function without HIM departments or with non-qualified persons. Despite a commitment to their profession, if they work isolated, it would be difficult to standardize and integrate of health record information technology in the country. **Action Plan:** All the employees working for HIM should be made members of the association and ensure that all are involved in educational and professional growth activities with the support of workshops, seminars, and conferences at the institute, regional, and national levels. **Government participation:** The next step is involving the Government in the activities of the HIM national association, by communicating the progress made and seeking support for further improvements. The HIMA should be the liaison between the HIM professionals and the Govt. The HIM should contribute to the national healthcare delivery program including eHealth management. **Suggested remedies:** The most important suggestion is the establishment of a central HIM department in the Ministry of Health central and each state to be headed by a senior HIM professional to oversee the development of HIM programs in the county. Setting national eHealth including digitalized records and information; setting standards, policies, and procedures, and conducting educational and training programs to generate professionals and enhance the professionals to meet the needs of the country. All HIM members must be fully involved in the activities and those working as executive members need to serve selflessly to achieve the set objective of the association e.g. HIM professional standards and uplifting the status of professionals but not be used for individual name or fame. Conducting workshops or conferences is very important provided if demonstrates the accountability of progress made and challenges faced by the association during the year etc. and what its future plans to make the association robust to be clearly brought out.*

II. Material and Methods: The medical records and its profession have undergone tremendous transformation since it formed the first national association in the US in 1928. The health records, as we witness today, had undergone transformation e.g., in the early period, the patient records title used to be chits, notes, and documents, became records, then medical records, steadily health records, electronic medical records /health records and today, known as paperless-digital eHealth records with the utilization of latest information and communication technology to meet the needs of 21st century. The developed countries are striving to make the best use of technology with their organized professional associations to meet the goals and objectives of the

healthcare institutions to provide the best care to the sick and injured and minimize the morbidity and mortality rate with safe and healthy living.

It is high time, to form a national association with proper objectives in collaboration with all the health records and healthcare professional members focusing on standardizing the health record /information management system in the nation that would benefit one and all. Ultimately, the national association could participate in the regional, national, and international arena to benefit in the standardization, education, training, and improving professional attitude, knowledge, and skills that enable utilizing the network technology compatible with international standards to solve the terrific health issues of developing countries.

III. Historical background: In 1902 records were discussed for the first time at a convention of the American Hospital Association to bring improvement of records through the organization and training of record librarians. Some of the problems that were brought out at that meeting were that there was no uniformity in methods and no single type of person in charge of records. In 1905 Dr. George Wilson, Portland, Oregon, read a paper entitled “A Clinical Chart for the Records of Patients in Small Hospitals” at the 56th annual meeting of the American Medical Association. In 1913 the American College of Surgeons was founded by Dr. Franklin H. Martin, with the objective of raising the standards of surgery for which sound standard of surgical training requires patient data on the training. It was felt that to elevate standards of surgery by a standardization of hospitals, important role played by records was recognized in hospital standardization. Steady improvement both in the quantity and quality of medical records began with the advent of hospital standardization. Gradually, conferences of round-table type were devoted exclusively to the subject of medical records.

Mrs. Grace Whiting Myers, Librarian emeritus of Massachusetts General Hospital was appointed to organize committees, direct the preparation of the program, and plan exhibits for a day meeting at which medical records and problems concerned with their content, availability, and preservation were exclusively discussed during the meeting on Clinical Congress of American College of Surgeons in Boston for which the medical record workers of USA and Canada participated. At this meeting, on October 11, 1928, the Association of Record Librarians of North America was formed with the main objective: “To elevate the standards of clinical records in hospitals, dispensaries, and other distinctly medical institutions.” Mrs Myers was elected the first president.

In 1934 Elsie Royle was elected to work in hospital administration and was appointed to a new hospital in Manchester, England. She was given the responsibility of improving the medical records system. Elsie Royle’s thirst for knowledge increased. She planned a visit to North America in 1940, but due to the Second World War (1939-1945), it was not possible. Hence, she wanted to improve medical record services in the UK. With the

help and interest of others, she formed an Association of Medical Record Officers (AMRO) in the United Kingdom in the year 1948. The first International Congress on Health Records was held in London in 1952. Among the most significant milestones and landmarks in the recent history of medical record science are:

1. American and British endeavors to standardize medical records through formal organization and accreditation processes.
2. Organization of national medical record associations, the USA (1928), Canada (1942), Great Britain (1948), Australia (1952) India (1972), and so forth.
3. Founding of the International Federation of Medical Records in Stockholm, Sweden in 1968.
4. Worldwide associations of medical record personnel foster the development of international standards and facilitate uniform statistical comparisons of health data and disease classification systems. The International Federation of Health Records Organization (IFHRO) was initially recognized by the World Health Organization in 1968 when the Federation was invited to participate in the first World Study Group on Hospital Records in Geneva, Switzerland in November 1969.

IV. Objectives of International Federations of Health Information Management Association (IFHIMA): The International Federation of Health Information Management Association (IFHIMA) was established in 1968 as a forum to bring together national organizations committed to improvement in the use of health records in their countries. The founding organizations recognized the need for an international organization to serve as a forum for the exchange of information relating to health records, health information management, and information technology.

V. Role of IFHIMA / WHO in improving the medical record status in Developing Countries: Prior to the seventh international congress, only a few countries were members of the IFHIMA. After the 7th International Congress which was held in Toronto, Canada, in the year 1976, the member countries especially developing countries felt the need to have a representation in the WHO headquarters, as the medical record field was supervised by the statistical division as part of it, not as an independent, and in fact, the same situation was existed in almost all the developing nations and medical record name was foreign to many. At the same time, the IFHIMA was affiliated with the World Health Organization (WHO) as a non-government organization (NGO) and this led to the creation of a post of Medical Records Officer by the WHO headquarters. During the period 1976 -1996, the WHO contributed by sending WHO short-term Medical Record Consultants to a few developing countries.

VI. Challenges of Developing countries in maintaining medical records: There were no professional associations at the state and national level and inadequate educational facilities had hindered professional progress. Financial constraints were further blocking the development of the profession. There was no separate cell in the Ministry

of Health that could act as an advisory service to the government. There were no written policies indicating the importance of having the MR Department in a hospital. Retention and preservation of the medical record schedule were not present. There was no recommended staff pattern, basic requirements like space, equipment, etc., and maintenance of basic medical records and statistics. The majority of medical record departments either absorbed only inpatient records or only engaged in outpatient records and very few had both systems.

As regards medical staff, those served in mission and teaching hospitals preferred to have comprehensive records and fully cooperated with the MRD, while, many were not interested in documenting and maintaining proper records. Obviously, the workload in the hospital was too much, and inadequate medical and nursing staff resulted in incomplete documentation, as doctors felt that caring for and saving patient lives was more important than spending time on documentation which they considered as clerical. And also not having standardized medical record forms, and missing of investigation reports and records made them less interested in completion. At least some personnel were employed in hospitals or large health centers, but rural primary health centers and sub-centers were managed by health workers without any training or proper instruction in the field of record keeping and reporting. Hospitals believed more in keeping registers rather than individual patient records. e.g., for pregnant mothers, infants, preschool children, school children, adult outpatients, etc., the information was scattered, and no integration of information.

VII. Action Plan for the National Association: The Role of the National Association should deal with the following strategy as a priority:

- Professional standards to maintain high-class health records and electronic records
- Contribute to patient care, medical education, research, and management
- Improve professional status qualitatively and quantitatively
- Initiate professional educational and training programs

Forming the National Association: At the outset to ensure that there is a national association for the HIM field, once that is achieved, the association should collaborate and cooperate with all related personnel and departments to ensure that representation is given to all committed personnel, who can selflessly work for the cause of the association. If there is no national association, the information furnished in the historical background should inspire the professional leaders to bring all HIM field personnel to one stage to have deliberations and discussions to form an association at the national level with clear objectives. Make an Action Plan with the scheduled program and the attaching the responsibilities. The most important aspect is to ensure that all the employees working for the HIM department are made a member of the association as mandatory; and that all the employees are involved in educational and

professional growth activities with the support of workshops, seminars, and conferences at the institute, local, regional, and national levels. To form different committees at local and national levels that will facilitate in contributing to standardization and improved quality of health records /information management systems with the support of information technology.

Government participation: The next step would be involving the Government including Federal and State in the activities of the HIM national association, by communicating the progress made and seeking support for further improvements. The HIM's attention should be improving the health institutional records and their efficient management to provide the best possible healthcare. In order to do that, the need for enhancing the HIM professional's standards and status is vital. This could be achieved by having modern HIM educational and training centers in the country. The three-tier educational program can be developed for the operational level (Asst. HI Technician), supervisory level (HI Technician), and manager level (HI Manager). Gradually, the higher professional programs such as master's and doctoral can be planned in collaboration with universities and started later as the association progresses. Most important is dedication and commitment and good teamwork by all the members especially the association executive members. The leading personnel should act as coordinators to ensure the action plan is put into execution as per the schedule and try to accomplish the set goals.

Suggested remedies: Establish a central HIM department in the Ministry of Health to be headed by a senior HIM professional to oversee the development of HIM programs in the county

- Setting of national standards for digital medical records/health information management
- Improve the quality of HIM professionals and HIM numbers
- Initiating HIM educational and training programs to generate needed manpower
- Conduct workshops, seminars, and conferences for the benefit of HIM and institutions.
- Develop HIM policies and procedures including, the budget, staff pattern, etc.
- Participate and assist the government in the improvement of the healthcare delivery system
- Develop partnerships with IFHIMA and similar associations to enhance the HIM status
- Strive to advance the eHealth technology to meet the dynamic progress of medicine

Chapter XXV: Evolution of IFHIMA from the 20th Century and How it will grow in the 21st Century?

The realization for the association: In 1902 records were discussed for the first time at a convention of the American Hospital Association to bring improvement of records through organization and training of record librarians. Some of the problems that were brought out at that meeting were that there was no uniformity in methods, no single type of person in charge of records. In 1905 Dr. George Wilson, Portland, Oregon, read a paper entitled “A Clinical Chart for the Records of Patients in Small Hospitals” at the 56th annual meeting of the American Medical Association. In 1913 the American College of Surgeons was founded by Dr. Franklin H. Martin, with the objective to raise the standards of surgery for which sound standard of surgical training that require patient data on the training. It was felt that to elevate standards of surgery by standardization of hospitals; an important role played by records was recognized in hospital standardization. Steady improvement both in the quantity and quality of medical records began with the advent of hospital standardization. Gradually, conferences of round-table type were devoted exclusively to the subject of medical records.

First President of Record Librarians: Mrs. Grace Whiting Myers, Librarian emeritus of Massachusetts General The hospital was appointed to organize committees, direct the preparation of the program, and plan exhibits for a day meeting at which medical records and problems concerned with their content, availability, and preservation were exclusively discussed during the meeting on Clinical Congress of American College of Surgeons in Boston for which the medical record workers of USA and Canada participated. At this meeting, on October 11, 1928, the Association of Record Librarians of North America was formed with the main objective: “To elevate the standards of clinical records in hospitals, dispensaries, and other distinctly medical institutions.” Mrs. Myers was elected the first president.

First International Congress on Health Records: In 1934 Elsie Royle Mansell, was elected to work in hospital administration and was appointed to a new hospital in Manchester, England. She was given the responsibility of improving the medical records system. Elsie Royle’s thirst for knowledge increased. She planned a visit to North America in 1940, but due to Second World War (1939-1945), it was not possible. Hence, she wanted to improve medical record services in the UK. With the help and interest of others, she formed an Association of Medical Record Officers (AMRO) in The United Kingdom in the year 1948. The first International Congress on Health Records was held in London in 1952.

Creation of the International Federation of Medical Records: After the first International Congress held in London in 1952, every four years the second in 1956 (USA), the third in 1960 (UK), and the fourth in 1964 (USA) was successfully

conducted. The fifth International Business Meeting was held in Stockholm, Sweden from 27-31 May 1968 with an attendance of 750 participants from 19 countries. During this congress, Dr. Skrinjar-Nerima of the World Health Organization and Elsie Royle Mansell presented the first two papers. Dr. Skrinjar in her presentation strongly encouraged international cooperation between medical record personnel. Elsie Royle Mansell followed Dr. Skrinjar's advice and took it seriously and requested the members without any delay the formation of the International Federation of Medical Records Organization (IFMRO). The International Federation of Medical Records (IFMRO) was formed in Stockholm, Sweden in 1968.

Recognition of IFMRO by the World Health Organization: Worldwide associations of medical record personnel foster the development of international standards and facilitate uniform statistical comparisons of health data and disease classification systems. The International Federation of Medical Records Organization (IFMRO) was initially recognized by the World Health Organization in 1968 when the Federation was invited to participate in the first World Study Group on Hospital Records in Geneva, Switzerland in November 1969.

Transformation of medical records: The medical records and its profession have undergone a tremendous transformation since it formed the first national association in the US in 1928. The health records, as we witness today, had undergone a transformation e.g., in the early period, the patient records title used to be chits, notes, documents became records, then medical records, steadily health records, electronic medical records /health records, and today, known as paperless-digital eHealth records with the utilization of the latest information and communication technology to meet the needs of the 21st century. The developed countries are striving to make the best use of technology with their organized professional associations to meet the goals and objectives of the healthcare institutions to provide the best care to sick and injured and minimize the morbidity and mortality rate with safe and healthy living.

Birth of National Medical Record Associations: The most significant milestones and landmarks were the birth of national associations in different countries: e.g. the USA (1928), Canada (1942), Great Britain (1948), Australia (1952), and India (1972), and so on... Many developed and developing countries have formed national medical records associations with different names according to their country's language and practice; e.g. Germany France, Italy, and so on. It is hard to mention the names of those who contributed much to the profession selflessly and devotedly in establishing their national associations. Their names should be recorded in the history of the global growth of medical records.

Decades Dedicated Service to HIM Profession. These dedicated professionals can be classified into three categories: Firstly those who initially dedicated their efforts and decades of precious life to the profession and made what we see as the IFHIMA' today.

Many young professionals may not be aware that this profession is not recognized well compared to all other medical, nursing, and paramedics, especially in developing countries. Most of the healthcare policies and decisions and healthcare providers consider medical records can be maintained by any person with little training, hence scant respect with low salaries and esteem. Despite this being the situation, some even today are dedicated to the profession and present in almost all the IFHIMA congress and guide in many ways to help young enthusiastic professionals to move forward and achieve the objectives of IFHIMA. The following are those who not only have done tremendous professional work in their respective countries, and reached high positions by mere hard dedicated work and earned great esteem, but also spend their energy and life in serving the profession. Out of the following, those who are alive are not only participating in almost all the IFHIMA Congress but actively involved in its function and growth and giving their best possible advice and assistance whenever asked or needed.

1. Mrs. Grace Whiting Myers, of the USA, was elected the first professional president
2. Elsie Royle Mansell of UK Instrumental formed a UK association and conducted the first International Congress in the UK in 1952. And also formed IFMRO in Sweden in 1968
3. Dr. Skrinjar-Nerima of the World Health Organization- brought the world of MR professionals into IFHIMA
4. Prof. Phyllis Watson of Australia- Great Educationist, since 1972 fully dedicated and selfless service to IFHIMA to date
5. Carol Lewis of USA–Great Consultant- helped many DC professionals; since 1976 fully dedicated and selfless service to IFHIMA to date
6. Prof. Dr. G. D. Mogli of India (Served 9 DC nations since 1959 onwards known as “Father of Medical Records of India and the Middle East”, Great organizer, educationist, and actively with IFHIMA from 1976 participating and presenting papers in all the Congress till date. His 15 published books were used by DC and other developed countries. “Dr. Mogli’s Mirror” enlightens his work. www.drmogli.com. Recent Achievements: He was selected as a member of the Academic Review Panel for the 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.>

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.

Tabel of IFMRO-IFHIMA International Congress (from I: 1952 to XX: 2023)

Congress	Year	Location	Partici- pants	Country	IFMRO- IFHIMA President - country	Period
I	1952	The U. K	309	9		
II	1956	The U.S.A	723	12		
III	1960	The U.K	346	17		
IV	1963	The U.S.A	1000	18		
V	1968	Sweden	750	19		
VI	1972	Australia	420	24	Betty James- Australia	1968- 1972
VII	1976	Canada	2000	23	Lorraine Gay- U.S.A	1972- 1976
VIII	1980	Netherlands	550	24	Lilliane Gauthier -Canada	1976- 1980
IX	1984	New Zealand	294	17	SJaakVelthoven- Netherlands	1980- 1984
X	1988	The U.S.A	26 00	26	Carol Lewis – U.S.A	1984- 1988
XI	1992	Canada	NA	16	Phyllis Watson - Australia	1988- 1992
XII	1996	Germany	NA	24	Ulli Hoffmann – Germany	1992- 1996
XIII	2000	Australia	375	27	Vicki Tichbourne- Canada	1996- 2000
XIV	2004	The U.S.A	4000	39	Willem Hogeboom- Netherlands	2000- 2004
XV	2007	S. Korea	759	26	Jean Clark – U.S.A	2004- 2007
XVI	2010	Italy	395	33	Lorraine	2007-

					Nicholson – U.K	2010
XVII	2013	Canada	NA	NA	Margaret Skurka – U.S.A	2010- 2013
XVIII	2016	Japan	278	43	Angelika Haendel – Germany	2013- 2016
XIX	2019	UAE	NA	NA	Marci MacDonald- Canada	2016- 2019
XX	2022 2023	Australia	557	30	Lorraine Fernandes, - USA /Vicki Bennett, Australia	2019- 2023

Last but not least the following members have contributed (some contributing even today) with their excellent work for their nation but their work was appreciated and used by many global nations too.

1. Edna K. Huffman of the USA her medical record textbook was used by many nations.
2. Gerald Wakely of New Zealand
3. Rita Finnegan, AHIMA Education Director, USA
4. Linda Kloss, CEO of AHIMA, USA
5. Sister Mary Daniel Park of the Republic of Korea
6. Gemala Khalil Hatta of Indonesia
7. Margaret Gilfillan was the first MRO of WHO.
8. Yukiko Yokobori of Japan
9. Onasanya of Nigeria
10. Basil Bonner of UK
11. Takako Sakai of Japan
12. Joon-Hyun Hong of the Republic of Korea
13. Sue Walker, of Australia
14. Lourdes Palapal of the Philippines
15. Gail Crook of Canada

Main objectives of IFHIMA: One of the important purposes of IFHIMA is to promote HIM in all countries including adopting international HIM standards, exchanging informational HIM educational requirements and training programs, and promoting and implementing effective technology e.g. electronic health records. It is high time to enhance the IFHIMA member countries, especially the developing countries on war footing to ensure that the efforts and endeavors of the association reach to as many as

nations possible in order to bring greater unification and standardization for the easy global link and ultimately to accomplish the association's objectives.

IFHIMA International Congress: The IFHIMA used to conduct the International Congress every four years from the first (1952) until the 14th Congress (2004). From 15th (2007) onwards till the 20th (2022) every three years conducted. The suggestion is that IFHIMA International Congress can be held every four years as done earlier, and every four years one inter-country or inter-continental congress in the middle of the International Congress to be conducted in one of the preferably in Developing Countries (DC) under the auspices and supervision of IFHIMA can be conducted in the way if IFHIMA 2026 and 2030; the Inter-country would be 2024 and 2028 so it will facilitate more nations to participate and get maximum benefit to deal with their inter-countries or inter-continental issues much better with the high scope of cooperation and coordination. This will pave the way for joining more nations in IFHIMA so that it can play a dynamic role globally.

IFHIMA's New Challenges: it is observed that the IFHIMA was born due to the great efforts of highly dedicated and selfless service people and grown-up under able committed leaders (not alone IFHIMA Presidents but there are many who contributed without assuming high positions) till the end of twenty century. It needs to re-vitalize in the 21st century with extraordinary vigor due to tremendous dynamic communication and technological growth and the recent COVID-19 Pandemic has shaken the world with health problems taking away thousands of lives. This has created a new challenge not only for Epidemiologists, Scientists, and Research workers but healthcare providers. The HIM being the custodian of digital data of patients has ample opportunity to analyze systematically and scientifically the pattern and trend of diseases and can suggest in advance the possible damages caused by some diseases that will be an early warning to take measures before it could invade and alter into endemic or pandemic. The role of HIM shouldn't be traditional instead observe the slogan of "Change or Perish" to acquire the latest knowledge, skills, and a positive attitude by all the global HIM professionals to render their services much efficiently so that healthcare providers will be able to do their services much effectively in proving swift, safe, improved quality and cost contained care and save millions of lives. IFHIMA has to come out of tradition and is an NGO member of WHO has a greater role in contributing its services to all the nations of the world and not limited to a few. Need: Do or Die" with a selfless attitude to bring as many nations as possible into their organization.

Suggestions: The following few suggestions are made for IFHIMA to achieve its set objectives.

- The IFHIMA President should visit the selected DC to meet the government to propagate the need for the development of the HIM Field of the country, if possible with the help of WHO.

- Strong Suggestion for the opening of an HIM cell in the Ministry of Health with a senior competent HIM professional to oversee the country's HIM system and create national standards, policies, and develop HIM, training programs to meet the needs of the nation at par with international standards
- Award Honorary Membership to all those with 30+ years of active participation and significant contribution to the IFHIMA and use their services as IFHIMA ambassadors for enhancing the member-nations, and elevating the HIM field and profession in the needy nations.
- Strengthening the activities of IFHIMA by setting up an information Centre and data bank to gather the problems in managing the HIM system and address the issues in DC.
- Conduct a periodic educational program such as workshops, and seminars for professionals of DC to enhance their knowledge and skills in eHealth and electronic health records
- IFHIMA should create a special budget by raising funds to meet the expenses required for the travel, boarding, and lodging for honorary experts (for those who can't afford it), whenever the job is assigned.

Chapter XXVI: Role of the Federal (Central) and State Govt. and the Hospital Director in the development and management of HIM Dept.

A. Role of Central Government inefficient management of HIM department

As we all realize the field of Health Information Management (HIM) is continuously evolving, and particularly electronic communication and health information technology have been rapidly growing. The exchange of health information in our globalized world in general and in India, in particular, would be getting significant, in conjunction with the development; the role of HIM professionals is becoming increasingly important.

Having realized the vital role played by the HIM field; the Parliament with the consent of the President of India passed the Act recognizing Health Information Management (HIM and Health Informatics Professionals (HIP) under ISCO Code No. 3252; the Ministry of Health & Ministry of Law and Justice, New Delhi enacted as National Commission for Allied Health and Healthcare Professionals Act-2021 No. 14 of 2021 dated 28th March 2021.

This recognition will give impetus to many universities and institutions will start the HIM program in our country shortly. India has about 70,000+ public and private sector hospitals (2021) that require at least TWO HUNDRED THOUSAND qualified managerial and supervisory HIM healthcare Technologists to assist in providing Swift, Safe, Improved Quality, and Cost-contained care to sick and injured. Our country has very few recognized institutions to train to meet the high demand of the HIM field; many hospitals due to the paucity of trained personnel recruit non-qualified personnel.

If 50 Universities in India start this program now, even after twenty years, they will not be able to meet the demand; this will lead to the selection of non-qualified personnel. Hence, it is high time that many universities and educational institutions have to start a degree, diploma, and certificate program as per the norms introduced by the Allied Healthcare Professionals Act-2021. If there are no guidelines for the HIM field including education; it is high time for the National HIM Association which is legally and morally working should create the required Syllabus and Course content for all three programs. Otherwise, the Father of Medical Records of India and the Middle East; Prof. Dr. G D Mogli had already developed the minimum standards for the entire HIM field that can be used as guidelines for the Central and the State Governments and the HIM educational institutions. The HIM program is highly essential to be started immediately to meet the national standardization and rationalization of digitalization of Indian healthcare delivery to provide the best possible healthcare to inhabitants of the nation and to be a pioneer in the globe.

The Central Government has been working hard for quite some time, in implementing the standardized electronic digitalized system across the country. In view of this development, the first priority is to establish a separate cell attached to the Ministry of Health and Family Welfare to carry out the following:

This advisory department of the Ministry will oversee the entire country's HIM fieldwork in collaboration with the concerned state governments to provide guidance in education, unifying and standardizing the HIM work and minimum infrastructure including staff, equipment, space, and other allied requirements will have to be met by the Government and private corporate hospitals. The Ministry of Health HIM advisory department will be the liaison between the State Government and the Central and private corporate hospitals through the respective state governments.

B. Role of State Government; Ministry of Health in efficient management of HIM department.

The State Government Ministry of Health and Family Welfare's first priority is to establish a separate cell attached to the Ministry of Health and Family Welfare to carry out the following

- Establish a central HIM department in the Ministry of Health to be headed by a Senior HIM professional to oversee the development of HIM programs in the state
- Implementing the national standards for digital medical records/health information management
- Improve the quality of HIM professionals and HIM numbers
- Initiating HIM educational and training programs to generate needed manpower
- Conduct workshops, seminars, and conferences for the benefit of HIM and institutions.
- Develop HIM policies and procedures including, the budget, staff pattern, etc.
- Participate and assist the government in improving the healthcare delivery system
- Strive to advance the eHealth technology to meet the dynamic progress of medicine
- Ensure the HIM department is well organized and efficiently managed
- Assure the HIM professionals that their loyalty and hard work will be awarded aptly.
- Ensure the right person occupies the right position and carries out the right work.
- Implement the guidelines provided from time to time by the central government effectively.

C. Role of Hospital Director inefficient management of the HIM department.

The main role of a Hospital Director especially the policy and decision-making body; is responsible for maintaining well well-organized and efficiently managed HIM

department for upholding scientific medical records including digitalizing records and health information in accomplishing unifying and rationalizing the digital records in the institution or group of institutions. The HIM professionals to be equipped with the latest technologies; new systems, standards, policies, and procedures and organizational and management needs to make the HIM department most vibrant to meet the needs of providing an efficient swift, safe, improved quality, and cost-contained care to the sick and injured. The Hospital administration must provide the following as mandatory needs to manage the HIM department independently.

- Recruit a qualified HIM, officer, to head the HIM department with full authority to manage the HIM department independently in close collaboration with the hospital administration and other departments.
- Works directly under the top hospital administrator to acquaint with the mandatory needs of the healthcare organization; vision, mission, goals, and government laws to comply with and in implementing hospital policies, standards, and procedures.
- Provide the required infrastructure including space, equipment, and other allied requirements according to the bed strength of the hospital and patient workload in OP, A/E, and IP.
- Provide the required staff but not less than the minimum number of HIM staff recommended to manage the HIM department
- Allocate a separate budget for the HIM department
- Ensure the HIM department supplies the required information for effective and efficient management of the hospital including quality improvement and cost-saving methods.
- Deal with medical legal issues and maintain security and confidentiality or digital records information and release the information to only authorized personnel.
- Appraise time to time the quality of care being rendered in the hospital
- Submit mandatory scheduled and un-scheduled reports promptly to the concerned authorities systematically and promptly.
- Ensure the practice of good teamwork; through dedication and commitment work by all the staff members including operational, supervisory, and managerial.

Needs and Management of Medical Records Department:

The primary function of a hospital is the care of the sick and injured. The hospital administrator is legally and morally responsible for the quality of medical care rendered to patients. Therefore, the medical records in charge have a very important role to play in the effective and efficient management of hospital services. The foremost needs of the medical records department (MRD) depend on the overall responsibilities and functions of the department.

The following organizational needs have to be met before we can put the department into operation:

- Planning, setting up, organization, and management of the MRD
- Promoting and obtaining good medical records
- Cooperation with all the departments in the matter of records
- Complete medical record control
- Assist in medical records, QA, and other committees
- Prepare statistical reports and assist in research and teaching programs.
- Location and layout
- Personnel
- Equipment
- Good quality medical record forms (according to international standards) or if computerized hospital; the required infrastructure including hardware and software to be met.
- Budget and budgetary control
- Interdepartmental relationship
- Organizational chart of the department
- Work distribution chart
- Line, staff, and functional authority
- Operational policy:
 - Working hours—shift
 - Monthly duty roster (schedule)
 - Implementation of instructions
 - Training of new staff
 - Submission of reports
 - Supplies
 - Communications
 - Transportation of medical records
 - Housekeeping and physical examination
 - Hotel services
 - Protection from fire
 - Safety control
 - Infection control
 - Disaster and emergency plan.

Chapter XXVII: Checklist for Assessing HIM Dept. Readiness and Planning for the E.H.R

Introduction:

A recent practice brief noted that “the decision to go paperless involves having enough confidence in the electronic system to let go of the paper system. This includes ensuring that the system handles amendments, corrections, authentication, backups, downtime, confidentiality, and printouts and reports for disclosure purposes.”

The purpose of this checklist is to look more specifically at what should be addressed in an HIM department preparing for migration to the EHR. Throughout, it provides references to further reading that will help assess the department’s readiness for the transition. (The references are collected with full citations at the end of the article.) While many additional resources are available, those cited here will provide a solid basis for understanding the process of ensuring that the HIM department is ready to move forward.

The list below is predicated on the assumption that the organization has decided to migrate to an EHR. Additionally, it presumes that the decision has been made to eliminate the paper-based record.

2. Getting Started:

- i. Determine who needs to be involved in planning the EHR migration and evaluating its impact on the HIM department. The project team should include members representing all segments of the HIM department.
- ii. Document the organizational and proposed system processes for amendments, corrections, authentication, backups, and downtime. Will the system provide all the necessary HIM functionality? Will it be phased in or be a single installation? Will support be provided locally or remotely?
- iii. Visit other sites using the system selected, if possible. Visits should include interviews with representatives from HIM departments to identify advantages and disadvantages realized and surprises (both pleasant and problematic) encountered during installation.

3. HIM Department Plan:

- Based on the organizational project plan for implementing the EHR system, develop a comprehensive HIM department project plan of actions, milestones, and rollout (go-live) dates for implementation of the EHR system.

- The HIM department plan must include every step involved in the migration to the proposed system. There must be concrete dates for the completion of all tasks required and a clear assignment of responsibility for each step.
- When developing the plan, consider the rollout plan for the organization. Will the proposed system begin with all patients seen, treated, admitted, or discharged on a specific date, or will the transition be by document type?
- Determine executive-level support that will review, approve, and fund the work of the migration project.
- Oversee the development of forms and clinical documentation templates and views.
- Develop strategies for change management that focus on the human side of the change that will accompany the implementation.

4. Consider the inherent resistance by staff and physicians to the change. Include managing expectations of staff and physicians in the strategy.

5. Anticipate dealing with physicians and others who may refuse to participate in electronic documentation processes. Develop scripting that can assist departmental staff in difficult discussions with resistant physicians or staff.

- Identify EHR physicians, nurses, and departmental champions who can assist with the change, communication strategy, and rollout.
- Consider the use of techniques for envisioning the future of the HIM department with staff to help them understand the future of the work they do. See the article “Visioning e-HIM: A Process for Imagining-and Anticipating-HIM’s Future.”

6. Develop a communication plan that keeps staff and organizational leaders updated with a clear understanding of the status of the HIM department’s plan for migration to the EHR.

- Regularly address concerns and issues that may affect the rollout of the project and steps that are being taken to remedy potential delays.
- Identify responsibilities for communications about the status of the departmental project.
- Update the HIM department staff regularly about organizational progress toward the implementation date.

7. Develop a staffing plan for the implementation of the EHR.

- Once implementation tasks have been identified, estimate the hours required to carry out each task.
- For staff whose jobs will disappear as part of the migration, consider paying them a bonus to continue their employment through the time when their job ends in order to retain qualified staff to perform tasks required during migration.

- Plan for temporary or part-time staff that may be required to simultaneously conduct regular departmental business and the additional tasks required for migration activities.
8. Develop an education plan on new or changed processes for both HIM department and other organizational staff and physicians.
- Consider the use of letters, posters, videos, Intranet sites or pages, brown-bag sessions, demonstrations in physician and clinical lounges, fliers, and e-mail.
 - Messages may include information about specific changes and how to perform required tasks.
9. Prepare a functional analysis comparing the current and proposed systems.
- The analysis should compare all required functionality in the current paper-based or hybrid health record system with the proposed system. Document where the proposed system functionally does and does not match the current system.
 - For detailed information, see the practice brief “The EHR’s Impact on HIM Functions.”
10. Evaluate the results of the current and proposed EHR solution.
- Study any current functions that are not accommodated in the proposed system. Determine whether there will be a need for the function in the future or whether the outcome of the current function will be available in a different way.
 - If the function must continue and is not part of the proposed system, identify whether new software or hardware will be needed or a manual process will continue.
 - Determine if existing or new software or hardware can be interfaced with the proposed system if necessary. Identify costs incurred and funding needed.
11. Develop or update comprehensive HIM department workflows and processes that will be affected by migration to the new system. Review the process workflows and consider appropriate steps to re-engineer and redevelop them.
12. Develop policies, processes, and procedures for the migration. Processes should include detailed processes required throughout the conversion from paper-based documents to electronic format.
13. Review and revise the definition of the organization’s legal health record policy. This may entail multiple revisions as the migration progresses through the paper, hybrid, and electronic environments.

14. During the transition, consider developing a grid or matrix that describes where and how to find specific document types (e.g., history and physical exam forms, operative reports, discharge summaries, physician orders, and test results). Refer to the practice brief “The Complete Medical Record in a Hybrid EHR Environment.”

15. Review contracts for current and future HIM department functions (such as overflow transcription, coding, and release of information), as well as contracts for hardware and software. Determine if contracts will be maintained and whether changes are needed to support migration to the proposed EHR system. Lack of compliance with contract timelines for amendments can be very costly and may result in unnecessary chaos for all parties involved.

16. Identify training requirements for HIM staff.

- Develop plans for training staff to learn new functionality in the selected system.
- For staff whose jobs will change significantly or disappear during the migration to the EHR, offer career counseling and training as appropriate for new jobs that may emerge.

17. Plan the budgetary impact of the migration. Clearly identify budget, and obtain funding for items such as hardware, software, remodeling, training, and replacing or augmenting staff during migration. If contract alteration or elimination for software or hardware will result in costs, enumerate them.

Regulatory and Accreditation Requirements:

18. Research applicable state and federal regulations (e.g., defining the electronic record, retention of records, electronic signatures) and accreditation standards. Refer to the practice brief “Checklist for Transition to the EHR.”

19. Review the Federal Rule of Evidence, Article VIII. The EHR should meet the federal and state rules of evidence to stand as a legal business record. For a summary of the rules of evidence, review the practice brief “Maintaining a Legally Sound Health Record.”

20. Seek the advice of peers working through the same processes and issues in the local community, as well as state and national communities. Join various AHIMA Communities of Practice focused on migration to the EHR, such as e-HIM, Enterprise Imaging, and HIPAA: Computer-based Patient Record.

Content:

21. Comprehensively evaluate HIM department responsibilities and functions related to the content of the EHR. Health records in every state still require business processes

such as a determination of when the record is complete, whether transcribed documents will be displayed in the EHR prior to sign-off, how amendments or corrections are made, and when co-signatures may be required. Refer to the practice brief “Checklist for Transition to the EHR.”

Format and Forms:

22. Investigate issues regarding the format in the proposed system. Forms bring special challenges for most EHR implementations, and development of and adherence to form standards are critical to the success of implementing an EHR. The appearance of electronic versions of forms can contribute greatly to the success or difficulty of transitions to the EHR.

- Determine if paper forms scanned at discharge or clinical documentation templates (or views) will be used. Will a combination of scanned paper and clinical templates be employed?
- If an inventory of forms does not already exist, create a list of cart forms already in use. Involve other departments such as nursing in this process.
- Determine which forms will no longer need to be multipart following the implementation of the EHR.
- Determine which reports may be COLD-feeds to the EHR (e.g., laboratory and radiology results, dictation, and EKG images).
- Determine if bar codes or optical character recognition will be used.
- Collaborate early and often with nursing managers, unit and ward clerks, and ancillary department managers.
- Collaborate with the printer to transition forms to electronic formats (e.g., tiff and PDF).
- Prepare a list of all electronic systems currently in use and definitions of the reports that are generated from these systems. Ensure that the data captured in existing forms and used in reports will be captured in the EHR.
- Attention should be paid to the format of forms in both online and printed states. Placement of bar codes (if used) should be consistent to minimize disruption. Margins should be appropriate for the form.
- For printed formats, black ink should be required. Colored paper forms and use of Addressograph should be eliminated as early as possible in the migration (due to poor reproducibility).
- Refer to the practice brief “Checklist for Transition to the EHR.”

Policies and Procedures:

23. Address issues related to organizational and departmental policy and procedures to ensure the identification of issues related to going paperless. In addition to day-to-day issues such as thinning large health records and procedures during downtime, it is critical to verify how long documents or data will be readily available from the

proposed system. Is the electronic data easily available after a couple of years? How long data is kept online? After archiving, how is it retrieved?

Document-required retention periods may vary among EHR content items (e.g., images versus documents). For additional detailed information, refer to the practice brief “Checklist for Transition to the EHR.” Unrestricted printing is equivalent to being paper-based and risks having printed copies thrown in wastebaskets after use. Refer to the practice brief “The Complete Medical Record in a Hybrid EHR Environment. Part III: Authorship of and Printing the Health Record.”

Privacy and Confidentiality:

24. Evaluate privacy and confidentiality of the selected system for compliance with organizational and HIM department policies and procedures. Revise as appropriate.

- Review HIPAA, state, federal, and accreditation requirements to ensure compliance with privacy and confidentiality requirements.
- Review organizational and departmental policies regarding patient access to health records, release of information, clinical access to protected health information, and document compliance with the EHR system selected.
- For detailed information, refer to the practice brief “Checklist for Transition to the EHR.”

Hardware and Software:

25. Determine if there is sufficient hardware available to carry out organizational and HIM department functions.

- Plan for access points by physicians, nurses, other caregivers, and non-clinical reviewers required to carry out activities previously conducted physically within the HIM department, such as signing records or reviewing quality indicators.
- Determine if remodeling will be required to accommodate necessary hardware and plan accordingly.
- For detailed information, refer to the practice brief “Checklist for Transition to the EHR.”

26. Determine whether hardware or software is required to support HIM department functions outside the scope of the proposed EHR system (see 9, above).

- Determine whether existing hardware and software external to the EHR system are compatible with the proposed platform and software.
- Ensure that contracts are reviewed and amended appropriately (see 15, above).
- For detailed information, refer to the practice brief “Checklist for Transition to the EHR.”

27. Document system downtime for back-up, upgrade, and disaster-recovery processes.

- Define acceptable times for system backups and upgrades and ensure that HIM staff is aware of down-time procedures.
- Participate in regular disaster-recovery process testing to ensure that data recovered are complete and accurate.

Interfaces:

28. Plan for interfaces critical to HIM functions, such as ADT.

- Test the interfaces. Be involved in both the design and testing phases.
- Ensure that the frequency of data transfers is appropriate to the function (e.g., MPI should be updated in real-time, not in batch mode).
- Document reconciliation processes following system downtime.

Develop processes to ensure that changes in the master patient index are reconciled in the EHR. If manual processes are required, only a small number of persons should be involved in making changes.

Chapter XXVIII: Development of Electronic Health Records

Introduction: as a longitudinal medical record, including all care provided at all sites of care in all media. The EHR includes the process and functionality to allow the collection of information and its integration with the knowledge base to create decision support mechanisms, alerts, reminders, and other aids to clinical decision-making. Besides this, the characteristics of the system should secure the information, real-time, point of care, patient-centric, an information source for the clinician, evidence-based decision support, automate and streamline the clinician's workflow, support the collection of data for users other than direct clinical care, such as billing, quality management, disease surveillance, and reporting. Further, it should be capable of reduction of errors, duplication, and time-saving, easy accessibility, convenience, accuracy, completeness, cost reduction, and research and education.

In the past, having experienced problems: it is recommended, that Electronic Health Records be developed should encompass to overcome the problems that existed in a manual medical record system and to meet the present requirement of swift, safe, improved quality care and cost contained system. While developing software, the most important aspect is meticulous preparation of the domain of all functions related to physician's office, outpatient, ER., inpatient, O.T., ICU, CCU, Lab, Radiology, other imaging sections, medication; e-prescription nursing, clinical reminders, medical specialties, documentation, flowchart, and screen by database administrators and web designers prior to technical involvement, such as research and development, coding by programmers, incorporating EHR-related standards (Fig.10) for example; HL7, ASTM, PACS, DICOM, NCPDP, SNOMED, ICD, CPT, HIPAA, and JCAHO recommended accreditation standards, testing, and re-testing, mock and live operation by varied users before the software finally released for life.

Fig.24.1: Standards dealing with data exchange in a healthcare setting: HL7, MIB, and DICOM.

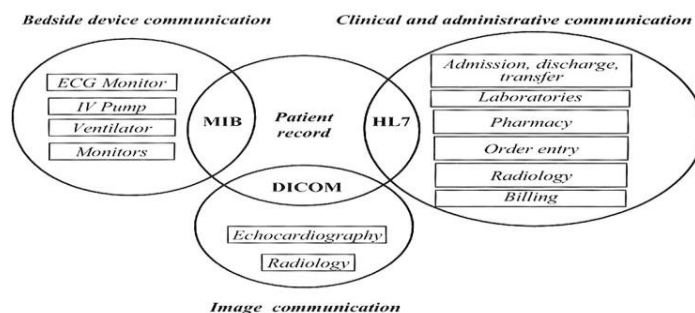


Figure 3.3: Standards dealing with data exchange in a healthcare setting: HL7, MIB, and DICOM.

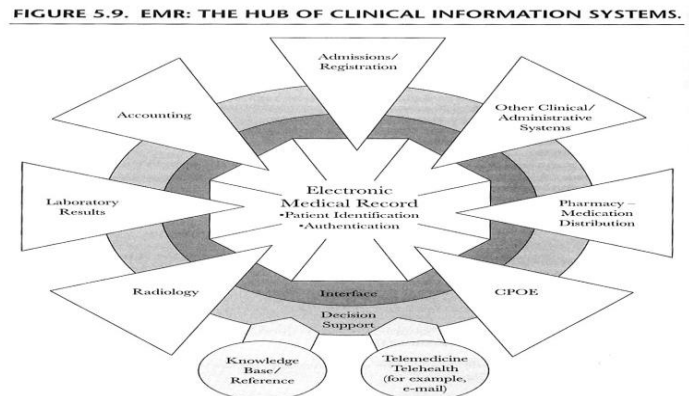
The core capabilities that EHRs should possess are as follows:

- **Health information and data.** Having immediate access to key information - such as patients' diagnoses, allergies, lab test results, and medications - would improve caregivers' ability to make sound clinical decisions in a timely manner.
- **Result management.** The ability of all providers participating in the care of a patient in multiple settings to quickly access new and past test results would increase patient safety and the effectiveness of care.
- **Order management.** The ability to enter and store orders for prescriptions, tests, and other services in a computer-based system should enhance legibility, reduce duplication, and improve the speed with which orders are executed.
- **Decision support.** Using reminder prompts, and alerts, computerized decision-support systems would help improve compliance with best evidence-based clinical practices, ensure regular screenings and other preventive practices, identify possible drug interactions, and facilitate diagnoses and treatments.
- **Electronic communication and connectivity.** Efficient, secure, and readily accessible communication among providers and patients would improve the continuity of care, increase the timeliness of diagnoses and treatments, and reduce the frequency of adverse events.
- **Patient support.** Tools that give patients access to their health records, provide interactive patient education, and help them carry out home monitoring and self-testing can improve control of chronic conditions, such as diabetes.
- **Administrative processes.** Computerized administrative tools, such as scheduling systems, would greatly improve hospitals' and clinics' efficiency and provide more timely service to patients.
- **Reporting.** Electronic data storage that employs uniform data standards will enable health care organizations to respond more quickly to federal, state, and private reporting requirements, including those that support patient safety and disease surveillance."
- **Alignment of Templates.** Methodical arrangement of templates and buttons should facilitate the users with much ease and as a normal flow that makes users favorite.
- **Significant Templates in one screen (area).** Facilitate busy physicians to scan quickly to have a comprehensive picture of past and present; investigation results, medications, and care status in one screen will help in making convincing decisions quickly.

It has been universally accepted that electronic health records (EHR) if properly developed and implemented can play a vital role in the dramatically improved information technology infrastructure support. The use of an EHR and its carefully incorporated International interoperable standards, (Fig 11) accreditation standards, and classification of disease lists, alerts, reminders, and clinical decision support systems as essential to improving the quality of care.. Administratively, the EHR is seen as the vehicle to improve documentation and legibility, increase the speed of communication

between providers of care, and provide multiple users accessibility, the feature that cares for providers most often crave.

Fig.24.2: EMR the Hub of Clinical Information Systems



In brief, an electronic health record (EHR) is a digital version of a patient’s paper chart. EHRs are real-time, patient-centered records that make information available instantly and securely to authorized users. While an EHR does contain the medical and treatment histories of patients, an EHR system is built to go beyond standard clinical data collected in a provider’s office and can be inclusive of a broader view of a patient’s care. EHRs are a vital part of health IT and can:

- Contain a patient’s medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory and test results
- Allow access to evidence-based tools that providers can use to make decisions about a patient’s care
- Automate and streamline provider workflow

One of the key features of an EHR is that health information can be created and managed by authorized providers in a digital format capable of being shared with other providers across more than one healthcare organization. EHRs are built to share information with other health care providers and organizations – such as laboratories, specialists, medical imaging facilities, pharmacies, emergency facilities, and school and workplace clinics – so they contain information from *all clinicians involved in a patient’s care*.

Hospital Information Systems (HIS): refers to the part of health informatics that focuses significantly on hospital management’s administrative, clinical, and financial needs. HIS is a sizeable computerized database management system that processes patient data in order to support patient care. The system is used by healthcare providers to access patient data and to plan, implement, and evaluate care. Besides clinical, it has an administrative and financial management system; from asset management to billing

and invoicing, and recording patient information, it can do it all. The Administration module deals with accounts, stores, assets management, human resource management corporate billing, insurance billing, and so on, and hospital management to keep track of the revenue, outstanding payments, purchases, stocks, etc., Besides, it is well-known for its tight security system to safeguard patient and hospital information.

Picture Archiving and Communication System (PACS): is a technology used to store and digitally transmit electronic images and reports. They can be stored on Cloud Server, for easy access by authorized treating doctors from any part of the globe. The facility links multiple medical imaging devices such as CT, MRI, Ultrasound, X-ray, etc. by converting files into the DICOM format, which enables them to be moved to any device or workstations for easy access and review by the healthcare providers from any part of the world provided they are authorized to view.



Conclusion: The electronic health record should meet aforesaid characteristics scrupulously, and then only, one can be sure that overwhelmingly and comprehensively the expected results could be accomplished. Furthermore, if EHR is to occur in any institution, local, state, or federal level, there is a need for a fundamental shift in “attitude”, awareness, habits, and capabilities in the area of privacy and security.

Chapter XXIX: The critical role of Health Records in advancing diagnosis and treatment through Artificial Intelligence (AI)

Abstract: Health records document the history, clinical findings, diagnostic results, care progress, and medication of a patient. Health records, documented and maintained correctly, support the doctors, nurses, paramedics, and other medical personnel in delivering the right treatment to the right patient at the right time. This paper explores the criticality of the health record and how it will play a crucial role in delivering innovation that can potentially change the way diseases are diagnosed and treated, lower healthcare costs, and potentially identify new cures.

Introduction: Health records primarily serve the interests of the patient and healthcare professional, if utilized appropriately, it serves the interests of the general population as well. Health records are maintained in paper and digital forms. Many developed countries have digitized health records, in some cases by enacting laws, to improve portability, enable continuity of care irrespective of the patient's location, accelerate payment for healthcare services, enhance patient care, enable performance measures in healthcare practice, and facilitate research.

Health records are considered highly confidential, and the information contained within it must be available to the patient and the healthcare professional only. Health records contain a gold mine of information that can be used to conduct research, the confidentiality and the consent of the patient must be taken when health records are used for such purposes. This paper will investigate how health records can facilitate research without compromising patient privacy and confidentiality. It will also explore how advanced technologies such as Artificial intelligence and Machine learning can be utilized to develop newer diagnostic and treatment techniques.

Overview of health records: At a high level, the data contained in the health record describes a horizontal view of care delivered to the patient, the data includes the following:

- Demographic information
- Vital statistics
- Clinical information
- Prescription information
- Administrative
- Insurance claims

Health records may contain information from single components of care for example a physician's clinic, emergency department, and ICU, or they can contain data from an integrated hospital. Health records were introduced largely to improve healthcare quality and to capture billing data, but increasingly, nowadays are being used in clinical studies, to facilitate patient recruitment for the study, or they could be utilized to

conduct a health record-based observational study. The applications for an observational study can be:

- Health utilization
- Safety Surveillance
- Drug utilization
- Risk factors
- Epidemiology

Electronic health records: Advances in Information and Communication Technologies have led to a shift in the way patient information is captured, stored, and distributed. This technological shift has caused a gradual shift from paper-based health records to Electronic Health Records (EHR). EHR is a longitudinal record of patients. It contains information like patient history, diagnosis, laboratory results, treatment, etc., maintained in a digital form. The benefits of HER over paper-based health records are as follows [5]:

- Accessible from anywhere at any time
- Require less physical storage space
- Improves quality of patient records and cost-effective
- Provides summary reports of the patient's clinical progress
- Portable across healthcare organizations
- Backups of the patient record can be maintained at lower costs
- Can be utilized for research purposes

Standards for Electronic Health Records (EHR) in India: was first introduced by the Ministry of Health and Family Welfare in September of 2013 [6]. The standards document contained recommendations for creating and maintaining a uniform system of EHRs by healthcare providers. The standards were further revised in December 2016. The benefits of standardizing Electronic Health Records are as follows:

- Promote interoperability
- Promote Technical innovation
- Encourage Vendors and stakeholders
- Keep implementation costs low
- Keep maintenance costs low
- Implement best practices in the form of standardization

In 2018, the National Institution for Transforming India (NITI Aayog) released a visionary digital framework called "National Health Stack", with the objective of creating digital health records for all citizens of India by the year 2022 [5].

As mentioned previously, with advancements in Information and Communication Technologies and Government initiatives, the transformation of health records to

electronic health records is a critical initiative that will benefit patients, the general population, and the country.

The development and implementation of EHRs in India are low, in comparison to developed nations, even though EHRs have tangible benefits. The adoption of EHRs, in India, is limited to private hospitals in the various metro cities.

The Healthcare Information and Management Systems Society (HIMSS) created an eight-stage Electronic Medical Record Adoption Model (EMRAM) [6]. EMRAM provides a method to measure the level of adoption and utilization of electronic health records functions in an organization. The eight stages are described below:

	Description of the Stage
Stage 0	Stage 0 All Three Ancillaries (Laboratory, Pharmacy, And Radiology)
Stage 1	Ancillaries - Laboratory, Pharmacy, And Radiology/ Cardiology Information Systems; PACS; Digital Non-DICOM Image Management
Stage 2	CDR; Internal Interoperability; Basic Security
Stage 3	Nursing And Allied Health Documentation; EMAR; Role-Based Security
Stage 4	CPOE With CDS; Nursing and Allied Health Documentation; Basic Business Continuity
Stage 5	Physician Documentation Using Structured Templates; Intrusion/ Device Protection
Stage 6	Technology Enabled Medication, Blood Products, And Human Milk Administration; Risk Reporting; Full CDS
Stage 7	Complete EHR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security

This eight-stage model is a standardized method of determining the level of adoption among healthcare organizations. Healthcare organizations must strive to continuously upgrade their status vis a vis the EMRAM. The higher the level, the better the delivery of quality patient care, and additionally it opens the health records for secondary use cases.

Role of Health Records in Research: The primary purpose of electronic health records is to enhance the quality of patient care by including performance metrics in clinical practice. A secondary purpose of electronic health records is utilizing them for research.

As previously indicated, the data contained in EHRs can be used to support observational studies [1], for example, EHR data can be correlated with population health, education, housing, and social and criminal justice data to determine the cause of disease. It also supports epidemiological research. EHR data has allowed environmental and social epidemiologists to utilize the address information of the patients to study the proximity to environmental conditions that could lead to disease, such as pollution, exposure to chemicals, etc. EHRs have also been utilized to determine health outcomes such as hypertension, and diabetes, due to exposure to air pollution.

EHRs can also be utilized in safety surveillance; the EHR can provide a fairly accurate rate of events (side effects) and information on the real-world use of drugs.

Applying Artificial Intelligence to Electronic Health Record Data: Though the adoption of Electronic Health Records is low in India, Vis a Vis developed countries, the trend in developed countries is the adoption of EHRs has led to the collection of massive amounts of data. The amount of data is classified as Big Data and any kind of research that involves large amounts of data must utilize Big Data technologies. Research on this scale of data is challenging, and artificial intelligence (AI) is a solution. AI is being utilized extensively on imaging data, but its application on clinical data recorded in EHRs is starting to take off. For example, in Cardiology [6], AI is applied to EHR data, providing information regarding risk factors, drug interaction information or information relevant to patients undergoing catheterization. In Ophthalmology [3], it is being used to predict risks of cataract surgery complications and perform a risk assessment of diabetic retinopathy. AI applied to EHR data is also being used to detect rare diseases, which are left undiagnosed, due to the low case count, early detection using AI can improve outcomes for rare diseases. As the figure below shows, though aspirational, AI will gain a prominent role in healthcare by:

- Automating monotonous tasks
- Chatbots for automated responses to frequently asked questions
- Implement virtual healthcare assistants

Health records will play a critical role in the advancement of healthcare, by enabling AI and machine learning through the data that health records store.



Image Credit: Sparkle Russell-Puleri: <https://towardsdatascience.com/predicting-future-medical-diagnoses-with-rnns-using-fast-ai-api-from-scratch-ecf78aaf56a2>

Conclusion: In conclusion, the primary use of health records has always been critical to delivering quality healthcare. Digitization of health records into Electronic Health Records is contributing further to the enhancement of the delivery of quality healthcare and providing better user experiences for patients. The secondary uses of health records, especially Electronic Health Records, for research and application of artificial intelligence is now creating a ground-breaking impact in delivering innovation to healthcare in terms of early diagnosis, disease detection, pandemic outbreaks, and population health.

Glossary:

AI: Artificial Intelligence
 CDR: Clinical Data Repository
 CDS: Clinical Decision Support Systems
 CPOE: Computerized Provider Order Entry
 DICOM: Digital Imaging and Communications in Medicine
 EHR: Electronic Health Records
 EMAR: Electronic Medication Administration Records
 ML: Machine Learning
 PACS: Picture Archiving and Communication System

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Chapter XXX: Digital Health, Healthcare Informatics & Business Intelligence

Introduction:

Digital health in other ways of interpretation as digital healthcare is a broad, multidisciplinary concept that includes concept significance from an intersection between technology and healthcare. Digital health applies a digital transformation to the healthcare world, incorporating so, software, hardware, and services. Under its umbrella, digital health branches and not limited to mobile health (eHealth) apps, electronic health records (EHRs), electronic medical records (EMRs), Health Information Exchange (HIE), wearable devices, telehealth, and telemedicine, as well as personalized medicine.

Stakeholders in the digital health field include patients, practitioners, researchers, application developers, biomedical engineering, and clinical device manufacturers and distributors. Digital healthcare plays an increasingly important role in the cloud of healthcare today and will in the next generations with advanced technology.

Terms related to digital health include and are not limited to health information technology, healthcare tools, health analytics, healthcare informatics, business intelligence, artificial intelligence, *hospital IT*, and medical technology

Digital Health as we know:

The application of information and communications technology to provide digital health interventions to prevent disease and improve quality of life is not a new concept. When it comes to the face of global concerns, mainly related to aging, child illness and mortality, epidemics and pandemics, high costs, and the effects of poverty and other relevant social factors on access to healthcare, the digital health platforms, health systems, and related technology continue to grow in importance.

Situations, programs, commitments, and global alerts do develop the artificial intelligence and digital health-like innovative deployment of technologies that include and not limited to patient-facing tools, such as online symptom checkers, patient portals, monitoring tools, virtual clinical encounters, payers systems, coverage, and telehealth.

Benefits of Digital Health:

Digital health has the potential to prevent disease and lower healthcare costs while helping patients monitor and manage chronic conditions. Some applications in healthcare trusts like health maintenance help in preventive medicine, vaccinations, immunizations, travel medicine, etc., It can also tailor medicine for individual patients.

Healthcare providers also can benefit from advances in digital health. Digital tools give healthcare providers an extensive view of patient health by significantly increasing access to health data and giving patients greater control over their health.

Additionally, technologies such as smartphones, social, networks, and internet applications offer new ways for patients to monitor their health and have increased access to information. Digital Health rapid application development companies emerged with advanced features. In a different interpretation, digital health technologies enable patients and consumers to manage and track health and wellness-related activities more efficiently.

While technologies such as virtual reality (VR) tools, wearable medical devices, and 5G help improve treatment for patients,

Challenges of Digital Health:

The digital transformation of healthcare has raised several challenges that affect patients, medical professionals, corporate standard designers, technology developers, policy and procedure guideline makers, clinical benchmark setters, protocol developers, and others. Due to the massive amounts of patient data collected from a variety of systems that store in the secured repositories and code data differently, data interoperability is an ongoing challenge, but operationally successful in different corners.

Additional challenges relate to concerns focus mainly on technology and ethics, digital literacy among patients, resulting unequal access to healthcare, data storage, access, sharing and ownership, security, confidentiality, and privacy, errors by medical robots, etc.,

Digital Health and Business Intelligence (BI):

Business intelligence in healthcare combines clinical business analytics, clinical information, data mining, data visualization and imaging, data tools, and infrastructure, artificial intelligence, along with best practices. The intelligence elements and components are integrated, interfaced, and interpreted to help healthcare organizations make more accurate data-driven decisions and render quality care.

Clinical business intelligence architecture is usually designed for strategic decision-making. The major objective of BI is to enable interactive access to data both administrative and clinical, to enable manipulation of data, and to provide business managers and analysts the ability to conduct appropriate analysis of the historical and current data, which will reveal the conditions and performance for making better decisions, meet the required KPIs, maintain standards, focus on accreditations, meeting the set benchmarks, betterment of services and provide world-class healthcare to the scope.

Digital Health and Clinical Informatics:

Health informatics in other words health information systems is the field of medical science and engineering that aims at emerging and developing different methods and technologies for the acquisition, processing of acquired data, and study of patient data, which can come from different sources and modalities, such as electronic health records, diagnostic test results, Imaging, etc.,

Deployment of well-designed and well-featured clinical informatics systems in healthcare facilities is not a replacement for health information in fact it is a digital form of health information that is a combination of data from many sources.

Conclusion:

Digital health is the convergence of the digital and genetic science revolutions with health, healthcare, living, and society to enhance the efficacy of healthcare delivery and promote better health and well-being. It is a means to enable people in the scope to gain access to well-granulated and tailored treatments and care while reducing inefficiencies in the healthcare system.

Clinical business intelligence is the interpreter of clinical data. Health informatics, on the other hand, is a component of digital that is responsible for the design, development, analysis, and utilization of patients and enterprise-wide data systems.

Chapter XXXI: Medico-Legal Aspect of Manual and Electronic Health Records

Hospital medical records can be documentary evidence as per the laws existing in different countries and they are generally subpoenaed to court. The Medical Record is the "Who, What, Why, When, and Where of patient care in the hospital". With the advancement in medical knowledge and the complex nature of medical and surgical treatment in hospitals today, an accurate and adequate medical record is essential as documentary evidence of the care and treatment that the patient received in the health care institution.

Introduction: The Medical Record is the "Who, What, Why, When and Where of patient care in the hospital". With the advancement in medical knowledge and the complex nature of medical and surgical treatment in hospitals today, an accurate and adequate medical record is essential as documentary evidence of the care and treatment that the patient received in the hospital.



Fig. 10.1: Patient Record is a Legal document

Hospital medical records can be documentary evidence as per the laws existing in different countries and they are generally subpoenaed to court (Fig.6 & Fig.7) in the following types of cases: 1. Insurance Cases 2. Workmen's Compensation Cases. 3. Personal injury suits. 4. Malpractice Suits 5. Will cases 6. Income tax act. 7. Certificate of birth and death 8. Criminal cases; 9. Medical Certificates of various types such as out-patient attendance, hospitalization, disability, fitness, and so on. 10. Identification of patient, etc. The medical record is both a personal document and an impersonal document. As a personal document, the record identifies the patient by name and presents the physical findings and treatment given. Such information is confidential; no one is allowed access to the record (not even next of kin) and no information is released without the written authorization of the patient. As an

impersonal document, the patient's record is utilized for research or educational study, and authorization from the patient is not mandated unless the patient will be specifically identified in reports or publications emanating from these scholastic endeavors.



Fig.101.2: MR is summoned in the court Fig.10.3: MR reflects the treatment provided



Fig. 10.4: Lawyer examining the medical records

Temporary permission to leave the hospital: As a policy, any patient who is hospitalized should not be permitted to leave the hospital. At the discretion of the treating doctor, the patient may be permitted to leave the hospital temporarily for a period of not more than 24 hours. If permitted and the patient fails to return within 24 hours, he or she should be treated as discharged and the necessary entries made in the record. In the case of patients, who return according to schedule, necessary entries of date and time of leaving and returning to the ward should be made in the patient file.

Consent: Written consent must be obtained from the patient or nearest relative for medical examinations, investigations, treatments, and procedures performed in the health care facility. In the case of children, persons of unsound mind, unconscious patients, and the consent of the guardian, the spouse, or the nearest relative may be obtained. The consent of the husband is required if an operation deprives his wife of her marital functions.

General Consent: General Consent relating to medical examination, investigations, and treatment must be obtained by the admission office as routine, in all cases, admitted to the hospital.

Special Consent: Special Consent in addition to general consent, is obtained for surgical procedures (operations), amputations, sterilizations, patients leaving against medical advice, donations of organs, post-mortem examinations, etc. These must be

obtained by the ward nurse in the presence of a witness. The legal responsibility is shouldered by the treating or operating surgeon.

Emergency Operation: Emergency operation procedure that has to be performed to save the life of a patient (for whom consent was not possible), this should be written in the patient's medical file “An emergency operation is essential to save the life of the patient and cannot be delayed” and should be signed by two physicians including the operating surgeon and the hospital administrator or his representative.

Patient leaving the hospital against medical advice: If a patient is discharged against medical advice, the signature of the patient or nearest relative should be obtained in a prescribed form. The patient or nearest relative should be informed of the consequences or risks involved and the hospital is not responsible for any adverse effects. In the event the patient or nearest relative refuses to sign a release, the patient record should contain a statement signed by the physician and duly witnessed setting forth the circumstances, reasons, and warnings against such premature departure.

Release of Information: Confidentiality: Medical records and health information whether in verbal form or written documentation pertaining to any identified patient is confidential. As such the information available either in the form of medical records, disease, and operation indexes, computer-stored data, microfilm, photographs, videotapes, audiotapes, or any other device used for these purposes should be treated as confidential documents, Therefore, only authorized staff is allowed to deal with such patient information.

Authorized staff Are those who are involved in taking care of the patient, normally including medical, nursing, and paramedical personnel as well as the staff of the Medical Record Department.

Release of information without the patient’s permission:

- **Conditions:** (e.g. injuries, poisoning, abortions, or cases involving accidents, suicides, and homicides) must be reported to the police or other legal authorities.
- **Communicable and other notified diseases:** must be reported to the concerned authorities.
- **Events (births, deaths, fetal deaths):** must be reported to civil registration authorities, either directly or through family members.
- **Court order:** The hospital is also obliged to provide information in response to a court order. All reports may be made available to the court without the patient’s permission.

- **Medical records and health information:** Is the property of the hospital, therefore, all correspondence for medical information on patients in the hospital will be handled by the hospital administrator or his authorized representative. This includes insurance forms, workmen's compensation forms, medical certificates, letters to schools or places of employment, government forms, questionnaires, requests for case summaries from attorneys and courts of law, etc. The physician is not permitted to release any information except information related to patient care. Any request for information including medico-legal cases must be referred to the hospital director.

- **Removal of medical records and health information:** The informational content of the medical record must be safeguarded against loss, defacement, tampering, or use by an unauthorized person. Only authorized employees to have the right to read or copy the contents of any patient's record. Any violation of the rules of confidentiality should be prosecuted and punished as per the existing laws.

Impact of the Consumer Protection Act on the Medical Field: Since 1986, the Protection Act came into existence healthcare providers including doctors, nurses, paramedics, and hospital administrators have to be meticulously careful in understanding the full responsibilities that they have to fulfill in the legal and administrative sense.

Who is a Consumer? The paying patient, who receives health services from clinics, health institutions, nursing homes, etc., is considered to be the consumer.

Why the Consumer Protection Act? The statute has been enacted to provide for better protection of the interest and for that purpose consumer council has been established.

What is Service? It is defined as medical/health service of any type received in any recognized health institutions, clinics, or nursing homes from qualified medical, nursing, or paramedical professionals by a patient.

What is Deficiency: Under the Act, deficiency in relation to any service means any faults, imperfection, shortcomings, and inadequacy, in the quality, nature, and manner of performance which is required to be maintained under law.

Medical Malpractice/Negligence: This could be distinctly divided into two categories primarily due to incompetence and mere negligence, and secondly due to non-maintaining organized patient records.

Medical practice under the law is more than a mere error in treatment or diagnosis. To be judged to be malpractice there must be serious harm caused to the patient as a direct result of the error. Furthermore, the error must be caused by the negligence of the healthcare provider.

The medical record is the basic reference document used in medical malpractice litigation. The poorly written, disorganized record is strong evidence of an incompetent healthcare provider. The poorly kept record is not, in itself, of negligence on the part of the healthcare provider, but it is proof of substandard care. The least credible records are those that are internally inconsistent, e.g., the situation where the doctor's progress notes indicate 'the patient doing well, while nursing notes indicate the patient had developed a high fever.

How long medical records should be preserved: At least a minimum period is prescribed for the retention of records of Federal or State Governments. In the absence of national or state laws, Hospitals or health institutions can have their own retention and preservation policy that will be applicable in a court of law.

Consumer Protection Act 1986: Under the provisions of the Limitation Act 1963 and Section 24A of the Consumer Protection Act 1986, which dictates the time within which a complaint has to be filed, it is advisable to maintain records for 2 years for outpatient records and 3 years for inpatient and surgical cases. However, the provisions of the Consumer Protection Act allow for condoning the delay in appropriate cases. This means that the records may be needed even after 3 years. It is important to note that in pediatric cases a medical negligence case can be filed by the child after acquiring the age of majority.

The Medical Council of India guidelines also insist on preserving the inpatient records in a standard prescribed form for 3 years from the commencement of treatment. (Dr. Mogli states it should have been from the date of discharge for inpatients and the last date of visit for outpatients) The records that are the subject of medico-legal cases **should be maintained until the final disposal of the case** even though only a complaint or notice is received. It is necessary that the Government frames guidelines for the duration for which medical records are preserved by the hospitals so that hospitals are protected from unnecessary litigation in issues of medical records. The provisions of specific Acts like the Pre Conception Prenatal Diagnostic Test (PNDT) Act, 1994 (PNDT), Environmental Protection Act, etc. necessitate proper maintenance of records that have to be retained for periods as specified in the Act. Section 29 of the PNDT Act, 1994 requires that all the documents be maintained for a period of 2 years or until the disposal of the proceedings. The PNDT Rules, 1996 require that when the records are maintained on a computer, a printed copy of the record should be preserved after authentication by the person responsible for such record.

Preservation Period for legal cases:

- **Medico-legal cases:** where often medical records are required to prove medical history/treatment given, medical negligence, etc., and especially in road traffic accidents

- **Insurance cases:** where the insurance company wants to review the medical records and verify the claim
- **Workmen's compensation cases:** In cases where an injury occurs to a workman out of and in the course of employment.
- **Criminal cases:** to prove the nature, timing, and gravity of injuries.

State Record Retention Requirements: Each state may have an individual-specific retention record retention policy, if so, one has to observe those laws and retain records accordingly. In the absence of central or state laws for retention, the organization or institute can develop its own for the day-to-day practice of taking care of minimum required period records to be retained to avoid any legal or administrative issues.

If the patient is a minor, the healthcare provider or institution should retain health information until the patient reaches the age of majority (as defined by state law) plus the period of the statute of limitations so that the child after reaching majority, may decide to file a case or not, for that, some countries allow three more years after attaining a majority to file the case or not. The country's law fixes 18 years to be a major, and the record for newborns to be retained for 21 years. A longer retention period is prudent in most legal potential cases. In some countries have retention of records requirements for various needs of agencies such as accreditation, some research organizations in collaboration with the government, and organizations with special patient populations need to go one step further in developing a records retention schedule? Special populations such as minors, behavioral health, or research patients may be governed by other regulations. The Food and Drug Administration, for example, requires research records pertaining to cancer patients to be maintained for 30 years.

Legal aspects of Electronic Health Records: Electronic health records play an important role in an efficient healthcare delivery system that is being adopted worldwide. Most of us are familiar with the legal aspect of manual medical records (Fig.9), nevertheless, legal and ethical aspects related to electronic health records need to be understood clearly. Enhanced portability and accessibility of EHR data raise ethical questions regarding ownership of protected health information and clinicians' responsibility to prevent and inform patients of the possibility of privacy breaches. The health record is also a legal record for healthcare organizations; as such it must be maintained by taking into consideration the professional practice, applicable regulations, accreditation, and legal standards.



Figure 10.5: Patient Records of Medico-legal cases

Authentication for Legal Admissibility: Important issue is that all the records must be identified & authenticated while providing the care, to be admissible in a court of law.

Testifying about Admissibility: If records of health or image are to be admissible in a court of law as evidence, the rule states, “if data are stored in a computer or similar device, any printout or other output readable by sight, shown to reflect the accuracy, is an original. An accurate printout of computer data satisfies the best evidence rule, which ordinarily requires the production of an original to provide the content of a writing, recording, or photograph.

Authorship: Generally, the healthcare provider who records the information as part of treatment is the origination of recorded information. Authors are responsible for the completeness and accuracy of their entries in health records. If the entries are made by a second person e.g., a nursing staff on behalf of the care provider (physician), the treating physician is responsible for the content, accuracy, and completeness of the document.

Authentication of Entries: All entries documented including event, condition, opinion, and advice, by the care provider in the health record, has to be authenticated and dated.

Types of Signature: In electronic health records, the signature generally includes electronic or digital signatures or computer keys. Authenticated scanned documents can follow either manual (paper) or electronic guidelines.

Rubber stamp signatures: Acceptance of this system varies from country to country and is acceptable if permitted by state or central/federal reimbursement regulations.

Initials: Initials should not be used for entries where a signature is required by law. And also not to be used on narrative notes or assessment entries. Nevertheless, initials are permitted to authenticate entries such as flow sheets, treatment, or medication records.

Fax signatures: The fax signatures are generally acceptable in many nations unless the state and central /federal laws are contrary to acceptance.

Electronic Signatures: Electronic signatures are acceptable if permitted by the state, central /federal, and reimbursement regulations. This varies from nation to nation.

Digital signature: a digital signature provides digital assurance that information has not been modified as if it were protected by a lock that is broken if the content were altered.

Other Documentation Issues: In the manual system, the policies of the institution are to use only authorized abbreviations in the health records by all the staff. In EHR, abbreviations should be eliminated as information is formatted. Electronic order sets,

document templates for point-and-click or direct charting, voice recognition, or transcribed documents can be formatted or programmed to eliminate abbreviations.

Cut, copy, and paste functionality: In EHR, the primary issue with cut, copy, and paste functionality is one of the authorship problems. It is difficult to identify who is the author and is the date of origination for copied and pasted entries. There are several issues like, cutting from one record and pasting in another record, lack of identification of the original author and date, and acceptability of cutting and pasting the original author's note without his or her permission leads to many legal issues, hence, clearly laid down policies and procedures to be adopted for this process.

Link one patient and one record with one number. Each and every page in the patient record or computerized record screen must identify patients by name and health record number. Patient name and number must be on both sides of every page as well as on every form and computerized printout.

Chronological and timeliness of each entry: There should be a proper flow of chronological entries; the record must reflect the continuous chronology of the patient's healthcare. The EHR systems should have the capability of producing an output that chronicles the individual's encounter. As related to the timely recording of entry are vital for the admissibility of a health record in a court of law.

Date and Time: Every entry in the health record must include a complete date (day, month, and year) and a time. In electronic health record systems must have the facility to date and time-stamp each entry as and when the entry is made. Every entry in the health record must have a system-generated date and time-based on the current date and time.

Imaged records: The standards used for manual (paper) records apply to imaged records. In addition, all scanned documents must be date and time-stamped with the date scanned. All entries to be scanned into the record should be made in black ink to facilitate the legible reproduction of records. Correcting an error in an electronic computerized health record system should follow the principles laid down by the institution. The system must have the ability to track corrections or changes to the entry once the entry has been entered or authenticated. When correcting or making a change to any entry in a computerized health record system, the original entry should be viewable, the current date and time should be entered, the person making the change should be identified, and the reason should be noted. If a hard copy is required to be printed from the EHR, the hard copy must also be corrected invariably with changes made.

The institutional policy must clearly define how errors are corrected in imaged documents while preserving a readable form of the original documents or images.

Retraction: this involved removing a document for standard view, removing it from one record, and posting it to another within the electronic document management system.

Late Entry: The policy must be very clear when a required entry was not made in a timely manner; a late entry can be made by identifying the new entry as a “late entry” with the current date and time.

Amendments: An amendment is used to provide additional information in conjunction with a previous entry. When making an addendum; record invariably date and time in the document, write “addendum” state the reason for the addendum with reference to the original entry, and complete as soon after the original note as possible.

Decision Support: This system generates notifications, prompts, and alerts that should be evidence-based validated, and accepted by the organization.

Notification and Communication with Patient or Family: In the event of any discussion with the patient’s family occurring regarding the care of the patient, the treating physician might send a notification to the family members. It is required to document all information including notification, and discussion with family along with the date, time, and of all communications or any efforts made.

Electronic Consent: With electronic consent, the patient views the consent and electronically signs it. An organization should verify that the electronic signature or authentication protocol meets all legal and regulatory requirements.

Managing data from the patient other facilities: The organization’s policy should define whether the data in its entirety or just the data abstracted and transferred by the clinician is incorporated into the patient’s health record and the place of its insertion to be clearly stated and the source of the clinical data should be documented. In the electronic health record system, if the medical images are received from the patient or outside health organizations, the images may be uploaded into the central clinical system and give reference to where the data is located the source of organization, author, and date.

Hybrid records: Healthcare institutions should define the procedure for the transfer of clinical information received on CD DVD or USB into the hybrid record. Options may include print to paper then image or upload into EHR or interface with the hybrid record. It must be determined whether laws, regulations, or organization policy require retention of the original media or a photocopy.

Retention and preservation schedule: Healthcare organizations, as a policy, must establish retention and preservation schedules for the records, images, and content of the legal health record that complies with state or central /federal regulations and the needs

for continuity of patient care, medical education, research, legal, and other administrative purposes. For electronic health records, the electronic storage media such as magnetic and optical formats must meet the organization's retention and preservation schedule should include retention of all types of data including discrete data, text, audio, video, and images. Clear policies should address backup procedures to ensure the retention and preservation process is strictly observed to protect against data loss or damage.

Technology dynamism: Since records or data are retained for a longer duration, the technology used earlier is different from the present or future technology which is dynamic. As technology changes and its features are also different, measures must include "backward compatibility" or some type of software that facilitates to access previous systems' information for compatibility with the new or upgraded system and also for future comparability.

Purging and Destruction: Generally, nations and institutions have a clear policy on purging and destruction of manual and electronic records.

Data Integrity: Integrity is defined as the accuracy, consistency, and reliability of information content, processes, and systems. Information integrity is the dependability or trustworthiness of information, which is a vital concept in a legal proceeding. The integrity of health records is maintained through access, network security, audit trail, security, and disaster recovery processes.

Health Record Access Control: Health record access control is critical to avoid the access of unauthorized persons. This process determines the policies of authorized persons to access patient information in the health record. Controlling access is an important aspect of keeping the legal integrity of the health record.

Audit Trail: The element of an audit trail may include the date, time, nature of the transaction or activity, and the individual or automated system linked to the transaction or activity. Transactions may include additions or edits to the health record. Activities include access to view or read, filing, and data mining. The audit trail functionality is to support the legal integrity of the health record.

Disaster Recovery: An important aspect of maintaining a legally sound health record is securing the record to prevent loss, tampering, or unauthorized use. Rules of evidence require an organization to have policies and procedures in place to protect against alterations, tempering, and loss. Organizations must address and develop the following to adequately prepare for a disaster and prevent the loss or destruction of information. Data backup plan, disaster recovery plan, emergency mode operation plan, Testing and revision procedures, applications, and data criticality analysis

Conclusion: Healthcare providers across the globe recognize the benefits of electronic health records (EHR) that provide swift, safe, improved quality, and cost-contained care. With these benefits, the maintenance of EHR also brings quite a good number of legal challenges that need to be dealt with prudently. The legal and ethical aspects related to electronic health records need to be understood clearly, and health records must be maintained in a way that is legally sound to enable to meet the legal challenges of local, state, and central /federal jurisdiction

Chapter XXXII: Legal Aspects of Medical Records

(Courtesy of Junaid Nazir, MRO & Anup Misra, Capitol Hospital, Punjab, India)

Abstract: A medical record is a confidential compilation of pertinent facts about an individual's health history, including all past and present medical conditions, illnesses, and treatment, with emphasis on the specific events affecting the patient during the current episode of care. The information documented in the health record is created by all healthcare professionals providing care and is used for continuity of care. It reflects and creates excellence in medical care and of Standards of Care. Documentation is legal protection for both patient and physician in the dispute over care. Failure to document important details can lead to adverse patient outcomes and malpractice suits. **(Keywords: Confidentiality; consent; documentation)**

Introduction: The legal health record is the documentation of healthcare services provided to an individual during any aspect of healthcare delivery in any type of healthcare organization. It is consumer or patient-centric. The legal health record contains individually identifiable data, stored on any medium and collected and directly used in documenting healthcare or health status. Components of medical records a. Front sheet or identification summary sheet b. Consent for treatment c. Legal documents like referral letter d. Discharge summary e. Admission notes, clinical progress notes, nurse progress notes f. Operation notes g. Investigation reports like x-ray, histopathology reports h. Orders for treatment & the modification forms listing daily medications ordered i. Management of continuous care by medical and nursing staff. Patient IP records are well documented; date and time and signature of healthcare providers including doctors, nurses, and other allied professionals.

Definition of MLC: As per Prof. Dr. Mogli "all cases of Accidental, Homicidal and Suicidal are considered to be Medico-Legal cases in exceptional cases like children; or patient was getting care in the same hospital are "Brought Dead" at the discretion of treating physician to treat them as MLC or not. Cases where the attending doctor after taking history and clinical examination of the patient the treating physician determines whether the patient is a medic-legal or not; in fact all the cases of Accidental, Homicidal, and Suicidal and all adult cases are MLCs, except in children are generally considered MLC. In some cases like Poison; rape need to collect investigation samples by law is essential to diagnose or right cause in accordance with the law of the land.

Examples of MLC: 1. Injuries due to Accidents and Assault. 2. Suspected or evident cases of suicides or homicides (even attempted cases). 3. Confirmed or suspected cases of Poisoning. 4. Burns. 5. Cases of injuries with the likelihood of death. 6. Sexual Offences. 7. Suspected or evident Criminal Abortion. 8. All patients brought to the hospital in suspicious circumstances/ improper history (ex: found dead on the road). 9. Unconscious patients where the cause of unconsciousness is not clear. 10. Child Abuse 11. Domestic violence, 12. A person under Police Custody or Judicial Custody. 13.

Patients dying suddenly on the operation table or after the parenteral administration of a drug or medication. 14. Case of Drunkenness. 15. Brought Dead. 16. Natural Disaster.

The Police intimation: The police should be informed under Section 39 of Criminal Procedure. Code, the attending MO is legally bound to inform the police about the arrival of an MLC. Any failure to report the occurrence of an MLC may invite prosecution under Sections 176 and/or 202 of I.P.C. (According to Prof. Dr. Mogli; “Not documented in the patient record means not done”).

Importance of medical records: Courts rely heavily on Medical Records for evidence and they are summoned for the following cases- • Criminal cases • Personal injury cases • Cases relating to workmen’s compensation • Malpractice suits • Insurance cases • Will cases Legal aspects • Police authorities and the court can summon MRS under the due process of law. **The limitation period** for filing a case paper is a maximum of up to 3 years under the limitation Act. And according to the consumer protection act it is up to 2 years.

Confidentiality: Medical records and health information whether in verbal form or written documentation pertaining to any identified patient is confidential. As such the information available either in the form of medical records, disease, and operation indexes, computer-stored data, microfilm, photographs, videotapes, audiotapes, or any other device used for these purposes should be treated as confidential documents,

Release of Information: The following points may be kept in mind while releasing the information from medical records. • Name of Institute or individual that is to release and receive the information. • Mention the Purpose, take Patient consent, Extent or nature, and need and take the authorization from the competent authority for the information to be released. The authorized staffs are those who are involved in taking care of the patient, including medical, nursing, and paramedical personnel.

Release of information without the patient’s permission: In the following cases no need to take permission from the patients or their relatives as mandatory by the government.

Communicable and other notified diseases: must be reported to the concerned authorities.

Events (births, deaths, fetal deaths): must be reported to civil registration authorities, either directly or through family members.

Court order: The hospital is also obliged to provide information in response to a court order. All reports may be made available to the court without the patient’s permission.

Removal of medical records and health information: The informational content of the medical record must be safeguarded against loss, defacement, tampering, or use by an unauthorized person. Only authorized employees have the right to read or copy the contents of any patient's record. Any violation of the rules of confidentiality should be prosecuted and punished as per the existing laws.

Medical record law/ act According to the Consumer Protection Act 1986 and its amendment in 1993 which brought the doctors under its purview following the landmark decision of the Honourable Supreme Court, medical records have become very important, because every time the patient goes to the consumer forum asking for compensation on the ground of medical negligence, medical records are the crucial documents to refute the allegations. The law requires proper maintenance of case sheets. These are the single most important documents that can be used in medico-legal cases. In a few cases, these documents may serve as an effective alibi for the patients. Law is very clear regarding medical records and the value of it. The medical records serve as a legal document in pursuing cases in court for any kind of incident that happens to the patient.

Medical Council of India Regulations 2022: Guideline on Maintaining Medical Records • In a standard prescribed form for **3 years from the commencement of treatment** (Section 1.3.1 and Appendix 3). (**According to Prof. Dr. G. D. Mogli; from the date of discharge in case of IP; and last date of treatment or attending the hospital in case of OP**)

Request for MRS by the patient or authorized attendance: To be acknowledged and documents issued within 72 hours (section 1.3.2) • Maintain a register of certificates with the full details of medical certificates issued; a copy of the same is to be retained in the MRD. Efforts should be made to computerize medical records for quick retrieval (section 1.3.4). • Medico-legal cases should be maintained until the final disposal of the case;

Prenatal Diagnostic Test (PNDT) Act • The provisions of specific Acts like the pre-Conception Prenatal Diagnostic Test (PNDT) Act, 1994 (PNDT), Environmental Protection Act Etc. necessitate records that have to be retained for periods as specified in this Act. • Section 29 of the PNDT Act 1994 requires that all the documents be maintained for a period of 2 years or until the disposal of the proceedings. • The PNDT Rules, 1996 require that when the records are maintained on a computer, a printed copy of the records should be preserved after authentication by the person responsible for such record.

Consent and informed consent; • both are separate and distinct concepts. • Consent is generally recognized as a patient signing a name to a form, or verbally agreeing to a treatment plan or a procedure. • Informed consent is a communication process that leads to shared decision-making by the physician and patient. • Physicians are required to

obtain informed consent from patients prior to treatment. Informed consent accommodates both patient autonomy and the physician's responsibility • Benefits of treatment • Risks of treatment • Alternatives (other treatment options) • No treatment (risks of) • Documentation + Signature (Pt+Dr+Wints) • To examine, and treat a patient without consent is assault in law even if it is beneficial and done in good faith.

Release of information: It is the duty of the doctor to keep all MRs confidential. They can be made public only with the written permission of the patient. However, if directed by a court of law, they can be produced. Police have the power to seize medical records if some negligence is suspected. In the absence of an agreement to the contrary X-ray, plates are the property of the treating doctor as part of his case record and the skills and treatment rather than X-ray films (1) Methods to release the medical records • Direct access to, Photocopying all or a portion and abstracting information from medical records. • Verbal release of information in the court of law.

Conclusion: Medical records (MR) should be documented timely, relevantly, legibly, and accurately with a professional tone. The MR is to be arranged in a standard and chronological order as a book; assessed for deficiencies for completion; and properly coded as per ICD and ensure the record is complete in all aspects and filed effectively to meet the needs of continued patient care, doctor, medical education & research, hospital, and other agencies. MR and HI data **are** the property of the hospital; and are handled by the hospital administrator. This includes insurance forms, workmen's compensation forms, medical certificates, letters from attorneys and courts of law, etc. The physician is not permitted to release any information except information related to patient care. Any request for information including medico-legal cases must be referred to the hospital director.

References: 1) Dr. G. D. Mogli's Healthcare Technologist Handbook for All Healthcare Professionals. 2) R.K. Koul (MRO AIIMS, Delhi)

Chapter XXXIII: Management

(i) Leadership

Who is a Leader: A leader is "a person who influences a group of people towards the achievement of a goal". A leader by its meaning is one who goes first and leads by example so that others are motivated to follow him. This is a basic requirement. To be a leader, a person must have a deep-rooted commitment to the goal that he will strive to achieve even if nobody follows him. Thus a leader is a person who steers the organization to a very high level alongside maintaining harmony in the organization such that every individual is motivated towards the purpose with his unique qualities. They must also take risks and at times withstand the ridicule from others. Courage is the strength to choose and stand for the

	Strategic Knowledge	Technical Knowledge
Senior Leader	High	Low
Mid-Level Leader	Moderate	Moderate
Technicians	Low	High

Trust is the foundation for every successful leader's accomplishments. When people don't trust the leader, they won't follow very far.

1. Do what you say you're going to do: This will create a positive feeling among the people that the leader is clear in his thoughts about what to achieve and is really serious about implementing them.

2. Show people, you trust them if you want them to trust you; This principle is known as the Principle of Reciprocity. The Principle of Reciprocity states that we tend to feel obligated to repay in kind what someone else has given to us. In a nutshell, it says that if you want trust, you must first give trust.

1. Don't Talk. Be courteous and give your listener your full attention. Avoid offering solutions if the speaker is expressing a problem. Just listen.

2. Listen Fully. A good listener looks interested in what the speaker is saying. Your body language speaks volumes. Maintain eye contact, sit still, lean slightly toward the speaker, and nod your head (but not too vigorously or you'll look like a chicken!).

3. Ask Clarifying Questions. Wait for the speaker to pause, and ask clarifying questions. It's a good idea to paraphrase what the speaker has said and to ask questions such as, "Did you mean..." or "If I understand correctly, you said..."

4. **Provide Feedback.** Remain engaged in what the speaker is saying and show this verbally. He or she will appreciate the occasional “I see...” or “Really?” or “I know!”

5. **Keep Your Mind Open.** The point of listening is to gain new information. Don’t just search for a point that supports your own opinions. Be willing to gain new insights and learn about someone else’s ideas.

6. **Be on the Same Level.** Make sure you are at eye level with the other person. Avoid having an employee or customer stand in front of your desk. Have comfortable chairs available so that a desk is not a barrier between you.

7. **Respect Your Speaker.** If the conversation involves criticism from either party or contains personal information, go to a private room for the discussion. Make sure other people can't listen to your discussion. This will help the speaker feel more at ease and demonstrate your respect for what he or she has to say.

8. **Pay Attention to Cues.** What isn't being said is often as important as what is being said. Body language speaks volumes. Watch the speaker's facial expressions, posture, eyes, gestures, and other nonverbal cues.

9. **Avoid Invalidating Language.** While you may not agree with what the speaker is saying, avoid defensive statements or phrases that argue with his or her points. Later, you can take time to review what was said and formulate a response. As an active and effective listener, your role is to allow the person the time and space to fully express his or her feelings.

10. **Express Appreciation.** Thank the listener for sharing his or her thoughts and feelings. It takes courage to speak up. True sharing builds trust and encourages further dialogue.

Qualities of a Leader: As per David Hakala, the definition of leadership is “One's ability to get others to willingly follow the top ten leadership qualities”.

1. **Vision:**--Dream, hallucination, apparition, idea, mental picture, image, visualization, revelation.

2. **Integrity:**--Honesty, Truth, truthfulness, honor, veracity, reliability, and uprightness.

3. **Dedication:**--devotion, commitment, enthusiasm, keenness, perseverance, allegiance, ardor, and loyalty.

4. **Magnanimity:**--nobility, generosity of spirit, high-mindedness, fairness.

5. **Humility**:--humbleness, modesty, unassuming nature, meekness.
6. **Openness**:--Honesty, Directness, Frankness, Sincerity, Candidness, Ingenuousness
7. **Creativity**:--originality, imagination, Inspiration, Ingenuity, Innovativeness, resourcefulness.
8. **Fairness**:--justice, equality, even-handedness, Sprite
9. **Assertiveness**:--Not aggressiveness, Boldness, brazenness, forcefulness, insolence
10. **Sense of Humor**

What is Your Leadership Style?

High Efficiency

Do it.

Do it then tell me what you did.

Tell me what you are going to do and do it.

Tell me what you want to do and wait for a decision.

Don't do anything without my approval.

Don't do anything until I tell you.

Low Efficiency

(ii) Motivations:

What is Motivation: Motivation is an internal state or condition (sometimes described as a need, desire, or want) that serves to activate or energize behavior and give it direction.

How Managers Motivate Staff: The job of a manager at the workplace is to get things done through employees, to do this the manager should be able to motivate employees but that is easier said than done. Motivation is inducing others in a specific way towards goals specifically stated by the motivator. **The ability to instill "want to"** in others, to motivate them, marks the difference between average leaders and great leaders. **Getting people to** not simply be inspired but motivated to take physical action may seem like a simple, even simplistic, approach to leadership. However, once you begin to see your leadership interactions in terms of physical activity, you'll see your leadership and the way you get results, in fresh ways.

The table above gives some sources for motivation due to which reasons people tend to get motivated to do some work.

Creating Motivation: Get out and about. This is more than MBWA, (Management By Walking Around). The key is what you do when walking around. Don't be about simply sharing information but also creating the environment for motivation. People hunger to be motivated. Even more: people are ALWAYS motivated. And if they won't be motivated for your cause, they will be motivated for their cause – a cause that may be at cross purposes with yours. A thorough understanding of these ideas enables a leader to think and act with greater clarity and effectiveness causing people to voluntarily follow the leader's direction and example.

Your job is to organize your work so as to minimize surprises and problems. However, this is not always possible, in spite of your best efforts. If you are already facing a fear - or worry-inducing situation, here are the four steps of what we refer to as the “worry buster.”

(iii) Managerial Communication Skills

Introduction: Besides having good qualifications academically and professionally and acquired expertise by serving a number of years one will realize; that those who have good communication skills are the ones usually very successful in their business or negotiations or convincing the higher officials to get their required project or budget sanction and also their communication skills are such by they easily influence the decision-makers to take certain decisions that really benefits to many. Good communication skills are a great weapon for any individual, especially those in managerial positions that not only outshine the officials but also unknown and known personnel. In the course of any job, one would have realized its real worth, not in terms of finance or attaining political or any power but in making the process smooth and swift, and favorable decisions. It is a simple psychological ingredient one should possess that makes the working system very effective with good team spirit in achieving the set goal.

Acquiring good communication skills comprehensively and keep learning regularly makes you a masterly entity that will go a long way in serving you. It has become a necessity that every manager needs to improve interpersonal skills coupled with the knowledge of how to engage team members and build effective relationships that can make a terrific difference. Some have a feeling that powerful communication skills are already built-in in intelligent or popular persons, it is not true but anyone can improve their skills by learning or taking tips from experienced or successful persons.

The following 30 communication skills are elaborated in Dr. Mogli's published Health Information Management & Health Informatics Professionals Handbook:

1. Action-Oriented Skills: 2. Be Amiable: 3. Be Clear and Be Concise: 4. Be Confident: 5. Brainstorming: 6. Building Consensus: 7. Citing names of Successful Leaders: 8. Coaching, Orienting, Training (COT): 9. Communicating goals: 10. Emotional Control: 11. Empathy: 12. Feedback from both parties: 13. Leadership Skills:

14. Listening: Listening is the most significant element in communication skills. One has to be a good listener; it is common for many who have no patience either in official for formal or friendly informal meetings or discussions; to listen and are in a hurry to interrupt the discussion and give their opinion without knowing the full list of the discussion. It is hard for these people to change and to become good listeners either they are dominant nature, or their earlier experience could have been they didn't get the opportunity to put their points of view in the group where some always dominate by their rhetoric skills despite their points may not have a close relation to discussion. This occurs for many, especially in very important board meetings or university or college professors' meetings for curriculum or any other educational issues; the domination by most seniors and high officials due to high influence hardly permits involving others. They simply forget that the objective of the meeting is to have everyone participate actively and put forth their suggestions in the best interest of the organization; for others to accept it or not. This generally happens, when the chairperson is either passive or does not have time scheduled for the agenda. But in the present day with the energetic competing world, the meetings are well planned and utilized by participation and taking the views of everyone.

Importantly effective listeners pay keen attention to the message open-mindedly and generally avoid interrupting and intensively observe body language, and eye contact, and once the message is complete convey thoughtful questions if need any clarification. Ineffective listeners are those who think that they are already aware of what other persons are saying, generally interrupting, and are mostly either disengaged or distracted.

15. Motivational skills: 16. Non-verbal Communication: 17. Open-mind: 18. Oral or verbal communication: 19. Personalized Communication: 20. Persuasive communication Skills: 21. Positive Commitment: 22. Presentation skills: 23. Recognition and Appreciation Skills: 24. Resolving Conflicts: 25. Respect others: 26. Responding: 27. Roadmap Planning Skills: 28. Straight talking or One-on-One interaction 29. Stress management:

30. Writing Skills: Writing is built-in for us; the question is how best we have the writing skills that are essential elements for effective communication. Whenever we write; remember, it is a legal document, one has to be careful using the right words for the right purpose, written at the right time for the right persons. The written document should be simple and clear language that reflects your views; and your personality and

try to distinctly understand and avoid giving any scope for double meaning or misinterpretation.

Conclusion: One most vital communication skills is, repeated, repeat; people are satisfied once they have done the given work and they are under the impression that the job is done well. What an organization expects, end results, not the process, there are many processes done by many. A message is communicated several times across multiple touch-points; when the employees hear the same message repeated, they're more likely to take notice and act it. Every time you communicate, ensure that what you are communicating to an audience is received the same message is really heard and understood. Create opportunities for conversations that establish understanding and spread knowledge and expertise that is very much needed for the success of any organization. Communication is important as it is an essential pillar in an effective organization. Communication skills are the most vital set of skills any manager should be equipped with to improve business performance, build good teamwork, enhance the efficiency of customer service, encourage innovation, and build a strong company culture.

Chapter XXXIV: Brief Summary of Management-Success and Down-Fall of a Leader

Managerial methods must serve the objectives of an organization, taking into consideration hierarchical functionality and systems that are needed to reach the objectives: infrastructure, personnel, functional and operational styles, and support. The management process consists of planning and executing appropriate action under continuous, meticulous supervision to ensure the goals of the organization are accomplished. Success is measured by the resources spent, training, effectiveness, and efficiency of the staff, to sustain to attain optimum qualitative results. The organization's emphasis should be on getting the best possible results for a reasonable cost, and also meeting global competitive standards. The organization needs efficient managers or experts to yield the required results.

Strong management applies the required managerial ingredients and ensures not only the expected results but adds many more benefits with innovative expertise. It is amazing what a good manager can accomplish. There are multifarious methods in this book that will enlighten the readers on how managerial methods executed by experts are an indispensable part of an organization or nation. The freedom an expert enjoys with the top management allows them to move forward by developing standards, policies, and procedures and training operational personnel, making the nation or organization into a perfect standardization and rationalization of the working system of the entire country or organization.

Leaders are made, not born. Behavioral theories suggest that people can become leaders through the process of teaching, learning, and observation. Leadership is a set of skills that can be learned by training, perception, practice, and experience over a period of time. Leadership learning is not for a particular span of time, but rather a lifetime activity that immerses one in learning and acquiring traits needed to by a successful leader. These skills enable one to interact with other successful leaders such as celebrities, company CEOs, presidents, or chairmen belonging to politics, sports, the film industry, corporate builders, or even scientific research scholars.

Although leaders are not born but made, if we observe some genuine leaders, whether they are in business, politics, or sports, they do seem to be born with certain unique traits. Those traits push the majority of them to success. You can observe some successful celebrities with simple primitive status reaching a prominent position with remarkable success through the process of learning, teaching, observing, and following one's instincts.

Effective leadership is the art of getting others to do what they want being the first to initiate or go to, and having a very clear vision and influence on others through their actions and their dedicated commitments. An effective leader facilitates such as

materials and indicates the methods with the required kits for the work; liaisons between the departments and the personnel involved in the task; uses his influence to achieve goals despite the goals vary from one type of project or assignment to others that need to be completed according to schedule.

The effectiveness of any influence attempt must always be assessed with reference to a set task or goal. The effectiveness of leadership is a function of the dynamic interrelationship initiation; for achieving the objective. The competence of a leader produces excellent results by synchronizing all concerned units or departments or specialists by standardizing and rationalizing the process of day-to-day work with quality of service. Leader arose sportsman spirit; with a positive attitude that will lead the team to a very high level of efficiency. Due to the fact, that the leader is concerned not only with meeting the organizational needs and goals but also with the human resources involved in the field; their growth is not just promotions or increases in salary; but working out to enhance their knowledge, skills, and positive attitude with strictly time management. The leader not only improves his communication skills; but ensures that his team is also equipped with that so the public service or higher authorities to get their needs much faster to accomplish the set goal. The leader makes the team clearly understand the vision, mission, and goal, and entire efforts are diverted towards achieving; in this process, the leader educates at every level; to keep track; like railway tracks that facilitate the trains to move fast with safety.

The leader stimulates the members with a diffuse excitement; to be productive oriented so the process is a non-stop movement that doesn't have time to think about anything else except the given task. His continuous presence with the working team; coupled with education on the task; needs minimal supervision; produces excellent team spirit among the staff and takes a challenge to complete the task with high quality before the scheduled time. The leader is the one who keeps one-to-one relationships is aware of each individual merits and demerits and always concerned with improving personal knowledge, skills, and welfare. The leader by practice and actions makes aware the staff; of awards or appreciation and punishment in accordance with their performance; attitude and behavior towards the job. People who emerge as leaders make personal sacrifices for the group; work overtime, inconvenience themselves, tackle tasks with enthusiasm drive protects the staff, and take criticism as being strong decision maker; demonstrates at every level; their hard work, punctuality, discipline and ensures that those perform well will be recognized and awarded copiously by raising their status and self-esteem.

Styles of Leadership: Autocratic leaders believe in ordering and getting the work done not caring the individual growth or their woes while the democratic style of leader values the individual traits and abilities of each subordinate: and participating style of leadership is a hybrid between autocratic and democratic styles- obviously much better than an autocratic.

The leader's honesty and credibility are tested by the staff with each individual with two ears and two eyes. If they found the leader is exploiting; then the outcome would be a disaster.

The ideal leadership candidate is honest, committed, hard-working, impartial, and selfless in internal as well as external situations. They should be able to make swift decisions, be disciplined and efficient, and be ready to take risks. Certainly, they should be ambitious but not overambitious, confident but not overconfident. They will take work seriously, be consistent and focused, and understand the needs of others. A leader should first build up strength in the field they are in, before expanding further. A leader must take any failure or threat, big or small, as a new lesson and opportunity, must be aware and always conscious of the possibilities, and never consider competitors to be weak. A leader's set vision or objective is clear and he or she sticks to that, maintaining stability in all situations.

The principal causes for the downfall of leaders are over-ambition, overconfidence, development of ego or arrogance, considering opponents weak, losing equilibrium, diversion from original objectives, forgetting the customers' needs, building up personal own regime, and not realizing their potential. A lack of contentment can drive one to make poor choices and destroy years of reputation and personal esteem.

Exhibit the trait of a Leader: Any person who has the instinct to achieve; with minimal knowledge and skills blindly dedicating his life to what proved to be a monumental task. Through learning, teaching, and observing, he made a huge contribution to the field of hospital management and helped save many patients' lives. When a person of any stature works with zeal to fill the needs of an organization, the authorities recognize this and elevate the person's stature in many ways; it could be elevating the professional status, or introducing them to very high-level entities that gradually inspire and motivate them to continue climbing the ladder. The stepping stones gradually lead to higher and higher positions with greater responsibilities. The challenge becomes routine and necessary for the individual and proves his or her worth as they (knowingly or unknowingly) exhibit the traits of a leader.

It is in the nature of a strong leader to recognize another, and also to uplift and enable those who are working with skill and ability toward the good of an organization by giving them full freedom to carry on the given tasks. The expert is also conscious of global competition and the existence of many other experts across the world, and he or she needs to stay up to date with the latest knowledge and skills. A leader must continue to learn by acquiring more and more advanced knowledge and skills and by sharing these wherever appropriate, whether by teaching locally or by participating and presenting papers in international conferences held all over the world. This equips one with mastery over the field, and the employer always looks for the best employee who can deliver the goods within the expected time and resources, and to the needed

international standards. The achievements are visible and recognition spreads like wildfire. Awards may follow further testimony to expertise that fetches more and better jobs. Eventually, the expert needn't give any interviews, as they will be sought on reputation and past accomplishments alone.

A leader can go from nowhere to anywhere, and in the best circumstances create an organization that stands strong on its own, sustained by its own policies, functions, procedures, and personnel

Summary: No institution can be efficiently organized and managed unless one makes a critical analysis of organizational needs and takes appropriate action to develop the way one wishes to be. It is in fact more true with hospital organization, The new hospital starts as a simple and small organization and within a span of a few years, it evolves into a complex body governed by precise laws and regulations, especially as regards finances, facilities, and organization.

In order to maintain any organization, especially the hospital administration efficiently, it is necessary to develop management tools that would reflect the true operation of the hospital and enable resources (personnel, equipment, and buildings) to be fully utilized and adapted to the needs of the population served. These indicators of true hospital operation would then serve as a basis for determining hospital activity at any moment of time, in relation to the number and characteristics of the patients as well as for evaluating hospital activity in terms of the progress made towards good utilization of resources. A record of activities, related to the individual patient, would provide a valid basis for establishing a relationship with the morbidity observed in the hospital and would be the first step towards an evaluation of services rendered by the hospital, or its impact on the demand for care in its own particular area. Thus the aim of establishing a hospital is not only to adjust supply to demand in the field of health care but to effectively coordinate services to render efficient quality care to patients. The author stressed too much on health information collection and interpretation because of valid reasons. Correct and timely administrative and clinical information which is a barometer of hospital efficiency could indicate whether the quality is balanced with expenditure and facilities provided or whether it leads to inefficiency and financial crisis.

In conclusion, Leadership is a tangible expression of Mastery over fear, Self-confidence, Initiative, Integrity, Enthusiasm, Creativity, Skillful communication, Generating innovation, and execution to find the expected results. Brings out new ideas, makes quick decisions, vivid solutions to problems, and is self-sacrifice to achieve the goals of the organization to which he or she belongs. Readiness to serve, and educate the needy, the ability to cooperate with diverse characters to accomplish the set task completed. Styles of leadership differ from person to person and similarly, the style of work varies from organization to organization. Results that are achieved through knowledge by applying the standards, policies, processes, techniques, and methods

make the difference. The objective of any organization hospital or business setup needs leaders who can bring the best quality of service or profit in terms of money to accomplish their goals. The Hospitals dealing with patient care; need leaders who are capable of managing the hospitals efficiently, and optimally to provide swift, safe, best-quality care at a competitive cost.

Chapter XXXV: How to Economize Health Service Expenditure

Introduction: In recent years, the rapid advances made in medical science with new innovations, the appearance of new health problems, high expectations of health consumers, escalating costs of health services, growing pressure on health care providers to render accountability for the quantity, quality, and timeliness, and cost of the health services rendered, increased discussions about the validity of health services offered by the institutions in the press and court of law and with the potential for abuse of new diagnostic and therapeutic modalities, quality control has become imperative.

The Need: The present health institutions have created a dire need for the introduction and implementation of health service utilization review with the support of effectively maintained health records and efficiently analyzed the cost to assure the quality of service in the health institutions.

Purpose: To develop suitable criteria/ parameters for quality assurance and to affect the economy in the health service expenditure. The main purpose is to ensure that the patient gets effective, timely, and best-quality treatment in the hospital in a cost-efficient way without exceeding the budget allocated for the treatment at the same time to meet the objectives of a hospital. The purpose as stated above remains the same for any type of hospital be it teaching, research hospital, etc... However, there could be minor changes in their views to minimize their expenditure.

Health Institutions: In recent years, the rapidly increasing complexity and cost of medical care have necessitated improving methods for analyzing and monitoring institutional performance.

Hospital statistics are considered as a barometer for measuring the quantitative and qualitative service rendered by the hospital.

The hospital statistics which are generated mainly from the medical records of casualty, outpatient, and inpatient treated forms, a very essential tool for reviewing the hospital utilization services. It is, therefore, imperative to give special consideration to collecting accurate and complete statistical information. The following information has to be collected, compiled, and interpreted critically for hospital utilization review.

As such, health information of patients treated in health institutions or in casualty, outpatient, and inpatient with the classification of age, sex, and geographical distribution have to be collected. Clinical information such as disease classification and surgical procedures supported by laboratory, X-ray, and other investigations, blood supplied, diet supplied, and administrative information such as medical, nursing, paramedical and auxiliary services, engineering, maintenance, housekeeping, laundry, and administrative staff have to be collected.

Health Service Expenditure: The expenditure relating to personnel, drugs, diet, linen, equipment, furniture, forms, radiography, laboratory, buildings, transport, communication, maintenance, and depreciation has to be calculated. Thus, there is a need to establish an efficiently managed cost analysis unit in all the hospitals.

Cost Unit Analysis: The expenditure spent on the above services has to be converted into cost units such as expenditure per bed, inpatient day, each hospitalization episode, outpatient per attendance and the episode, delivery, intensive care bed, surgical procedure, each laboratory analysis, radiological film, per pint of blood, per diet, patient records, consultation, and expenditure on personnel and so on are required to develop a cost analysis criteria to carry out a performance review.

Publication of Monthly Report: The information relating to patient care and cost wherever applicable and feasible has to be published in a monthly report and copies should be made available to the authorized department staff. The staff concerned should be made aware of the expenditure incurred by the respective departments for carrying out the functions. Since the publication of the monthly report is also a comparison of work (with unit cost analysis) carried out by different sections of the hospital, it automatically acts as a monitoring mechanism and reminder factor to the staff which directly or indirectly forces them to be on their toes to find ways to reduce the cost without sacrificing the quality of service.

Medical Audit: A specially appointed committee for this purpose should evaluate the service performance with established criteria/standards. The reviewed work should be discussed every month with the medical, nursing, paramedical, and other concerned staff. It is not enough to throw the whole blame on personnel dealing directly with the patients. Therefore, the following related conditions have to be taken into consideration.

1. Proper administration of the hospital.
2. Availability of proper facilities.
3. Availability of ancillary services required by the doctors in better patient care.
4. Trained and competent personnel and personnel policies.
5. Proper coordination and cooperation of services.
6. Proper supervision of patient care.

B. The following factors also have to be considered if the objectives of the medical audit are to be accomplished:

1. The death rate.
2. The infection rate.
3. Unnecessary and incompetent surgery.
4. 4. The number of patients leaving the hospital against medical advice and otherwise, etc.
5. The number of local hospital incidents and patient complaints.

6. The number of legal suits against the institution.
7. Consultations.
8. Elective and emergency cases admitted.
9. The average bed occupancy.
10. The average length of stay.
11. The number of unimproved cases.
12. Autopsy rate.
13. Comparative study of workloads with a staff.
14. Comparison of yearly admissions.

Discussion: The health activities have to be critically examined to ensure that the services, efforts, and funds are not wasted, abused, not duplicated, or unnecessarily experimented with, no communication gap or expansion of departments internally or externally without justification. And also to ensure judicious utilization of beds, proper distribution of manpower and resources, and problems with patient care, all have to be discussed and action is taken to redress the issues.

The following are some of the potential causes for increasing health service expenditure:

It is a known fact that more than two-thirds of the total expenditure in any health institution is incurred on manpower. There is a major scope to reduce the cost if it is carefully viewed. Other factors account for e.g., indiscriminate ordering for costly and routine laboratory, x-ray, and other investigations for diagnosis purposes. But at the same time, most of the reports neither reach the doctor nor the patient or his record. Excessive prescription of drugs also adds to expenditure. Costly equipment is procured by the departments without using them optimally or lying idle for years. And also purchase of excessive equipment or stores without verifying its availability within the institution. Poor maintenance of equipment, wastage of papers, and excess use of fax communication besides postal letters, supplies, efforts, and duplication of work also contribute to the escalating cost. Lack of cooperation and coordination among the departments and staff, under-utilization of services, improper allocation, and utilization of space, building facilities, ego, and status consciousness of some senior department heads accelerate the health service expenditure. If proper care is not taken the medical record service which is supposed to help reduce the cost and increase efficiency in health service will instead add to the problems of excess expenditure by introducing too many forms which not only increases the size and bulk of records and confusion but also needs more cost, space, equipment, and people, experiments and expansion of departments internally and externally without justification will increase the administrative cost. The application of computers is considered to be a boon to health care delivery and has not only brought with it unprecedented capabilities such as storage, prompt delivery of information, and saving space but also added

fantastically cost to health services, if this technology is used optimally for the purpose for which it was acquired it will be extremely cost-effective.

The author conducted research in a renowned postgraduate medical education and a research institute in the year 1978 and found the expenditure on a hospital of 750 beds had spent Rs. 17,509,528 for patient care out of total expenditure, 75.5 percent was incurred on personnel, while 13.27 percent was spent for drugs and surgical dressings, 4.45 percent on machinery and equipment, and 4.18 percent on diet, and 2.6 percent were incurred on miscellaneous expenses including chemicals, X-rays and linens. Out of the total expenditure of the hospital, 2.78 percent was spent on the medical record department which had a comprehensive unified medical record system, from its inception, i.e. 1966, with the concept of one patient, one number, and one record, fully automated, well supported by 78 trained staff and a strong and efficient administration. The analysis of the medical records expenditure was 69.8 on personnel, equipment 15.4 percent, medical record Form 14.2 percent, and other contingencies 0.6 percent.

Source of Inefficiency: Economic efficiency in health care can be defined as the provision of necessary care of good quality at minimum cost. Thus, the immediate aim is to move toward a more economical balance of services and to eliminate ineffective, excessive, and unnecessary medical procedures. Both demand and supply play a part in generating extra costs of healthcare. Wherever patients are not responsible for payment for their treatment and insurance or another organization pays, these factors contribute to an excessive and unbalanced supply of services that is a major cause of increased costs and inefficiency. Economic inefficiency in the supply of health care can take several forms. One is the excessive use of hospital beds intended for the care of acute illness when quality care could be provided elsewhere at a lower cost. Sometimes beds are filled to get the budget. Moreover, the higher the occupancy rate, the greater the funding for new equipment and that becomes a source of enhancing the hospital's prestige. Excessive and unnecessary medical procedures also constitute a form of economic inefficiency: doctor-initiated repeated visits, the excessive prescribing of drugs, the prescribing of costly drugs when less expensive equivalents are available, the excessive use of laboratory and X-ray services, and unnecessary surgery.

Increase Efficiency: The logical way to increase efficiency is to plan for a correct balance of available services and trained manpower necessary to meet medical needs, geographically distributed on a rational and equitable basis. By encouraging cost awareness, some countries are trying to make doctors aware of more economical prescription practices, informing them of the differences in the cost of equivalent or near-equivalent drugs that can be substituted for more expensive ones they may be using. In some provinces of Canada and the USA, pharmacists are empowered to substitute cheaper "equivalents" unless the doctor has specifically forbidden substitution on the prescription. *The* common practice of making specialist care accessible only on referral from another doctor has the potential to reduce the costs of health care.

Chapter XXXVI: Accreditation Process with Practical Strategy For Optimal Hospital

Historical background: Quality standards for hospitals and other medical facilities were first introduced in the United States in the “Minimum Standard for Hospitals” developed by the American College of Surgeons in 1917. After World War II, increased world trade in manufactured goods led to the creation of the International Standards Organization (ISO) in 1947. Accreditation formally started in the United States with the formation of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in 1951. This model was exported to Canada and Australia in the 1960s and 1970s and reached Europe in the 1980s. Accreditation programs spread all over the world in the 1990s. There are other forms of systems used worldwide to regulate, improve, and market the services of healthcare providers and organizations, including Certification and Licensure. Certification involves a formal recognition of compliance with set standards (e.g., ISO 9000 standards) validated by external evaluation by an authorized auditor.

Introduction: “Accreditation is a self-assessment and external peer review process used by healthcare organizations to accurately assess their level of performance in relation to established standards and to implement ways to continuously improve the healthcare system”. The objective of accreditation is to ensure the quality of healthcare through the application of quality concepts and to foster a culture of patient safety and minimize the risk of medical errors, and achieve optimum organizational results with available resources, consequently increasing accountability to patients and identified stakeholders”.

Importance of accreditation in hospitals: Accredited hospitals testify that they offer a higher quality of care to their patients, also provide a competitive advantage in the healthcare industry, and strengthen community confidence in the quality and safety of care, treatment, and services. Overall it improves risk management and risk reduction and helps organize and strengthen patient safety efforts and creates a culture of patient safety. Not only does it enhance recruitment and staff education and development but, it also assesses all aspects of management and provides education on good practices to improve business operations. The Joint Commission International (JCI), is a non-profit organization that is part of The Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The Joint Commission International (JCI) was founded in the late 1990s to survey hospitals outside of the United States, create a mark on the world map, and increase business through medical tourism.

The National Accreditation Board for Hospitals & Healthcare Providers (NABH): Standards is today the highest benchmark standard for hospital quality in India. Though developed by the Quality Council of India on the lines of International Accreditation Standards like the JCI, the NABH which was established in the year 2006

is however seen as a more practical set of standards, topical, and very relevant to India's unique healthcare system requirements.

Overview of the Hospital Survey Process: The Joint Commission on The accreditation survey process will focus on the compliance of the organization with patient care and organizational standards. The focus is on the entire healthcare organization rather than on individual staff members or departments and services. The leaders of the hospital and individual staff members should be familiar with Joint Commission International Accreditation Standards for Hospitals and be aware of the process of standards evaluation described in the guide of JCI /NABH.

The administrative physician and nurse surveyors will visit a variety of inpatient and ambulatory patient care units during the survey. The survey team will also visit areas where high-risk patients receive care or where high-risk services are provided to patients, such as locations where anesthesia is administered. Other important care units such as emergency services, imaging, and rehabilitation service (when present) are also evaluated to determine the way patient care needs are assessed and care delivered.

The survey process includes interviews with hospital leaders, professional staff members, and others. Whenever possible, it is beneficial to interview a variety of individuals and /or professionals who best understand their individual contributions to the entire patient care or organization management functions being surveyed. In order to apply for a survey and then prepare for the survey, initiate the following:

1. Complete the Application for Survey and send it to the NABH/JCI
2. The application and organization charts will help the NABH/JCI accreditation staff:

Determine the length of the survey (number of days); determine the number of surveyors needed;

Prepare a draft survey agenda, and prepare a Contract for the Survey.

3. Review the sample survey agenda of the draft agenda prepared by NABH/JCI staff. The survey team leader will seek input from the organization's staff in the development of the agenda. The survey team leader will contact the requesting organization's primary survey contact to work out the details of the survey agenda to ensure that staff is available and the schedule is comfortable.

4. Once the survey agenda is final, list the hospital and professional staff members by name and title, who will participate in each activity of the survey process. Provide this to the surveyors on their arrival for the survey.

5. Essential to schedule one individual to serve as the guide and facilitator for each team member.
6. Copy the patient record review tool as prescribed (about ten copies)
7. Gather the policies and procedures, plans, and other materials called for in the guide into the workroom for the surveyors.
8. Every effort should be made to make the most efficient use of the hospital and professional staff's time and to provide the information needed to enable the surveyors to understand the unique characteristics of the organization.

Joint Commission International Application for Survey:

1. Name of Organization
2. Address
3. Ownership
4. Staff Information (List individuals representing the following:
 - Chief Executive Officer or equivalent
 - Chief Medical Director or equivalent
 - Chief Nursing Director or equivalent
 - A representative of the Governing Board (or equivalent group)
 - Survey Coordinator (provide contact information e.g., email address)
5. No. of Inpatient Beds (Number currently in the operation)
6. Average daily Inpatient Census
7. List the types of clinical medical services provided by the organization: e.g., medical, pediatrics, etc.
8. List Top Five Patient Diagnoses at Discharge and the Top Five Surgical Procedures (Add- This can be prepared the patient record list in advance without taking time from the document review session)
9. List hospital departments or services: (e.g., general medicine, laboratory, radiology, etc)
10. List any contracted services:
11. List areas in which anesthesia and sedation are administered: (Both IP and OP)

12. List inpatient care units/wards, the number of beds, and the type of care given in each unit/ward. (Ward 1: 32 beds, medical unit, medical intensive care unit, 10 beds, etc.)

13. List outpatient/ambulatory units, the number of visits, and the type of service provided: (e.g. surgical clinic, 240 visits per month, pre and post-operative procedure evaluation and treatment). It is essential all OP settings onsite and offsite are listed so that total OP areas are known.

14. List any of these ambulatory units over 1 kilometer from the hospital.

15. Please provide your usual hours of operation, such as for ambulatory units).

16. Date application completed:

17. Name and title of individual responsible for application:

Joint Commission International

4 Days 3 Surveyors Sample Survey Agenda

DAY ONE			
	Physician	Nurse	Administrator
07:45 - 08:15	Opening Ceremony		
08:15 - 08:45	Hospital's Overview of Organization Services		
08:45 - 10:45	Document Review		
10:45 - 12:00	Leadership Interview		
12:00 - 13:00	Lunch		
13:00 - 15:00	Patient Unit Visit	Patient Unit Visit	Facility Tour
15:00 - 17:00	Anesthesia Location Visit	Operating Room, Post-Anesthesia Recovery Room	
DAY TWO			
08:00 - 08:30	Debriefing		
08:30 - 10:00	Emergency Services Interview	Patient Unit Visit	Facility Tour
10:00 - 12:30	Patient Unit Visit	Patient Unit Visit	Review of Facility Management and Safety Document
12:30 - 01:30	LUNCH with Medical Staff	LUNCH with Nursing Leadership	LUNCH with CEO
13:30 - 15:00	Imaging Services Visits	Infection Control Interview	Pharmacy Visit

15:00 - 17:00	Staff Qualifications & Education Interview for Medical Staff	Staff Qualifications & Education Interview for Nursing Personnel	Staff Qualifications & Education Interview for other Hospital Personnel
DAY THREE			
08:00 - 08:30	Debriefing		
08:30 - 10:30	Patient Unit Visit or Optional Document Review	Patient Unit Visit or Optional Review	Patient Unit Visit or Optional Document Review
10:30 - 12:30	Patient Records Interview		Management of Information Interview
12:30 - 13:30	LUNCH		
13:30 - 15:00	Quality Improvement and Patient Safety Interview		
15:00 - 17:00	Pathology and Clinical Laboratory Visit	Patient Unit Visit	Rehabilitation Service Visit
DAY FOUR			
08:00 - 08:30	Debriefing		
08:30 - 10:00	Patient Unit Visit	Patient Unit Visit	Patient Unit Visit
10:00 - 12:00	Patient Care Interview		
12:00 - 13:00	WORKING LUNCH		
13:00 - 15:00	Integrate Findings		
15:00 - 16:30	Leadership Exit Interview		

Survey of Requirement for Documentation Review: There are two types; 1st one is a Medical Record Document and the 2nd is other than MR and all documents dealing with; hospital license, latest hosp. organization charts, hospital policies, standards and procedures, rules and regulations, Committee terms of reference Job descriptions, duties, and responsibilities, policies of recruitment, budget, incident reports, patient complaint documents, the release of information and security, confidentiality procedures, hospital medical and nursing code of conduct employ manual. MRD: organization chart, Policies, and Procedures, storage and retention policies, policy on medical record content, patient complaint handling. Other than medical records of patients, all policymaking documents used in the course of the function of the hospital fall under this category.

OPENING CONFERENCE

PURPOSE	LOCATION	HOSP.PARTICIPANTS	SURVEYORS	STANDARDS/TO BE ADDRESSED	DOCUMENTS NEEDED
Introduce & Sr. Leadership	discretion of the Hosp.	CEO, other responsible	All Surveyors	Int. & survey coordination	Final survey
DOCUMENT REVIEW					
Survey standards written evidence	Meeting room throughout	staff familiar with documents	All members of survey team	Standards/policies, procedures etc.	Quality , proc. Bylaws
LEADERSHIP INTERVIEW					
Discuss performance issues	Hospital selected place	CEO, COO, Chairman GB,	Physician & Nurse (Adm	GLD, SQE, PFR, COP, MOI	Org. chart, Budget & I
FACILITY TOUR					
Physical facility, medical & other equipment,	Selected patient care	Chief Engineer, Safety Officer,	Adm. Surveyor	Management & Safety (FMS))	Facility i report, Doc
ANESTHESIA AND SEDATION LOCATION VISITS					
Observe & assess the process for care	OT, Other locations such	Physician & Nurse managers	Physician & nurse	Assessment of patient (AOP,)	Clinical re patients
INPATIENT UNIT, AMBULATORY					
Evaluate the process for caring for patients in different hospital units	Patient unit or clinical department	Clinic managers & others engaged in providing care	Nurse, Physician or administrator surveyor	All standards chapters may be addressed during this visit	Records of currently care in unit/setting
INFECTION CONTROL INTERVIEW					
To assess the process infection control program	In a small meeting room	Person responsible for infection control program	Nurse Surveyor	Related to prevention and control of infections (PCI)	Minutes infection committee, surveillance

reduce nosocomial infections					
AMBULATORY PATIENT CLINIC VISIT					
Evaluate the process for caring for patients in OP settings	OP clinics	Clinic managers & other engaged in providing care	Physician, nurse, or administrator	All standards may be addressed during visit	Patient records
PHARMACY					
Assess the function of the pharmacy	Pharmacy	Chief Pharmacy & other staff	Adm. Surveyor,	All standards may be addressed	Pharmacy or logs
EMERGENCY SERVICES VISIT					
Assess activities of the Emergency service	Emergency department	Director of ER, Nurse manager	Physician surveyor	Access of care & continuity of care	Quality re ED/Unit
PATHOLOGY & CLINICAL LABORATORY SERVICES VISIT					
Assess the activities of pathology & clinical lab.	Laboratory department	Medical Director Path / Lab. Direct	Physician surveyor	Assessment of patient care	Quality equipment
PATIENT CARE INTERVIEW					
To study problems & address related issues	Small meeting room	Staff from each specialties	Physician, nurse, & adm.	Access continuum of care , pt. family	Patient & rights & ed
REHABILITATIONS SERVICES VISIT					
Assess the standards of care of patient	Rehabilitation service area	Managers of rehabilitation	Administrator surveyor	Access to Care & Continuity of care	Quality re Rehab. Ser
MANAGEMENT OF INFORMATION /PATIENT RECORDS INTRVIEW					
Assess the hosp. needs records & information	Hospital selected place	Rec-& informa- tion staff	Physician, nurse, surveyor	Review of records & information	Policy & I records/inf

Role of Medical Records: The Medical Record Department should ensure the following in order to assist in the hospital accreditation program:

The first priority is to have a well-organized and efficiently managed medical record department in the hospital.

This encompasses the introduction of standardized medical record forms for all services with comprehensive content, chronologically arranged to be care provider user-friendly and covering all aspects of quality patient care requirements that will satisfy not only continuity of patient care but also, medical education, research, insurance, reimbursement, legal, public health, national and international organizations. Secondly, the medical record department is well-equipped with the proper infrastructure to maintain high-standard records at par with international standards. The unit record system that is one number, one record, and one patient concept will provide comprehensive and integrated health information for the day-to-day management of the hospital including clinical work at emergency, outpatient, and inpatient services.

The patient record should be initiated with proper and complete demographic information, at the first visit of the patient and continue as long as the patient is active and to meet the record retention period. General consent for all the cases at the admission office to be collected and informed consent for all surgical procedures to be collected by the surgeon operating the case. The inpatient records after the discharge of the patient are to be collected promptly, assembled in a prescribed standard chronological order, deficiencies for quantitative and qualitative checks, and completed by treating doctors. The discharged records are to be classified and indexed according to the international classification of diseases and surgical procedures, (ICD-10, ICD-9CM, CPT), etc. To ensure that all the records such as history, physical examination, progress notes, anesthesia, operation, nursing, and other care provider records and discharge summary, etc., have to be legible, relevant, timely, accurate, complete, and authenticated by authorized healthcare providers. The records are to be audited periodically for their accuracy, relevancy, timeliness, and completeness by designated personnel to ensure that required standards are met. The confidentiality of records to be maintained, secured preserved, and easily accessible whenever required, by authorized persons. Information related to morbidity, mortality, and other administrators should be easily accessible for authorized persons.

The hospital medical records should reflect the implementation of the care process and medical services interventions. Medical records will be evaluated based on the standards listed in the following forms; A: Closed medical records by physician, administrator, nursing, infection control, and laboratory.

And B: Open medical records by physicians, administrators, nurses, and pharmacies. The medical records maintained by the Medical Record Department should meet the requirements of JCI / NABH Accreditation surveyors:

Survey Process:

Ensure the following mentioned information is available: (Closed) Physicians use the assigned hospital code number and stamp that is used to identify/her

Completed documentation on the face sheet of all essential patient information, allergies, and code status is a must.

There is a complete and unified medical record content (complete demographics, history, and physical examination, details of the present illness, past, social, and family histories, clinical review by body systems, psycho/social needs, diagnostic and therapeutic orders, informed consent, reports of procedures, tests, and their results, assessment, clinical progress, diagnosis, impression, and plan of care revisions, discharge summary). All entries are dated and timed and the identity of the staff making the entry can be verified by name or ID number. Readily availability of diagnosis and procedure codes (ICD9 or ICD10, CPT, or DRG), and numbers on records. Typewritten histopathology, Radiology, discharge summary, and other reports are to be made available. There is the completion of medical records within 30 days of patient discharge.

- Attending physician ensures routine patients within 24 hours and within 4 hours for urgent cases
- The consultant ensures the patients at least daily for routine and any time for serious cases.
- The consultants respond to a request- within 24hrs, for routine cases and 30 minutes for emergency cases;
- The patient's education regarding the benefits and risks of transfusion or any other services rendered
- There is patient/ family education prior to discharge in detail - medication use, equipment & follow-up, etc.
- Documentation of pre-operation evaluation, anesthesia administered (type, dose, and appropriateness
- Reading all ECGs ordered by the Cardiologist (or internist) within 24 hours to be reported
- There is reporting of all radiologic studies within 24 hours by the radiologist
- There is documentation of the detailed pre and post-interventional procedure by the radiologist in MR.

- There is a comprehensive discharge summary report provided to the patient
- Physician history and physical examination within the first 4 hours of admission,
- There is continuous monitoring of patients during transfer by a qualified physician.
- There is communication between hospital staff and the attending physician for the patient's discharge process.
- The medical records contain evidence of interdisciplinary planning to meet the patient's needs.
- Patient education on the nature of the problem, treatment and procedure, time needed, and cost.
- Nursing documents on patient records, nursing assessments, and regular progress notes
- Ensures newborn verification process at discharge (bracelet matching, mother education on baby care).
- There is a comprehensive nurse's provision and documentation of patient/family education (assessing motivation, medications, safe use of medical equipment, activities of daily living, and return demonstrations with feedback
- Comprehensive nutritional assessment within 24 hours for all patients at nutrition risk

Survey Process: Ensure the following mentioned information is available: (Open)

- The plan of care is revised/adjusted suitably is documented in the patient's medical record
- Records are reviewed for daily complete progress notes, provisional diagnosis, treatment, and plan of care.
- Implementation of Day Surgery policies while performing day surgery cases which is documented.
- There are medical assessments for patients who are admitted for surgery.
- There is a preoperative investigation and results documented for patients who are admitted for surgery.
- There is medical record documentation of complete and timely preoperative anesthesia assessment
- All patients undergoing surgery have informed consent and preoperative assessment details.
- There is a written approval & signed abbreviation list to be used by all healthcare providers
- There is a written policy on verbal and telephone orders and includes not considering a record complete before the attending physician or his designee signs off on the entire verbal and telephone orders.
- There is an updated medical staff list of prescribers and their prescribing privileges.
- The list clearly defines prescribing privileges, especially for narcotics, controlled drugs, psychotropics, chemotherapeutics, high-risk medications, etc.
- The list is updated every year and whenever a new medical staff joins.

- The Hospital formulary provides guidance on antibiotic use.
- Antibiotic dispensing as per antibiotic hospital policy (dosing, duration)
- There is written policies and procedures for handling automatic stop orders.

Personnel file or another document review general guidelines:

1. The scope of the personnel file review is the completeness of documentation of the recruitment, orientation, evaluation, continuing education, privileges and competencies process, and monitoring.

2. Organizations may have different ways for documentation of these processes and may have more than one location for the filling of these processes. These issues should be clarified prior to the start of the session.

3. Hospitals are to encourage presenting the needed documentation in one location to ensure comprehensiveness of personnel data and history during his/her employment in the organization

Unit visit by Accreditation Surveyors: Based on the information in the survey application, the survey agenda will specify the units, departments, and other areas to be visited during the survey process. Hospitals are expected to have their key personnel present (per schedule) during their respective area visit. The surveyor's counterpart is usually the assigned hospital personnel to guide the surveyor to the various survey sites. During this activity, the hospital staff is interviewed, facilities are observed and records are checked to ensure hospital compliance with the CBAHI national standards requirements

Facility Management and Safety (FMS) unit visit: The FMS unit will visit different areas including the kitchen, laundry, generator, electrical room, medical gases room, workshops, the main store, Reverse Osmosis plant, biomedical workshop, L&D area, Normal New-born Unit/Nursery, NICU, ICU, OR, CSSD, patient room and bathroom, waste collection room, staircases, corridors, main entrances, emergency exits, isolation room, ambulance, disaster command center, and 1 to 3 nurse stations.

IC unit visit: The following areas will be visited by the Infection Control- Operating Room, CSSD, Haemodialysis/ renal-dialysis (if applicable), Kitchen, Infection Control department, Isolation rooms, Staff health, Burn unit (if applicable), Laundry, Endoscopy (if applicable), Inpatient ward/unit, and Dental (if applicable) **Pharmacy unit visit:** The following areas will be visited by the Pharmacy team Outpatient pharmacy, ER pharmacy, inpatient pharmacy, Satellite pharmacies, IV admixture room, Chemotherapy admixture room, Narcotic room, Emergency room, Outpatient clinics, ICUs, Adult medical ward, pediatrics ward, and operating theater.

Hospital Survey Report: Hospitals will be able to access their survey report through their "hospital portal". The report face-sheet will show the overall final score and the scores of each chapter.

Hospital Survey Feedback: Hospitals are requested to complete a Hospital Survey Feedback form after the survey visit has been completed. The hospital leadership may assign the Quality office to gather feedback from the surveyors' counterparts and complete the form based on their feedback. The hospital should complete the Start Date of Survey, End Date of Survey, and Name of Person(s) Completing the Feedback form. The form consists of the following sections: **The Survey**, which includes the overall satisfaction with the survey experiences as well as the Surveyor Performance. The hospital should rate the above elements using the following

Rating Scale:

Rating Methods

S. No	Method "A"	Method "B"
1	Extremely dissatisfied	
2	Very dissatisfied	
3	Somewhat dissatisfied	
4	Neutral	Not Met (NM)
5	Somewhat satisfied	Minimally Met (MM)
6	Very satisfied	Partially Met (PM)
7	Extremely satisfied	Fully Met (FM)

NABH/JCI Visit Report

Chapter	Score	Status	Pass/Fail
1. Leadership	82.82%	Fully Met (FM)	Pass
2. Medical Staff and Provision of Care	75.70%	Fully Met (FM0)	Pass
3. Nursing	52.81%	Partially Met (PM)	Pass
4. Other Management and Patient Safety	71.52%	Partially Met (PM)	Pass

5. Patient Family Education and Rights	33.10%	Minimally Met (MM)	Fail
a. Patient Family Education	17.19%	Not Met (NM)	Fail
b. Patient Family Rights	63.33%	Partially Met (PM)	Pass
6. Anesthesia	84.42%	Fully Met (FM)	Pass
7. Intensive Care Unit, Adult, Pediatrics, Coronary, Neonatal Care	90.24%	Fully Met (FM)	Pass
a. (ICU), (PICU), Adult, Pediatrics Intensive Care Unit	86.67%	Fully Met (FM)	Pass
b. (CCU), Coronary Care Unit	93.65%	Fully Met (FM)	Pass
c. (NICU), Neonatal Intensive Care Unit	NA	NA	NA
Operating Room	80.00%	Fully Met (FM)	Pass

Areas of Improvement: Hospitals are encouraged to complete the comments sections and may categorize them into (Areas for Improvement), and strength (Strength) in order for NABH/JCI to be aware of the hospitals' opinions and suggestions for further improvement of its Survey process as well as the surveyor's skills and abilities and as well as to organizations.

Conclusion: The author prepared this article to enlighten comprehensively the hospital accreditation process in a concise manner to have a good insight into the different intricacies involved in carrying out the work and process by the accreditation surveyor's team. The whole exercise appears that the JCI/NABH team comprises a physician, a nurse, and an administrator dealing with the entire hospital assessment work except for calling for a review of a few closed and open medical records. The rest of the work appears to be different, but that is not the case; if you look into clinical work related to patient care, mostly focuses on the content of documentation. Whatever work is done for patient care by healthcare providers including medical, nursing, and paramedics to be documented relevantly, timely, accurately, completely, and authenticated by care providers. This article should be useful as a practical strategy for Medical Record Professionals, in improving the content, and MR professionals will play a vital role in the accreditation process and their existence will be realized and rewarded.

Chapter XXXVII: Role of HIM in Accreditation of Hospital (Courtesy of N. Annapoorna, MRO, SSSIHMs Puttaparthi, AP. India)

Introduction: Implementation of HIS or EMR in a hospital was considered a recommended practice in India a few years ago. But nowadays it has become a basic requirement for the proper functioning of a hospital. EMR & HIS form the backbone of any efficiently run hospital. In India, not enough importance is given to the proper maintenance of electronic and physical records in hospitals. The concentration is still on the business aspect of healthcare only. Some government hospitals are nowadays making an effort to use IT to leverage their quality of care ease of use and quick retrieval of patient information. In this paper, we make an effort to bring out the advantages of HIM and its role in enabling quality healthcare and thereby enabling accreditation. Before we delve into the details we will see the meaning and definition of the terms HIM, Accreditation, and indicators which are basic to further understand the content.

Hospital Information Management (HIM): is the practice of acquiring, analyzing, and protecting digital and traditional medical information which is vital to providing quality patient care. HIM focuses on the collection of structured data and its proper maintenance, with a very efficient data retrieval system to support information-intensive and information-reliant healthcare systems.

Accreditation: is a process by which we assess the health care organization to determine if it meets the set of standards designed to improve the quality of care rendered and safety in all its activities. Accreditation provides a visible commitment by an organization to improve the quality of patient care and ensure a safe care environment by continuously monitoring and improving on a set of internationally accepted indicators. Accreditation with indicators has gained worldwide attention as an effective quality evaluation and management tool. To name a few accreditations being done in India

1. National Accreditation Board for Hospitals & Health Care Providers (NABH)
2. Joint Commission International Accreditation.(JCIA)

Role of HIM: It helps the organization to effectively institute, capture, and monitor indicators that reflect the quality of care and safely measure practiced on a day-to-day basis in the setup.

In order to strengthen the quest for perfection in healthcare, accreditation organizations were instituted. These organizations studied the best hospitals across the globe and culled the best practices followed by them into the form of indicators. These indicators as the name describes are measurable indices that show or indicate the compliance to various standard operating procedures and policies followed in these hospitals which

ensure quality care. All these indicators are continuously being updated and fine-tuned to make them more reliable, precise, and useful.

Methods: Sri Sathya Sai Institute of Higher Medical Sciences is a tertiary care specialty hospital that is NABH accredited. Hence I will confine myself to the NABH accreditation only. There are 64 quality indicators proposed by NABH in its manual. Due to limitations on the length of the paper, some important indicators and how it has been implemented and monitored in our hospital are discussed below. All indicators have the formula to calculate it. Each indicator has an owner who is responsible for capturing the necessary information. They are presented in the table below.

Indicator	Formula (numerator / Denominator)	Responsibility assigned to (in this hospital)
Improper/incomplete consent (%)	Number of files having incomplete or improper consents * 100 / Number of discharges & deaths	Medical Records Department
Incidents like of Fall, sharps/needle stick injuries etc	Depending on the incident	In charge of the unit/department

The data collection has been streamlined in our hospital right from the registration of the patient which includes assigning a unique identification number, up to the Discharge of the patient after treatment from wards. It also includes OPD Visit registration, ordering of tests, procedures, and outpatient consultation reports. If the patient is admitted, admission details, file creation, capturing of the diagnosis and its codification, and ward bed allotment are done. If a patient needs surgery, OT booking, Surgery notes, OT personnel details, and usage of equipment on the patient like ventilators, iamb, etc. are also captured. Finally, the inpatient discharge summary is also captured in the system. Post-discharge, the file is scanned & digitized and the physical file is kept in the racks. All this information is captured in our HIS Database centrally using web-based technology.

Analysis: Once this basic information is captured in the HIS system, then modules specific for statistical analysis and indicators monitoring systems are built over this HIS database, which will form part of the HIM.

The basic engine behind the HIM tool for monitoring these indicators is an event management system. We have events defined in the system which nurses/technicians choose and enter as and when the events happen both date and time. Based on the data entered, the system processes the data and comes up with the value for each indicator.

Each of these indicator values is then compared by the system against the benchmark assigned by the hospital for the indicator. The system then comes out with all indicators below the benchmark and those above the benchmark. Those above benchmarks are again divided into 2 types. Those that are consistently above benchmark ie, for more than 2 months, and those that are not consistent (< 2 months). Those indicators which are consistently above the benchmark are reviewed in the Quality control meeting and corrective actions are taken and documented.

For the sake of clarity, we will now analyze a few indicators:

Percentage of Improper/incomplete Consent: As per the formula in the table, it is the No. of files with improper or incomplete consents received divided by the total no. of discharges. The count of discharges for any month is available in the HIS, against admissions. The numerator, and number files with improper/incomplete consents come from the deficiency check program which is detailed below. At this stage when deficiencies are entered into the system all the papers in this current admission encounter are scanned using fast duplex scanners and stored in the file system linked to HIS.

We have a program to enter the deficiencies found in each discharge file in the HIS. The screen below shows the main fields from the deficiency.

The screenshot shows a web-based application interface for updating deficiency status. At the top, there is a breadcrumb trail: Home > Deficiency List > Update Deficiency Status. Below this, there are input fields for Patient Id (1464604), Date of Admission (27-OCT-16), and Department. A 'Choose Documents' list on the left includes items like Accident Register, Admission Authorization Form, Admission Consent, Admission Record, Amisler Record, Anaesthesia Chart, Anaesthesia Consent, B.P. Chart, Biopsy Report, and CT Report. A 'Deficiency Status' dropdown menu is set to 'Partial Compliance', with other options being 'Fully Compliant' and 'Non Compliant'. Below these fields is a 'Tabular Form' table with columns: Encounter Id, Form Name, Doctor, Nurse, Status, Filename, and Remarks. The table contains four rows of data, all with 'Fully Compliant' status.

Encounter Id	Form Name	Doctor	Nurse	Status	Filename	Remarks
	Accident Register	<input type="text"/>	<input type="text"/>	Fully Compliant	<input type="text"/>	<input type="text"/>
	Admission Authorization Form	<input type="text"/>	<input type="text"/>	Fully Compliant	<input type="text"/>	<input type="text"/>
	Admission Consent	<input type="text"/>	<input type="text"/>	Fully Compliant	<input type="text"/>	<input type="text"/>
	Admission Record	<input type="text"/>	<input type="text"/>	Fully Compliant	<input type="text"/>	<input type="text"/>

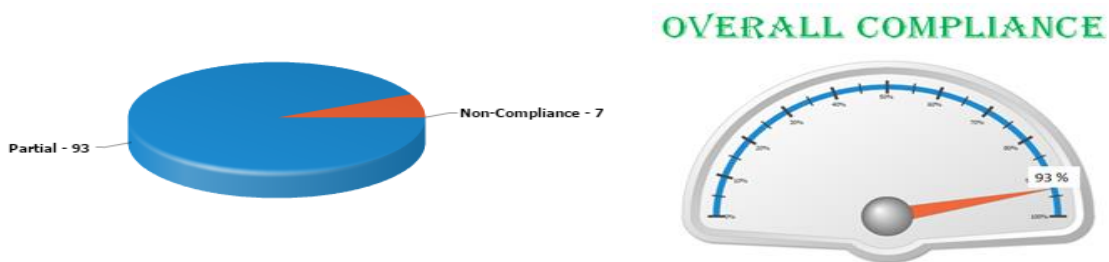
On this screen, the MRD staff chooses the admission number of the patient. The list of forms in the file is chosen from the list and added to the tabular form below as the first step. Then for each form deficiency details are entered. The details entered are whether the form is an NC or PC or fully complete, which doctor is responsible, and which nurse is responsible, it also has a field to link to the scanned images of the file. Remarks also can be captured at this level against each form.

Results: The MRD staff then processes the deficiencies and gives the following information:

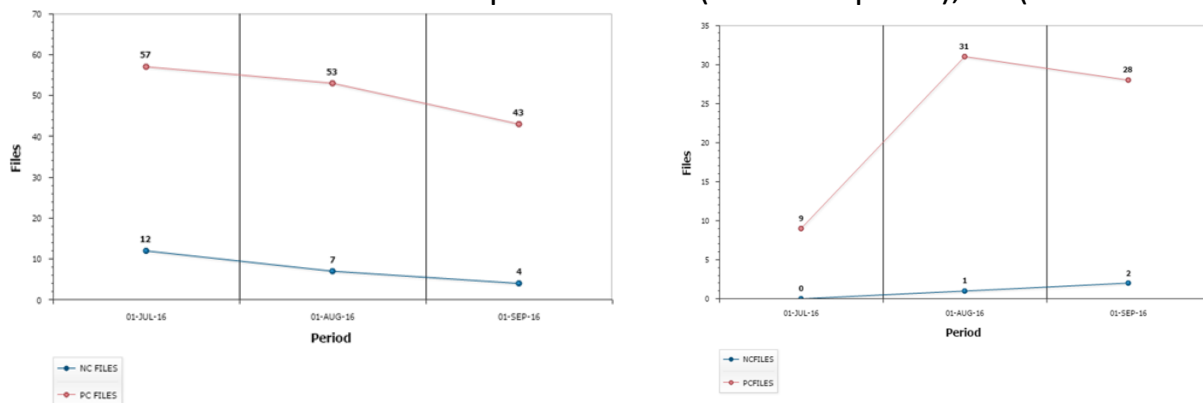
- No. of Non-compliance (important data missing), Partial Compliance (simple mistakes, full name missing after signature, date, and time), and compliance by specialty as a pie chart
- Analysis by Doctors, nurses & anesthetists is also possible as doctors' names are linked
- Trend analysis for the past 3 months can also be done at the level of specialty, doctors & nurses.

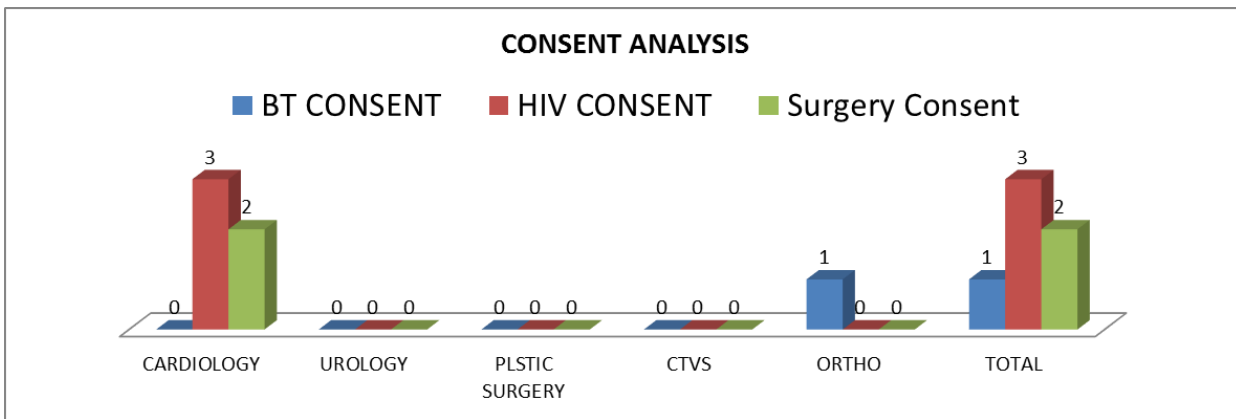
Once deficiencies are entered in the system then a query is run to process the data entered and a summary report of improper or incomplete consents is produced as given below. All the data shown are sample data and are fictitious only for purpose of understanding the concepts.

The overall compliance of the hospital in the closed medical audit can be summarized as:



Doctors & Nurses Trend of incomplete files NC (Non-Compliant), PC (Partial Compliant)

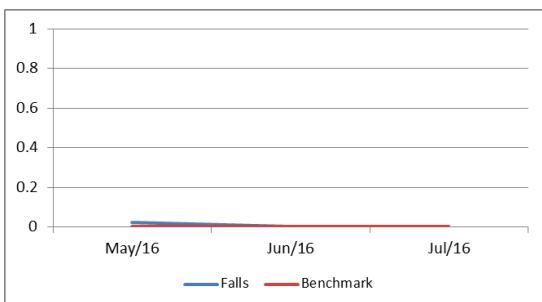




Discussion: From the consent analysis graph we can make out those maximum deficiencies are from HIV consent from the cardiology department. Similarly, a trend graph can also be made from the above data over the last 3 months.

Second example: *Incidents like falls, bedsores, and sharps/needle stick injuries;* etc. can be tracked using our event management system. We can define all these indicators as events in it. Then the data is entered under his/her login by the person responsible. A screenshot of the data entry screen is shown below:

Data about the indicator is captured against a patient unique ID. Details like the date and time of the incident/event, details of the event/incident, corrective action, and preventive action can be entered if required. Once data is entered queries give the various statistics that are required as graphs or data.



SN	Standard	Indicator	May-16	Jun-16	Jul-16
42	CQI 4B	Incidences of falls	0.02	0.00	0.00
		Benchmark (/1000)	0	0	0
		No. of falls	1	0	0
		Total No. of patient days	4274	3959	5110

Conclusion: Thus an HIM with a proper data entry facility for indicators, a facility to scan files returned to MRD after discharge, and a good web-based program, will meet most of the requirements for accreditation software. A few indicators which are based on human judgment like Hand wash indicator etc. will need to be entered manually into the HIS. We have computerized all the 64 indicators using our HIS database and a web-based app. Thus HIM helps the organization to effectively institute, capture and monitor indicators that reflect the quality of care and safety measure practiced, by capturing data on a day-to-day basis and performing analysis and reporting every month end.

Chapter XXXVIII: Dr. Mogli's Management Education and Research Centre for Health Excellence (Dr. Mogli's MERCHE) provides FREE CHT and CMT Education

Vision: To establish a Voluntary (Non-Profit) or Free Education and Research Centre for Health Excellence in order to conduct research and develop innovative methods and technology to provide Healthcare Professionals training to serve healthcare institutions to provide the best possible healthcare to inhabitants.

Mission: Provide free education/training to produce Certified Healthcare Technologist (CHT) and Certified Managerial Trainers/Tutors (CMT) programs. Successful graduates work in Hospitals; e.g., in Health Information Management (HIM), Public relations, Patient care relationship coordinator, Quality assurance, and Medical Education or Research departments. OR Trainers in any teach institution.

Objectives: Presently, India has hardly very few recognized institutions conducting HIM programs, and trained personnel are much lower to meet very high demand. The **managerial and supervisory staffs** alone are required more than **two hundred thousand HMT-qualified personnel**. If **50** Universities in India started this program now, even **after twenty years**; they would not be able to meet demand; hence, **Dr. Mogli's MERCHE type of free OR minimal fee-charging-centers' are required** to meet the demand of the nation. **The following guidelines as Terms and Conditions to be observed by the Candidates:**

Approach: "Effective introduction of middle or supervisory level management technologists in all healthcare institutions of India to function efficiently, optimally, and globally.

Virtual Professional Training Program: This will be conducted by **(Dr. Mogli's**

MERCHE): The program is virtual and without walls. To be precise the virtual program is neither on online nor attending the class; instead, the trainee has to learn and practice at his or her own dynamism and selected place. The Hyderabad center guides the trainees on what to read to gain knowledge in a particular subject; how and where to practice to acquire professional skills and what to read and observe to get a positive attitude towards the profession. Successful graduates work in the Hospital Management Departments. e.g., HIM, Public relations, as Patient care relationship coordinator, Quality assurance, and Medical Education or Research departments.

1. Eligibility: Any university graduate or PUC or Intermediate with or without qualification or experience who wishes to work in the stipulated fields or another of his / her choice can join the program. (Admission to both programs is open throughout the

year by paying the refundable deposit and collecting the books and appearing on the next scheduled examination date).

2. Duration of Training: Varies from a minimum of six months to one year according to the candidate's background and experience.

3. Examinations conducted: Examinations are conducted once six months a year (June and December)

4. Mandatory Subjects for CHT- furnished below under Course Content. For **CMT**; Only Dr. Mogli's Mirror Managerial book is endorsed as a mandatory book.

5. Teaching and Learning Process: As stated above in the "Virtual Professionals Training Program".

6. Project Assignment: Each trainee is given a project assignment related to his selected specialty to be completed as per the prescribed format between a minimum of 1000 and not exceeding 3000 words. The same to be submitted prior to the written examination date to the examination center. Without submitting the project assignment report, a candidate is not permitted to write the examination.

7. Examinations: Theoretical examination in two sessions' forenoon and afternoon on mandatory subjects; First session: forenoon without books of 2 hours duration and the second with books of 2 hours duration. Both examinations are one day for all category trainers in one mandatory book.

8. Practical examinations: are conducted on different days. Candidates will be intimated of the date and time of the practical examination.

9 Supply of Books: At the time of registration 2 books will be supplied to CHT candidates: i. Dr. Mogli's Mirror, ii. Dr. Mogli's Healthcare Technologist Handbook; **For CMT candidates; two books** Dr. Mogli's Mirror, ii. Dr. Mogli's Health Information Management & Health Informatics Professionals Handbook.

10. Fee for the Program: Anything given free loses its worth and no drive to improve; hence a sum of Rs Five thousand for CHT and Rs Five thousand for CMT is collected as a **refundable deposit**. At the time of registration, he/she will receive receipts of Rs. 5000/- for CHT/ and Rs. 5000/- for CMT; "Refundable deposited receipts for the amount paid by him /her. Submit the refundable-deposited receipt after successfully completing the educational program and obtaining the certificate to collect the amount paid by him /her. **This entire education program is free for all.**

11. Marks allocation: A total of five hundred marks: (i) For theoretical examination (without books) 100 marks; (ii) with books 100 marks; (iii) for project assignment; 100

marks; (iv) oral exam; 100 marks; and (v) for communication skills and attitude 100 marks.

12. Passing Minimum Marks: A minimum of 60% marks to secure passing the examination.

13. Guiding Faculty: Prof. Dr. G. D. Mogli and his team; and with hospital managerial staff, computer experts, and also suggestions received from overseas Advisers / Distinguished Professionals from the USA, Canada, UK, Kuwait, UAE, and Oman.

14. Award of Certificate: Successful in the theoretical and practical examination will be awarded the certificate of achievement as a Certified Health Technologist(CHT) and Certified Managerial Trainer (CMT). The candidate is certified to take up a specialist job in any healthcare institution in any country.

15. The certificate is signed by:

Prof. DR. G. D. Mogli, PH.D., MBA. FHRIM (UK), FAHIMA (USA)
(Father of Medical Records of India and the Middle East)
(Known as Champion of Developing Countries by IFHIMA (World))
Visiting Professor, Medical Informatics, MIGM Sciences, Maharashtra, India
Ex-World Health Organization Consultant and Sr. Consultant / Adviser to the
Ministries of Health, India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman,
Bahrain, Qatar, and UA

How Dr. Mogli is trying to train more HIM Professionals for the country's Health Program? Thru 1. Dr. Mogli's Management Education and Research Centre for Health Excellence (Dr. Mogli's MERCHE) Free Education Program started in the year 2021. (Those wishing to make the Nation Healthy and wealthy can join the program and extend a helping hand)

Improving patient care; thru HIM standards and Professional status to make the nation Healthy and wealthy is the main reason for the ongoing 50 Years Golden Jubilee of the HIMA India Celebration during the Int. Conference held in Dec 2022 at Hyderabad. Many participants requested to conduct continuous conferences/workshops in big Cities. E.g., Bangalore, Pondicherry, Visakhapatnam, Coimbatore, Pune, Mumbai, Ahmedabad; Jaipur, Bhubaneswar, Sri Nagar, Indore, Raipur, and so on. Our focus on conducting conferences is to uplift the status of professionally downtrodden personnel such as HIM supervisory and operational staff is the need of the hour. The Universities and Institutions will start Diploma, Degree, and Master's programs- those financially strong will avail, but those weak working in HIM for years without professional qualifications need full support from their immediate officers. To help the needy please register your staff for the Free CHT program and you to be their beloved teacher by joining for CMT program.

Note: Parliament passed the Act in 2021; recognizing Health Information Management (HIM) and Health informatics Professionals (HIP) under ISCO Code Nu. 3252. Hence there will be a high demand for qualified HIM personnel and HIM Teachers. This is a great opportunity for seniors to take up University teaching jobs.

Dr. Mogli's Management Education and Research Centre for Health Excellence (Dr. Mogli's MERCHE) Free Education Program started in 2021; to help the professionally downtrodden personnel. (Out of 74 registered 34 successfully completed- got certificates last year. Currently, 123 are registered for the program). You being a successful officer; can extend a helping hand (not finance but your expertise) in this humanitarian cause to accomplish the above-stated goal. Kindly register at least a minimum of five members for the CHT/CMT program. In a few years' time; our country will be well established in the HIM field and conducting a conference nationally or internationally will have a tremendous impact. By this, you will have enough participants from all over India; who will be eager to exchange ideas learn new techniques and skills, and work cordially to help in Swift, Safe, Improved Quality and Cost contained Care to patients; besides improving the professional status and making the nation Healthy and Wealthy then we all feel proud of our HIM profession and Nation.

I beg all the Honourable HIM Professionals in India and Overseas. You are young and have many years to serve & Outshine and Succeed in HIM Profession to be a Global Expert. Kindly use your efforts, and energy in achieving your set goal instead of wasting on negative issues; that will be counter-productive; unless you are an expert- you will not grow; even if you hold 100 highest associations posts; you will never get any high professional post in any part of the world. When you go for an interview for a better job, no association will help you; you are tested on your professional qualifications; knowledge, skills, and positive attitude. E.g. A young girl takes with her best friends to show her fiancé that she is going to marry. Later who will marry? Her friends or herself???. Similarly, build up all your personal skills by making the best use of time for your professional growth. Association posts for senior retiring stage or retired professionals who can guide the young with their years of expertise. **Is there anyone who held the highest positions in associations and got a respectable high position within India or abroad? NONE. Anyone who got due to their professional abilities secured jobs overseas.**

Who is Dr. Mogli? & what is his Contribution to the HIM field in India & the World? Why does he want to give free education? He is born and will die for HIM and has served since 1957 onwards 65 yrs. He is the servant of a "Patient" who considers the Patient as his Master or God, and the "HIM" is the place of Worship; Temple /Church/Mosque //Gurudwara; and the Nation as his Custodian- made Him to the current level; and making "INDIA PROUD" is his constant endeavor. He is ever

indebted to the Great Nation of India because whatever he accomplished is due to this Wonderful-Great Nation.

He holds Three World Records: 1. Fellow of the USA is the only one outside of the USA in the entire World except for the US citizens, 2. He has a Fellow from the UK and the USA. None in the World has; 3. Dr. Mogli's Mirror Challenged with the offer of US \$1000/- (One thousand dollars); if anyone from any part of the world has achieved more than Dr. Mogli can claim. The book was given to top Distinguished Professional members of 33 Countries of the World including top Global professional association members 'International Federation of Health Information Management (IFHIMA) Past, Present, and Future Presidents. None could claim. He worked as a Consultant to WHO and 9-plus Nations as a Sr. Consultant and adviser to the Ministries of Health; in India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar, and UAE. He received the highest awards from the USA, UK, and many other countries; participated and Presented Papers at 24 International Conferences, and hoisted Indian Flags in different Nations. Gave guest Lectures in 14 Overseas countries. Published 131 papers in International Journals of Repute and 17 books; used by many nations in the world; He had the opportunity to work closely with Health Ministers; and met the Highest Leaders in the world. e.g., Presidents, Prime-Ministers; Queens, and Princes of great nations: besides high professional around the globe; He is well known worldwide as the "Father of Medical Records of India and the Middle East" and Champion of Developing Countries by IFHIMA (World).

He is the Founder of HIMA India (1972) and associated with IFHIMA for 50 years: To quote the names who served selflessness, fully dedicated not for (Name or Fame) but just giving the best to the profession. The young global HIM members should know and get inspired by their sacrifice: 1. Mrs. Grace Whiting Myers (1928); the first President of the USA. 2. Elsie Royle of the UK conducted the first Int. Congress (1952): 3. Dr. Skrinjar Nerima of WHO, brought the world of MR professionals into IFHIMA in the 1970s; 4. Prof. Willis Watson of Australia is a great educationist serving selflessly since 1972; 5. Carol Lewis, of the USA, served many nations since 1976 and provided selflessly to the HIM profession. 6. Prof. Dr. G. D. Mogli of India served 9 plus countries since 1957; associated with IFHIMA since 1972; made policies; logo; and national membership fee; and chairman of Developing Counties; studied and presented in 9th Int. Congress held in New Zealand in 1984 and was awarded as Champion of Developing Countries by IFHIMA (World). And involved in many activities and innovated in the 1970s Mogli's Ready Reckoner was used by most of the global nations including India-very popular till the end of 1990. Now; Dr. Mogli's Oath of Ten AUSPICIOUS Commandments will be used by many nations. "You are a great leader in India and World renowned great teacher of medical information management. I always admire your straightforward thinking about HIM. Your thoughtfulness and hard work are second to none in the world" by Yukiko YOKOBORI

of Japan Hospital Association: Japan Society of Health Information Management, Japan.

Recent Achievements: He was selected as a member of the Academic Review Panel for the 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.>

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.

Dr. Mogli's Five Decades of Selfless Service:

1. Dr. Mogli's five decades of selfless service to humanity are exceptional school joined as a hospital record clerk in 1959 in Hyderabad, with a monthly salary of Rs. 75/- to become a world-renowned medical record expert whose last drawn monthly salary was Rs. Five Hundred Thousand (with many perks and benefits as well). Dr. Mogli achieved besides attaining Ph.D. first person on the globe; to achieve 3 world records. Participated in 24 International Congresses; Delivered guest lectures in 14 nations; published 17 books and 131 articles. Served nine nations at the top level helped the nations transform from chaos to a well-organized healthcare system and saved thousands of patient lives and millions of dollars of exchequers. Being an Indian Citizen the name of India was synonymous with his work.

Great Organizer: He served the AP state government (1959-1965) organized the Niloufer and Osmania hospitals and created the best record system in the state. Served in the central government JIPMER (1966-1980): made the Medical Record Department (MRD) lately known as Health Information Management (HIM) best in the country; started many HIM educational programs including Bachelor of Medical Record Science degree programs under the University of Madras; first of its kind in South-East-Asia. Due to the exceptional caliber of Dr. Mogli, the government of India deputed him to Afghanistan from 1973-1976 to outshine the global competition. Indian Ambassador commended Dr. Mogli for making India Proud by organizing many hospitals conducting a six-month medical record technicians program training 33 nationals, and developing the first-time National Birth and Death Registry system in the county.

Governed Six GCC countries (1981-2007): Dr. Mogli developed a unified record system including electronic health records in all the countries and gained great prominence immensely to the field of world health by serving nine nations as Senior

Consultant Advisor and as a WHO consultant to the Ministries of Health. He standardized the HIM program and hundreds of Indians found jobs in GCC. He is well known as the Father of Medical Records in India and the Middle East and Champion of Developing Countries by IFHIMA (World).

Pioneer in the healthcare system: Dr. Mogli Founded HIMA India Association in JIPMER in 1972 and got affiliated with IFHIMA in 1976; conducted a workshop on “teaching-learning techniques for worldwide teachers in New Zealand; and as a Chairman of Developing Countries studied 13 countries' systems and presented a report in the 9th Int. Congress held in New Zealand in 1984 and was awarded as Champion of Developing Countries by IFHIMA (World). His documents on the global transformation of the healthcare system in the next 20 years and how HIM deals with them are being discussed by the International Federation to meet the needs. Dr. Mogli earned a name as a pioneer and globally popular in the HIM field

Outshine nationally: Dr. Mogli's returned from Overseas in 2008: On-demand of WHO-FIC; the Government of India invited Dr. Mogli as a Leading Speaker to present a paper “The Evolution of Medical Record and System in India”, in (WHO-FIC) Network held in 2008 at New Delhi. The global participants were commended for their excellent presentation. His contribution to India is remarkable; as President of HIMA India conducted many conferences and workshops in different states to uplift their standards by focusing on work; helping patients have a passion and commitment to a field.

Service to National Inhabitants: Dr. Mogli's two books (1) “Living in Moderation for Achieving Good Health” was published in the middle of 2019, distributed free of cost to the general public; to ensure a healthy population of the nation that minimizes the burden of the Government. The book has all the COVID-19 Pandemic guidelines (pages 73-83) by the WHO and the Govt. of India. Salient features of the book were sent to all the WHO regional offices and the Ministry of The Health of India in April/May 2020 to implement within inhabitants of the nation. If executed; the nation will be robust enough to outshine the world.

(2) Dr. Mogli's Mirror: For Managerial Methods in Attaining a Status of Prominence from Primitivity. The main purpose of this book is to motivate the young generation to realize one has to work with passion and commitment to a field. He distributed 350 books to Indian participants in the national conference held in NIMHANS, Bangalore in 2019. He distributed 50 books to all International representatives in the International Congress held in Dubai in 2019 to motivate HIM professionals to provide the best service to the sick and injured. Dr. Mogli's Mirror book is a testament to his entire work.

Chapter XXXIX: How to Conduct a Conference and the Workshop

1. How to Conduct a Conference?

Introduction: Any Conference that is conducted should be objective achieving; time schedule, result-oriented, and able to impart optimum latest knowledge of regional, national, or global to share or exchange and to train others confidently and competently. The conference can be of varied types and it all depends on who is organizing, why and where, and how it is done to accomplish its set goal. The conference can be regional (Participants are restricted to the region with specific topics to discuss). Similarly, it could be state-level with state issues or particular topics or national-level with the specific topics to be deliberated to accomplish the best outcome. A national conference could be of a general topic- anyone can participate with a registration fee or without a fee etc. The conference is restricted to one country, and then it is generally called the national conference. If more than one nation is participating and presenting papers then is known as an International; which deals with global or more than one nation topics; and participants including speakers from more than one nation is considered to be an International conference.

The conference is generally conducted by an organization that could be federal, state; or regional or any professional organization or a single or a group of experts in the field. The conference is to ensure that all the topics cover the selected theme. It would be advisable for the organizer/s to send the circular to all the potential speakers well- in advance of the topics that are to be presented with clear guidelines so that one can get the best original and research papers related to the theme. The size of the conference could be from a few hundred to one or two thousand. It should be well planned so that the need of participants is met during the deliberation of the conference. The conference needs to develop skillful human resources in the related topic that will add great value in executing the services or production whatever may be. This exercise through conference if properly conducted participants benefit tremendously with full satisfaction of playing and enjoying a game; time passes easily in keeping busy in completing the given project. Once the conference is conducted with proper expertise the participants will enjoy the terrific satisfaction of being a leader or master and gain confidence that they can deal with such situations with ease and get the best outcome.

Formation of Committees: There should be a few but most vital ones e.g., organizing, reception; entertainment; boarding, lodging and transport, paper review and selection, conference session management, etc.

The success of the conference: **The first** and foremost priority is the selection of an Expert or group of experts to conduct the conference. To ensure proper and

meticulous planning and arranging of the scientific papers in a methodically organized and time schedule observed strictly and ensure all the speakers get the allotted time. The speakers should be their own masters to present their papers in a way that the participants enjoy and gain tremendously the information or knowledge or skills leading to a positive attitude. The topics presented should be the latest and meet the most present needs and guidelines for the future. In turn, the most suitable conference is directed to the needs of the institution or organization. To be a successful conference, the organizers to have a clear “roadmap or blueprint” including every activity that goes into the conference project. For the place of the conference (location) with its logistic facilities; proximity to the invited participants; their lodging and boarding facilities for outsiders- selection of right candidates; supply of stationary or reading material needed for deliberating;

The object of the conference is to be very clear whether it is open to anyone or only a particular specialty etc. by way of what you want to achieve by conducting the conference to:

- Improve your organization's new plans and projects to be implemented effectively in all the regions or divisions or hospitals.
- Papers presented not only to share but to impart teachers to teach their regional division or state groups to implant the Federal or State projects or any new system that is to be introduced by conducting short workshops.
- Make the participants better organizers and executors and capable of training their staff effectively.
- Standardizing and rationalizing throughout the organization state or country is possible through conferences/workshops to ensure the best outcome.
- Develop uniformity and team building with sportsmanship spirit- achieve among the participants through the conference/workshop.
- Bring massive cost savings to the organization with high efficiency in human resource performance.

Selection of participants for the conference: The invitees are those related to achieving the set objective and selecting the right candidates from the right organization to execute the right job to meet the needs of the project that is being implemented or improve the existing project.

Selected places for the conference: The location for the conference is to be close to the region so the participants join the conference center easily and if necessary

make boarding and lodging arrangements. The boarding and lodging for those who come out of the city.

Select the common hall for general group participation; and for each specialty group discussion, small halls depend on the size of participants; if you have more-it is good; otherwise, at least form into a minimum of a small group of fifty to hundred.

Logistics like audio and video equipment and the latest gadgets for the presentation of speakers to and participants with required devices for speaking and listening to be very effective throughout the conference and proper lighting of the hall and entry and exit areas are clearly visible and exhibited.

Make a Conference program:

- Knowing the primary objective and who will attend, you can start to develop an outline of how you'll achieve the conference's goal.
- The duration of the conference is a vital issue depending on the objective; one day or two, three or four days with daily spending 8 hours or more.
- The program is meticulously divided into the duration period in a systematic chronological order so that the proper flow of presenting of papers or sessions gains good momentum.

All the participants are allowed to sit initially in a common auditorium or hall to listen to the main papers presented by different distinguished speakers or a single speaker. Once that is done; the organizer has to divide the participants into a number of groups as planned.

After allocating the specialty topic/s that is to be discussed each group is intimated and participants according to their allocated number the group- which lead to deliberation. There should be some mentors to guide their respective groups in the active participation of all members and completing the work to reach a solution or outcome.

It is highly appropriate to clearly explain the details of the conference –it reminds at every level the purpose of conducting the conference is the latest knowledge sharing with distinguished speakers who with their enormous global knowledge and expertise that will make the monitors and participants follow strictly the time schedule and to results are accomplished with one hundred% active participation. Each and every participant needs to be active and not allowed to be passive as a simple spectator or listener. Need to be involved actively-fully with his known information then only he will gain the benefit of the conference. Each and every

participant has come to the conference to gain a maximum of its education and the right way of execution related to any topic that was discussed, hence active participation by each and every participant is a MUST.

The conference process: The process should begin with a professional oath and reminder of how the organization or profession has grown in the last few decades; what it has achieved and what needs to be accomplished in a projected time schedule. The big question to be asked by conducting the conference once a year or bi-annually or once every three or four years; what benefits have accrued? The participants from different regions, states, and International conferences; participants from varied nations present papers and participate. They all share their day-to-day experience, the problems that hamper their progress; or accomplishments that solved certain issues were shared with the august members.

Conference Follow-up Plan: In order to ensure that participants have clearly understood the process and are able to execute the given task effectively. To know more about this; a questionnaire can be prepared and sent to all the concerned and receive the response and evaluation. If they need support and guidance further for their encountered problems to be solved by your suggestions. That will add value further to implement the project much more robust way.

A practical example of conducting the conference and its execution: Please see the chapter on International Conference & Celebration of 50 Years Golden Jubilee of HIMA India (12-7-1972 -12-7-2022) with Theme: “How to Outshine and Succeed in HIM Profession to be a Global Expert”.

2. How to Conduct a Workshop:

Workshop Planning - Executing a Systematic and Successful Event that should be memorable.

Introduction: Any workshop that is conducted should be objective achieving; time schedule; result oriented and able to impart or train others confidently and competently. The workshop is generally conducted by a single or a group of experts in the field. The workshop is to ensure that the organization needs to develop skillful human resources in the related topic that will add great value in executing the services or production whatever may be. This exercise through workshop if properly conducted candidates benefit tremendously with full satisfaction of playing and enjoying a game; time passes easily in keeping busy in completing the given project. Once the workshop is conducted with proper expertise the participant will enjoy the terrific satisfaction of being a leader or master and gain confidence that he can deal with such situations with ease and get the best outcome.

The workshop with full of creativity, initially the expert leads by giving the introduction to the project assignment explaining the process of the workshop, and forming the groups according to the size of the number of participants and the time at disposal. Then the activities of each group with their monitor/ monitors will get into allocated areas or halls to discuss and present the report. This exercise not only be productive but also inspire others to do the way you conducted will add great value to organizers and participants.

The workshop process includes brainstorming, interactive learning, building relationships, and problem-solving. If time permits; prior to the workshop the post-workshop test is conducted to evaluate the candidate's gaining the knowledge or skill in numerical values. The test paper is the same for both; related to the topic that will be covered during the workshop. Some may have already some knowledge or skills; the evaluation will reveal each individual's caliber of knowledge acquired.

The success of the workshop: The first and foremost priority is the selection of an Expert or group of experts to conduct the workshop. He in turn plans the most suitable workshop directly to the needs of the institution or organization. To be a successful workshop, the organizer has to have a clear "roadmap or blueprint" including every activity that goes into the project. For the place of the workshop (location) with its logistic facilities; proximity to the invited participants; their lodging and boarding facilities for outsiders- selection of right candidates; supply of stationary or reading material needed for deliberating;

The object of the workshop is to be very clear by way of what you want to achieve by conducting the workshop to:

- Improve your organization's new plans and projects to be implemented effectively in all the region divisions or hospitals.
- Train tutors to teach their regional division or state groups to implant the Federal or State projects or any new system that is to be introduced.
- Make the participants better organizers and executors and capable of training their staff effectively.
- Standardizing and rationalizing throughout the organization state or country is possible through workshops to ensure to get the best outcome.
- Develop uniformity and team building with sportsmanship spirit- achieve among the participants through the workshop.

- Bring massive cost savings to the organization with high efficiency in human resource performance.

Selection of participants for the workshop: The invitees are those related to achieving the set objective and selecting the right candidates from the right organization to execute the right job to meet the needs of the project that is being implemented or improve the existing project.

Selected places for the workshop: The location for the workshop is close to the region so the participants join the workshop easily and if necessary make boarding and lodging arrangements. The boarding and lodging for those who come out of the city.

Select the common hall for general group participation; and for each group discussion, small halls depend on the size of participants; if you have more- it is good; otherwise, at least form into a minimum of three groups.

Logistics like audio and video equipment and the latest gadgets for the presentation of speakers to and participants with required devices for speaking and listening to be very effective throughout the conference and proper lighting of the hall and entry and exit areas are clearly visible and exhibited.

Make a Workshop program:

- Knowing the primary objective and who will attend, you can start to develop an outline of how you'll achieve the workshop's goal.
- The duration of the workshop is a vital issue depending on the objective; half-day or only forenoon session (4 hours duration; full day of 8 hours, or two or three or a week.
- The program is meticulously divided into the duration period in a systematic chronological order so that the proper flow of teaching and learning gains good momentum.

All the participants are allowed to sit initially in a common auditorium or hall to listen to the main papers presented by different speakers or a single speaker. Once that is done; the organizer has to divide the participants into a number of groups as planned.

After allocating the topic that is to be discussed each group is intimated and participants according to their allocated number the group- which leads to deliberation. The mentor or mentors will guide their respective groups in the

active participation of all members and completing the work to reach a solution or outcome.

It is highly appropriate the clearly explained details of the workshop will make the monitors and participants follow strictly the time schedule and to results are accomplished with one hundred active participants. Each and every participant needs to be active and not allowed to be passive as a simple spectator or listener. Need to involve himself with his known information then he will gain the benefit of the workshop. Each and every participant has come to the workshop to gain a maximum of its education and the right way of execution related to any topic that was discussed, hence active participation by each and every participant is a MUST.

Workshop Follow-up Plan: In order to ensure that participants have clearly understood the process and are able to execute the given task effectively. To know more about this; a questionnaire can be prepared and sent to all the concerned and receive the response and evaluation. If they need support and guidance further for their encountered problems to be solved by your suggestions. That will add value further to implement the project much more robust way.

A practical example of conducting the workshop and its execution: Please see the chapter on International Conference & Celebration of 50 Years Golden Jubilee of HIMA India (12-7-1972 -12-7-2022) with Theme: “How to Outshine and Succeed in HIM Profession to be a Global Expert”.

Chapter XXXX: Practically Conducting an International Conference including two workshops

Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)

(Father of Medical Records of India and the Middle East; and Founder of HIMA India)

Organized an International Conference held on 17- 18th December 2022, at KIMS Hospitals, Secunderabad, India. Theme
“How to Outshine and Succeed in HIM Profession To be a Global Expert”

On this occasion; the Founder is celebrating the 50 Years - Golden Jubilee of HIMA (1972-2022)

Extension of Int. Conference and Celebration of HIMA India 50 Years Golden Jubilee with the same Theme: Conference Cum Workshop Objectives: This conference is unique as no VIPS and no waste of time in inaugural functions; fully dedicated to motivating and inspiring the HIM professionals to prepare themselves to be masters in digitalized records and health information; providing minimal standards in all aspects of the HIM profession. Send recommendations to the Govt., with minimum needs of HIM Profession to perform that to be executed by all the Govt. and Corporate hospitals of across the nation.

Suggest to the Government; the minimum Infrastructure including equipment; space, staff, categories of professionals and their qualifications; academic and professional; job responsibilities of each category; with minimal salary structure; and in developing HIM professional educational institutions to meet the needs of the nation unifying and rationalizing the entire country’s HIM system.

Propose the role to be played by the Hospital Director; HIM Manager, and State and Central Government in accomplishing unifying and rationalizing the digitalized records throughout India.

Recommendation to the Government in establishing an HIM Cell in the Central and in all the State Government Ministries; appointing a senior HIP Professional to oversee the functions of HIM departments of state and federal to ensure they comply with the norms of the government in maintaining the digital records and health information.

Motivate and inspire the professionals that the HIM has great affluence - if HIM works loyally focusing on the profession with full commitment; the outcome would be amazing.

Topics: Topics covered include: HIM professionals to be equipped with the latest technologies; new systems, standards, policies, and procedures and organizational and management needs to make the HIM department most vibrant to meet the needs of providing an efficient swift, safe, improved quality, and cost-contained care to the sick and injured.

Emphasize HIM leaving safe zone taking the corporate competitive attitude and instead of taking instructions and executing; contribute innovative methods to administration to gain influence to do better and be successful.

Speakers: Speakers are from National and International. Each speaker is given 20 minutes; 10 minutes are allocated for self-growth including challenges and achievements in the profession to reach the current position. Another 10 minutes; recommend what is expected from the HIM professionals and how to be equipped to meet effectively in the next 10-20 years to maintain high standards to outshine and succeed to be a global expert. **Distinguished speakers** from the USA, Canada, the UK, UAE, Oman, Kuwait, and Qatar will present their life growth in the HIM profession and recommend what HIM professionals to be equipped with to be successful in the profession in the next 10-20 years in the global market.

Submission of papers: On or before 30th September, 2022 Paper should be of maximum of 2000 words. As the accepted paper will be printed in a published book titled: “How to Outshine and Succeed in HIM Profession to be a Global Expert”. The book will be printed and distributed to all the participants. This is an HIM Handbook with all the essential ingredients to practice the HIM profession; with the latest Technology. Those who desire to present a paper should send an email gdmogli@yahoo.com for the methodology of preparing a paper and selection of topics. Delayed submission will miss publishing in the book; hence try to adhere to the date. Pl. note that getting the ISB number and editing and printing will take time; kindly send before 30th September 2022.

Registration Fee	Before 31 st Oct. 2022	Before 30 th November 2022	From 1 st Dec 2022
All participants	Rs 1000/-	Rs, 1100/-	Rs 1200/-
HIM & other students	Rs. 800/-	Rs, 900/-	Rs, 1000/-
Dr. Mogli’s MERCHE students	Rs. 800/-	Rs. 900/-	Rs. 1000/-
Overseas participants: (in US\$)	\$130/-	\$140/-	\$150/-

What do participants get from the conference?

1. Sharing the HIM latest technology global expertise knowledge
2. Participation certificate, - (Signed by International Distinguished Professionals).
3. Book more than 300 pages. “How to Outshine and Succeed in HIM Profession to be a Global Expert”.
4. One book “Dr. Mogli’s Health Information & Health Informatics Professional Handbook”.
for HIM Managers or in-charge MRDs. **OR**
4. One book “Dr. Mogli’s Healthcare Technologist Handbook for All Healthcare Professionals”.
for MRD Technicians and students.
5. **Two Lunches and Four Coffee/Tea with snacks.**
6. **Prof. Dr. Mogli’s Memento** will be received by those who have contributed- selflessly to HIM Profession for their distinguished service

Printout this Registration Form and complete the following details and scan the same and send to gdmogli@yahoo.com

Name: Dr. Mr. MS:	Designation:
Organization:	Place:
Email Address:	Mobile No.
Mode of Payment: Phone Pay@tm	Phone Nu. 9949750983
Any enquiry please contact Dr. Mogli _ Mobile No. 9949750983	
Confirm payment amount and date:	Attach payment receipt:

Complete the above information and send to the email gdmogli@yahoo.com at the earliest date.

Due to any reason the conference is cancelled-the entire registration amount paid will be refunded within Ten days’ time.

The success of the conference belongs to all HIM Professionals and their active participation in the two-day deliberation.

Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)
(Father of Medical Records of India and the Middle East; and Founder of HIMA India)
Organizing an International Conference - &
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Theme: “How to Outshine and Succeed in HIM Profession to be a Global Expert”

17- 18th December 2022,

Day -1 Program Schedule - Saturday the 17th December 2022

Time	Topic	Speaker		
08.00-09.00	Registration & Inauguration			
09.00-09.30	Inauguration and First-day proceedings			
09.30-10.00	The critical role of Health Records in advancing diagnosis and treatment through AI	Sudish Mogli, Vice President EBKAI Inc. USA		
10.00-10.30	Future of HIM	Narendar SK.Group Manager, Mediclinic ME. Dubai, UAE		
10.30-11.00	Coffee Break			
11.00-11.20	Importance of Medical Records in Healthcare Delivery	V. Rajani, Sr. Manager (HIM)KIMS Hospitals, Hyderabad,		
11.20-11.40	Standards for Medical Record Services	Prabhakar, Sr. MRO, Yashoda Hospitals, Hyderabad,		
11.40-12.00	“Retrospective Study of Completeness Level of Medical Records in Teaching Hospital.”	Gouri. PhD (R. Fellow), BLDE Univ., Vijayapura		
12.00-12.20	Role of HIMS in Improving the Quality of Patient Care in the Hospital	N. Annapoorna, MRO, SSSIHMS, Puttaparthi, AP,		
12.20-12.40	Legal Aspects of Medical Records	Junaid Nazir, MRO & Anup Misra, Jalandhar, Punjab,		
12.40- 01.00	Policies and Procedures for Release Hospital Information by HIM Department	Kalleshwara I.T, HOD of Central MRD, AIIMS, Raipur,		
01.00-02.00	Lunch Break			
02.00-02.20	Importance of ICD-10 or 11 in the Healthcare delivery system?	Hari Prasad, Dr. G. D. Mogli, Dr. Sakethram, AYUSH, Hyd.		
02.20-2.40	Health Data and its Importance	Joju Antony, Director, HIM SDUMC&H, Kolar, Karnat.		
Workshop (HIM Education and Right Way of Execution) (2.40-4.40) on Organization of Medical Record Department in a new 300-500 bed Hospital By Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA) (Father of Medical Records of India and the Middle East & Champion of Develop Countries) CEO & MD (Dr. Mogli’s MERCHE), Hyderabad, India & Ably And				
<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Narendar Sampath Kumar, MBA, MA., BMRSc, PGDCS, CHRIM (UK), CCS, CCA (AHIMA), Group Health Information Manager, Mediclinic-Middle East, Dubai, UAE </td> <td style="width: 50%; vertical-align: top;"> Deepak Vikram Nellore, MBA, BMRSc, (HIM), CHRIM (UK), DMRS (USA). Program Officer – Digital Health CIS Project / Clinical Applications / Operations. Prince Edward Island Health Authority, PEI, CANADA </td> </tr> </table>			Narendar Sampath Kumar, MBA, MA., BMRSc, PGDCS, CHRIM (UK), CCS, CCA (AHIMA), Group Health Information Manager, Mediclinic-Middle East, Dubai, UAE	Deepak Vikram Nellore, MBA, BMRSc, (HIM), CHRIM (UK), DMRS (USA). Program Officer – Digital Health CIS Project / Clinical Applications / Operations. Prince Edward Island Health Authority, PEI, CANADA
Narendar Sampath Kumar, MBA, MA., BMRSc, PGDCS, CHRIM (UK), CCS, CCA (AHIMA), Group Health Information Manager, Mediclinic-Middle East, Dubai, UAE	Deepak Vikram Nellore, MBA, BMRSc, (HIM), CHRIM (UK), DMRS (USA). Program Officer – Digital Health CIS Project / Clinical Applications / Operations. Prince Edward Island Health Authority, PEI, CANADA			
Participants are divided into three groups – each group is guided by 3 distinguished professionals with the help of senior MROs, as monitor and guide them in the following tasks:				
1. Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments;	2. The main needs to set up an MRD	3. HIM Policies & Procedures & General Instructions.		
Group Discussion- each task: 20 minutes (Total 60 minutes)	Report preparation- each task 5 minutes (Total 15 minutes)	Presentation- each 5 minutes (Total 15 minutes)		
Brainstorming on Report of 3 tasks. (Total 30 minutes)	Discussion- 5 min. each task (Total 15 minutes)	Summarization of the outcome (Total 15 minutes)		
04.40- 05.00	Recapture of day’s deliberation – Closing session			
05.05.30	Tea break			

Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)
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17- 18th December 2022,

Day -2 Program Schedule – Sunday the 18th December 2022

Time	Topic	Speaker
09.00-09.10	Second-day Proceedings	
09.10-09.30	Digital Health, Healthcare Informatics & Business Intelligence	Deepak Advisor ERM/ ESM /, Delivery-Services- HC, Canada
09.30-09.50	Emerging trends and challenges for Health Inf. Management Professionals in India.	Gowri Shankar, Sr. MRTESIC MC&H Chennai.
09.50-10.10	Role of Artificial Intelligence in improving E.H.R / EMR in Medical Coding and billing	Manikanta. MRO Kauvery Hospital, Bangalore-
10.10-10.30	Technologies, Intelligence & Fire Safety in Health Information Management	Sri. Keshavarao. T. MRO(Gaz) CIMS Teaching Hosp. Karnataka.
10.30-11.00	Coffee break	
11.00-11.20	How 30 Managerial Communication Skills Applicable to MRD Management	Eben Jeya Roy, Rtd. MR; Consultant, Medical Records
11.20-11.40	Why HIM should leave the safe zone & take a Corporate Competitive role to Outshine and Succeed	Bosser M.Raja, Head, Opn. & Markg. Dr.Solanki Hospital, K.
11.40-12.00	Division of participants into 3 groups and appraisal of workshop	
Workshop (HIM Education and Right Way of Execution) (12.00-01.30) on Minimum Standards for Managing HIM Department by Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA) (Father of Medical Records of India and the Middle East & Champion of Develop Countries) CEO & MD (Dr. Mogli’s MERCHE), Hyderabad, India & Ably And		
<i>Narendar Sampath Kumar, MBA, MA., BMRS, PGDCS, CHRIM (UK), CCS, CCA (AHIMA),</i> <i>Group Health Information Manager,</i> <i>Mediclinic-Middle East, Dubai, UAE</i>		<i>Deepak Vikram Nellore, MBA, BMRS, (HIM), CHRIM (UK), DMRS (USA). Program Officer – Digital Health CIS Project / Clinical Applications / Operations. Prince Edward Island Health Authority, PEI, CANADA</i>
Participants are divided into three groups – each group is guided by 3 distinguished professionals with the help of senior MROs, as monitor and guide them in the following tasks:		
1. Personnel Requirement & 2. Job Description		3. Minimum Standards for HIM personnel qualifications – work experience & monthly.S.
Group Discussion- each task: 20 minutes (Total 40 minutes)	Report preparation- each task 5 minutes (Tot: 10 minutes.	Presentation- each 5 minutes (Total 10 minutes)
Brainstorming on Report of 2 tasks. (Total 30 minutes)	Discussion- 10 min. each task (Total 20 minutes)	Summarization of the outcome (Total 10 minutes)
01.30-02.30	Lunch Break	
02.30-03.00	Recommendation to the Govt. and other organizations	
03.00-03.30	Issue of certificates to successful candidates of CHT and CMT of Dr. Mogli’s Management-Education Research Centre for Health Excellence (Dr. MERCHE) FREE Education Program	
03.30-04.00	Issue of Participation Certificates to conference delegates	
04-00-4.30	Prof. Dr. Mogli’s Memento will be received by those who have contributed- selflessly to the HIM Profession for their distinguished service	
04.30-04.40	Closing ceremony - with gratitude to one and all for making the conference lively	
04.40-05.00	Tea Break	

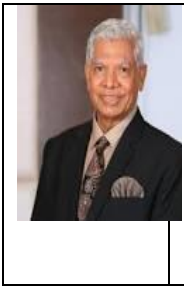
Message from

Distinguished Professionals around the Globe (USA, Canada, Australia, and Japan) for International Conference on 17-18 December 2022, at KIMS Hospital, Hyderabad, India

	<p>CAROL A. LEWIS (IFHRO (President – 1984 -1988- currently known as IFHIMA)). 10201 Grosvenor Place, Apt. 910 Rockville, Maryland 20852-4615 Tel.: (301) 493-2515 E-mail: Calewis213@gmail.com USA.</p>	<p>Dear Doctor Mogli, Please convey my greetings to the International Conference participants. May they take full advantage of the excellent program and of the interpersonal connections that form and may what they learned to be successfully applied in their work setting?</p>
	<p>Professor Phyllis J Watson AM, CMRL, MSc (NY), DHSc (Honoris Causa) (SYD); (IFHRO President – 1988 -1992- currently known as IFHIMA) 122/13 Tyrwhitt Street; Maroubra NSW 2035, AUSTRALIA. Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA); CEO & MD Mogli's Management Education & Research Centre for Health Excellence 17 October 2022</p>	<p>Thank you for forwarding the information regarding the forthcoming International Conference celebrating the 50 years Golden Jubilee of HIMA India (1972 – 2022).</p> <p>I wish you a very successful Conference, which I am sure, will greatly; benefit your members, students, and all attendees. I also send my sincere congratulations to the Health Information Management Association of India on the Association's Golden Jubilee and wish HIMA all the best for the future.</p>
	<p>Gail Crook, CHE, CHIM (Retired) CEO of the Canadian Health Information Management Association and President of Expert HIM), CANADA. October 17, 2022 Prof. Dr. G.D. Mogli Father of Medical Records of India and the Middle East I would like to congratulate you on the wonderful design and Itinerary to celebrate the 50 Years Golden Jubilee of HIMA India. This sounds like a very interesting presentation, and very worthwhile attending.</p>	<p>I have reviewed this very exciting 2-day Itinerary, and it is very impressive. This conference is unique in the sense that it is fully devoted to the HIM profession. Dr. Mogli has written 29 chapters and the rest of 21 chapters of the conference presentation and workshop will be printed in a textbook and given to each participant. What an exciting opportunity to have access to this material.</p> <p>Dr. Mogli's Oath "of Ten AUSPICIOUS Commandments for Healthcare Professionals" is being inaugurated. I have had the pleasure of review the 10 Oaths and highly recommend them as a guide to your Medical Records career.</p>
	<p>Ibrahim B. Syed, Sc.D.(Johns Hopkins), D.Sc.(H), Ph.D.(H), FACR, F. Inst. P(UK), FAIC, FRSH(UK), DABR, DABHP, FIOMP, First Medical Physicist of Karnataka State, First Muslim Medical Physicist of India. Clinical Professor of Medicine, Dept. of Medicine Nuclear Cardiology, Medical Physics. UNIVERSITY OF LOUISVILLE, USA</p>	<p>I am extremely happy that you (Dr. Mogli) are organizing an International Conference to be held on 17-18 December 2022, in Hyderabad, India with the theme: "How to Outshine and Succeed in HIM Profession to be a Global Expert". I am highly delighted to know that during this period Dr. Mogli's Oath "Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals" is being inaugurated. I sincerely and earnestly wish you grand success in celebrating the International Conference.</p>
	<p>Yukiko YOKOBORI, Japan Hospital Association; Japan Society of Health Information Management: Tel: +81 3 5215 1044(Direct) Fax: +81 3 5215 1045(Direct) e-mail: yokobori@jha-e.com JAPAN. October 30, 2022. Prof. Dr. Mogli, Father of Medical Records of India and the Middle East. Thank you for your email and valuable material. I always admire your passion for health information management and health information managers. I would like to congratulate you on the wonderful design and Itinerary to celebrate the 50 Years Golden Jubilee of HIMA India. You are always special, instead of a souvenir you are given a full valuable textbook with practical and latest knowledge; this is very exceptional and great.</p>	<p>I sent you earlier my comments. "Your oath is very wonderful and helpful. Not to mention the contents, the overall structure is easy to see and understand. Please provide it widely all over the world". I always admire you leading the International Federation members with new innovative ideas and practical solutions that are very much appreciated by global nations.</p> <p>You are such a great leader in India and a word-renowned great teacher of Medical information management. I always admire Prof. Dr. Mogli, Father of Medical Records of India & the Middle East. Thank you from the bottom of my heart for your contribution to developing countries. I always admire your straight forward thinking about HIM. Your thoughtfulness and hard work are second to none in the world. Best wishes. Warmest regards, Yukiko</p>

Celebration of 50 Years Golden Jubilee of HIMA India (1972-2022).

On this occasion



Prof. Dr. G D Mogli, Ph.D. MBA FHRIM (UK) FAHIMA (USA)
(Father of Medical Records of India and the Middle East)
Champion of Developing Countries by IFHIMA (World) and Founder of
HIMA India- Organized an International Conference held on 17-
18th December 2022, at KIMS Hospitals, Hyderabad, India with a Theme
“How to Outshine and Succeed in the HIM Profession to be a Global
Expert”.

Proceedings of the International Conference and Two Workshops **During the conference; two workshops were conducted**

This conference was unique as no VIPS and no waste of time in inaugural functions; fully dedicated to motivating and inspiring the HIM professionals to prepare themselves to be masters in digitalized records and health information; providing minimal standards in all aspects of the HIM profession. Send recommendations to the Govt., with minimum needs of HIM Profession to perform that to be executed by all the Govt. and Corporate hospitals of across the nation.

Suggest to the Government; the minimum Infrastructure including equipment; space, staff, categories of professionals and their qualifications; academic and professional; job responsibilities of each category; with minim salary structure; and in developing HIM professional educational institutions to meet the needs of the nation unifying and rationalizing the entire country’s HIM system.

Propose the role to be played by the Hospital Director; HIM Manager, and State and Federal Government in accomplishing unifying and rationalizing the digitalized records throughout India.

Recommendation to the Government in establishing an HIM Cell in the Federal and in all State Government Ministries; appointing a senior HIP Professional to oversee the functions of HIM departments of state and federal to ensure they comply with the norms of the government in maintaining the digital records and health information.

Motivate and inspire the professionals that HIM has great affluence - if HIM works loyally focusing on the profession with full commitment can outshine and succeed in HIM Profession to be a global expert.

Topics: Topics covered include: HIM professionals to be equipped with the latest technologies; new systems, standards, policies, and procedures and organizational and management needs to make the HIM department most vibrant to meet the needs of providing an efficient swift, safe, improved quality, and cost-contained care to the sick and injured.

Emphasize HIM leaving the safe zone taking the corporate competitive attitude and instead of taking instructions and executing; contribute innovative methods to administration to gain influence to do better and be successful.

Speakers: Speakers are from National and International. Each speaker is given 20 minutes; 5 minutes are allocated for self-growth including challenges and achievements in the profession to reach the current position. Another 15 minutes; recommend what is expected from the HIM professionals and how to be equipped to meet effectively in the next 10-20 years to maintain high standards to outshine and succeed to be a global expert. **Distinguished speakers from the USA, Canada, the UK, UAE, Oman, Kuwait, and Qatar** will present their life growth in the HIM profession and recommend what HIM professionals to be equipped with to be successful in the profession in the next 10-20 years in the global market.

What do participants get from the conference by paying the Registration amount of (US\$ 12/-)?

1. Sharing the HIM latest technology global expertise knowledge.
2. Participation certificate,
3. Books more than 400 pages; “How to Outshine and Succeed in HIM Profession to be a Global Expert”.
4. One book “Dr. Mogli’s Health Information Management & Health Informatics Professional Handbook”, for HIM Managers or in-charge MRDs. **Or** One book “Dr. Mogli’s Healthcare Technologist Handbook for All Healthcare Professionals” for MRD Technicians and students.
5. **Two Lunches, one dinner & one breakfast; and Four Coffee/Tea with snacks.**
6. **Prof. Dr. Mogli’s Memento** received by those who have contributed- selflessly to the HIM Profession for their **distinguished service**.

About 150 participants participated; in the conference that started with Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments”. Everyone has taken the Oath and agreed to implement it from 1st January 2023.

1. **After the paper presentation the first-day papers: first** “Workshop on HIM Education and Right Way of Execution Organization of Medical Record Department in a new 300-500 bed Hospital
2. **Similarly; the second workshop on** Minimum Standards for Managing HIM Department includes: Personnel Requirements; Job Description and Minimum Standards for HIM personnel qualifications – work experience & monthly salary. Three groups comprising 50 members each monitored by 5 speakers.
3. Followed by Group discussion; each task is 20 minutes; report preparation is 5 minutes and presentation –every 5 minutes. At the end of brainstorming; discussion and summarization of the outcome
4. Issue of Participation Certificates to conference delegates
5. **Prof. Dr. Mogli’s Memento** received by those who have contributed- selflessly to the HIM Profession for their **distinguished service**.
6. Closing ceremony - with gratitude to one and all for making the conference lively

“How to Outshine and Succeed in the HIM Profession to be a Global Expert” book received by all the conference participants



by

The book has 50 chapters in two parts; the first part comprises 29 chapters that deal with basic subjects such as “Dr. Mogli’s Oath often AUSPICIOUS Commandments for Healthcare Professionals”; introduction to “How to Outshine and Succeed in HIM Professional to be a global expert”. Anatomy, Physiology, Medical Terminology, hospital services including accreditation of hospital, medical records; electronic; quality, legal, and cost control, management comprises leadership, motivation, and communications skills. Transform HIM Education in the next 10 to 20 years. Lastly, added 1050 Brainstorming Questions; Brainstorming topic-wide Quiz Question Bank; Project Assignments; and Answers to Brainstorming Questions of HIM.

The second part is mainly dedicated to conducting of International Conference with the theme: **“How to Outshine and Succeed in the HIM Profession to be a Global Expert”**. During the conference, two workshops (**HIM Education and Right Way of Execution**) are conducted by Global Distinguished Professionals from the USA, Canada, and the Middle East related to the Organization of the Medical Record Department in a new 300-500 bed Hospital; and Minimum Standards requirements for Managing HIM Department. Most practical topics include; The critical role of Health Records in advancing diagnosis and treatment through AI; the Future of HIM; what is new in ICD-11 of WHO; and Healthcare data. Digital health, Healthcare Informatics, and Business Intelligence; Emerging trends and challenges for HIM Professionals in India; the role of AI in improving E.H.R/ EMR in medical coding; re safety and management skills and basic minimum standards; personnel requirements for HIM department. This book will be of immense value to all healthcare providers including; medical, nursing, paramedics especially HIM professionals and students, and organizers of healthcare institutions including primary health centres, secondary care, tertiary care, and super-specialty care hospitals. This book is a unique masterpiece with good theoretical and practical HIM information contributed by global distinguished professionals and good nutritious food for all honourable readers including students of all healthcare fields.

Chapter XXXXI: Organization of MRD in a new 300-600 bed hospital

HIM Personnel Requirements and Job Description

This section deals with the following:

1. Personnel requirements according to the bed strength of the hospital and the OP, A/E, and IP patient workload.
2. Job description for four important categories of medical records department personnel, e.g. medical record officer, medical record technician.

• Personnel Requirement

- Distribution of medical record personnel.
- According to bed strength of the hospital (Manual record system) (In a computerized hospital 50% of MRT posts can be reduced.)

Name of the Post	Number of Beds						
	<50	50	100	200	300	400	600
Medical Record Officer	-	-	1	1	1	1	1
Asst. Medical Record Officer	-	-	-	1	1	2	3
Medical Record Technician	1	2	3	4	4	8	10
Asst. Medical Record Technician	4	5	12	13	16	17	20
Total	5	7	16	19	22	28	34

Asst. MR Technician (AMRT): (AMRT is an operational staff – enters as a clerk in the government or corporate hospital as a junior executive. The MRO/HIM should give six months of training on the job; once successfully completes the training; he should be designated as AMRT. The employee's future would be in MRD; hence he will not change to other posts; and will take full interest to grow in this line. He works under the MRT and he will have to allocate the stipulated job description according to the place of work.

Job Description

Medical Records Officer (MRO) or synonymous Health Information Manager (HIM)

Duties and responsibilities

1. To establish, organize, and manage the medical record department with the appropriate system as recommended by the hospital administration that can provide effective service in the hospital and effective supervision of the staff for efficient functioning of the department.
2. To develop policies and procedures relating to the medical record department in accordance with the international system and protect medical records in accordance with national retention, preservation, and destruction policies.
3. To coordinate with the medical record committee, and design and develop different medical record forms required for hospital use.
4. To review the medical records of outpatients, inpatients, and emergency patients to ensure that they include all the important documents and pertinent information to meet clinical, administrative, and legal requirements.
5. To cooperate with the medical, nursing, and other staff in patient care and completing the patient medical records.
6. To participate and assist in quality assurance, utilization review, infection control, and other committees and programs, and to assist in developing hospital disaster plans to meet the exigency.
7. To plan, organize, develop, and supervise computer applications in medical records and patient care functions.
8. To prepare daily, monthly, and yearly statistical reports containing the hospital activities carried out and submit to the concerned authorities with suggestions to improve patient care services. If a statistician is posted he has to work under MRO, the entire statistical work will be carried out by the statistician.
9. To prepare and carry out educational and training programs such as in-service, certificate, diploma, and continuing education for medical record personnel in cooperation with the appropriate health institutions/universities. And also participate in seminars, workshops, and conferences related to medical records.
10. To participate and assist in research programs for improving administrative activities and financial control and prepare the departmental budget and annual report of MRD activities. And protect the confidentiality of information from unauthorized and keep medico-legal cases under safe custody.
11. To deal with patients regarding bill payments; insurance and reimbursement or third-party payment, etc.

12. To perform other duties and responsibilities related to medical record services as may be assigned by the hospital director.

Assistant Medical Records Officer or Sr. Medical Records Technician
Duties and responsibilities

1. To perform technical analysis and evaluation of medical records in accordance with the hospital policies and procedures.
2. To collect medical information, and administrative and other statistics required by the hospital and provide health information for quality assurance, utilization review, and evaluation of hospital care.
3. To provide medical record services including reception, registration, outpatient appointment, inpatient, admission, and emergency department by maintaining an effective medical record filing and retrieving system.
4. To evaluate for deficiencies in the outpatient and inpatient medical records and arrange for completion with the cooperation of medical, nursing, and other staff.
5. To code and index diseases, surgical operations, and therapeutic procedures according to the international classification of diseases/operations or in accordance with the criteria laid down by the hospital administration
6. To assist medical and other committees in the hospital and perform transcription of medical and other reports in the medical records departments or clinical units.
7. To feed patient care information into the computer for processing and storage and retrieval when required.
8. To protect the medical records including medico-legal cases from unauthorized persons and to maintain confidentiality.
9. To supervise one or more medical record units and assist in departmental educational and administrative activities.
10. To deal with patients regarding bill payments; insurance and reimbursement or third-party payment, etc.
11. To perform other duties and responsibilities related to medical record services as may be assigned by the hospital director/ in charge of MRD /HIM.

Medical Records Technician

Duties and responsibilities

1. To register and collect appropriate identification information from outpatient, (new, old, and follow-up) patients and arrange appointments, and admission procedures.
2. To prepare patient master index cards (PMI), arrange them according to alphabetical order, file them in index cabinets, and retrieve them when required in case of a manual record system. If computerized PMI, feed and retrieve information electronically from the computer.
3. To collect investigation reports from the laboratory, X-ray, and other diagnostic investigation departments, and arrange and mount them in appropriate records.
4. To receive patient records / X-rays, arrange them in systematic order, and file and retrieve records / X-rays whenever required.
5. To assist, in transferring inactive records from active and also inactive records /X-rays from one area to another.
6. To work in all the units of MRD, e.g. accident and emergency or outpatient clinic or admission office ward X-ray, or any other units, and perform the work of that unit as per the recommended procedures.
7. To assemble and process records as per the laid down procedures.
8. To use computers, microfilm, and other mechanical devices for maintaining medical records.
9. To collect and prepare statistics of outpatient, emergency, and inpatients. Also collect daily ward census along with discharged patient records, X-rays, and late reports.
10. To work in the MRD of the hospital and perform duties in any of the 3 shifts as required.
11. To maintain confidentiality of information from unauthorized persons and participate in educational programs.
12. To deal with patients regarding bill payments; insurance and reimbursement third-party payment, etc.
13. To index coded disease and operation data in disease and operation index cards manually or electronically in computers.

Asst. Medical Records Technician (AMRT)

Duties and responsibilities

- Posted under the supervision of MRT and the work is allocated on a daily or regular basis depending on the service and the responsibility of the MRT.
- AMRT works in all the sections of the MRD under different MRTs in the course of time; and gains a variety of service experience.
- AMRT after working as a clerk for a minimum period of six months as a trainee and once successfully completing the program becomes an AMRT.

Clerk

Duties and responsibilities:

Joins as a clerk and gets rigorous training of the MRD and successfully completes the training.

He / She is absorbed as an AMRT or as a Junior Executive in corporate hospitals. The Rigorous

Training includes: Basic Anatomy, Physiology, Medical Terminology, and Hospital management; consisting of Hospital setup and operation, Role of Medical, Nursing, Paramedics, managerial, and Quality Assurance, Cost of Care. And Medical records maintenance, statistics, and technology.

**Chapter XXXXII: Minimum Required Standards for
Managing HIM Department**

Minimum required standards related to educational qualifications; academic and professional, and work experience, and monthly salary for different types of HIM professionals to practice in the Medical Record Department or Health Information Management department of Government or Private corporate hospitals

1. HIM Personnel:

S. No	Post	Qualification		Program duration No. of Years	Experience No. Years	Minimum Monthly Salary In Rupees
		Academic	Professional			
1.	Sr. Medical Records Officer (SMRO) or Senior Health Information Manager (SHIM)	University Graduate	HIM Degree program conducted by any recognized university	(Post is by promotion or newly hired with HIM qualifications)	10 years	50,000/-
2	Medical Records Officer (MRO) / Health Information Management (HIM)	University graduate	HIM Degree program conducted by any recognized university	1 to 2 years	2 years	35,000/-
3	Medical Records Officer MRO /Health Information Management	Higher High School	HIM program conducted by a recognized university	4 years	Fresh	30,000/-
4	Senior Medical Record Technician (SMRT) or Sr. Health Information Technologist (SHIT)	Higher High School or Intermediate - preferred University graduate	Two years of Diploma in HIM program from any recognized University or	(Post is by promotion or newly hired with HIM qualifications)	6 years	30,000/-

			Institution			
5	Medical Record Technician (MRT) or Health Information Technologist (HIT)	Higher High School or Intermediate education	Two years of Diploma In HIM from any recognized University or Institution.	Two Years	Fresh or experienced	25,000/-
6	Assistant MRT (AMRT) or Assistant HIT (AHIT)	Higher High School or Intermediate	Undergone rigorous training on HIM work.	1 year	1 year	18,000/-
7	Clerk (Junior Executive)	Higher High School or Intermediate	Undergo On-HIM-work rigorous training	1 year	With or without experience	13,000/-
8	ICD coder or ICD coding specialist	University graduate	Certificate from any recognized ICD training center	1 year	1 year	30,000/-
9	Quality Assurance Coordinator	University graduate	Certificate from any recognized QA program training center	1 year	1 year	30,000/-

2. Space requirements by Hospital Size (In Square Meters)

S.No.	Name of Section	Beds					
		30	50	100	250	500	750
1	Medical Records Officer or HI Manager	-	-	8	10	12	16
2	Deputy Medical Records Officer or DHIM	-	-	-	6	8	10
3	Assistant Medical Records Officer or AHIM	-	-	4	8	12	16
4	Medical Record Filing Room	25	33	78	180	330	515
5	Scanning Records	6	8	12	16	25	30
6	Computer Section	6	7	9	12	16	20
7	Statistics Section	6	7	9	12	16	20
8	MRO Secretary's Office	-	-	4	6	12	16
9	Class Room or Meeting Room	-	-	9	10	16	20
10	Doctors' Conference Room	4	7	7	11	23	34
11	Storage Area	9	9	12	18	28	34
	a. For Forms and Stationary	3	3	4	6	10	12
	b. Inactive (Old) records	3	3	4	8	12	16
	c. For Photostats or Duplications	3	3	4	4	6	6
12	Working area for MRD staff	15	17	26	36	65	75
13	Rest Room for MRD/HIM staff	3	4	8	9	12	12
14	Release of Information: Birth/Death certificates, Insurance and reimbursement; and Legal issues; and Issue of medical certificates and reports.	3	4	6	7	9	12
15	Medical Transcription	3	4	8	9	16	20
	Total	80	100	200	350	600	850
16	X-rays and other investigation reports especially in Government Hospitals.	10	15	30	60	150	210
17	MR or HIM Teaching Institute	-	-	-	-	120	120
	Grand Total:	90	115	230	410	870	1180

Age to serve in Govt. institutions: The Govt. has its Age limit service rules –For private each institution has its rules for retirement: **However recommended upto 70 years. Private: 70 years and above can serve provided medically fit and sound health.**

Chapter XXXXIII: Recommendations to the Minister of Health, Govt. of India and others to improve the Quality of HIM Field

The following emails with attachments of the International conference program including Dr. Mogli's Oath of 10 AUSPICIOUS Commandments; Dr. Mogli's MERCHE Free CHT and CMT Education program for healthcare staff; and books to be handed over to participants and Dr. Mogli's awards for speakers and special awards for distinguished professionals were sent to the Honorable Minister of Health, Ministry of Health and Family Welfare Govt. of India, to the DGHS, and to the Director of CBHI of GOI on 17th January 2023.

Introduction: The purpose of this recommendation to the government is to recognize the HIM field at the national level to improve the healthcare delivery system-including primary, secondary, and tertiary care at all levels of the nation. Which adequate professionals are required to manage the HIM departments in health institutions? Without which the health institutions have to function without HIM departments or with non-qualified persons. Despite a commitment to their profession, if they work isolated, it would be difficult to standardize and integrate health record information technology in the country.

Action Plan: At the HIM Association (HIMA) at the national level is a must. All the employees working for HIM should be made members of the association and ensure that all are involved in educational and professional growth activities with the support of workshops, seminars, and conferences at the institute, regional, and national levels.

Government participation: The next step is involving the Government in the activities of the HIM national association (HIMA), by communicating the progress made and seeking support for further improvements. The HIMA should be the liaison between the HIM professionals and the Govt. The HIMA should contribute to the national healthcare delivery program including ehealth management.

Suggested remedies: The most important suggestion is the establishment of a central HIM department in the Ministry of Health and each state to be headed by a senior HIM professional to oversee the development of HIM programs in the county. Setting national eHealth including digitalized records and information; setting standards, policies, and procedures, and conducting educational and training programs to generate professionals and enhance the professionals to meet the country's needs.

All members must be fully involved in the activities and those working as executive members need to serve selflessly to achieve the set objective of the association e.g.HIM professional standards and uplifting the status of professionals but not be used for individual name or fame. Conducting workshops or conferences is very important provided it demonstrates the accountability of progress made and challenges faced by

the association during the year etc. and what its future plans to make the association robust to be clearly brought out.

The HIM's attention should be on improving the institutional health records and their efficient management to provide the best possible healthcare. In order to do that, the need for enhancing the HIM professional's standards and status is vital. This could be achieved by having modern HIM educational and training centers in the country. The three Tiers of educational programs can be developed for the operational level (Asst. HI Technician), supervisory level (HI Technician), and manager level (HI Manager). Gradually, the higher professional programs such as master's and doctoral can be planned in collaboration with universities and started later as the association progresses. Most important is dedication and commitment and good teamwork by all the members especially the association executive members. The leading personnel should act as Coordinators to ensure the action plan is put into execution as per the schedule and try to accomplish the set goals.

Suggested remedies: Establish a central HIM department in the Ministry of Health to be headed by a senior HIM professional to oversee the development of HIM-programs in the county for primary, secondary, and tertiary care institutions.

- Set of national standards for digital medical records/health information
- management for primary, secondary, and tertiary care healthcare institutions.
- Ensure that HIM departments of all the healthcare institutions are
- having qualified HIM professionals
- Improve the quality of HIM professionals and HIM numbers
- Initiating HIM educational and training programs to generate needed
- manpower
- Conduct periodic workshops, seminars, and conferences for the benefit
- of HIM and institutions.
- Develop HIM policies and procedures including, the budget, staff
- pattern, etc.
- Participate and assist the government in the improvement of the
- healthcare delivery system
- Become a member of the International Federation of Health Information
- Association (IFHIMA) and similar associations to enhance the HIM standard and status.
- Strive to advance the eHealth technology to meet the dynamic progress
- of medicine.
- Ensure to provide valued data for improving quality and controlling the
- healthcare cost.
- Establish many HIM educational centers for certificate and diploma
- programs in the country to meet the high demand



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Tue, Jan 17 at 2:20 PM

Honourable Minister Dr. Bharati Pravin Pawar Ref.26/12/2022-17/1/2023
Minister of State for Health & Family Welfare, Government of India

Dear Respected Hon. Minister Dr. Bharati, Pawar,
At the outset please accept my sincere greetings and best wishes for the 2023 year. The Indian Govt. had taken the HIM field very strongly from 1960 onwards until 1980 with the help of Expert Dr. Mogli, Sr MRO of JIPMER, Pondicherry as their adviser and achieved many educational and training programs and conducted workshops and deputed HIM personnel to the UK on WHO fellowship. The DGHS and CBHI were proud of JIPMER Medical Records System which was the best in the entire country. To meet the International Competition in Afghanistan Dr. Mogli was deputed to organize the MRD of ICH of Kabul, and help the county. Dr. Mogli established a 6-month MRT program which was inaugurated by Prof. Nazar Mohammad Sikandar Minister of Health of Afghanistan and Indian Ambassador R.P. Singh. 33 students were trained. Afghanistan Govt. profusely thanked the Govt. of India for the program which was the first time in the history of Afghanistan.

Dr. Mogli left India in 1981 since then till the year 2002- there was a big vacuum in the development of HIM in India and became an orphan and no standardized or rationalized policies for minimum standards for the number of staff for 300 – 500-bed hospitals and no retention policy for medical records or so on. Corporate hospitals have increased unimaginably; due to a lack of guidance from the Central Govt. have their own policies; and recruit non-qualified professional staff; which is not conducive to quality patient care. This deficiency is taken seriously while “50 years Golden Jubilee Celebration of HIMA India (1972-2022)”; Prof. Dr. G D Mogli as Father of Medical Records of India and the Middle East; and Champion of Developing Countries as per IFHIMA (World) conducted an International Conference on 17-18 Dec 2022 at KIMS Hospital, Hyderabad, with the Theme “How to Outshine and Succeed in the HIM Profession to be a Global Expert”. The two-day conference and two workshops dealt with the following topics that are burning issues of the nation- to be considered by the Govt. of India as Recommendations.

1. “Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments For Healthcare Professionals”
2. Recognition of HIM Field as **Parliament passed the Act in 2021; recognizing Health Information Management (HIM) and Health informatics Professionals (HIP) under ISCO Code Nu. 3252.** Recommendations to the Govt. of India to recognize the HIM Field in the best interest of the best possible healthcare to the Inhabitants of this great Nation.
3. **HIM Minimum standards and Personnel Requirement:** This information is available in the Textbook “How to Outshine and Succeed in the HIM Profession to be a Global Expert”.
4. **Dr. Mogli’s Management Education and Research Centre for Health Excellence (Dr. Mogli’s MERCHE)- Providing Free CHT and CMT Education. (About 70,000 plus Public and Private sector hospitals (2021); required at least TWO HUNDRED Thousand qualified managerial, supervisory HIM allied Healthcare Technologists to assist in providing Swift, Safe, Improved Quality and Cost-contained Care to patients).**

I would be highly grateful if you could kindly implement the Oath and minimum standards as guidelines for all the hospitals of the country that will improve HIM performance. “Medical Records is Mother of Information; it can Make or Break the healthcare institution”. HIM has high potential in providing the best possible healthcare to its inhabitants of the great nation India.

With warm personal regards,

**Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)
(Father of Medical Records of India and the Middle East)**

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Head of HIM Diploma Program, Kuwait Inst.Of Health Sciences, Kuwait

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Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar and UAE.

Dr.G.D.Mogli <gdmogli@yahoo.com>

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Tue, Jan 17 at 2:20 PM

Honourable Minister Dr. Bharati Pravin Pawar Ref.26/12/2022-171/2023
Minister of State for Health & Family Welfare, Government of India

Dear Respected Hon. Minister Dr. Bharati, Pawar,

At the outset please accept my sincere greetings and best wishes for the 2023 year. The Indian Govt. had taken the HIM field very strongly from 1960 onwards until 1980 with the help of Expert Dr. Mogli, Sr MRO of JIPMER, Pondicherry as their adviser and achieved many educational, and training programs and conducted workshops and deputed HIM personnel to the UK on WHO fellowship. The DGHS and CBHI were proud of JIPMER Medical Records System which was the best in the entire country. To meet the International Competition in Afghanistan Dr. Mogli was deputed to organize the MRD of ICH of Kabul and help the country. Dr. Mogli established a 6-month MRT program which was inaugurated by Prof. Nazar Mohammad Sikandar Minister of Health of Afghanistan and Indian Ambassador R.P. Singh. 33 students were trained. Afghanistan Govt. profusely thanked the Govt. of India for the program which was the first time in the history of Afghanistan.

Dr. Mogli left India in 1981 since then till the year 2002- there was a big vacuum in the development of HIM in India and became an orphan and no standardized or rationalized policies for minimum standards for the number of staff for 300 – 500-bed hospitals and no retention policy for medical records or so on. Corporate hospitals have increased unimaginably; due to a lack of guidance from the Central Govt. to have their own policies; and recruit non-qualified professional staff; which is not conducive to quality patient care. This deficiency is taken seriously while “50 years Golden Jubilee Celebration of HIMA India (1972-2022)”; Prof. Dr. G D Mogli as Father of Medical Records of India and the Middle East; and Champion of Developing Countries as per IFHIMA (World) conducted an International Conference on 17-18 Dec 2022 at KIMS Hospital, Hyderabad, with the Theme “How to Outshine and Succeed in the HIM Profession to be a Global Expert”. The two-day conference and two workshops dealt with the following topics that are burning issues of the nation- to be considered by the Govt. of India as Recommendations.

1. “Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments For Healthcare Professionals”
2. Recognition of HIM Field as **Parliament passed the Act in 2021; recognizing Health Information Management (HIM) and Health informatics Professionals (HIP) under ISCO Code Nu. 3252**. Recommendations to the Govt. of India to recognize the HIM Field in the best interest of the best possible healthcare to the Inhabitants of this great Nation.
3. **HIM Minimum Standards and Personnel Requirement:** This information is available in the Textbook “How to Outshine and Succeed in the HIM Profession to be a Global Expert”.
4. **Dr. Mogli’s Management Education and Research Centre for Health Excellence**

(Dr. Mogli’s MERCHE)- Providing Free CHT and CMT Education.

(About 70,000 plus Public and Private sector hospitals (2021); required at least TWO HUNDRED Thousand qualified managerial, supervisory HIM allied Healthcare Technologists to assist in providing Swift, Safe, Improved Quality and Cost-contained Care to patients).

I would be highly grateful if you could kindly implement the Oath and minimum standards as guidelines for all the hospitals of the country that will improve HIM performance. “Medical Records is Mother of Information; it can Make or Break the healthcare institution”. HIM has high potential in providing the best possible healthcare to its inhabitants of the great nation India.

With warm personal regards

Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)

(Father of Medical Records of India and the Middle East)

CEO & MD Mogli’s Management Education & Research

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Dr. Madhu Ralwakar,

DDG & Director CBHI

Ministry of Health & Family Welfare, Government of India

Ref: 14.10.2022/17.01.2023

Dear Respected Dr. Madhu Ralwakar,

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Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar and UAE.**

Chapter XXXXIV: Anatomy and Physiology

HUMAN BODY

CELL

INTRODUCTION

A cell is mass of protoplasm containing a nucleus. It is the unit structure and the fundamental part of life, which carries various functions such as reproduction, respiration, excretion and adaptation to the environment. The human body is made up of a trillion numbers of cells of different types. The size of the cell is about 10 to 30 mm in diameter.

All cells are similar in that they contain a gelatinous substance composed of water, protein, sugar, acids, fats and various minerals. This substance is called protoplasm. Several parts of a cell are described below and pictured schematically.

STRUCTURE OF CELL (FIG. 2.1)

1. Cell membrane—covering or outer layer of the cell which protects the internal environment and determines what passes in and out of the cell.
2. Protoplasm—a white fluid, like the yolk of an egg, which consists of water, electrolytes, proteins, lipids and carbohydrates. The protoplasm forms the cytoplasm and the nucleus.
3. Cytoplasm is the protoplasmic material outside the nucleus. It triggers the work of the cell such as contraction in the muscle cell and transmitting impulses in the nerve cell. The cytoplasm contains mitochondria, endoplasmic reticulum, ribosomes, lysosomes, Golgi bodies, and the centrosome.
4. *Mitochondria*: It is responsible for the production of energy in the cell by breaking up the complex food structure into simpler substances. This process is called catabolism. It is also called as, kitchen cell (power house).
5. *Endoplasmic reticulum*: A tubule like structure. It contains small bodies called ribosomes which help to make substances (proteins) for the cells, this process is called anabolism.
6. *Nucleus*: It is the controlling structure of the cell. It controls the cell reproduction, and contains genetic material which determines the functioning and structure of the cell.
7. *Chromosomes*: There are 23 pairs of chromosomes; each chromosome consists of a chain of small units called genes made up of deoxyribonucleic acid (DNA) (hereditary information) and ribonucleic acid (RNA). Out of 23 pairs of chromosomes, 22 pairs are autosomes and 1 pair is sex chromosome which decides the sex. A female has 2 X (X, X) chromosomes whereas the male has 1X, 1Y chromosomes.

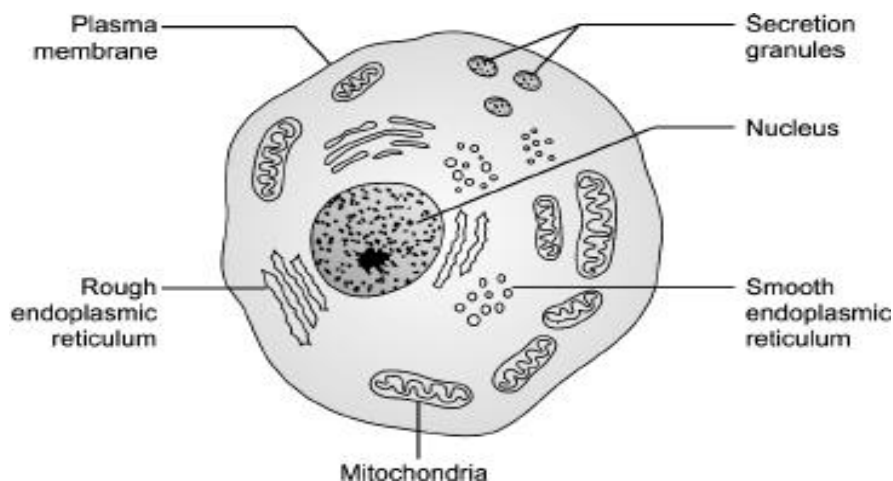


Fig: 2.1: Structure of cell

FUNCTIONS OF THE CELL

- *Absorption:* The ability of the cell to absorb or take in oxygen and food substances.
- *Nutrition:* The intake of food substances by the cell.
- *Growth:* It provides the metabolic process to enable the cell to grow to its full size and will be able to function correctly.
- *Reproduction:* On reaching maturity, the cell will divide to form two smaller cells.
- *Removal of waste products:* The removal of waste products produced during metabolism.
- *Movement:* Many cells have the power of movement.

CELL DIVISION

Division of cells is for the growth of the organism and for the replacement of damaged cells. There are two types of cell division:

Mitosis

A process of cell division which produces two new daughter cells (identical to the parent cells), e.g. plants, this involves a series of changes in which there is a rearrangement of centrioles and chromosomes so that each of the two new cells has a nucleus with 23 pairs of chromosomes. Mitosis is the common type of cell division that occurs in the body cells. It consists of four phases—prophase, metaphase, anaphase and telophase.

Prophase: The centrosome divides and the centrioles move to the opposite poles of the cells with the spindle fibers.

Metaphase: The chromosomes align themselves at the center of the nucleus and become attached to the spindle fibers.

Anaphase: Each chromosome splits into two chromosomes. The separated chromosomes move towards the opposite poles of the cell. The centrioles are divided to form new centrosome.

Telophase: A new nuclear membrane forms around each set of chromosomes and the spindle fiber disappear. The cytoplasm and cell membrane constrict. Finally, the cell splits into two identical cells.

Meiosis

Cell division occurring in maturation of sex cells, wherein over two successive cell divisions occurs. Each daughter nucleus receives half the number of chromosomes typically to the somatic cells of the species.

The cell division occurring in the human reproductive system is called meiosis. Each person, male or female has 23 pairs of chromosomes comprising of 22 pairs of autosomes and 1 pair of sex chromosomes or somatic chromosomes. In the meiosis cell division, the daughter cell receives equal number of chromosomes from the parent cells, i.e. 22 pairs of autosomes from father and mother, the male has XY sex chromosomes, whereas the mother has X and X chromosomes. The sex of a child clearly depends on whether it inherits X or Y chromosome from its father.

TISSUE FLUID

Tissue fluids are of two types: intracellular and extracellular. The fluid inside the cell is called intracellular fluid while the fluid outside the cell is called extracellular fluid. Tissue fluid acts as a sort of middle man between the blood and tissues, supplying food and oxygen to the cell and removing waste products from the cell.

TISSUES

A tissue is a group of similar cells working together to do a specific job. A histologist is one who specializes in the study of tissues. Tissues can be classified into four major types:

1. Epithelium
2. Connective tissue
3. Muscular tissue
4. Nervous tissue.

Epithelium

The various types of epithelial tissues are as follows:

Simple Squamous Epithelium

A single layer of flat cells found in alveoli of lungs, the lining of the interior of the heart and blood vessels and the lymphatic vessels.

Stratified Squamous Epithelium

It is composed of cells which are flat and round. It is found in all parts of the body. The skin is composed of stratified squamous epithelium.

Transitional Epithelium

Cells which provide water tightness; it is found on the lining of urinary tract.

Columnar Epithelium

Cylindrical-shaped cells found in the secretory glands of the body.

Ciliated Epithelium

The free surface of each cell surrounded by fine hair like structures called cilia. It is found in the lining of (nasal cavity, trachea and bronchi) the respiratory system.

Connective Tissue

Connective tissues are fat (also called adipose tissue), cartilage (elastic, fibrous tissues attached to bones), bone, or blood tissues. They are present in different forms in the body. It is a jelly like substance and is hard.

Fibrous Tissue

There are two types of fibrous tissues:

1. White fibrous tissue
2. Yellow elastic tissue.

White fibrous tissue: It consists of bundles of white fibers which cannot stretch. It is found in tendons, ligaments, dura mater and outer layer of the pericardium.

Yellow elastic tissue: It consists of fibers which can stretch. It is found in the walls of arteries, bronchi and alveoli of lungs.

Areolar Tissue

Supporting tissues of the body: Found under the skin, mucous membrane and surrounding blood vessels and nerves.

Adipose Tissue

Found in all parts of the body where fat is deposited or stored, especially under the skin and around the eyes, heart and kidneys.

Cartilage

It is a flexible tissue found mainly in the skeleton. There are three different types of cartilage:

1. Hyaline cartilage
2. Fibrocartilage
3. Elastic cartilage.

Hyaline cartilage: It is bluish white tissue with a smooth glassy surface. It is found covering the ends of the bones, where they form joints (articular cartilage).

Fibrocartilage: It contains white fibrous tissue. It is found in intervertebral disks and semilunar cartilage of the knee joint where great strength combined with certain amount of elasticity is required.

Yellow elastic cartilage: It contains yellow elastic fibers and it is found in the epiglottis and pinna of the ear.

Muscular Tissue

The muscles are structures, which give the power of movements. Muscles are composed of thousands of elongated cells, called muscle fibers. Each contains a small nucleus. Bundles of muscle fibers lie side by side like threads. There are three different types of muscle tissue; they are voluntary, involuntary and cardiac.

Voluntary muscles are found in arms, legs and parts of the body where movement is voluntary. All the muscles attached to the skeleton are of this type and their functions are to move the bones at their respective joints and to help in maintaining the posture of the limbs and body as a whole. The microscopic structure of this muscle is striped in structure, i.e. white and black bands, hence it is also called striated muscle.

Involuntary muscles are found in the internal organs and structures of the body such as stomach, intestine, bladder, bronchi, blood vessels, and is, therefore, sometimes called visceral muscles. It cannot be consciously controlled and its nervous supply comes from the involuntary or autonomic nervous system. It is also called nonstriated or plain muscle.

The cardiac muscle is a special type of muscle found only in the heart. Although, it is an involuntary muscle, it has the form of striated muscle. It has the special property, not observed in other varieties of muscles, of automatic rhythmic contraction which can occur independently of its nervous supply.

Nervous Tissue

Nerve tissues conduct impulses all over the body. The muscles are structures which give the body the power of movements; almost every movement is governed by some portion of the nervous system which acts as a medium between brain and muscle.

ORGANS

Organs are structures composed of several types of tissues. For example, an organ like stomach is composed of muscular tissues, nerve tissues, and glandular epithelial tissues. The medical term for internal organ is viscera (singular: viscus). Examples:

Eye	Ear	Nose	Tongue
Heart	Lung	Stomach	Intestine
Hand	Leg	Liver	Spleen

SYSTEMS

Systems are groups of organs working together to perform essential fundamental functions of the individual. The different types of systems are skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, reproductive systems. Although some systems are functioning individually, the functions of various systems are very closely connected and are dependent on each other. For example, mouth, esophagus, stomach, and small and large intestines are organs which compose the digestive system.

The main systems and their organs of the body are as given in Table 2.1.

Table 2.1: The main systems and their organs of the body		
S.No.	Name of the system	Organs / Part
1	Muscular system	There are three types of muscle tissues: a. Skeletal, voluntary or striated muscle b. Visceral, involuntary or smooth muscle c. Cardiac muscle.
2	Skeletal system	Bones—there are 206 bones in an adult skeletal system Joints a. Fibrous or fixed joints, b. Cartilaginous or slightly movable joints c. Synovial or freely movable joints.
3	A. Nervous system	A. The nervous system consist of: a. Brain b. Spinal cord c. Nerves.
3	B. Sense organs	B. Sense organs a. Eye b. Ear c. Nose d. Tongue e. Skin or integumentary system
4	Endocrine-system (ductless gland)	a. Pituitary gland b. Thyroid gland c. Parathyroid glands

		<ul style="list-style-type: none"> d. Thymus gland e. Pancreas (islets of Langerhans) f. Adrenal gland g. Sex glands (ovaries and testes).
5	A. Cardiovascular system or Circulatory system	<ul style="list-style-type: none"> A. Cardiovascular system <ul style="list-style-type: none"> a. Heart b. Aorta, artery, and arteriole c. Vena cava, vein, and venule d. Capillaries.
5	B. Blood and blood groups	<ul style="list-style-type: none"> B. Blood and blood group <ul style="list-style-type: none"> 1. Blood composition <ul style="list-style-type: none"> a. Plasma b. Blood cells <ul style="list-style-type: none"> 1. Leukocytes or white blood cells 2. Erythrocytes or red blood cells 3. Thrombocytes or platelets 2. Blood groups <ul style="list-style-type: none"> a. Blood group "A" b. Blood group "B" c. Blood group "AB" d. Blood group "O" e. Rhesus factor (Rh) <ul style="list-style-type: none"> 1. Rhesus factor positive (+) 2. Rhesus factor negative (-).
6	Lymphatic system	<ul style="list-style-type: none"> a. Lymph vessels b. Lymph nodes and other lymphatic tissues c. Spleen d. Thymus gland.
7	Respiratory System	<ul style="list-style-type: none"> a. Nose b. Nasal cavities and paranasal sinuses. c. Pharynx d. Larynx e. Trachea f. Bronchi (bronchus-singular) g. Bronchioles h. Alveoli (alveolus-singular) i. Lung capillaries (bloodstream).
8	Digestive system	<ul style="list-style-type: none"> a. Oral cavity (mouth) b. Pharynx c. Esophagus d. Stomach e. Enteron (small intestine) <ul style="list-style-type: none"> - Duodenum

		<ul style="list-style-type: none"> – Jejunum – Ileum f. Colon (large intestine) <ul style="list-style-type: none"> – Cecum – Ascending colon – Transverse colon – Descending colon – Sigmoid colon – Rectum g. Anus B. Accessory organs <ul style="list-style-type: none"> a. Salivary glands b. Liver c. Gallbladder d. Pancreas.
9	Urinary system	<ul style="list-style-type: none"> a. Kidneys b. Ureters c. Urinary bladder d. Urethra.
10	Reproductive system	<p>Male:</p> <ul style="list-style-type: none"> a. Testes b. Scrotum c. Seminiferous tubules d. Epididymis e. Vas deferens f. Seminal vesicles g. Ejaculatory duct h. Prostate gland i. Penis j. Urethra. <p>Female:</p> <ul style="list-style-type: none"> a. Ovaries b. Fallopian tubes c. Uterus d. Vagina e. Vulva f. Cervix g. Labia majora h. Labia minora i. Hymen j. Mammary glands (accessory organ).

BODY CAVITIES (FIG. 2.2)

A body cavity is a space within the body which contains internal organs (viscera). Some of the important viscera contained within those cavities are listed in Table 2.2

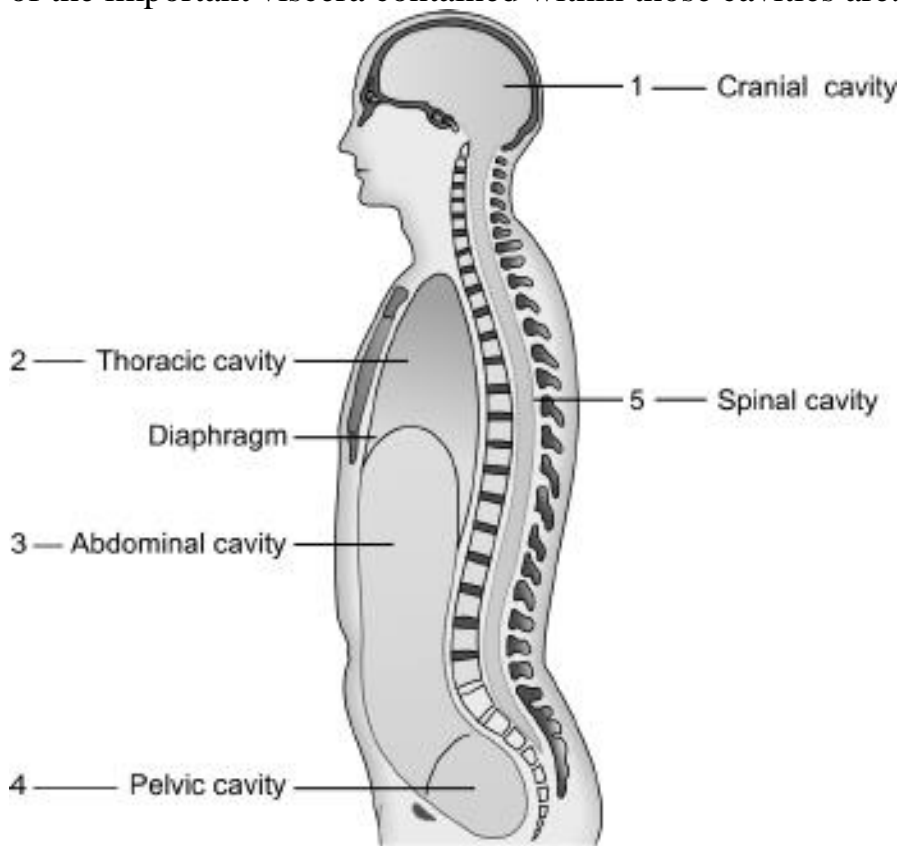


Fig. 2.2: Body cavities

Table 2.2 Some of the important viscera contained within body

S. No.	Name of the cavity	Organs/Parts
1	Cranial cavity	Brain
2	Thoracic cavity	Lungs, heart, esophagus, trachea, thymus gland, aorta, the thoracic cavity can be divided into two smaller cavities; The pleural cavity –the areas surrounded by the lungs. Each pleural cavity is lined with a double-folded membrane called pleura, visceral pleura is closer to the lungs, and parietal pleura is closer to the outer wall of the pleural cavity. The mediastinum cavity- the area between the lungs; it contains the heart, aorta, trachea, esophagus and thymus gland.
3	Abdominal cavity	Stomach, small and large intestines, spleen, liver, gallbladder and pancreas
4	Pelvic cavity	Ureters, urinary bladder, urethra; uterus and vagina in the female
5	Spinal cavity	Nerves of the spinal cord runs through vertebrae

TABLE 2.3 ANATOMICAL DIVISIONS OF THE BACK (SPINAL COLUMN WITH LOCATION AND ABBREVIATION TERMS)

S.No.	Division of the back	Abbreviation	Location
1	Cervical vertebrae	C	Neck region. There are 7 cervical vertebrae (C1-C7)
2	Thoracic vertebrae	T or D(Dorsal)	Chest region. There are 12 thoracic vertebrae (T1-T12).

			Each bone is joined to a rib
3	Lumbar vertebrae	L	Loin or flank region (between the ribs and the hip bone). There are 5 lumbar vertebrae (L1-L5)
4	Sacral vertebrae	S	Five bones (S1-S5) are fused to form one bone, the sacrum
5	Coccygeal	Nil	The coccyx (tailbone) is small bone composed of 4 fused pieces

ANATOMICAL DIVISIONS OF THE BACK (SPINAL COLUMN)

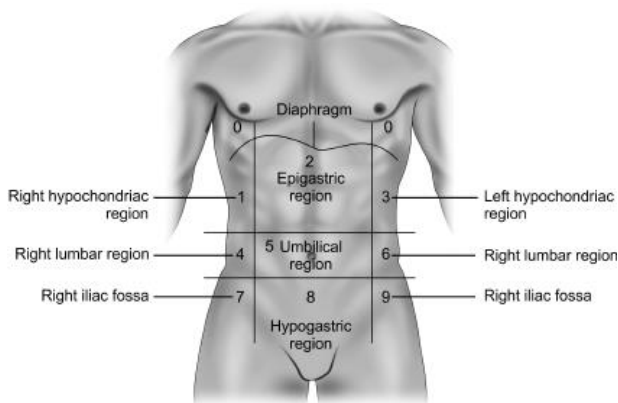


Fig. 2.3: Anatomical divisions of the body

CLINICAL DIVISIONS OF THE ABDOMEN (FIG. 2.4)

The following terms are used to describe the divisions of the abdomen when a patient is examined in clinic or bedside:

- Right upper quadrant (RUQ)
- Left upper quadrant (LUQ)
- Right lower quadrant (RLQ)
- Left lower quadrant (LLQ).

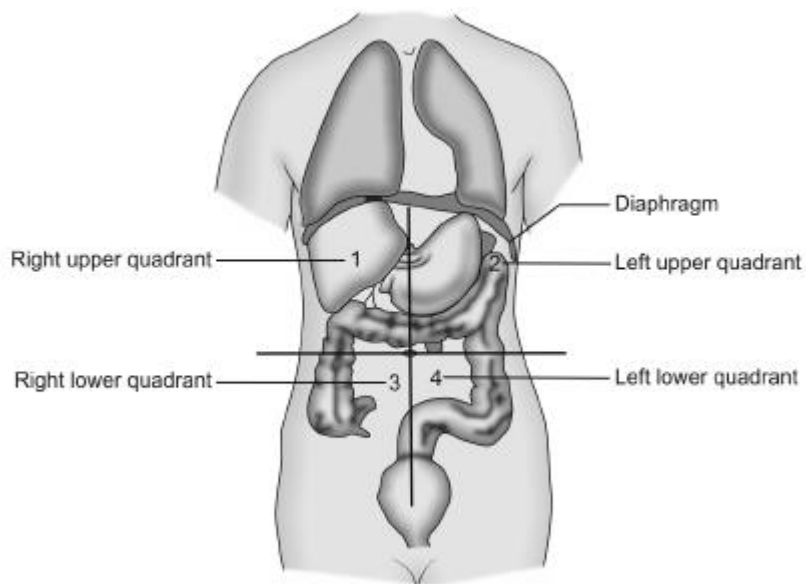


Fig. 2.4: Clinical divisions of the abdomen

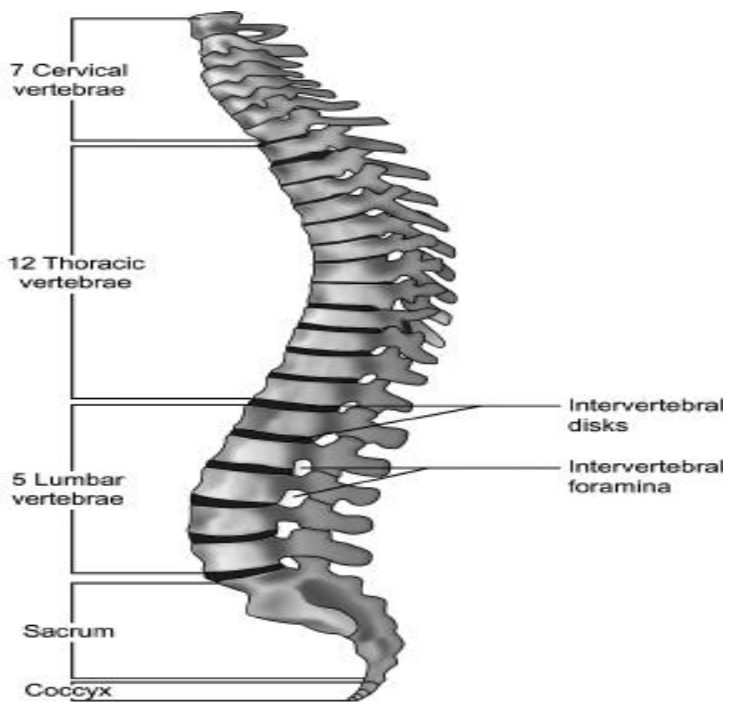


Fig. 2.5: Anatomical divisions of the back (spinal column)

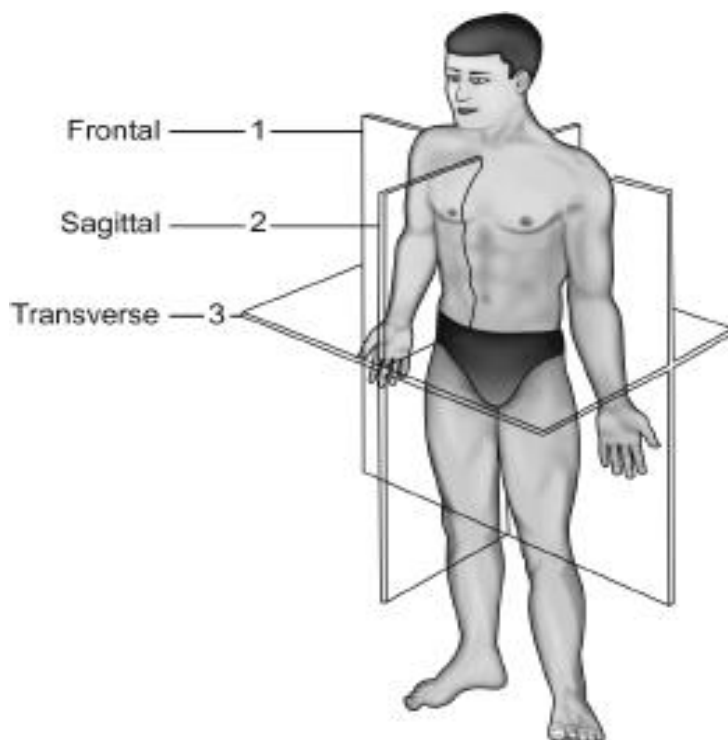


Fig. 2.6: Planes of the body

A PLANE IS AN IMAGINARY FLAT CROSS-SECTION. THE FOLLOWING TERMS ARE USED TO DESCRIBE THE PLANES OF THE BODY (TABLE 1.4):

TABLE: 2.4: PLANES OF THE BODY		
S.NO.	NAME OF THE PLANES	EXPLANATION
1	Frontal	Vertical plane which divides the body or structure into anterior and posterior portions.
2	Sagittal	Lengthwise vertical plane which divides the body or structure into right and left portions. The midsagittal plane divides the body into right and left halves.
3	Transverse	Plane running across the body parallel to the ground (horizontal). It divides the body or structure into upper and lower portions.

POSITIONAL AND DIRECTIONAL TERMS OF THE BODY (TABLE 2.5)	
POSITION	DESCRIPTION OF THE POSITION
Anterior	In front of the body
Posterior	At the back of the body
Central	Pertaining to the center
Deep	Away from the surface
Superficial	Near the surface
Distal	Away from the beginning of the structure or away from the center
Proximal	Pertaining to the beginning of a structure
Inferior	Below another structure
Superior	Above another structure
Lateral	Pertaining to the sides
Medial	Near to the median of the body (structure)
Supine	Lying on the back
Prone	Lying on the belly
Afferent	Towards the structure
Efferent	Away from the structure

The bones of the skeleton

The bones are classified according to their shape into long, short, flat and irregular bones.

Long Bones

Long bones are found in the limbs or extremities of the body and consist of long shaft with two extremities. The bones of the arm, forearm, thigh and legs are typical examples. The shaft consists of a cylinder of compact bone containing yellow bone marrow. The extremities are formed by Muscles (posterior view) thin outer shell of compact tissue with an interior network of spongy or cancellous bone containing red bone marrow.

Short Bones

Short bones have no shaft, but consist of smaller mass of spongy bones surrounded by a shell of compact bone. They are roughly box-like in shape. They are found in the small bones of the wrist (carpals) and ankle (tarsal).

Flat Bones

Flat bones provide broad surfaces for muscular attachment and extensive protection for internal organs. It is made of cancellous bone sandwiched by two compact bones. Examples are bones of skull, shoulder blades (scapula) and sternum.

Irregular Bones

Irregular bones cannot be classified under any of the previous types, because of their peculiar shapes. Examples **are bones of the face and the vertebra.**

Sesamoid Bones

Bones that are developed in the tendons of the muscles and are found in the vicinity of a joint. The patella is the largest sesamoid bone to quote as an example.

Bones of Anterior and Lateral View

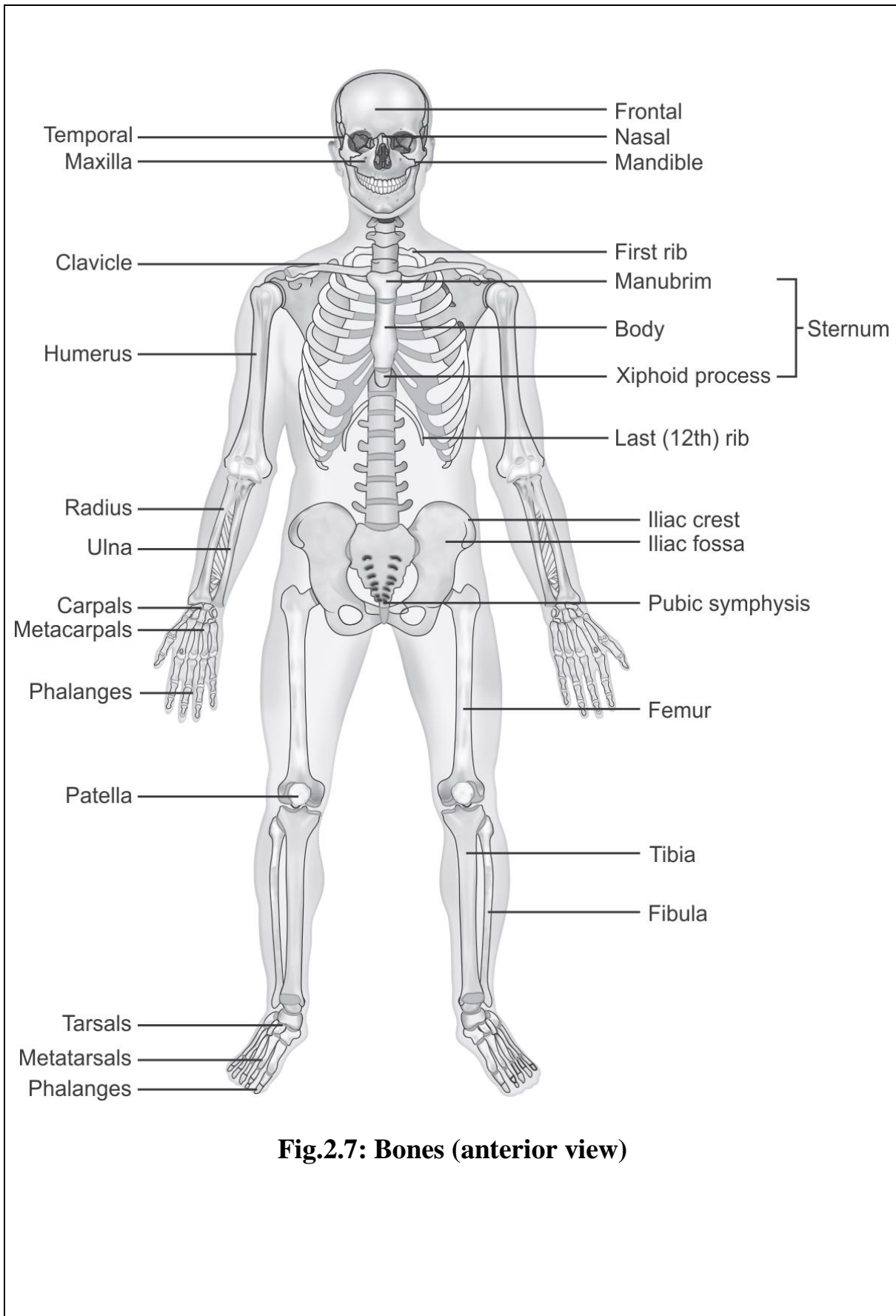


Fig.2.7: Bones (anterior view)

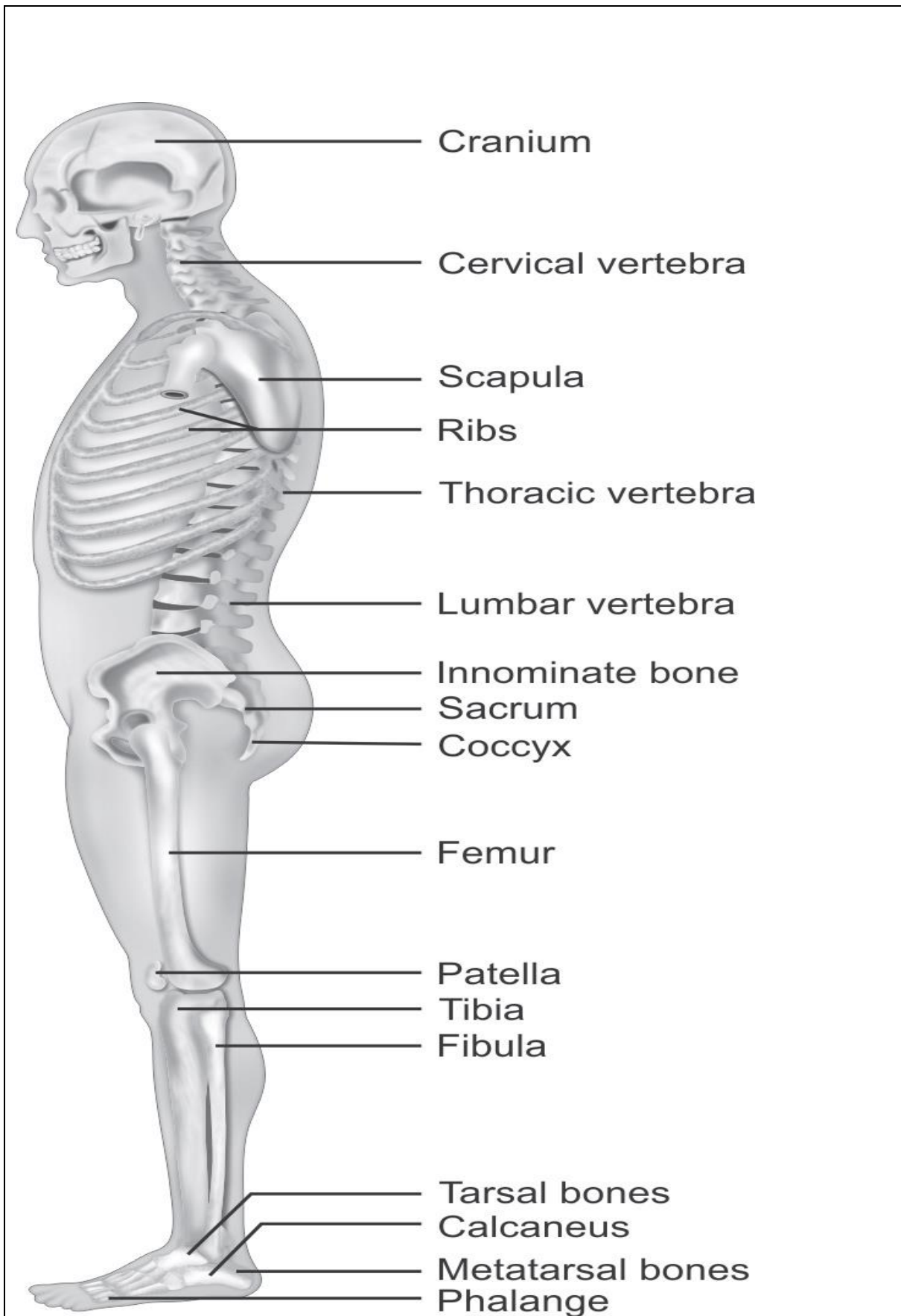


Fig.2.8: Bones (lateral view)

Names of Regional Bones

S. No.	Names of the Regions/Bones	No of Bones	Total No (s)
1	Axial skeleton		29
	Skull	8	
	<ul style="list-style-type: none"> • Frontal • Parietal 1 × 2 • Temporal × 2 • Occipital • Sphenoid • Ethmoid 		
	Face	14	
	<ul style="list-style-type: none"> • Inferior nasal concha × 2 • Lacrimal × 2 • Maxilla × 2 • Nasal × 2 • Palatine × 2 • Zygomatic × 2 • Vomer • Mandible 		
	Ear	6	
	<ul style="list-style-type: none"> • Malleus × 2 • Incus × 2 • Stapes × 2 		
	Neck	1	
	• Hyoid 1		
2	Thoracic cavity		51
	Vertebral columns	26	
	<ul style="list-style-type: none"> • Cervical 7 • Thoracic 12 • Lumbar 5 • Sacrum 1 • Coccyx 1 		
	Chest	25	
	<ul style="list-style-type: none"> • Sternum 1 • Ribs 12 × 2 		
3	Upper Limb		64
	<i>Shoulder</i> <ul style="list-style-type: none"> • Scapula 2 • Clavicle 2 	4	
	<i>Upper arm</i> <ul style="list-style-type: none"> • Humerus 2 	2	

	Lower arm	4	
	• Radius 2 • Ulna 2		
	Hands	26	
	• Carpal 8×2 (16) • Metacarpal 5×2 (10)		
	Fingers	28	
	• Phalanges 14×2 (28)		
4	Lower Limb	62	62
	• Pelvis 2 • Femur 2 • Patella 2 • Tibia 2 • Fibula 2 • Tarsal 7×2 (14) • Metatarsal 5×2 (10) • Phalanges 14×2 (28)		
	Total		206

Brief description of structure and functions of the systems of the human body

1. Human Body: The human body is made up of a trillion numbers of cells of different types. A cell is a mass of protoplasm containing a nucleus. It is the unit structure and fundamental part of life, which carries various functions such as reproduction, respiration, excretion, and adaptation to the environment. All cells are similar in that they contain a gelatinous substance composed of water, protein, sugar, acids, fats, and various minerals. This substance is called protoplasm. A tissue is a group of similar cells working together to do a specific job. A histologist is one who specializes in the study of tissues. Tissues can be classified into four major types are epithelial, connective, muscular, and nervous tissue. Tissue fluids are of two types—intracellular and extracellular. The fluid inside the cell is called intracellular fluid, while the fluid outside the cell is called extracellular fluid. Tissue fluid acts as a sort of middleman between the blood and tissues, supplying food and oxygen to the cell and removing waste products from the cell. The muscles are structures, which give the power of movements. Muscles are composed of thousands of elongated cells, called muscle fibers. Each contains a small nucleus. Bundles of muscle fibers lay side by side-like threads. There are three different types of muscle tissue; they are voluntary, involuntary, and cardiac. The nerve tissues conduct impulses all over the body. The muscles are structures, which give the body the power of movement; almost every movement is governed by some portion of the nervous system, which acts as a medium between brain and muscle. Organs are structures composed of several types of tissues, e.g., an organ-like stomach is composed of muscular tissues, nerve tissues, and glandular epithelial tissues. Systems are groups of organs working together to perform fundamental

functions of the individual. The different types of systems are skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems. Although some systems are functioning individually, the functions of various systems are very closely connected and are dependent on each other. For example, the mouth, esophagus, stomach, and small and large intestines are organs, which compose the digestive system.

2. Muscular System: The musculoskeletal system includes the bones, muscles, and joints. The skeleton comprises a group of bones from a supportive framework and consists of a series of bony levers capable, by virtue of the joints and muscles, to move upon one another. Muscles and bones make up for most of the body's weight. The muscles have the characteristics of elongation and contraction by which they produce movements of the different parts of the body. The skeletal muscles with the nerve endings produce chemical reactions during contraction and it results in the generation of heat. The properties of muscles are the power of contraction, the voluntary muscles contract as a result of stimuli reaching them from the nervous system, and many nerves have their endings in muscles. Muscle tissue is elastic and can be stretched by weight, when the weight is removed, the muscle returns to its normal position. The Voluntary/Striated/Skeletal is muscular tissues. The voluntary muscle is attached to the skin and it is under the control of the will. And Involuntary/Smooth/Non-striated/Visceral Muscles are found in the internal organs and structures of the body cannot be controlled by the will. The cardiac muscle is a special type of muscle found only in the heart and its movements cannot be consciously controlled.

The human skeleton contains 206 bones present in the adult. The skull consists of the cranium, face, and lower jaw. The trunk consists of the spinal column, ribs, and sternum. The limbs consist of upper and lower limbs together with shoulder and pelvic girdles. The cranial bones of the skull protect the brain and structures related to it, such as the eye, ear, and nose. The cranial bones of a newborn child are not completely joined. Bones are organs composed of connective tissues called osseous (bony) tissue with a rich supply of blood vessels and nerves. The inner core of bones is composed of hematopoietic tissue (red and yellow bone marrow, manufacturers of blood cells), while other parts are storage areas for minerals necessary for growth, such as calcium and phosphorus. This is the hardest of all the connective tissues.

The vertebral column is composed of 26 bone segments, cervical, thoracic, lumbar, sacrum, and coccyx. At birth, it is composed of five separate segments, these gradually become fused in the young child. The coccyx is the set of five bones and it is the tailbone of the spinal or vertebral column fused together. The bones of the pelvis are pelvic girdle is a hipbone, large bone supporting the trunk of the body, and joints the thigh bone and sacrum. Bones of arms and hands are humerus the upper arm bone, ulna, and radius are the lower arm bones, carpals, and metacarpals bones of the finger. There are three types of joints—fixed, immovable or synarthrosis or fibrous; slightly movable

and freely movable joints or diarthrosis or synovial. Movement of joints includes—gliding movements, angular movement, the synovial membrane lies under the joint capsule and lines the synovial cavity, which is filled with a special type of lubricating fluid called synovial fluid produced by synovial membrane.

3. Cardiovascular System: The cardiovascular system plays a vital role in transporting food and oxygen to all organs, and cells of the body through the fluid called blood vessels to carry the blood and the muscular pump called the heart. In addition to this, these blood vessels are used to transport cellular waste materials such as carbon dioxide and urea to the lungs and kidneys respectively, where it is removed from the body. Thus the cardiovascular system is one of the vital systems of the human body. The cardiovascular system is the transport system, carrying oxygen, nutrition, hormones, and other substances to the tissues, and conveying carbon dioxide to the lungs and other waste products to the kidney. Arteries, arterioles, veins, venules, and capillaries, together with the heart form the cardiovascular system for the flow of blood.

Arteries are the blood vessels, which carry oxygenated blood from the heart to the various parts of the body. The microscopic structure of arteries has three layers: Tunica adventitia: Outer layer Tunica media: Middle layer Tunica intima: Inner layer. Tunica adventitia is composed of fibrous tissue, which gives protection and strength to the vessels. Tunica media is composed of smooth muscle with yellow elastic fibers, which are arranged in a circular manner. It contracts and relaxes to maintain blood pressure. Tunica intima consists of a layer of endothelial cells. Arterioles a minute arterial branch one just proximal to a capillary. Generally, the names of the arteries mostly coincide with the names of the bone, organs or cavity, etc. it passes through. Veins are the blood vessels, which carry deoxygenated blood from various parts of the body to the heart. It also possesses three layers same as that of arteries, but they are much thinner. The smooth muscle inside their walls is under the control of the autonomic nervous system. Small veins are called venules. Capillaries are only one cell thick and are just large enough to allow red blood cells to pass through. It is in the capillaries that the nutrient/gas exchange (diffusion) takes place. They act as a very important link in the circulatory system because it is the capillaries that serve all the tissues in the body, by absorbing the energy (glucose) from the blood of the arteries and transporting the waste materials through the venules to the kidneys.

The heart is a conical-shaped hollow muscular organ situated in the mediastinum, in between the two lungs in the thoracic cavity. It is slightly tilted towards the left side. The heart is made of a special type of muscle called the cardiac muscle, composed of striated muscle fibers. The heart has a base above and an apex below and its size will be almost equal to the owner's fist. The heart has two sides, the right, and the left. The right side of the heart receives the deoxygenated blood and pumps it into the lungs for purification and the left side of the heart receives the oxygenated blood from the lung and pumps it into the various parts of the body through the aorta and arteries. Each side

of the heart is further divided into two chambers, which communicate by means of valves. The upper chambers are the thin-walled atria or atrium, or auricle. The lower chambers are the thick-walled ventricles. The first phase is called diastole (relaxation) and the second is systole (contraction). During the diastolic phase, the ventricles relax and deoxygenated blood flows into the right atrium of the heart through the vena cava, and the oxygenated blood from the lungs pours into the left atrium through pulmonary veins. The tricuspid and mitral valves are open in the diastolic phase and the blood passes from the right and left atria into the ventricles. The next phase is the systolic phase. During this phase, the walls of the ventricle contract, and the semilunar valves open, and the blood is pumped into the pulmonary artery and aorta from the right and left ventricles respectively.

The circulation of blood through the vessels from the heart to the lungs and then back to the heart again is known as pulmonary circulation. The circulation of blood from the body organs (except the lungs) to the heart and back again is called systemic circulation. During the contraction of the ventricle, the deoxygenated blood is pumped into the pulmonary artery through the pulmonary (semilunar) valve from the right ventricle. This blood when reaches the capillaries of the lung, the exchange of carbon dioxide and oxygen occurs, and the blood is purified. The newly purified blood is brought back to the heart through the pulmonary vein to the left atrium. This is called pulmonary circulation.

4. Blood and Lymphatic and immune System: Blood and lymph are the specialized liquid tissues of the body; each is composed of cells that are suspended in a liquid medium. Both these tissues defend the body against infection and help in the transportation of cells throughout the entire body. The blood is red and viscid, the alkaline in reaction and it is divided into a fluid part and a solid part. Plasma is the liquid portion of the blood in which the corpuscles are suspended. It is composed of about 92% water and solid materials, which are mainly proteins with lesser amounts of sugar, wastes, and salts, hormones, and other substances. The four major proteins present in the plasma are albumin, globulin, fibrinogen, and prothrombin.

Erythrocytes are formed in the red bone marrow of the spongy bones that are at the ends of the long bones. During their development, red blood cells (RBCs) develop a special compound called hemoglobin, which is rich in iron-containing pigment that gives the erythrocyte its red color. The average life of the erythrocytes is about 120 days in the circulating bloodstream. After this time, the cells of the spleen, liver, and bone marrow destroy the worn-out erythrocytes. These cells called macrophages set the hemoglobin free from the erythrocyte and break the hemoglobin down into its heme and globin portions. The heme decomposes into bilirubin and iron. Iron forms new red cells or is stored in the spleen, liver, and bone marrow for later use. The leukocytes play a vital role in the body's immune system by protecting it against the invasion by bacteria and other foreign substances. White blood cells (WBCs) can be classified into two

categories, granulocytes (with granules in the cytoplasm) and agranulocytes (without granules). The blood clotting or coagulation, process involves many different chemical reactions such as prothrombin activator (thromboplastin) is released when there is a tissue break or at the site of injury or when platelets rupture. The thromboplastin acts on prothrombin and converts prothrombin into thrombin. The thrombin acting on the fibrinogen converts it into fibrin, which is insoluble, which trap red blood cells to form the clot. The period of time, taken by fibrin to form the blood clot is known as the coagulation time. Blood is divided into four groups namely; A, B, AB, and O based on the presence or absence of blood antigens in the RBCs. Besides grouping by classifying A and B antigens, there are many other antigens located on the surface of the RBC.

The lymphatic system consists of lymph tissue fluid, which is found all over the body through a network of transporting structures called lymph vessels, lymph nodes, and the spleen, thymus, and tonsils. The primary functions of the lymphatic system are to drain fluid from tissue spaces and return it to the blood transport materials to body cells, carrying waste products from body tissues back to the bloodstream, to convey lipids or fats, away from the digestive organs, and to control infection by providing lymphocytes and monocytes, which are used to defend against infections caused by microorganisms. Lymph originates from the blood plasma. As blood circulates through the capillaries, some of the plasma steps out of these thin-walled vessels. This fluid, now called interstitial or tissue fluid resembles plasma, except it contains less protein. When the fluid enters the capillaries, it is called lymph. Lymph capillaries are thin-walled tubes, the same as blood capillaries. The organs composed of lymphatic tissue are the spleen, thymus, and tonsils. The spleen is the biggest lymphatic organ and its main functions are the destruction of old RBC, by which bilirubin is formed and added to the bloodstream Filtration of microorganisms and other foreign materials from the blood, production of antibodies and immunity, chiefly by leukocytes, and storage of blood, especially RBC; Blood is released by the spleen when the body needs it. The production of blood cells such as lymphocytes and monocytes stimulates the production of blood cells from the bone marrow. The thymus produces special lymphocytes called T cells, which migrate to the site of antigens and to destroy the antigen by the process of phagocytosis. Other types of lymphocytes are called β cells, these cells are produced in the bone marrow and they destroy antigen by producing antibodies. Three sets of tonsils, the palatine, pharyngeal and lingual tonsils, contain T and B lymphocytes, which protect against infection at the entrance of the digestive and respiratory tracts. The study of the body's defense mechanism against foreign organisms is called immunology. Immunity is a capacity to resist all types of organisms and toxins. Natural immunity is one's own ability to fight against the disease. Acquired immunity is the protection against, invasive organisms to which the body does not have natural immunity. Vaccination is a process of injecting antibodies against foreign organisms and then remaining in the body to protect against subsequent infection. Many diseases can be prevented by artificial immunization.

5. Nervous System: The nervous system communicates between the various parts of the body. More than 10 billion nerve cells are operating all over the body. Microscopic nerve cells collected into bundles are called nerves, which carry the electrical message all over the body. External stimuli, as well as internal chemicals such as acetylcholine, activate of the cell membranes of nerve cells so as to release stored electrical energy within the cells. This energy when released and passed through the length of the nerve cells is called nerve impulses. Thus, the external receptor such as sense organs (eye, ear, tongue, skin, nose) as well as internal receptors in muscles and blood vessels receive and transmit these impulses to the complex network of the nerve cells in the brain and the spinal cord. Within the central part of the nervous system impulses are recognized, interpreted, and finally relayed to other nerve cells, which extend to all parts of the body, such as muscles, glands, and internal organs.

The nervous system is made up of innumerable nerve cells called neurons. A neuron is an individual nerve cell, a microscopic structure through which impulses are passed along the path of the nerve cell in a definite manner and direction. The nerve cells collectively form the gray matter of the brain and the nerve fibers are grouped together to form the white matter. Nerves are classified into two types, namely sensory or afferent nerves and motor or efferent nerves. The nervous system may be divided into two main portions namely, the CNS consisting of the brain and spinal cord. The peripheral nervous system or autonomic nervous system consists of spinal nerves between the CNS, muscles, and various organs. The brain is the major part of the CNS is composed of billions of neurons and nerve endings. The organ is also the center of memory, emotion, thought, judgment, reasoning, and consciousness.

The brain is divided into three portions namely, forebrain (Cerebrum), midbrain (Pons Varolii and medulla oblongata), and hindbrain (Cerebellum). The main function of the cerebrum is memory, association, judgment, discrimination, and thought. The main function of the cerebellum is to maintain the balance, posture, and coordination of voluntary movements and muscle tone. The pons is the part of the brain, which literally means “Bridge”. It lies between the midbrain and medulla oblongata. The medulla oblongata is located at the base of the brain, which connects the spinal cord, and the brain. The thalamus is the large mass of gray matter, which is situated below the cerebrum thalamus, is predominantly a sensory relay station, with incoming fibers from the spinal cord and brainstem and onwards to the cerebral cortex. The spinal cord is the major part of the CNS, which lies in the vertebral canal. It extends from the medulla oblongata to the second lumbar vertebra within the vertebral column. It ends as the cauda equina (horsetail), a fan of nerve fibers found below the second lumbar vertebra of the spinal column. The brain is enclosed within the skull and the spinal cord is enclosed within the vertebral column. In addition, both the brain and the spinal cord receive limited protection from a set of three coverings called meninges. The outermost coat, the dura mater is tough and fibrous. Immediately beneath the dura mater is the cavity called subdural space. The next layer of meninges is the arachnoid mater. The

space beneath the arachnoid mater is called subarachnoid space, which is filled with cerebrospinal fluid, which provides additional protection for the brain and spinal cord by acting as shock absorbers. The innermost layer, the pia mater contains blood vessels and lymphatics, which provides nourishment for the underlying tissues.

The PNS consists of cranial and spinal nerves. Sensory or afferent nerves carry impulses from the tissues to the brain for interpretation and give rise to sensations such as cold, heat, pain, etc. Motor or efferent nerves carry impulses away from the brain and spinal cord, to the tissues. Nerves composed of both sensory and motor fibers are called mixed nerves. The somatic nerves are under the direct control of the individual. It is under conscious control and therefore it is voluntary, e.g. voluntary activity includes walking, talking, etc. The autonomic nerves comprise the sympathetic and parasympathetic nerves, producing actions that balance one another. The sympathetic and parasympathetic nerves function quite opposite to each other. The sympathetic nerves produce vasoconstriction, increase heart rate, elevate blood pressure and depress gastrointestinal activity. While parasympathetic nerves decrease blood pressure, dilate the pupil, slower heart rate, etc.

6. Digestive System: The digestive system is also called alimentary or gastrointestinal through which the energy is supplied externally as food is converted into required chemicals for the nutrition of the cells, tissues. There are six essential nutrients proteins, vitamins, carbohydrates, mineral salts, fats, and water. When food is ingested, the digestive system plays a vital role in the conversion process of a complex food substance such as proteins to simple amino acids, complex sugars to simple sugars (glucose), and large fat molecules are broken down to fatty acids and glycerol, which can be absorbed by the cells as nutrients. Finally, the unwanted materials are eliminated through the anus.

The primary functions of the digestive system can be explained simply in three stages: digestion, absorption, and elimination: The third part function of the digestive system is to eliminate, the solid waste materials, which are unable to be absorbed into the bloodstream. This process is called defecation. The salivary glands are exocrine glands producing saliva, which contains digestive enzymes, which help in the digestion of carbohydrates. The pharynx is a muscular membrane divided into three major sections such as nasopharynx, oropharynx, and laryngopharynx. The main function of the esophagus is to move the food from the pharynx cavity to the stomach by the process called peristalsis. The stomach, small intestine, and large intestine together form the GI tract. The stomach is a muscular organ and its openings are governed by the sphincters, the cardiac sphincter between the esophagus and fundus (the upper part of the stomach) preventing the backflow of the food into the esophagus and the pyloric sphincter between the antrum (the end part of the stomach) and the small intestine. The interior wall of the stomach is composed of mucous membrane and contains the glands that secrete hydrochloric acid (HCl) and gastric juices.

The small intestine has three parts: Duodenum, jejunum, and Ileum. The functions of the small intestine are completion of digestion of food and to absorb the essential nutrients (end products) of digestion. The secretion of the acid chyme in the duodenum distends the intestinal wall and causes the mucosa to secrete mucus and intestinal juice, which contain the enzyme enterokinase. The large intestine is a continuation of the gastrointestinal tract and is attached to the ileum of the small intestine and ends at the sigmoid colon. Its main function is to absorb water from the remaining indigestible food matter and transmit the useless waste material from the body. The appendix is the only organ, which has no anatomy. Colon is about 5 ft long and has three divisions 1. Ascending colon: Extending from the cecum to the lower border of the liver. 2. Transverse colon and 3. Descending colon. The important accessory organs of the digestive system are the Liver, Pancreas, and gallbladder. The liver is the largest gland in the body and its vital functions are: produces bile, which is used in the small intestine to break and absorb fats, removes glucose (sugar) from blood, which it synthesizes and stores as glycogen stores, vitamins such as B12, A, D, E and K, removal of poisons from the blood, destroys old erythrocytes and releases bilirubin and produces various blood proteins, such as prothrombin and fibrinogen, which help in the clotting of blood. Bile is the external secretion of the liver and is produced in a diluted form, which is then concentrated by the gallbladder to a greenish viscous fluid. It is composed of water, salts, bile pigments, and mucus. Bile salts play an important role in assisting the digestive action of pancreatic enzymes and in aiding the absorption of fat and fat-soluble vitamins from the small intestine.

The gallbladder is a small pear-shaped organ situated below (underneath) the liver and acts as a reservoir for the bile from the liver and to concentrate it. The hepatic duct connects the liver and gallbladder through which the bile is passed and stored in the gallbladder. The gallbladder is connected to the duodenum by a cystic duct with which the hepatic duct becomes the common bile duct. The pancreas acts as both endocrine and exocrine gland. In the digestive system, it provides digestive juices that pass through the pancreatic duct, thus it becomes an exocrine gland and also releases hormones directly into the bloodstream and functions as an endocrine or ductless gland. Metabolism is a chemical reaction, which occurs in the whole body. It is divided into two major processes, i.e. anabolism and catabolism. Anabolism is the building or synthesis of new compounds and this process is energy-consuming. Catabolism is the breaking down of large molecules to smaller units to release energy and heat. In healthy adults, there will be a balance between anabolism and catabolism, which is called an energy balance.

7. Endocrine System: The endocrine system is composed of endocrine glands that release hormones, a chemical substance, which regulate the basic metabolic activities of the body; for example, the growth hormone regulates the growth of bones. Glands, which secrete their hormones directly into the bloodstream rather than into ducts leading to the exterior of the body are called endocrine glands, in short, they are ductless glands.

The glands, which transport hormones through ducts, are called exocrine glands, e.g. lacrimal glands, sweat glands, and mammary glands. In structure, they are either steroids or proteins. The pituitary gland, liver, and kidneys excrete most of the hormones. Different endocrine glands are the Thyroid gland, Parathyroid, Adrenal gland (1 pair), Pancreas, Pituitary gland, Ovaries in females (1 pair), tests in males (1 pair), Pineal gland, and Thymus gland. The thyroid gland is the largest gland of the endocrine system. The major function of the thyroid gland is to produce, store and release two hormones—thyroxine (T₄) and triiodothyronine (T₃). The condition of hyposecretion of the thyroid is called hypothyroidism. In infants, the condition of hypothyroidism is called Cretinism. When hypothyroidism is developed in adults it is known as Myxedema.

The condition of hypersecretion of the thyroid is called hyperthyroidism. The most common disorders of this condition are Graves' disease and toxic goiter. In severe conditions, the eye may protrude, because of edematous swelling in the tissue behind the eye called exophthalmos. The parathyroid glands are four small oval bodies, located on the posterior surface (behind) of the thyroid gland. It secretes only one hormone called parathyroid hormone (PTH). This hormone is also known as parathormone. The hyposecretion of the PTH hormone is called hypoparathyroidism which is characterized by—calcium being unable to enter into the bloodstream from bones, which lead to nerve and muscle weakness, spasm of muscles, which is called tetany. The hypersecretion of the PTH is called hyperparathyroidism. The adrenal glands are two small glands situated on top of each kidney. It is also called suprarenal glands. Each gland consists of two parts, an outer portion called the adrenal cortex and an inner portion called the adrenal medulla. These two parts of each adrenal gland secrete different endocrine hormones. The adrenal cortex secretes hormones called steroids and the medulla secretes hormones called catecholamine. The adrenal cortex secretes three types of steroid hormones; they are Mineralocorticoids, Glucocorticoids, and Gonadocorticoids.

The adrenal medulla secretes two types of hormones epinephrine and norepinephrine (adrenaline and noradrenaline), which are closely-related hormones. Addison's disease is characterized by the hyposecretion of cortical hormones of the adrenal cortex, which results when the adrenal cortex is destroyed by the atrophy of adrenals. Cushing's disease: hyperfunctioning of the adrenal cortex with increased glucocorticoid secretion. It is characterized by moon-like fullness of the face, hypertension, high blood sugar, excess deposition of fat at the back of the thoracic region, excess hair growth in unusual places (hirsutism), especially in females. The pancreas functions as both endocrine and exocrine gland. The specialized cells in the pancreas, which produce hormones, are called islets of Langerhans. It is the most common pancreatic disorder. It is recognized to exist in two forms the insulin-dependent form caused by failure of the B cells to produce insulin and the non-insulin-dependent form, caused by insufficient insulin production to facilitate the oxidation of the glucose.

Hypersecretion of insulin condition is known as hyperinsulinism. It may be caused by a tumor in the pancreas. By excessive secretion of the insulin, excess glucose is drawn out of the bloodstream, resulting in hypoglycemia. The pituitary gland is a small, pea-sized gland located at the base of the brain. It is also known master gland as it regulates many body activities and stimulates other glands to secrete their own specific hormones. The ovaries are two small glands located in the lower abdominal region of the female. The ovaries produce the female sex cells called an ovum, as well as hormones, which are responsible for female sexual characteristics and regulation of the menstrual cycle. The hormones secreted by the ovaries are estrogen and progesterone. Estrogen is responsible for the development and maintenance of secondary sex characteristics. Progesterone is responsible for the preparation and maintenance of the uterus during pregnancy. The testes are two small, ovoid glands suspended from the inguinal region of the male by the spermatic cord and surrounded by the scrotal sac. The testes produce male sex cells spermatozoa, as well as the male hormone called testosterone. It regulates the growth and maintenance of secondary sexual characteristics in the male.

8. Respiratory System: The essential features of the respiratory system are the exchange of oxygen from the atmosphere to the tissues and carbon dioxide from the tissue to the outer air. There are two phases in respiration—external respiration and internal respiration. External respiration is an exchange of oxygen and carbon dioxide between the lungs and capillaries. Internal respiration is an exchange of gas (oxygen and carbon dioxide) between individual body cells and tiny capillaries. Air enters through the nose and passes through nasal cavities (turbinates), which are lined with mucous membranes and fine hairs, which help in filtering the dust as well as to warm and moisten the air. The nose is subdivided by a septum into two cavities. These are lined above by olfactory mucosa and below by the respiratory mucosa and skin. The nose also acts as a sense organ to smell. Para-nasal sinuses are hollow, air-containing cavities within the cranium, which helps to produce the tonal quality of sound. The pharynx is a muscular tube that is common for both respiratory and digestive systems. There are three sections: nasopharynx, oropharynx and laryngopharynx. The collection of lymphatic tissue known as adenoids or pharyngeal tonsil is located in the nasopharynx. Another type of lymphatic tissue known as tonsil is located in the oropharynx, which helps to filter and invade the bacteria present in the air and food. The larynx is the prominent part of the windpipe and it is made up of sections of cartilage interspersed by membrane and ligaments. The largest cartilage is the thyroid cartilage (Adam's apple) attached to the top of which is the epiglottis. The vocal cords are situated in the larynx and are responsible for sound production (speech) or promotion.

Epiglottis a leaf, like structure present above the larynx and acts similar to a lid for the larynx, by closing and not allowing the food particles into the larynx, while eating. The end of the trachea is divided into two small pipes called bronchi (left and right). The left and right bronchi pass to the corresponding sides of the lungs. The bronchi are divided into small branches called bronchioles, which end with air sacs called alveoli, which

resemble a balloon-like structure. The capillary structure (bed) lies close to the alveoli. The internal respiration (exchange of oxygen and carbon dioxide) is carried out between the alveoli and capillaries. The lungs are two cone-shaped organs, situated in the right and left sides of the thoracic cavity.. The base of the lungs lies on the diaphragm. Lungs are covered by a pleural cavity containing pleural fluid, which helps to glide smoothly over the pleura during respiration, which helps in breathing. The right lung has three lobes and the left has two lobes. The lobes are further divided into lobules, which are bound together by loose connective tissue. Each lobule has bronchioles, which are divided and subdivided becoming finer until they end in small-dilated air sacs or alveoli. The overall lung tissue is elastic and spongy in order to carry out its respiratory functions.

The diaphragm is a large muscular partition, which lies between the chest cavity and the abdominal cavity. By contracting and relaxing the diaphragm produces the needed pressure differential for respiration inhaling oxygen into the lungs is called inspiration. During inspiration the diaphragm is forced down, the sternum and ribs move forward and outward respectively, thus increasing the space of the thoracic cavity and the lungs enlarge. Being elastic, the lungs expand to fill up with oxygen 20% and carbon dioxide 0.04% and nitrogen 79%, and water vapor depending on the degree of humidity in the increased space. In the alveoli, the basic part of the lung, the oxygen from the inspired air is able to pass through the thin alveolar-capillary membrane and is taken up by the hemoglobin (Hb) in the red cells of the blood. The well-oxygenated blood is circulated through the arteries and arterioles of the body. When it reaches the capillaries it moves very slowly, the tissue cells take oxygen from the Hb and exchange it with carbon dioxide, the waste product of metabolism (carbon dioxide) is returned through the venous system to the heart and back to the lungs. Normal rhythmic respiration continues even when a person is unconscious or asleep. This rhythm is maintained by a part of the brain referred to as the respiratory center, in the medulla oblongata. One part of the respiratory center that facilitates inspiration is called the inspiratory center. The other part, which facilitates expiration, is called the expiratory center. The alternating activity of the inspiratory and expiratory centers brings about alternate inspiration and expiration. This alternate activity of the two centers is brought about by a third part of the respiratory center known as the pneumatic center and reflexes arising from the lung because of the stretching of the lungs during inspiration.

9. Sense Organs: The special senses of the body include the sense of sight, taste, hearing, smell, and equilibrium. These senses allow us to detect changes in our environment, and each of them has structurally complex receptors organs. The sense organs are the eye, ear, tongue, nose, and skin. The muscles can move the eyes freely in all directions. The optic nerve joins the eyeball through the back of the eye, which transmits the reflexes to the brain. Light rays pass through a small opening and are focused by a lens upon a photoreceptive surface, the retina. Then the image is transmitted from the retina to the brain through the optic nerves. They are 1. Sclera:

Outermost layer, which is a tough fibrous tissue, acts as a protective shield for the eye and maintains the shape of the eyeball. It also contains the cornea, which is transparent. 2. Choroid: The middle layer that provides the blood supply for the entire eye. It also contains the ciliary body and iris. 3. Retina: The innermost layer composed of nerve endings that are responsible for the reception and transmission of light impulses. Iris is a colored, contractile membrane, which functions as a sphincter. The cornea allows the light to enter the eye. It is also called the window of the eye. The pupil is the perforated center for the iris, which regulates the entering of light by varying its size.

The ear is the sense organ for hearing and for maintaining the equilibrium of the body. It is divided into three sections namely, external ear, middle ear, and inner ear. Pinna is the external structure attached to the side of the head. It has a deep shell-like cavity to collect the sound waves traveling through the air. External auditory meatus is such as a tubule (canal) 2.5 cm long. It leads from the pinna to the tympanic membrane or eardrum (middle ear). The canal is lined with glands that produce a waxy secretion called cerumen. These waxy substances prevent dust and foreign particles from entering the ear. The tympanic membrane is a thin membrane covering the end of the external auditory canal. Sound waves that enter the ear canal, strike against the tympanum. The eustachian tube is the canal, which connects the middle ear to the nasopharynx. Its functions are to regulate the pressure in the middle ear to that of the environment and clear the fluid secretion from the middle ear to the nasopharynx.

The skin and its accessory organs (hairs, nails, and glands) are known as the integumentary system of the body. The skin consists of two layers, epidermis and dermis (corium). The skin has specialized tissues, contains glands, which secrete several types of fluids, nerves that carry impulses and regulate the body temperature. The important functions of the skin are: provides protection against injuries and invasion of the bacteria regulates the body temperature and the prevention of dehydration and works as a sensory receptor, and is responsible for the synthesis of vitamin D. Epidermis is the outermost cellular membrane layer of the skin. It has no blood supply. The hair has three parts namely, hair shaft, hair root, and hair follicle. The hair follicle is a collection of capillaries enclosed in a covering called the papilla. Deep-lying cells in the hair root produce horny cells, which move upward through the follicles for the formation of the hair shaft. Baldness (alopecia) is evident when the hairs of the scalp are not replaced. Men rather than women are more susceptible to this condition, which is because of hereditary factors. The presence of the melanin pigment makes the hair look black. Hair turns gray when the melanocytes stop producing melanin. There are two types of glands present under the skin, they are sebaceous and sweat glands. The sebaceous gland produces an oily secretion called sebum, while the sweat glands produce water, Nails are solid plates present at the dorsal end of fingers, which protect fingers and toes. The nail body is pink because of the underlying vascular tissue. The half-moon-shaped white area near the root of the nail bed is the lunula. The main function of the nails is to protect the tips of the fingers and toes from bruises and other kinds of injuries.

The tongue is a highly mobile organ composed of voluntary muscles. It is essential for speech, taste (bitter, sweet, sour, and salt), mastication, and swallowing. The root of the tongue is attached to the hyoid bone in the neck. On the dorsum of the tongue are numerous minute elevations of the mucous membrane called papillae. Embedded in the papillae are the taste buds, which are situated more densely at the tip, sides and base of the tongue (up to 9,000 tiny papillae). The nose is the organ for the smell. Sensory nerve ends of the olfactory nerves are situated in the olfactory mucosa which forms the upper one-third of the nasal mucosa. Olfactory nerves transmit these signals to olfactory bulbs then through olfactory tracts to the smell center in the temporal lobes of the cerebral cortex. Nose smell the substances whose molecules are breathed into the roof of each nasal cavity and dissolved on a patch of olfactory membrane along with 100 million smell receptor cells equipped with tiny sensitive hair.

10. Excretory System: The urinary system is also known as the excretory system, which excretes the waste (end) products of metabolism that tend to change the normal internal and external environment of the cell. The major function of the urinary system is to remove urea from the bloodstream so that it does not accumulate in the body and become toxic. The urinary system also maintains the proper balance of water, salts, and acids in the body fluids, salts such as sodium, potassium, and some acids known as excretory system electrolytes. The urinary system is composed of 2 kidneys, 2 ureters, 1 urinary bladder, and 1 urethra.

The kidney has three parts namely; the cortex or outer part, the medulla or inner part, and the hilum depression at the medial part of the kidney. The cortex (outer) part of the kidney contains tiny glomeruli, together with the renal tubules, which lie partly in the medulla also. There is about 1 million nephrons. Each nephron has a renal corpuscle and a renal tubule. The renal corpuscle is composed of a tuft of capillaries, the glomerulus, and a modified funnel-shaped end of the renal tubule called Bowman's capsule, which encases the glomerulus. An afferent arteriole conveys blood to the glomerulus and an efferent arteriole carries the blood away from the glomerulus. The renal tubule has four sections, proximal convoluted tubule, Henle's loop, distal convoluted tubule, and collecting tubule, where the excretion process for removing the waste products from the blood takes place. The waste material is carried out to the hollow chamber, the renal pelvis that is situated in the hills. The adrenal gland lies on top of each kidney. The concave central part of the kidney is called the hilum, where the renal artery enters the kidney and the renal vein leaves the kidney. The pelvis is the collection point of urine as it is formed. The main function of the urinary system is to filter and remove waste products from the blood.

There are two ureters convey urine in peristaltic waves from the kidney to the urinary bladder. The urinary bladder acts as a temporary reservoir for the urine. The neck of the bladder has a sphincter muscle to stop the backflow of the urine from the bladder. The trigone is a triangular space at the base of the bladder where the ureters enter and the

urethra leads out. Urethra is a common passage for urine and seminal fluid in the male, while in the female it is the passage for urine only. The male urethra has three parts, prostatic part is surrounded by the prostate gland; the ejaculatory ducts and the ducts of the prostate gland open into it, the membranous part and penile part is surrounded by the corpus spongiosum of the penis.

The two endocrine glands are located above each kidney. Blood enters each kidney through the renal artery. These arteries, divides into small arteries called arterioles and these are located throughout the cortex of the kidney. The blood from the arteriole leads to the tiny smaller blood vessels called capillaries, which are collectively called glomeruli, and here the process of formation of urine begins. The three steps involved in this process are filtration, re-absorption and secretion. The filtration process starts at the glomeruli, where the water, salts, sugar and nitrogenous waste such as urea, creatinine, and uric acid are filtered out through the thin walls of the glomeruli. These filtered products are collected by the Bowman's capsule, a cup-like structure holding the glomeruli and the fluid formed is called filtrate. During filtration, some of the essential chemicals for healthy living such as water, sugar, salts are also filtered out with the wastes. When this filtrate passes through the four sections of the renal tubule, certain amount of these filtered products such as water, the peritubular capillaries, thus re-entering the circulating blood, absorb some of the electrolytes and amino acids. In the convoluted tubules much of the water, salts, etc. are returned to the blood supply while the remainder is passed into the collecting tubules, and then into the kidney pelvis via the pyramids and calyces as urine. The final stage of urine production occurs when specialized cells of the collecting tubules secrete ammonia, uric acid and other substances directly into the lumen of the tubule. Here thousands of renal tubule deposit urine into the central renal pelvis, a space that fills most of the medulla of the kidney. Blood leaves the kidney via the renal vein. The urine is then passed via the ureters into the urinary bladder, where it is temporarily stored. The exit area of the bladder to the urethra is closed by sphincters, which do not permit urine to leave the bladder. As the bladder fills up, however, there is a point at which muscular contractions of the walls of the bladder begin and pressure is placed on the base of the urethra, which causes the desire to urinate. This process of muscular contractions, so as to pass urine is called micturition. Blood flow should be maintained constantly through the kidneys. When the flow of blood is reduced, the kidney, which ultimately increases the blood pressure, releases a substance called renin and blood flow in the kidneys is restored to normal.

11. Reproductive System: Reproduction is the union of the female sex cell (ovum) and male sex cell (sperm), which contains the genetic material called chromosomes. Each sex cell (male and female) has exactly 23 chromosomes. Male has 22 chromosomes and 2 autosomes (X and Y), which decides the sex of the newborn, whereas the female has 23 chromosomes, when the ovum and sperm cell unite, the cell produced receives half of its genetic material complement of hereditary material. These sex cells are produced in special organs called gonads in the male and female. The

female gonads are the ovaries and male gonads are the testes. The male reproductive system performs two important functions, viz. production of the male sex cells (sperm), storage and transportation of the sperm. The organs of the male reproductive system are the Testes, Scrotum, Seminiferous tubules, Epididymis, Vas–deferens, Seminal vesicles, Ejaculatory duct, Prostate gland, Penis, and Urethra. The primary organ of the male reproductive system is the testis. The male gonad consists of pair of testes. The testes produce an important male hormone called testosterone, which is responsible for secondary sexual characteristics such as beard, pubic hair, voice deepening, proper development of male gonads, and accessory organs, which secretes fluid to insure the lubrication and viability of the sperm. The scrotum is a muscular sac that lies between the thighs, and maintains the testes at lower temperatures than that of the body, facilitating adequate maturation and development of sperm, which requires quite a low temperature. The female reproductive system can be divided into two; internal and external genitalia. The internal genitalia consists (Ovaries, Fallopian tubes, Uterus, and Vagina) and external genitalia (Vulva; Labia majora, Labia minora, Hymen). Ovaries are the bean-shaped glands located in the pelvic cavity on either side of the uterus to which they are attached by the ovarian ligament. They produce the ovum, which is the female reproductive cell, and hormones such as progesterone and estrogen. These hormones are responsible for the menstrual cycle and prepare the uterus for pregnancy and play a vital role in the development of secondary sexual characteristics. The fallopian tubes are the muscular tube-like structure measuring 14 cm, which extends from the ovaries to either side of the uterus. It transports the ovum by a wavelike movement (peristalsis) from the ovary to the uterus. It takes an ovum about 5 days to pass through the fallopian tube. It also acts as a passage for the ovum to pass from the uterus towards the ovaries. The uterus is a muscular pear-shaped organ. It lies in the pelvic cavity behind the urinary bladder and in front of the rectum. It is supported in position by ligaments and covered by three layers of tissue.

The female reproductive system consists of organs, which produce ova and provide space for the growth of an embryo. The female reproductive organs also secrete hormones such as estrogen and progesterone that contribute to the secondary female sexual characteristics such as body hair, breast development, structural changes in bones and fat. The period when the secondary female sexual characteristics develop is called puberty. Ova are produced during the onset of the puberty period. When the ova are not fertilized the hormonal changes result in the shedding of the uterine lining and bleeding. This is called menstruation. When ova are fertilized in the uterus that condition is called pregnancy, the normal gestation period is approximately 9 calendar months. The cessation of fertility and diminishing of hormone production is called menopause. The period between puberty and menopause is called the reproductive period or childbearing age; it is normally between the ages of 15–44 years of a woman.

Pregnancy is the condition in which a zygote (the union of male gonad and female ovum) develops in the uterus. The placenta, which is the organ of communication

between the mother and embryo, now forms within the uterine wall. The placenta is filled with a fluid called amniotic fluid, which breaks during the onset of labor. The hormone oxytocin instigates the vigorous contraction of the uterus to affect the delivery of the fetus. The normal gestation period is about 40 weeks. Immediately after delivery, a hormone called prolactin promotes the milk secretion to feed the newborn. The product of conception up to the 3rd month is called an embryo and later it is referred as a fetus. During pregnancy, there will be a change in the uterus, vagina, and breasts. The labor and birth can be classified into three stages: Dilation stage (uterus contracts and the complete dilation of the cervix occur), Expulsion stage (starts from complete dilation of the cervix to the birth of the baby), and Placental stage (uterine contractions and discharge the placenta from the uterus).

12. Oncology: Oncology is the study of tumors. A tumor is an abnormal growth of cells that serve no reasonable purpose but create a concern. Tumors are of two types—benign and malignant. A benign tumor is not a malignant tumor, it does not invade nearby tissue or spread to other parts of the body the way cancer can. But benign tumors can be serious if they press in vital structures e.g., blood vessels, or nerves. The cause of the benign tumor is unknown but the growth of benign tumor might be linked to environmental toxins, such as exposure to radiation, genetics, diet, stress, local trauma or injury, inflammation, or infection. Common types of benign tumors are many, which are arising from different structures in the body. Some of the most common types of benign tumors—Adenomas are benign tumors starting epithelial tissues of a gland or gland-like structure. A common type of adenoma is a polyp in the colon. Adenomas might also grow in the liver or the adrenal, pituitary, or thyroid glands. Fibromas (or fibroids) are tissue or connective tissue that can grow in any organ. Fibroids commonly grow in the uterus, although not cancerous, a uterine fibroid can lead to heavy vaginal bleeding, bladder problem or pelvic pain or pressure. Some other examples of tumors are Hemangiomas, lipomas, meningiomas, myomas, and neuromas. Malignant tumors are leukemia of various types. The “term malignant neoplasm means the tumor is cancerous and they can vary in their aggressiveness, so it is difficult to predict how rapidly they will grow.

Malignant tumors or neoplasms accumulate as growth, which penetrates, compresses, and ultimately destroys the surrounding normal tissue. The malignant cells from the primary tumor site find their way into lymph channels or blood vessels and are carried to remote body structures by which secondary malignant neoplasms develop. This is called metastasis. They are composed of the same type of cells as the tissue in which they are growing. When they grow bigger in size, then they harm the place by exerting pressure on surrounding structures. In general, benign tumors are not life-threatening

once they are removed, they usually do not reoccur. Carcinomas, the largest group, are solid tumors, which are derived from epithelial tissue. Epithelial tissue is found on external and internal body surfaces, including skin, glands, digestive, urinary, and reproductive organs. Almost all malignant neoplasms are carcinomas. Sarcomas are rare types of cancer when compared to carcinomas and are derived from supportive and connective tissue, such as bone, fat, muscle, cartilage, bone marrow, and lymphatic tissue, or from blood cells. Sarcomas account for approximately 10% of all malignant neoplasms. Mixed tissue tumors are derived from tissue, which is capable of differentiating into epithelial as well as connective tissue. The tumors are composed of several different types of cells. Mixed tissue tumors can be found in kidneys, ovaries, and testes.

Staging is an attempt to define the extent of cancer by classifying it into three categories: T, N, and M. T represents the primary tumor site or place of origin; N represents local or original node involvement, and M indicates whether metastasis is there or not. When the primary site contains classifications of T1, T2, T3, or T4 the higher number indicates progressive increases in tumor size and involvement. Similarly, N0, N1, N2, N3, represent progressively advancing nodular involvement. Finally, M0 or M+ defines the absence or presence of metastasis, respectively. Grading is concerned with the microscopic appearance of the tumor cells, in other words, the degree of anaplasia. Generally, four grades are employed, which are numbered from 1 through 4. Neoplasms that are composed of cells that closely resemble the tissue from which they arise are given a grade 1, tumors have a high survival rate, while patients with grades 2, 3, and 4 tumors, have a poorer survival rate. At the other extreme is grade 4, in which there is a great deal of anaplasia within the tumor. Such tumors are more serious and the prognosis is very poor. Grades 2 and 3 are intermediate grades between these two extremes.

Cancer is treated by three major approaches namely, surgery, radiation therapy, and chemotherapy. The surgery is performed when the tumor is localized and gets an effective means of cure. Some common cancers in which surgery may be curative are those of stomach, large bowel, breasts, and endometrium, especially the accessory organs of the system. The goal of radiation therapy is to deliver a maximal dose of ionizing radiation to the tumor tissue and a minimal dose to the surrounding normal tissue. Chemotherapy is the treatment of cancer using drugs. It is probably the most important factor responsible for long-term survival in several types of cancer. Chemotherapy may be used alone or in combination with surgery and radiation. Neuroscientists often use neuroimaging tools, which can help them to observe which areas of the brain are active during a particular task

13. Psychiatry: Psychiatry is the branch of medicine focused on the diagnosis, treatment and prevention of mental, emotional and behavioral disorders. The psychiatric problems can be sudden, such as a panic attack, frightening hallucinations, thoughts of

suicide, or hearing “voices.” Or they may be more long-term, such as feelings of sadness, hopelessness, or anxiousness that never seem to lift or problems functioning, causing everyday life to feel distorted or out of control.

Psychotherapy is the treatment of emotional problems by psychological techniques. There are many different techniques involved in psychotherapy. For example, behavior therapy, which means conditioning the primary feelings of the patients; group therapy means patients are educated through group discussions in front of invited audience. The sex therapy mainly deals with solving psychosexual disorders, such as frigidity, impotence and premature ejaculation. Family therapy is a long-term form of psychotherapy, to resolve internal conflicts, by allowing the patients to bring their unconscious emotions, such as free association, and transference (recollecting the early past incidence). Hypnosis: therapy by recovery of deeply repressed memories. Play therapy is given to children through toys, and plays to express conflicts, and feelings, which he or she is unable to communicate directly. Electroshock: Treatment applied to brain by producing convulsions, through electric current, chiefly for severe depression and drug therapy: Treatment by drugs, such as anti-anxiety agents (diazepam), antipsychotic tranquilizers chlorpromazine), lithium, antidepressant etc.

A psychiatrist is a medical doctor (MD or DO.) who specializes in mental health, including substance use disorders. Psychiatrists are qualified to assess both the mental and physical aspects of psychological problems. People seek psychiatric help for many reasons. The psychiatrist carefully collects detail history of patient and family, including social, economical, environmental, medical and carries out thorough physical and psychological examinations, orders required further investigations, observes patient's perceptions, evaluates patient's behavior, distinguishes between physiological and psychological and analyzes the examination results, evaluates patient's behavior, distinguishes, refers patients for specialized consultations, monitors and formulate diagnosis or assess for psychiatric disorders if any, and applies one of the following given therapy according to the established or tentative diagnoses as part of treatment:

Different types of therapies such as group therapy, sex therapy, family, psychoanalysis, between physiological and psychological disorders and diagnoses appropriately patient medical hypnosis, play therapy, electric shock therapy and drug therapy. Psychic disorders, which are e.g., affective disorders: disorder of mood, e.g. manic-depressive illness, major depressions, etc. Manic-depressive illness is characterized by alternating moods of mania, such as excitement, activity, and exalted feelings and decreased in need for sleep. Major depression, involves severe dysphonic mood like sadness, hopelessness, irritable and worry etc., Similarly there are many disorders such as anxiety, somatoform, Dissociative Disorder (Hysterical Neurosis), Psychosexual, Transvestism, Exhibitionism, Sexual Masochism, Transsexualism, Fetishism, Sexual Sadism, Personality disorders, Antisocial, Passive Aggression, Histrionic, Narcissistic, Paranoid, Delirium, Dementia, Schizophrenic, Paranoiac, Chronic and drug dependence

(Substance-induced disorders). A psychiatry condition, if untreated, may develop into insane condition, which may become madness.

14. Medical / Clinical Psychology: Clinical psychology includes the study and application of psychology for the purpose of understanding, preventing, and relieving psychologically-related distress or dysfunction and promoting subjective wellbeing, and personal development. The psychological assessment and psychotherapy are part of general study, and clinical psychologists may also engage in research, teaching, consultation, and program development and administration. Some clinical psychologists may focus on the clinical management of patients with brain injury, which is known as clinical neuropsychology. In many countries, clinical psychology is a profession that deals with mental health. The clinical psychologist performs the work specially related to children with abnormal behavior and activities either they are too intelligent or too feeble to their age or parents or society is more concerned about their future.

There are four major theoretical perspectives that are psychodynamic, cognitive-behavioral, existential-humanistic, and systems or family therapy. Cognitive psychology studies cognition, the mental processes underlying mental activity. The research made it interesting to explore more on learning, perception, problem-solving, reasoning, thinking, memory, attention, language and emotion, and other related areas. Communities psychologists seek to understand the quality of life of individuals, families, communities and their aim is to enhance improve quality of life through collaborative research and efficient practice. Counselors are primarily clinicians, using psychotherapy and other interventions in order to treat patients and potential patients. As conventionally, counseling psychology has been focusing more on normal developmental issues and on daily basis stress rather than psychopathology. Critical psychology is under transformation to find new ways and methods to deal with cases within an effective way to promote human welfare, and critical psychology endeavours to broaden the view of that mandate.

Educational psychology is the effectiveness of educational interference within the set educational program, which adds value to the effective teaching psychology and social psychology. Evolutionary psychology explores the genetic roots of mental and behavioral patterns, and that common patterns may have emerged because they were highly adaptive for humans in the environments of their evolutionary past. Child psychology and social psychology are concerned with the practical needs of modern medicine, and psychological issues that are in vogue. The medical-legal, with forensic psychology, is involved with the practices including the clinical evaluations of defendants, reports to judges, and courtroom testimony on given issues. Forensic psychologists are involved in a variety of psychological cases related to evaluating sex offenders and treatments and provide recommendations to the court through written reports, and testimony. Health psychology is mainly related to health illness and health care of needy clients and clinical psychology focuses on mental health and neurological

illness. Health psychology is mainly concerned with the wider range of health-related behavior including healthy eating and living. Health psychology closely creates a working link between the doctor-patient relationship, a patient's understanding of health information and viewpoint about illness, and being involved in public health campaigns, examining the impact of illness or health policy on quality of life as a preventive promotive of the psychological impact of health and social care that would build-up healthy society. Social psychology professionals have become indispensable in the care of patients social psychology is the study of social behavior and mental processes with an emphasis on how humans think about each other and how they relate to each other. Social psychologists are especially interested in how people react to social situations.

Personality psychology studies enduring patterns of behavior thought, and emotion in individuals commonly referred to as personality. Abnormal psychology studies the nature of psychopathology and its causes, and this knowledge is applied in clinical psychology to treat patients with psychological disorders. Biological psychology is the scientific study of the biological, status of behavior and mental states. There has been a growing movement to integrate the various therapeutic approaches, especially with an increased understanding of issues regarding culture, gender, spirituality, and sexual orientation. With the advent of more vigorous research findings regarding psychotherapy, there is evidence that most of the major therapies are about of equal effectiveness, with the key common element being a strong therapeutic association. In view of new findings and conducting various training programs, psychologists are now adopting an eclectic therapeutic orientation that has been found very useful and significant outcome.

Chapter XXXXV: Medical Terminology

OBJECTIVES IN STUDYING THE MEDICAL LANGUAGE

- To analyze words structurally.
- To correlate and understand word elements with the basics of anatomy, physiology, and diseases of human body.
- To pronounce and write correct spelling of medical terms.

Basic Word Structure

Studying medical words is similar to learning of a new language. The words at first look strange and complicated although they may stand for commonly known English terms. The words gastralgia, means ‘stomach ache,’ and ophthalmologist, means “eye doctor,” are some examples.

The medical language is fascinatingly logical in each term, complex or simple, can be broken into basic components and then understood.

These basic components of medical words are:

Root	Foundation of the word	
Example	gastr/ic root (stomach)	
Suffix:	Word ending	
Examples	gastr/itis	gastric
	Suffix:(inflammation) Suffix (pertaining to)	
Prefix:	Word beginning	
Examples:	epi/gastr/ic	Ad/renal
	prefix (above)	prefix (above)
Combining vowel:	A vowel (usually “O”) links the root with the suffix Or To another root	
Examples:	Cardi/o/gram	ealectro/crdi/o/gram
	root suffix	root root suffix
	Combining vowel	combining vowel

CHIEF SOURCES OF MEDICAL WORDS

ANGLO-SAXON (OLD ENGLISH)

These words are from old English, which are mostly anatomical terms.

Examples:

Arm Back Bladder Blood Cheek Chest
Chin Ear Eye Finger Hair Nose
Thumb, etc.

GREECO-ROMAN (GREEK AND LATIN)

These words are from Greek and Latin languages.

Examples:

Marrow—the word marrow is derived from the Latin word medulla.

Myelitis (G) originating from the Greek word myelos. The word myelitis is the inflammation of marrow.

Crani (G and L) : Skull
Cerebro (L) : Brain
Illi (L) : Ilium
Rhin (G) : Nose
Pneumo (G) : Lungs, air

ARABIC

Most of these words are used to describe chemical substances.

Examples:

Sharab : Sweet beverage (syrup)

Matter : Mother
Alcohol : Something subtle

MODERN GERMAN

These words are derived from French (Modern German).

Example:

Fahrenheit (German Physicist) for thermometer

Kernicterus : Yellow (Jaundice)

COLORS

<i>S.No.</i>	<i>Color</i>	<i>Medical terms</i>	<i>Examples</i>
1.	White	Albus	Albinism
2.	White	Leukos	Leukocyte
3.	White	Candidus	Candidiasis

4.	Black	Melan	Melanoma
5.	Black	Niger	Nigrometer
6.	Red	Erythros	Erythrocyte
7.	Red	Ruber	Rubericyte
8.	Yellow	Flavus	Flavism
9.	Yellow	Xanthos	Xathoma
10.	Green	Chloros	Chlorhydria
11.	Green	Glaucos	Glaucoma
12.	Blue	Cynos	Cyanosis
13.	Brown	Cirrhos	Cirrhosis
14.	Violet	Iodes	Iodine
15.	Purple	Porphyros	Porphyrinuria
16.	Ashy	Cinerous	Cinerea
17.	Golden	Aureus	Aueromycin

NUMERALS

<i>S.No.</i>	<i>Numerals</i>	<i>Medical terms</i>	<i>Examples</i>
1.	Half	Semi	Semilunar
2.	Half	Hemi	Hemiplegia
3.	First	Primus	Primigravida
4.	One	Unus	Unilateral
5.	Single	Monos	Monocular
6.	Two	Duo	Duodenum
7.	Second	Secundus	Secundine
8.	Two at a time	Bini	Binocular
9.	Twice	Bi, Dis, Di	Dislocation
10.	Three	Tri	Tricuspid
11.	Four	Quadri, Tetra	Quadriplegia, Tetralogy
12.	Five	Quinique	Quintuplet
13.	Six	Sex, Hex	Sexdigitate, Hexadactylism
14.	Seven	Hepta	Heptadactylia
15.	Eight	Octa	Octigravida
16.	Nine	Non	Nonipara
17.	Ten	Deca	Decameter
18.	One 100	Centi,	Centi is one hundredth
19.	One 1000	Kilo,	Milli is one thousandth
20.	1,000,000	Mega	
21.	1/1,000,000	Micro	

ELEMENTS OF MEDICAL TERMS

SUFFIXES AND COMPOUNDING ELEMENTS

True suffixes refer to a syllable denoting a preposition or adverb attached to the end of a word, root, or stem to modify its meaning. Many endings are adjectives or nouns added to a root to form compound words. They may be combining forms or pseudo-suffixes. To simplify learning, the modifying endings have been classified according to their meanings into diagnostic, operative and symptomatic suffixes and compounding elements.

Diagnostic Suffixes and Compounding Elements

<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-aemia (G) blood	Hyperglycemia	High blood sugar
-cele(G) hernia tumor protrusion	Cystocele	Hernia of the bladder
	Hydrocele	Serous tumor as of testis
	Myelocele	Protrusion of spinal cord through the vertebrae
-ectasis (G)	Atelectasis -neonatorum	Imperfect expansion of lungs at birth
	Bronchiectasis	Abnormal dilatation of a bronchus or bronchi
-graphy(G) Act of recording or writing	Electrocardiography	The recording of the electricity flowing through the heart
	Electrocardiography	A diagnostic procedure in which pulses of high frequency sound waves (ultrasound) are transmitted into the chest and echoes returning from the surfaces of the heart are electronically plotted and recorded.
-iasis (G) Condition formation of Presence of	Lithiasis	Formation of stones
	Cholelithiasis	Presence of calculi in the gallbladder
	Nephrolithiasis	Stones present in the kidney
-itis (G) inflammation	Carditis	Inflammation of the heart
	Gastritis	Inflammation of the stomach
	Poliomyelitis	Inflammation of gray matter of the spinal cord
-malacia (G)	Encephalomalacia	Softening of the brain

softening	Osteomalacia	Softening of the bones
	Splenomalacia	Softening of the spleen
-megaly (G) enlargement	Cardiomegaly	Enlargement of the heart
	Hepatomegaly	Enlargement of the liver
	Splenomegaly	Enlargement of spleen
-oma (G) tumor	Adenoma	Glandular tumor
	Carcinoma	Malignant tumor of epithelial tissues
	Sarcoma	Malignant tumor of connective tissue
-osis (G) condition, diseases, increase	Arteriosclerosis	Hardening of the arteries
	Dermatosis	Any skin condition
	Neurosis	Functional disorder of the nervous system
-pathy (G) disease	Adenopathy	Any glandular disease
	Myopathy	Any diseases of a muscle
	Myelopathy	Any pathological disorder of the spinal cord
-ptosis (G) falling	Blepharoptosis	<i>Drooping or (downward displacement) of the eyelid</i>
	Gastroptosis	Downward displacement of the stomach
	Nephroptosis	Downward displacement of the kidney
-rhexis (G) rupture	Angiorhexis	Rupture of a blood vessel or lymphatic
	Cardiorhexis	Rupture of the heart

Operative Suffixes and Compounding Elements

<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-centesis (G) Puncture	Paracentesis	Puncture of a cavity
	Thoracentesis	Aspiration of the pleural cavity
-ectomy (G) excision	Myomectomy	Excision of a tumor of the muscle
	Tonsillectomy	Removal of tonsils
-desis (G) binding fixation	Arthrodesis	Surgical fixation of a joint
	Spondylosyndesis	Surgical fixation of the vertebrae
-lithotomy (G) incision for Removal of stones	Cholelithotomy	Incision into gallbladder for removal of stones
	Nephrolithotomy	Incision into kidney for removal of stones

-pexy (G) suspension or fixation	Hysteropexy	Abdominal fixation or suspension of the uterus
	Orchiopexy	Fixation of an undescended testis
-plasty (G) surgical correction or plastic repair	Arthroplasty	Reconstructive operation on joint
	Hernioplasty	Plastic repair of hernia
-rrhaphy (G) suture	Perineorrhaphy	Suture of a lacerated perineum
	Staphylorrhaphy	Suture of a cleft palate
-scopy (G) inspection or examination	Bronchoscopy	Examination of the bronchi with an endoscope
	Cystoscopy	Inspection of the bladder with a cystoscope
-ostomy (G) creation of a more or less opening	Colostomy	Creation of an opening into the colon through the abdominal wall
	Cystostomy	Creation of an opening into the urinary bladder through the abdomen
-otomy (G) incision into	Antrotomy	Incision into the antrum for drainage
	Thoracotomy	Opening of the chest
-tripsy (G) crushing or friction	Lithotripsy	Crushing of a calculus in the bladder or urethra
	Phrenicotripsy	Crushing of the phrenic nerve
Symptomatic Suffixes and Compounding Elements		
<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-algia (G) pain	Gastralgia	Stomach pain
	Nephralgia	Renal pain
-genic (G) origin	Bronchogenic	Originating in the bronchi
	Pathogenic	Disease producing
-lysis (G) dissolution or breaking down	Hemolysis	A breaking down of red blood cells
	Neurolysis	Disintegration of nerve tissue
-osis (G) increase or condition	Anisocytosis	Inequality of size of cells
	Lymphocytosis	Excess of lymph cells
-penia (G) deficiency or decrease	Leukopenia	Abnormal decrease of leukocytes in the blood
	Neutropenia	Abnormal decrease of neutrophils in the blood
-rrhage,	Hemorrhage	The escape of blood from the vessels; bleeding

-rrhagia (G) excessive flow bursting forth	Metrorrhagia	Uterine bleeding
	Otorrhagia	Hemorrhage from the ear
-rrhoea (G) flowing	Metrorrhoea	A free or abnormal uterine discharge
	Dysmenorrhoea	Painful menstruation
	Otorrhoea	Discharge from the ear
-spasm (G) involuntary contractions	Chirospasm	A spasm as contraction of the hand (Writer's cramp)
	Dactylospasm	Spasm or cramp in fingers or toes
-stasis (G) stand still	Hemostasis	Interruption of blood flow through any vessel or to any anatomical area
-stenosis (G) narrowing, contraction	Aorticstenosis	A narrowing of the aortic orifice of the heart
	Mitralstenosis	A narrowing of the left atrio-ventricular orifice

ROOTS

The root stem or main body of a word indicates the organ or part of which is modified by a prefix or suffix, or both. Properly, Greek combining forms or roots should be used only with Greek prefixes and suffixes, Latin with Latin. A vowel, usually a, i, or o is often inserted between the combining forms for euphony.

Root	Medical term	Definition
aden (G) gland	Adenectomy	Excision of a gland
	Adenoma	Glandular tumor
aer (G) air	Aerated	Filled with air
	Aerobic	Pertaining to organism, which lives only in the presence of air
Angio (G) vessel	Angiotomy	Incision of blood vessels
	Angitis	Inflammation of the blood vessels
arth (G) joint	Arthralgia	Pain in the joints
	Arthritis	Inflammation of the joints
blephar (G) eyelid	Blepharitis	Inflammation of the eyelid
	Blepharoptosis	Drooping of the upper eyelid
card (G) heart	Cardiology	The science of the heart
	Electrocardiogram	A graphic record of the heart beat by an electrometer
cerebro (L) brain	Cerebromalacia	Softening of the brain
	Cerebrospinal	Referring to brain and spinal cord
cephal (G)	Cephalalgia	Headache

head	Cephalic	Pertaining to the head
cerv (L) neck	Cervicectomy	Excision of the neck of the uterus
	Cervicovesical	Relating to the cervix uteri and bladder
cheil, chil (G) lip	Cheilitis	Inflammation of the lip
	Cheiloplasty	Plastic operation of the lip
chir (G) hand	Chiromegaly	Abnormal size of the hands, wrists and ankles
	Chiroplasty	Plastic repair of the hand
chol (G) bile	Cholangitis	Inflammation of bile duct
	Cholecyst	Gallbladder
chondr (G) cartilage	Chondrectomy	Excision of a cartilage
	Chondroma	A cartilaginous tumor
cost (L) rib	Costochondral	Pertaining to a rib and its cartilage
	Costosternal	Referring to the ribs and breast bone
crani (G,L) skull	Craniotomy	Surgical opening (incision) of the skull
cysto (G) bladder, sac	Cyst	A bladder; any sac containing a liquid
	Cystoscope	Instrument for interior examination of the bladder
cyt (G) cell	Cytology	The study of cell life
	Erythrocyte	Red blood cell
Dacry (G) tear	Dacryoceale	Protrusion of the lacrimal sac
	Dacryocyst	The lacrimal sac
dactyl (G) finger, toe	Dactylitis	Chronic disease of bone of fingers or toe in young children
	Dactylomegaly	Abnormal size of fingers and toes
derm (G) skin	Dermatitis	Inflammation of the skin
	Dermopathy	Any skin disease
encephal (G) brain	Encephalitis	Inflammation of the brain
	Encephaloma	Brain tumor
enter (G) intestine (small)	Enteritis	Inflammation of the small intestine
	Enterocoele	A hernia of the small intestine
gastr (G) stomach	Gastrectasis	Dilatation of the stomach
	Gastroenteritis	Inflammation of the stomach and the small intestine

glyco (G) sweet	Glycemia	Sugar in blood
	Glycosuria	Sugar in urine
hem, haemat (G) blood	Hematemesis	Vomiting of blood
	Hemophilia	Inability of the blood to coagulate
hepat (G) liver	Hepatitis	Inflammation of the liver
	Hepatoma	A liver tumor
hyster (G) ormetr uterus	Hysterectomy	Excision of the uterus
	Hysteropexy	Abdominal fixation of the uterus
ile, eile, (L-G) ileum	Ileum	Third part of the small intestine
	Ileostomy	Creation of an opening through abdomen into the ileum
ili (L) ilium	Ilium	The wide, upper part of the hip bone
	Iliosacral	Pertaining to ilium and sacrum
leuk (G) white	Leukocyte	White blood cell
	Leukopenia	Abnormal decrease in number of leukocyte
lip (G) fat	Lipectomy	Excision of fatty tissues
	Lipemia	Fat in the blood
lith (G) stone	Lithiasis	Presence of concretions or stones
	Lithoscope	Instrument for examining stone in bladder
menig (G) membrane	Meningitis	Inflammation of the membranes of spinal cord and brain
	Meningioma	Tumor of the meninges
metr (G) orhystr uterus	Metritis	Inflammation of the uterus
	Metrorrhagia	Bleeding from the uterus
myel (G) marrow	Myelitis	Inflammation of spinal cord or bone marrow
	Myelosarcoma	Malignant tumor of the bone marrow
my (G) muscle	Myitis or myositis	Inflammation of a muscle
	Myocardium	The middle and thickest layer of the heart wall
neph (G) kidney	Nephropexy	Surgical attachment of a floating kidney
	Nephrosclerosis	Hardening of the kidney
ophthalm (G) eye	Ophthalmology	The study of the eye and its diseases
	Ophthalmoscope	Instrumental examination of the eye
osteo (G) bone	Osteoma	A bony tumor
	Osteomalacia	Softening of the bone
pneum (G) lung, or air	Pneumonia	Inflammation of the lungs with consolidation and exudation
	Pneumothorax	Introduction of air into the pleural cavity
proct (G)	Proctoscopy	Instrumental examination of the rectum

rectum, anus	Proctopexy	Suture of the rectum to some other part
psycho (G) disorders soul, mind	Psychiatry	Medical specialty treating mental and neurotic
	Psychopathy	Any mental disease usually related to defective character and personality
pyel (G) pelvis	Pyelitis	Inflammation of the pelvis of the kidney
	Pyelogram	Radiogram of the ureter and renal pelvis
pyloro (G) gatekeeper	Pylorus	Orifice between stomach and duodenum
	Pylorostenosis	Constriction of pylorus
pyo (G) pus	Pyogenic	Pus forming
	Pyometritis	Purulent inflammation of the uterus
radi (L) ray	Radiology	The study of X-rays in the diagnosis and treatment of disease
	Radiotherapy	The use of radiation of any type in treating diseases
spondyl (G) vertebra	Spondylitis	Inflammation of vertebrae
	Spondylolisthesis (olisthesis: slipping)	Forward dislocation of lumbar vertebrae with pelvic deformity
trachel (G) orcervi neck	Trachelitis	Inflammation of the cervix
	Tracheloplasty	Plastic operation of the cervix uteri
tubercul (L) tubercle	Tuberculosis	An infectious disease marked by the formation of tubercles in any tissue
	Tuberculoma	A tuberculous abscess or tumor
viser (L) organ	Viscus Viscera	Pertaining to the internal organs

PREFIXES

Prefixes are the most frequently used elements in the formation of medical terms. A prefix consists of one or two syllables placed before a word to modify its meaning. These syllables are often prepositions or adverbs. Some common prefixes are:

<i>Prefix</i>	<i>Medical term</i>	<i>Definition</i>
ab (L) from, away from	Abductor	That which draws away from a common center
	Abnormal	Away from or not corresponding to rule
a, an (G) without, not	Apnea	Temporary absence of respiration
	Anesthesia	Loss of sensation
ad (L) increase, near, toward	Adductor	That which draws toward a common center
	Adrenal	A ductless (endocrine) gland above the kidney
ante (L)	Antenatal	Before birth

before	Antepartum	Before the onset of labor
anti (G) against	Antisepsis	The exclusion of putrefactive germs
	Antipyretic	A drug that reduces fever
bi (L) two,both, double com, con, or	Biconvex	Having two convex surfaces as in a lens
	Bilateral	Affecting both sides
sym (L) together, with	Congenital defect	Born with a defect, hereditary
	Conjunctiva	Mucous membrane which lines eyelids
contra (L) against, opposite	Contraception	The prevention of conception
	Contraindication	A condition antagonistic to the line of treatment
dys (G) bad, difficult, Painful	Dysentery	Inflammation of intestinal mucous membrane Accompanied by pain
	Dysmenorrhea	Painful menstruation
	Dyspepsia	Imperfect digestion
	Dysphagia	Difficulty in swallowing
	Dysphasia	Impairment of speech
	Dyspnea	Labored or difficult breathing
	Dysuria	Pain or difficult urination
ec (G) out, ecto (G) outside ex-out em, en (G) in	Ectopic pregnancy	Gestation outside the uterine cavity
	Ectropion of eyelid	Eversion as the edge of the eyelid
	Empyema	Pus in a body cavity, especially in the pleural cavity
	Encephalopathy	Any disease of the brain
endo (G) within	Endocardium	Lining membrane of inner surface of the heart
	Endocarditis	Inflammation of the endocardium
	Endocrine gland	A ductless gland in which an internal secretion forms
	Endometrium	The mucous membrane lining the inner surface of the uterus
	Endometritis	Inflammation of the endometrium
	Endoscope	Tubular instrument for examining cavities through natural openings
	Endoscopy	Inspection of cavities by use of the endoscope
epi (G) in addition to	Epidermis	Cuticle or outer layer of the skin upon, at,
	Epigastrium	Region over the pit of the stomach
	Epiphysis	A center of ossification at both extremities of long bones
ex (G)	Exacerbation	Aggravation of symptoms

out, away from, over	Exophthalmia	Abnormal protrusion of the eyeballs
	Expectoration	Expulsion of mucus from the lungs
	Exudate	Accumulation of fluid due to inflammatory Condition
hemi (G), or semi (L) half	Hemiplegia	Paralysis of one-half of the body
	Hemiglossectomy	Removal of half a tongue
hyper (G) above, excessive, beyond	Hyperacidity	An excess of acid in the stomach
	Hypercalcemia	Excess of calcium in the blood
	Hyperemesis	Excessive vomiting during early pregnancy gravidarum
	Hyperemia	Congestion
	Hyperpyrexia	High fever (above 106 degree Fahrenheit)
	Hypertension	High blood pressure
hypo (G) below, deficient	<u>Hypodermic injection</u>	<u>Injection under the skin</u>
	Hypoglycemia	Low blood sugar
Inter (L) between	Intercostal	Between two ribs
	Interfemoral	Between the thighs
meta (G) next, between	Metabolism	The sum of all the physical and chemical processes by which living organized substance is produced and maintained
	Metacarpal	Bone of the metacarpus
para, par (G) beside, around near, abnormal	Paracentesis	Puncture of a cavity with tapping
	Parametritis	Inflammation of the parametrium around,
	Paranephritis	Inflammation of suprarenal capsules; of Connective tissue above the kidney
	Parathyroid	Ductless gland near the thyroid gland
peri (G) around, about	Pericardium	The double membranous sac enclosing the Heart
	Pericarditis	Inflammation of the pericardium
	Perimetritis	Inflammation of the serous membrane enveloping the uterus
	Periostitis	Inflammation of the periosteum
pre (L, G) before, in front of	Precancerous	Before the development of carcinoma
	Pericardium	Region over the heart
	Preeclampsia	Eclampsia before delivery (Eclampsia is major Toxemia during pregnancy)

	Presentation	Manner of the fetus presenting itself at the Cervix
pyo (G) pus	Pyocele	A collection of pus in the scrotum
	Pyocyst	A cyst containing pus
	Pyonephritis	Purulent inflammation of the kidney
post (G)	Postpartum	After delivery
	Postnatal	After birth
retro (L) backward, behind, back of	Retroflexion	A bending or flexing backward; for example of the uterus
	Retroperitoneal	Located behind the peritoneum
	Retroversion	A state of being turned back; for example, of The uterus
semi (L) half	Semicoma	Mild degree of coma
	Semilunar valves	Half-moon shaped valves of the aorta and pulmonary
sub (L) beneath, below super,	Subclavicular	Beneath the clavicle
	Subcutaneous	Beneath the skin
	Suppuration	The process of pus formation
	Supernatant	Floating on surface
supra (L) above, beyond, superior	Supraoccipital	Situated above the occiput
	Suprapubic	Surgical opening into the bladder from above
	cystotomy	the symphysis pubis
	Suprarenal	Adrenal gland above the kidney
sym (G) with, along, togetherbeside	Symphysis of pubis	Fusion of pubic bone on midline anteriorly
	Synarthrosis	An immovable joint
	Syndactylism	A fusion of two or more fingers or toes; webbing
toxi (G) poison	Toxicology	The science or study of poisons
	Toxicosis	Any diseased condition due to poisoning
	Toxicophobia	Irrational fear of being poisoned
trans (L) across, over	Transection	Incision across the long axis; cross section
	Transfusion	Injection of the blood of one person into the blood vessel of another
	Transurethral	Passing through, perform by way of urethra
	Prostatectomy	Excision of the prostate gland through the urethra
tri (G) three	Tricuspid	Having three cusps or points; tricuspid valve
	Trifacial	Fifth cranial nerve
	Trigone	A triangular space, especially that of the lower part of the urinary bladder

Medical Terminology with Terms and Meanings

S. No	Term	S. No	Meaning
1	Duodenostomy	1	Forming a new opening in the duodenum
2	Dermatologist	2	A specialist in field of skin diseases
3	Megalocardia	3	Enlargement of the heart
4	Gastritis	4	Inflammation of the stomach
5	Electrocardiography	5	Recordings of electrical waves of the heart
6	Gastralgia	6	Pain in the stomach
7	Acrocyanosis	7	A condition of blueness of the extremities
8	Etiology	8	Study of, or pertaining to, causes (of disease)
9	Symptomatic	9	Pertaining to a symptom
10	Cardiologist	10	A physician who specialized in the study of the heart
11	Megalogastria	11	Enlarge or large stomach
12	Symptomatic	12	Correcting a Symptom
13	Cyanoderma	13	A bluish discoloration of the skin
14	Leukocyte or (Leukocytosis)	14	A white blood cell
15	Leukemia	15	A disease of too many white cells in the blood
16	Gastrectomy	16	Excision or removal of stomach
17	Duodenal	17	Pertaining to the duodenum
18	Cyanosis	18	A generalized condition of blueness
19	Cardialgia	19	Heart pain
20	Etiology	20	The study and causes of an illness
21	Osteomalacia	21	Softening of bone tissue
22	Adenoma	22	Tumor of glandular tissue
23	Intercostal	23	Between the ribs
24	Cephalalgia	24	Headache
25	Chondrectomy	25	Surgical removal of cartilage
26	Encephalocele	26	Herniation of the brain tissue inside of the head
27	Hypertrophy	27	Overdevelopment
28	Arthroplasty	28	Surgical repair of joint
29	Hypodermic	29	A needle inserted under the skin
30	Laryngotomy	30	Incision into the larynx
31	Hyperemesis	31	Excessive vomiting
32	Dentalgia	32	Toothache
33	Thyroidectomy	33	Surgical removal of the thyroid gland

34	Adenitis	34	Inflammation of glandular tissue
35	Carcinoma	35	A malignant tumor
36	Mucoid	36	Resembling mucous
37	Laryngostomy	37	Making a new permanent opening into the larynx
38	Encephalitis	38	Inflammation inside the head
39	Lipoma	39	A tumor of fat tissue
40	Dental	40	Pertaining to the teeth
41	Abdominalgia	41	Bellyache or stomach ache
42	Thoracocentesis	42	Tapping or Puncturing of chest cavity
43	Cholelithotomy	43	Incision for the purpose of removing a gallstone
44	Otorrhea	44	Running or draining from the ear
45	Cystotomy	45	Incision into the bladder
46	Cerebrospinal	46	Pertaining to the cerebrum and spinal cord
47	Hydrophobia	47	Abnormal fear of water
48	Adduction	48	Movement toward the midline
49	Streptococci	49	Cocci bacteria that grow in chains
50	Cranium	50	The bony vault surrounding the brain
51	Pyogenic	51	Producing pus
52	Aberrant	52	Wandering or out of the normal place
53	Pubic	53	Relating to the pubis
54	Cholecystotomy	54	Incision into the gallbladder
55	Urocystoplasty	55	Surgical repair of the urinary bladder
56	Cholelith	56	Gallstone
57	Craniotomy	57	Incision into the cranium
58	Cystocele	58	Herniation of a bladder
59	Cardiocentesis	59	Tapping or puncturing of the heart chamber
60	Cranioplasty	60	Surgical repair of the bony vault that encloses the brain
61	Otalgia	61	Earache
62	Rhinitis	62	Inflammation of the nose
63	Pelvimetry	63	Measurement of the pelvis
64	Thoracolumbar	64	Relating to the thorax and the loin area
65	Hydrocephalus	65	Collection of fluid in the head
66	Suprapubic	66	Relating to above the pubis
67	Thoracoplasty	67	Surgical repair of the chest cage
68	Abdominal	68	Relating to the abdomen
69	Cholecystectomy	69	Surgical removal of the gallbladder
70	Pelvimeter	70	Instrument for measuring the pelvis
71	Melanoma	71	Black tumor

72	Blepharospasm	72	Twitching of the eyelid
73	Spermatoid	73	Resembling sperm
74	Nephroptosis	74	Dropping of kidney from its normal place
75	Oophoropexy	75	Surgical fixation of the ovary
76	Angioblast	76	Embryonic vessel cell
77	Ureterotomy	77	Incision into the ureter
78	Angiosclerosis	78	Hardening of vessels
79	Hysterotomy	79	Incision into the uterus (cesarean section)
80	Bradypnea	80	Abnormally slow breathing
81	Nephrolith	81	Kidney stone
82	Myospasm	82	Muscle spasm (“charley horse”)
83	Dyspepsia	83	Painful digestion (“heartburn”)
84	Hemolysis	84	Destruction of blood cells
85	Pneumotherapy	85	Treatment using air
86	Myosclerosis	86	Hardening of muscle
87	Tachypnea	87	Abnormally fast breathing
88	Dysmenorrhea	88	Painful menstruation
89	Hysterospasm	89	Spasm of the uterus
90	Kinesiology	90	The study or science of motion
91	Apnea	91	Cessation of breathing
92	Cystorrhagia	92	Hemorrhage (bleeding) from the bladder
93	Oophorectomy	93	Surgical removal of ovary
94	Uterolithotomy	94	Incision into the ureter for removing stone
95	Salpingectomy	95	Surgical removal of the fallopian tube
96	Pneumothorax	96	Air in the chest cavity
97	Angiospasm	97	Spasm of the vessels
98	Pnumonitis	98	Inflammation of the lungs
99	Urethrotomy	99	Incision into the urethra
100	Kinesialgia	100	Muscle pain due to motion
101	Glossoplegia	101	Paralysis of the tongue
102	Lithiotripsy	102	Crushing of a calculus (stone)
103	Hemodialysis	103	Cleansing the blood to remove excess toxins
104	Polyarthritis	104	Inflammation of many joints
105	Diplopia	105	Double vision
106	Colic	106	Relating to the colon
107	Phlebitis	107	Inflammation of the vein
108	Dactylogram	108	Finger print
109	Analgesia	109	Absence of pain
110	Cheilitis	110	Inflammation of the lips
111	Hypoesthesia	111	Less than normal sensation

112	Neuromyelitis	112	Inflammation of nerves of the spinal cord
113	Macrocephalus	113	Abnormally enlarged head
114	Hepatomegaly	114	Enlargement of the liver
115	Syndrome	115	Symptoms that occur together or disease
116	Ileoplegia	116	Paralysis of the ileum
117	Cystorrhesis	117	Rupture of the bladder
118	Hyperesthesia	118	Abnormally intense feeling or sensation (pain)
119	Prognosis	119	Predicting the outcome (beforehand knowledge)
120	Hysterorrhesis	120	Rupture of uterus
121	Gastrectasia	121	Dilatation of the stomach
122	Diathermy	122	Heat that goes through
123	Dactylomegaly	123	Enlarged fingers
124	Hepatitis	124	Inflammation of the liver
125	Esthesiometer	125	Instrument for measuring sensation
126	Rectal	126	Relating to the rectum
127	Colostomy	127	Formation of a new opening in the colon
128	Myokinesiology	128	Study of muscle movement
129	Syndactylism	129	Growing together of fingers and toes
130	Syncope	130	Faint or Swoon
131	Pyrexia	131	Fever
132	Venostasis	132	Slowness of flowing in a vein
133	Epistaxis	133	Nose bleed
134	Erythremia	134	Disease of too many red cells in the blood
135	Hidradenitis	135	Inflammation of sweat gland
136	Caudal	136	Relating to the tail
137	Anterior	137	Location in front of
138	Xanthopia	138	Yellow color of the eye
139	Alopecia	139	Baldness
140	Ophthalmalgia	140	Pain in the eye
141	Menses	141	Monthly cycle known as menstruation
142	Laparorrhaphy	142	Slowness of flowing in vein
143	Visceralgia	143	Painful gut
144	Leukemia	144	Disease of too many white cells in the blood
145	Menopause	145	Cessation of mensus
146	Leukocyte	146	A white blood cell
147	Anoxia, hypoxia	147	Lack of sufficient oxygen
148	Dorsal	148	Relating to back
149	Laparotomy	149	Incision into the abdominal wall
150	Hyperhidrosis	150	Excessive sweating
151	Macrocheilia	151	Abnormally enlarged lips

152	Anhidrosis	152	No sweating (without sweating)
153	Amenorrhea	153	Lack of menstrual flow
154	Dorsolateral/Posterolateral	154	Location indicating behind and to the side
155	Xanthemia	155	Yellow color in the blood
156	Ventral	156	Relating to the front
157	Erythrocyte	157	Red Cell
158	Ophthalmic	158	Pertaining to the eye
159	Visceral	159	Relating to the gut (contents of the abdomen)
160	Melanoderma	160	Black color of the skin
161	Paracolpitis	161	Inflammation around vagina
162	Narcolepsis	162	An uncontrollable condition of falling sleep
163	Dehydration	163	A condition of having had water removed from
164	Heterosexual	164	One who is attracted to people of the opposite sex
165	Abort	165	Taking the fetus away from the mother's womb
166	Cryptorchidism	166	Undescended testicle
167	Multipara	167	A woman who has borne more than one child
168	Isotonic	168	Having the same osmotic pressure
169	Colpospasm	169	Spasm of the vagina
170	Hemodialysis	170	Cleansing the blood toxins
171	Retrosternal	171	A location behind the sternum
172	Peritonsillar	172	Relating to around the tonsil
173	Ectopic	173	Unusual location
174	Mononuclear	174	Single nucleus
175	Supernumerary	175	Beyond the usual number
176	Circumocular	176	Relating to around the eye
177	Abduction	177	Movement away from the midline
178	Ectopic	178	Out of place or unusual place
179	homosexual	179	One who is attracted to people of the same sex
180	Glycogen	180	The form in which the glucose is stored in the body
181	Ectoderm	181	The outer most layer of skin
182	Orchidopexy	182	Surgical fixation of testicles
183	Splenomegaly	183	Enlarged of spleen
184	Hematophobia	184	Fear of blood
185	Nulliparity	185	The condition of never having borne a child
186	Peridental	186	Pertaining to around the teeth

187	Retroperitonitis	187	Inflammation behind the ;peritoneal cavity
188	Colporrhaphy	188	Suturing of the vagina
189	Necrotic	189	Relating to dead tissue
190	Autodiagnosis	190	Diagnosing one's own illness
191	Transposition	191	Placed across to other side
192	Unicellular	192	Having a single cell
193	Semiconscious	193	Partly conscious or half conscious
194	Contraindication	194	Evidence that indicate against
195	Anteflexion	195	Bending forward
196	Hemiplegia	196	Paralysis of half the body
197	Extrauterine	197	Outside of the uterus
198	Antitoxin	198	A chemical agent that works against a toxin
199	Prenatal	199	Before birth
200	Subaural	200	Under the ear
201	Triceps	201	A three-headed muscle of the upper arm
202	Malposition	202	Bad or poor position
203	Intercranial	203	Within the cranium
204	Disassociate	204	Free from association
205	p.c.	205	After having eaten
206	Inframammary	206	Below the mammary gland
207	Insomnia	207	Inability to sleep
208	Bilateral	208	Relating to two sides
209	Semicircle	209	Half or part of circlce
210	Substernal	210	Pertaining to under the breat bone
211	Preoperative	211	Before the operation
212	Antipyretic	212	Having the property of acting against fever
213	Transfusion	213	Passing blood across from person to another
214	Unilateral	214	Only one side
215	Malnutrition	215	Poor nutrition (bad functioning)
216	Intravenous	216	Within a vein
217	Contraceptive	217	Chemical works against fertilization of ovum
218	Incompetency	218	Not being competent
219	Extrahepatic	219	Outside of the liver
220	Congenital	220	Existing since birth
221	Hemostasis	221	Slowed bloodflow
222	Pleuralgia	222	Pain of the Pleura
223	Noctiphobia	223	Fear of night or darkness
224	Ankylocheilia	224	Stiffness of the lips
225	Thrombophlebitis	225	Inflammation of the vein due to a blood clot

226	Pleurocentesis	226	Puncture or tapping of the pleura
227	Neoplasm	227	A new growth (tumor)
228	Ischiopubic	228	Relating to the ischium and pubic
229	Dextrocardia	239	Heart on the right
230	Sinsistromanual	230	Left handed
231	Nasomental	231	Pertaining to the nose and chin
232	Tracheorrhagia	232	Hemorrhage from the trachea
233	Vasoconstriction	233	Constriction of a vessel
234	Bacteriostatic	234	Stopping the growth of bacteria
235	Calcaneal	235	Relating to the calcaneus
236	Nasopharyngitis	236	Inflammation of the nose and pharynx
237	Pharyngitis	237	Inflammation of the Pharynx
238	Neonatal	238	Pertaining to new born
239	Dextropedal	239	Pertaining to the right foot
240	Carpectomy	240	Surgical excision of a carpus
241	Sternal	241	Pertaining to the sternum
242	Pubic	242	Relating to the pubis
243	Noctambulism	243	Night walking (Sleep walking)
244	Pleuritis	244	Inflammation of the pleua
245	Tracheotomy	245	Incision into the trachea
246	Phlebostasis, Venostasis	246	Showing the flow in the veins
247	Bronchoscopy	247	Examination by looking into the bronchus
248	Vasospasm	248	Spasm of a vessel
249	Ischiorectal	249	Relating to the ischium and rectum
250	Laryngospasm	250	Spasm of the larynx
251	Tympanorrhaphy	251	Suturing of the ear drum
252	Renogram	252	Picture (x-ray) of the kidney
253	Oncychoid	253	Resembling a nail
254	Keratoscleritis	254	Inflammation of the cornea and sclera
255	Traumatology	255	The scientific study of trauma
256	Corectasia	256	Dilatation of the pupil
257	Corneosclera	257	The membrane that forms cornea and sclera
258	Ophthalmologist	258	A specialized physician in the study of eye disease
259	Iridoplegia	259	Paralysis of the iris
260	Corneal	260	Relating to the cornea
261	Iridocele	261	Herniation of the iris
262	Retinoid	262	Resembling the retina
263	Onychocryptosis	263	Condition of hidden nail (ingrown nail)
264	Sclerectomy	264	Surgical removal of the sclera
265	Keratome	265	Instrument to cut the cornea

266	Omphalorrhexis	266	Rupture of the umbilicus
267	Tympanoplasty	267	Surgical repair (plastic surgery of) the tympanum
268	Coreometer	268	Instrument for measuring the pupil
269	Traumatic	269	Relating to trauma
270	Corneaoiritis	270	Inflammation of the cornea and iris
271	Cycloplegia	271	Paralysis of the ciliary body
272	Retinoscopy	272	Examination of the retina
273	Iridectomy	273	Surgical excision of iris
274	Iridoplegia/iridoparalysis	274	Paralysis of the iris
275	Podigram	275	Footprint
276	Keratectasia	276	Dilatation of the cornea
277	Keretotomy	277	Incision into the cornea
278	Iritis	278	Inflammation of the iris
279	Nasolacrimal/rhinolacrimal	279	Pertaining to the nose and lacrimal duct
280	Retinitis	280	Inflammation of retina
281	Symptomato/o	281	Sign or Signal of illness
282	Acro/o	282	extremity
283	Megal/o	283	enlargement
284	Cyan/o	284	Blue
285	Gastr/o	385	Stomach
286	Etiology	286	Cause (of disease)
287	Supra	287	Above
288	Genesis, gen/o	288	Formation, Development
289	Scope, Scopy	289	Examination
290	Phob/ia	290	Fear
291	Peps/ia	291	Digestion
292	Hem/o	292	Blood
293	Salping/o	293	Fallopian tube
294	Hyster/o	294	Uterus
295	Pneum/o	295	Lung
296	Psych/o	296	Mind or Soul
297	Gynec/o	297	Woman
298	Phag/o	298	Eat
299	Therap/o	299	Treatment
300	Centesis	300	Puncture

46

Brainstorming Questions (Answers can be found at Chapter-49)

1	A cell is a mass of protoplasm containing a _____
2	The human body is made of _____ numbers of cells.
3	There are 2 types of cell division-they are Mitosis and _____
4	The fluid inside the cell is called _____ fluid
5	The fluid outside the cell is called _____ fluid
6	Tissue is made up of a group of _____
7	Tissues can be classified into _____ major groups:
8	Organs are structures of several types of _____
9	The medical term of internal organ is _____
10	Eye is called cell or tissue or organ
11	A system is a group of _____
12	Muscular, Nervous, Endocrine, called system or organ or tissue _____
13	3 types of muscular tissues; Skeletal, Visceral and _____
14	Skeletal system contains _____
15	How many bones are there in the adult skeletal system? _____
16	The Nervous System consists of the Brain, _____ Nerves.
17	Sense organs consist of Eye, Ear, Nose, _____ Skin.
18	Sex glands (Ovaries and _____)
19	Blood Composition _____ Blood Cells.
20	Blood contains: Thrombocytes; what is other name _____
21	Blood groups: A, B, _____ O, Rhesus factor (Rh) (+) and (-)
22	Lymphatic System contains: Lymph vessels, nodes and _____
23	_____ are the primary organs of the respiratory system
24	What system does Esophagus belong to?
25	Jejunum belongs to _____ Intestine
26	The sigmoid colon is part of _____
27	Accessory organs: Liver, Gallbladder, _____
28	Ureters belong to which system _____
29	Ovaries belong to which system _____
30	Hymen belongs to which system _____
31	The brain is located in the _____ cavity
32	The lung is located in the _____ cavity
33	Stomach located in the _____ cavity
34	Ureters, Urinary bladder, Urethra located in the _____ cavity
35	Nerves runs through vertebra is called _____ cavity

36	In front of the body is called _____
37	At the back of the body is called _____
38	Away from the surface is called _____
39	Near the surface is called _____
40	Below another structure is called _____
41	Above another structure is called _____
42	Pertaining to the sides _____
43	Lying on the back is called _____
44	Lying on the belly is called _____
45	Towards the structure _____
46	Away from the structure _____
47	What type of bones are found in the limbs/extremities: short or long
48	Short bones are found in the hands/limbs _____ (carpals)
49	Shoulder blades (scapula and _____)
50	Irregular bones are found in the Face and the _____
51	How many bones are there in Skull?
52	How many bones are there in Face?
53	How many bones are there in the Ear?
54	How many bones are there in Neck?
55	How many bones are in the Thoracic cavity
56	How many bones are there in Vertebral columns?
57	How many bones are there in Cranial?
58	How many bones are there in Thoracic?
59	How many bones are there in Lumbar?
60	How many bones are there in Sacrum?
61	How many bones are there in Coccyx?
62	Scapula and Clavicle belong to which limb?
63	Humerus belongs to which arm lower or upper
64	Radius and Ulna part of which arm
65	Carpal and metacarpal belong to _____
66	Fingers bones are called _____
67	The femur belongs to the upper or lower limb
68	Tibia and Fibula are part of the hand or leg
69	Tarsal belongs to the lower or upper limb
70	The pelvis belongs to the lower or upper limb
71	Name which carries various functions such as reproduction, respiration, excretion, and adaptation to the environment.
72	The -----is structured, which gives the power of movements
73	They -----conduct impulses all over the body.
74	_____give the body the power of movement;

75	_____ are structures composed of several types of tissues
76	Groups of organs working together in a human is called _____
77	The _____ system includes the bones, muscles, and joints
78	Muscles and _____ make up for most of the body's weight
79	The adult human skeleton contains _____ bones
80	The _____ consists of the cranium, face, and lower jaw
81	The _____ consists of the spinal column, ribs, and stern
82	The _____ bones of the skull protect the brain
83	The vertebral column is composed of _____ bone
84	The _____ is the set of five bones and it is the tailbone.
85	Name vessels that carry oxygenated blood _____
86	The _____ is a conical-shaped hollow muscular organ.
87	The organ is made of cardiac muscle is called _____
88	Blood circulation from the heart to the lungs and back Known as
89	_____ is the liquid portion of the blood.
90	_____ are formed in the red bone marrow of the spongy bones.
91	_____ or WBC that work with the immune system.
92	Blood is divided into _____ groups.
93	Lymph originates from the blood _____
94	Injecting antibodies against foreign organisms is called _____
95	More than _____ nerve cells are operating all over the body.
96	The nervous system is made up of innumerable nerve cells _____
97	The main function of the _____ is memory,
98	The Medulla oblongata is located at the base of the _____,
99	The _____ glands are exocrine glands producing saliva.
100	_____ is to move the food from the pharynx to the stomach.
101	The stomach, SI and LI together form the _____ tract
102	The _____ has three parts: Duodenum, jejunum, and Ileum
103	The _____ is the only organ, which has no anatomy
104	The _____ is the largest gland in the body
105	The _____ acts as both endocrine and exocrine gland
106	Thyroxin hormone released by _____ gland
107	_____ occurs when the diaphragm & the intercostal muscles relax.
108	_____ located below the lungs is the major muscle of respiration.
109	Muscular tube common for respiratory & digestive system _____
110	_____ are two cone-shaped organs help in breathing.
111	The right lung has _____ lobes and the left has two lobes.
112	Dome shaped muscle sits below the lungs and the heart is known as _____
113	organ that is essential for taste and speech is _____
114	The _____ is the organ for the smell.

115	The _____ system is also known as the excretory system
116	Two _____ convey urine from the kidney to the urinary bladder
117	The prostatic part is part of the Male or Female: _____
118	The female gonads are the _____
119	The male gonads are the _____
120	The _____ is filled with a fluid called amniotic fluid
121	_____ is the study of tumors
122	Patient with mental illness, emotional disturbances treated _____
123	Write chief source of medical words for -Cerebro
124	Write chief source of medical words for Sharab
125	Write chief source of medical words for Arm
126	Write chief source of medical words for Fahrenheit
127	Write medical terms for White
128	Write medical words for Black
129	Write medical words for Red
130	Write medical words for Yellow
131	Write the color name for the medical term Cynos
132	Write the color name for the medical term Chloros
133	Write the color name for medical term Cirrhosis
134	Write the color name for medical term Aureus
135	Write numeral for medical terms Semi
136	Write numeral for medical terms, Primus
137	Write numeral for medical terms for Duo
138	Write numeral for medical terms for Quadri or Tetra
139	Write numeral for medical terms Tri
140	Write medical terms for numeral Six
141	Write medical term for numeral Five
142	Write medical term for numeral Seven
143	Write medical term for numeral Nine
144	Write medical term for numeral Eight
145	True suffixes attached to the _____ of a word,
146	A prefix consists of one or two syllables placed _____ a word
147	Inflammation of heart (give medical term) _____
148	Inflammation of Stomach (give medical term) _____
149	Enlargement of the heart (give medical term) _____
150	Any Disease of the muscle is called _____
151	Removal of Tonsils – give medical term _____
152	Reconstructive operation on joint
153	Examination of a Bronchi with an endoscope is
154	Cystoscopy Inspection of the bladder with cystoscopy

155	Opening of the Chest is called _____
156	Nephralgia
157	Disease producing is called _____
158	A breaking down of red blood cells is called _____
159	Excess of Lymph Cells is called _____
160	The escaped blood from the vessels: bleeding is called _____
161	Aima
162	Cele
163	Ectasis
164	Itis
165	malacia
166	megaly
167	Oma
168	Condition, disease, increase Osis
169	Pathy
170	ptosis
171	rhexis
172	ectomy
173	Binding, Fixation – medic _____
174	Suspension or fixation – medical term _____
175	Surgical correction –medical term _____
176	Rrhappy
177	Examination, or inspection – medical term _____
178	ostomy
179	Crushing or friction – medical term _____
180	algia
181	Genic
182	Breaking down or dissolution – medical term _____
183	Deficiency or decrease –medical term _____
184	Aden
185	Aer
186	angio
187	arth
188	blephar
189	card
190	cerebro
191	cephal
192	cerv
193	cheil
194	chondr

195	Cost
196	crani
197	cyso
198	cyl
199	dacry
200	Finger, toe – medical term _____
201	derm
202	encephalic
203	Small Intestine – medical term _____
204	gastr
205	glyco
206	Hem, hamat
207	Hepat
208	hyster
209	leuk
210	lip
211	lith
212	mening
213	my
214	nephr
215	ophthalmic
216	osteo
217	pneum
218	soul
219	pyel
220	pylorus
221	pyo
222	radi
223	spondyl
224	trachea
225	viser
226	ab
227	A, an
228	ad
229	anti
230	bi
231	Com, con, syn
232	Against, opposite – give medical term _____
233	Bad, Difficult – give medical term _____
234	ecto

235	Em; en
236	endo
237	Upon, at, in addition to; give medical term _____
238	Out, away from – give medical term _____
239	Hemi or semi
240	Above, excessive; - give medical term _____
241	Beneath, below, deficiency – give medical term _____
242	inter
243	Next, between – give medical term _____
244	Beside, around, near – give medical term _____
245	Peri
246	Before, in front – give medical term _____
247	pyo
248	Backward, behind, back of – give medical term _____
249	Under, beneath, below – give medical term _____
250	Above, beyond, superior – give medical term _____
251	With, along, together, beside – give medical term _____ Sym
252	toxi
253	trans
254	tri
255	Precisely, in the health or medical field, we understand health care is the service that is provided to a sick or injured person to bring him back to the utmost level of normal health
256	What is the short name for this? Allopathic, Ayurveda, Yoga, Unani, Siddha, and Homeopathic.
257	Expand PHC: Primary Health _____
258	Which service deals with Health education, school health,
259	Secondary and Tertiary care is mostly provided in _____
260	Where you find this Dept. OPD; A/E and IP _____
261	Cancer care is considered as Primary /Secondary or Tertiary.
262	Which department round the clock sees ML cases _____
263	Where Medico-legal register is kept or maintained
264	Where RTA cases are seen first?
265	If collapsing patient visit OPD; where to be sent _____
266	Homicidal, accidental, or suicidal cases are seen in which dept.?
267	Where did a patient send with a non-serious medical problem?
268	Where do you send a patient with heart related problems?
269	Psychiatry problem belongs to which system of the human body?
270	A patient stays overnight is called _____
271	Does OP record need the patient's No. and number? YES or NO

272	Does OP service works 24 hours YES or NO
273	Does the A/E dept. have different wards YES or NO
274	Does ICU belong to A/E dept? YES/NO
275	Routine patients are treated in ICU – YES or NO
276	Neonatal serious patients are treated in general ICU – YES or NO
277	Serious coronary patients are treated in _____
278	Premature ward patient belongs to which specialty
279	Which dept. treats kin problems?
280	Which department treats muscle problems?
281	Which dept. treats broken bones?
282	One who operates eye is called
283	One who operates a patient is called
284	OB &GYN sees male patients – YES or NO
285	Pediatric Surgeon operates adult patients- YES or NO
286	Maintaining OP records in the hospital is required YES or NO
287	All OP patients should have one unique number YES or NO
288	A separate patient number for each specialty is it good? YES or NO
289	Patients visit OPD on given date & time the system is called__
290	Through Master Index, we can find patient records _____
291	How the Master Index is filed
292	The person occupying a ward bed - who stays overnight is called_____
293	Who maintains ward records
294	Who is in charge of the ward: Nurse or Doctor
295	Admitting doctor is responsible for entire patient care! YES or NO
296	Treating doctors is fully responsible for patient care! YES or NO
297	Which dept. the CT scan patient from the ward is sent?
298	Where an inpatient Lab. reports are kept in the ward:
299	When a patient is operated a sample is sent to pathology is called
300	The dept. supplies food to patients is called Dietary! YES or NO
301	OP patient needs hospitalization is routed to the ward thru _____
302	Admitting office should function 24 hours or 12 hours;
303	A patient gone LAMA is considered as discharge YES or NO
304	A dead patient is considered a discharge YES or NO
305	A patient who absconded is considered as discharged YES or NO
306	The arrangement of forms in MRD & Ward is the same. YES or NO
307	Lab, CSSD, Dietary; pharmacy help ward YES or NO
308	The doctor or Nurse is responsible for ward patient record safety!
309	Operation theatre or Operation room is the same are different
310	Where Scrub nurse works
311	Where circulating nurse works

312	Patients are kept in the Recovery room before or after the operation
313	Patient monitored with 24 hrs by doctors and nurses called
314	Which dept. does the Blood, Urine, Stool, Sputum, tests etc.
315	ECG test is done on Brain YES or NO
316	Phlebotomists collect samples of blood, urine, etc. YES or NO
317	Patient record cover should have allergies/HIV etc. YES or NO
318	Blood bank service belongs to which hospital department?
319	Blood transfusion is from one person of another person. YES/NO
320	Blood lost during surgery; need blood transfusion:. YES/NO
321	People suffering from hemophilia or sickle-cell disease may require frequent blood transfusions. YES or NO
322	Study of parts of the body by means of X-rays is called _____Dept.
322	Expand USG
323	Computerized Tomography is done in the Microbiology Dept. YES or NO
324	Magnetic Resonance Image (MRI) test is done in Pathology Dept. YES/NO
325	Mammography is done to know the malignant and hormonal disorders of__.
326	Radiation Therapy or RT is used for treating non-cancer cases: YES or NO
327	_____ therapy works by damaging the DNA of cells
328	_____ is deals with the origin, nature, chemistry, effects, and use of drugs.
329	_____ is the one who is dispense drugs, and makeup prescriptions
33	_____ is a book containing a list of drugs, the products, used in medicines
331	Chemotherapy uses those drugs that destroy malignant cells! YES or NO
332	_____ is the study of harmful chemicals and their effects on the body.
333	_____ are are given to neutralize the unwanted effects of drugs.
334	An agent that reduces or eliminates sensation, local, spinal or general
335	Drugs that control anxiety is called _____
336	Pain relievers is called _____
337	Drugs that relax and calm nervousness is called _____
338	Chemical substance kill the bacteria, fungi or parasites is called _____
339	Drugs promote motility of the intestine, to excrete the fecal matters _____
340	Drug that prevents the clotting of blood _____
341	Use of electric current in the treatment of motor disorders is called _____
342	The profession that care for disabled and injury are called _____
343	Water is used for the treatment of different conditions is called
344	_____ is rubbing & using of skin, muscles, tendons etc.
345	_____ treatment of injury, deformity by physical methods.
346	_____ promotes health and well-being thru occupation.
347	_____ is to reduce disability & optimize the functioning of a person

348	Physical therapy is related to the Digestive system! YES or NO
349	Occupation therapy is related to the Endocrine system! YES or NO
350	Recreation therapy service deals with healthy persons! YES/NO
351	_____ Technician deals with eyes, the vision of humans
352	_____ deals with measuring hearing & sound intensity.
353	_____ machine assesses the hearing & sound intensity of a person.
354	_____ is a graph that records of a person respond to sounds.
355	Speech audiometric is used for taking a person's weight! YES or NO
356	Audiogram records patient's eyesight information! YES or NO
357	Audiometric is used for Liver function tests! YES or NO
358	Public Health is a local level of a country's health system! YES or NO
359	_____ is the first point of obtaining health care is called _____
360	PHC provides maternal, child & school health! YES or NO
361	Health Education is mainly on the prevention of diseases! YES or NO
362	PHC ensures a safe healthy school environment is called _____
363	PHC ensures good Environmental Health! YES or NO
364	Occupational health related to the welfare of employees! YES or NO
365	Diet is supplied to the ward patients is called _____
366	Medical Social works in the lab department only! YES or NO
367	Biomedical Engineering is not part of the hospital! YES or NO
368	Biomedical engineering deals with hospital equipment! YES or NO
369	CSSD's services clean lines to the wards! YES or NO
370	CSSD provides sterile equipment to wards & OTs. YES or NO
371	Public Relation communicates between the public and the hospital. YES or NO
372	The public relations (PR) job is to keep the hospital clean & tidy. YES or NO
373	Lab technician is an Allied Healthcare worker: Agree or Disagree
374	Hospital Patient Care Relationship Coordinator is a job to help the patients: YES or NO
375	The medical Transcription job is to prepare bills. YES or NO
376	Medical Secretary's job is to assist doctors and patients. YES or NO
377	Medical Secretary works in the ICU only. YES or NO
378	Some hospitals run without medical records: Agree or Disagree _____
379	MR should have full patient health information; YES or NO
380	MR should contain the patient's timely written information; YES or NO
381	MR should have all investigations reports done: YES or NO
382	Each discharged patient should have a discharge summary: YES or NO

383	The MR the property of the Hospital: YES or NO
384	MR becomes personal when the patient's name is present: YES or NO
385	MRD to initiate and maintain records. YES or NO
386	MRD is not required for big hospitals; YES or NO
387	Which hospital dept. maintain the register of "dead-on-arrival
388	Which department should control medical record forms?
389	All MR forms must have a name & hospital number; YES or NO
390	All verbal orders should be signed by the physician within ____ hours.
391	A provisional diagnosis shall be written at the time of _____.
392	Abbreviations shouldn't be used in writing diagnoses: YES or NO
393	The Healthcare Delivery system is a must for any country: Agree or Disagree
394	"People forget and records _____."
395	Medical Record is the property of the _____
396	The content of information in the Med. Rec. belongs to _____
397	_____ is the foremost beneficiary of maintaining record
398	The primary function of a hospital is the care of the sick and _____
399	The MRD is the custodian of the medical records of patients. YES or NO
400	The _Attending Physician is responsible for the completion of record; YES or NO
401	Keeping good records is the responsibility of MRD: YES or NO
402	The performance of health care professionals is measured through _____
403	Impersonal record means the patient's name is mentioned: YES or NO
404	The _____, suicidal, and homicidal cases are considered MLC.
405	All adults suicidal, accidental, and homicidal to be treated as MLC. YES or NO
406	Central MLC register is kept in the A/E department: YES or NO
407	All MLC registered in the hospital to be informed to _____.
408	Written consent must be obtained from the patient/relative: YES or NO
409	Keeping confidentiality of patient data is MRD's responsibility: YES or NO.
410	In the hospital authorized staff is the ones who treat the patient; YES or NO
411	Med. Rec. and health information are the property of the _____.
412	Only _____ staff has the right to read the contents of any patient's record.
413	Quality control is done on records to improve patient problems: YES or NO
414	Quantitative analysis of records is the responsibility of MRD: YES or NO
415	There should be an MR committee in all the hospitals; Agree or Disagree
416	Collection of ID data –registration time is not needed: YES or NO
417	Treating doctor is the responsible completion of document: YES or NO
418	Nurses records to be completed by doctors: YES or NO
419	Ward census is prepared by _____ staff

420	MR arrangements at ward & MRD is the same: YES /NO
421	Incomplete records to be completed by _____Physician
422	Which department does ICD coding?
423	ICD developed by the _____
424	From the time of admission into the ward, till the patient is discharged, the patient file is under the custody of the _____
425	Can any hospital retain ever the other hospital records: YES or NO
426	Twin boys born to a mother should have one or two records
427	Should we give a H. No. to a dead-born child: YES or NO
428	A separate register for cancer cases is required: YES or NO
429	Med. Cert. duplicates copy in the hospital is required? YES or NO
430	MRD is not responsible for collecting OP statistics: YES or NO
431	The number of days a patient stays in the hospital is called
432	Is death is part of discharge: YES or NO
433	Is LAMA patient to be counted as discharge patient: YES or NO
434	To present OP new and old (follow-up) cases: YES or NO
435	MRD to present in the monthly report the No. of OP investigations carried out: YES or NO
436	Investigations were done to be taken in the statistics; YES or NO
437	MRD to collect a number of ML cases treated monthly: YES or NO
438	MRD to present monthly statistics of OP & IP cases: YES or NO
439	Ward Census helps in preparing Bed occupancy rate: YES or NO
440	Disease classification helps in Morbidity information! YES or NO
441	The patient's number of days stay in the hospital is called_____
442	Monthly reports of OP, IP data to be presented: YES or NO
443	MRD taking additional responsibilities is good or bad:
444	Keep longer period records for continuity of care: YES or NO
445	OP records to be kept for__ yrs. from the last date of treatment.
446	IP records to be kept ___from the last date of discharge
447	How many hours the Admission office should work in a day
448	A/E department should keep open only for how many hours?
449	MLC register should be placed in _____
450	Hospital number to be on every sheet of Patient Record: YES or NO
451	A provisional diagnosis must be written at the time of _____.
452	Diagnosis will be written in full without the use of _____
453	Med. staff should get NOC from MRD when they leave the Hosp. YES/ NO
454	More than 90 -95% of hospitals use Outpatient Slip/Chit system. YES/NO
455	Specialty clinics maintain Departmental records: YES or NO
456	Safety of ward records is the responsibility of a Doctor YES or NO
457	Source Oriented Med. Records is in use in the majority of hospitals: YES or

	NO
458	The patient should have only one record for OP,A/E & IP; Agree /Disagree.
459	One Patient; One record and One _____ is right concept.
460	At first visit patient gets an identity card out-patient card with _____
461	Patient Alpha Index Card (size: 5"x 3") is filed numerically: YES or NO
462	The objective of maintaining the Alpha Index in MRD is to find _____
463	Is it needed for IP; for re-admission to send old record: YES or NO
464	Morbidity data is collected from ICD coded records: YES /NO
465	If hospital statistics show a 5% death rate! If that hospital discharged one thousand cases how many patients died?
466	The right time to collect ward census to be very correct is _____
467	Assembling means arranging records in a _____ order.
468	Incomplete records are checked for _____ in MRD.
469	Deficiency checked records help for patient care: YES or NO
470	Medical Auditing means destroying patient records; YES or NO
471	M.R. Committee ensues good functioning of MRD: YES or NO
472	Who wants medico-legal cases other than hospital staff?
473	M.R. Forms are links between healthcare providers: YES or NO
474	One hospital number can be given to How many patients?
475	Policy means a set of approved rules & regulations: YES or NO
480	MRD need to introduce Policies and Procedures for all sections.:YES/ NO
481	Is it vital to train new staff on Policies/Procedures: YES or NO
482	MRD creates a room for doctors to complete records YES or NO
483	IP records to be coded before completion of records. YES or NO
484	An early abortion case belongs to Gynecology or Obstetrics
485	What is the right name for a child getting intensive care?
486	Death record("Peripheral failure is it underlying cause)YES or NO
487	The standards can be categorized into _____ groups.
488	Establishing a _____ vocabulary is a greatest challenge for HIT.
489	SNOMED enables the storage & retrieval of clinical _____
490	LOINC helps in identifying the lab. and clinical results; YES or NO
491	HL7 is related to Hospital Information System (HIS): YES or NO
492	DICOM is the imaging standard in the radiology: YES or NO
493	MML to set standards for medical data in Japan. YES or NO
494	Paper to paperless records; or Manual to _____ health records
495	The first known medical record was developed by _____,
496	The EHR is about quality, _____, and efficiency.
497	Electronic and Manual Health records are the same: YES or NO
498	Classification of diseases and operations is not vital for MRD. YES or NO

499	Grouping together _____ entities according to some established criteria.
500	_____ is the process of assigning numbers to medical and health terms.
501	_____ is the process of assigning numbers to disease and procedural terms.
52	Coding is done to know the disease & for statistical tabulation. YES or NO
503	ICD-10 contains _____ volumes
504	Volume 1 - _____ list:
505	Volume _____ - instructional volume
506	Volume _____ - alphabetic index
507	There are _____ chapters in ICD-10 compared to 17 in ICD-9
508	Diagnosis is made without examination and investigations. YES or NO
509	Principal Diagnosis is chiefly responsible for treatment; YES or NO
510	Pathological Diagnosis is made after microscopic examinations: YES /NO
511	Post _____ Diagnosis: based upon findings observed during the operation
512	Only diagnoses that relate to the _____ episode of care need to be coded
513	PHR is a life-long individual for his/her health information. YES or NO
514	PHR has a complete individual health data; can be taken anywhere: YES or NO
515	PHR information does it help to treat physicians: YES or NO
516	The _____ has a complete health information related to patient
517	PHR is also known as "Health _____".
518	The PHR of child is maintained by _____
519	The PHR can be maintained on _____ or Website.
520	PHR besides Allopathic; also other AYUSH information; YES or NO
521	PHR has information taken in different hospitals: YES or NO
522	The PHR is an original or copied duplicate record _____
523	PHR-Patient care Summary comprises all information: YES or NO
524	Child Development form doesn't show height, weight: YES or NO
525	PHR-Immunization record contains child growth data: YES or NO
526	Self-care information is available In PHR or Hospital record
527	In PHR Medication form contains patients weight: YES or NO
528	Hospitalization means patient admitted in the hospital: YES or NO
529	PHR- Ob & Gyn form don't provide Antenatal data: YES or NO
530	PHR maintain by patient and the EHR, maintained by:_____.
531	Hospital _____ can be documentary evidence in the court.
532	All MLC are registered in the _____ department.
533	All MLC are reported to the hospital are to be informed _____,
534	Accidental or Suicidal or homicidal cases are called as _____
535	In MLC terms; Personal When record used with Name & No; YES or NO
536	A _____ has the right to summon patient medical records of patients.

537	Records are to be handled by only _____ as determined by the hospital
538	As an _____ document, patient's permission is not required for research.
539	The central MLC register is kept in _____ department.
540	How many _____ hours a patient can take permission to go home
541	The patient is Discharged when he fails to come within the permitted time: Yes/No
542	Date & Time of leaving and returning hospital to be recorded: YES or NO
543	Written Consent of a patient is required for medical examinations: YES/NO
544	Guardian or nearest relative can give consent for children: YES or NO
545	The admission office has to collect General Consent for admitted cases: YES or NO
546	General or Special Consent need for Amputation operation.
547	The nurse is responsible for taking consent for the operation: YES or NO
548	Two doctors with the operating surgeon and the hospital manager are needed to operate to save life when no relative gives consent. YES or NO
549	A patient relative has to sign for a patient going against med. advice: YES or NO
550	Medical records information is not confidential at all. YES or NO
551	Authorized staff is those who are healthcare providers: YES or NO
552	In MLC - inform police without consent of patient: YES or NO
553	Without the permission of the patient B&D informs. can be sent: YES/ NO
554	In Infective cases to notify the PH dept. need the consent of the patient; YES or NO
555	When Court asked a patient record - hospital can refuse: YES or NO
556	Health consumers can be paying or non-paying patients: YES or NO
557	Consumer Protection Act–created consumer council: YES or NO
558	Con. Prot. Act –Patient receiving care from any person is called Service: YES or NO
559	Cons. Act – deficiency means any faults, inadequacy in quality: YES/NO
560	Cons. Act- Negligence means –incompetence & non-keeping records: YES or NO
561	The least credible records are those inconsistent, with the right care. Yes or No
562	MRD should maintain hospital linen, medical drugs, etc. YES or NO

563	Retention of records means how many years records to be kept: YES or NO
564	Research Hospitals can retain records more than the official retention period: YES or NO
565	Preservation of records means protection from insects and termites etc. YES or NO
566	Patient records must not be protected from insects and termites: YES or NO
567	As per the Medical Council of India, IP records are to be retained for _____ years.
568	Patient Document request to be issued within ____ hours (Section 1.3.2).
569	Keep a register of certificates with at least ____ ID mark/sig of the patient (Sec1.3.3)
570	As per M.R. Retention schedule the IP records to be kept ____ years
571	As per the M.R Retention schedule the OP records to be kept ____ years
572	Hospitals can have their own retention policy; if no state laws are present: Yes or No
573	Consumer Protection Act 1986, suggest keep OP records for 2 years & IP for ____ yrs.
574	The MLC records to be kept till the case is disposed of by court; YES/NO
575	Court admits records with correctly identified & authenticated: YES or NO
576	Authorship is one who treats the patient & records the information: YES/No
577	Treating doctor is responsible for the accuracy, & totality of the record; YES or NO
578	All patient care treatment entries are not to be signed and dated: YES or NO
579	_____ should not be used for entries where a signature is required by law
580	Electronic signatures are acceptable if permitted by the Govt. YES or NO
581	A ____ signature provides digital assurance that data has not been modified.
582	Authorized abbreviations are only to be used while writing diagnoses. Yes/No
583	In EHR, abbreviations should not be _____ as information is formatted.
584	In a computerized screen, each page must identify patients by name & ____
585	All scanned documents must have the date and time scanned & ____ scanned.
586	All data to be scanned into the record should be made in _____ ink:
587	In HER; an amendment is used when other information is added: YES or NO
588	In HER, the patient views the consent and electronically signs it. YES or NO
589	Hospital maintaining manual & electronic records is called _____.
590	Destroying of old manual records is also known as _____ of records.
591	Accuracy, consistency, and reliability is called as Information _____
592	Policies on against alterations of data, tempering, and loss are needed. YES or NO

593	Health records must be maintained in a way that is legally sound; YES/ NO
594	The word 'Ayurveda' has derived out of the fusion of two separate words- 'Áyu' i.e. life and 'Veda i.e. knowledge. Thus in literal meaning Ayurveda is the _____.
595	The main aim of Indian traditional medicine the term _____ is to maintain Good health in a Healthy person and aim to cure the person who is sick. “
596	As per the Indian Tradition of Medicine: the five basic elements of life such as (sky, air, fire, water, and earth are called Panch _____
597	After India became independent, Ayurveda has come up to provide _____ specialized courses of study at the post-graduation level
598	The Unani medicine is also called Unani _____
599	The Siddha system is believed to have evolved from _____ BC.
600	The word " _____ " comes from the Sanskrit word "Yuj" which means "to unite.
601	Studies revealed that Yogic practice improves intelligence and memory: YES or NO
602	Meditation can stabilize emotional changes & prevent abnormal functions: YES or NO
603	Neuropathy is rooted in the healing wisdom of many cultures: Yes or No
604	Neuropathy is a less-cost, drugless, non-invasive therapy for health care: YES or NO
605	“Homeopathy” was introduced by a French Physician: YES or NO
606	Quality standards were first introduced in the _____ States.
607	International Standards Organization was created in 1947 after World War _____
608	Accreditation started in the UK with the formation of the JCAHO in 1951. YES/NO
609	Accreditation of Healthcare Organizations (JCAHO) started in USA in _____.
610	Accreditation programs spread all over the world in the year _____.
611	Do private hospitals need ISO 9000 standards to prove as a certified: YES or NO
612	Accreditation is a self & external valuation to improve the healthcare; YES or NO
613	The objective of accreditation is to ensure required _____ of healthcare
614	JCI was founded in the year 1990 to survey hospitals outside of the _____
615	The Joint Commission International (JCI) was founded in the late _____s.
616	_____Standards is the highest benchmark standard for hospital quality in India.

617	Joint Commission International ____Days ____Surveyors
618	Survey of Requirement for Documentation Review: There are _____;types.
619	A well-organized & efficiently managed _____is a must for Accreditation
620	The unit record concept is that is one number, one record, and one _____.
621	The MR should meet the needs of_____/____ Accreditation surveyors:
622	Hospitals need to complete a Hospital Survey _____form after the survey.
623	The JCI/NABH team comprises a physician, _____, and an administrator.
624	Accreditation by NABH means credit for MR professionals' vital role. YES or NO
625	In India, MR manual/electronic is given high importance; YES or NO
626	HIM is initiating and analyzing health information for care: YES or NO
627	HIM collects healthcare data & ensures proper maintenance: YES or NO
628	HIM role is to help hospitals in providing quality care to patients. YES or NO
629	There are ____quality indicators proposed by NABH in its manual.
630	HIM's a vital role in accreditation with good digital records. YES or No
631	HIM is not qualified to manage information related to health: YES or NO
632	The hospital shall conduct QAP to monitor and evaluate the quality of care. YES or NO
633	The purpose of QAP is not to identify variations from accepted standards; YES or NO
634	The goal of QA is not to achieve the highest standards of patient care: YES or NO
635	____types reporting; one is routine as per schedule, and special when required.
636	The Hospital shall take all staff in conducting QAP to get the best result: YES or NO
637	“Richard Thompson” defines quality as the optimal achievable result of each patient. YES or NO
638	Assurance means a guarantee of service that provides in the hospital: YES or NO
639	The risk management plan is not to provide safe care for its patients. YES or NO
640	The QAP is to detect snags; take remedial actions for better patient care: YES or NO
641	The Hospital is not to conduct ongoing QAP to evaluate the quality of care.

	YES or NO
642	The goal of QA is to achieve the highest standards of patient care: YES or NO
643	A written QAP should be agreed by the medical and governing body. YES or NO
644	Clinical performance is to be reviewed regularly for better patient care. YES or NO
645	It is the duty of all hospital staff to provide the best possible health care. YES or NO
646	QA special reporting requires an urgent solution to solve the problem. YES or NO
647	Infection control, UR, safety, and patient satisfaction is QA objective: YES or NO
648	QAP has to monitor all aspects of care including staff performance. YES/NO
649	The Medical Staff, with others, help review the quality of MR keeping. YES or NO
650	Periodic evaluation of MRS will ensure better functioning of MRD: YES or NO
651	Evaluation results are reported to the proper QA committee at least __ every year.
652	Patient _____ survey by the QAP committee every 6 months needs to do be done.
653	The risk management program is to know the hospital's risk of liability. YES or NO
654	The goals & objectives of QA. Planning is the implementation of QAP. YES or NO
655	Utilization review is related to measuring the services and facilities. YES or NO
656	The medical Audit Committee deals with all non-medical-related issues. YES or NO
657	The Med. Audit program ensures not to keep professional standards. YES or NO
658	_____ is a central body around him/her all healthcare professional's revolved:
659	A _____ is any person who receives medical attention, care, or treatment
660	An _____ is a person who is not hospitalized overnight but who visits a <u>hospital</u> .
661	_____ Surgeries are done to patients without admitting into ward.
662	A person is "admitted" to the hospital and stays overnight, is

	called_____
663	Hospital _____are measuring for the quantitative service rendered.
664	QA committee evaluates the services with established _____
665	More than two-thirds of the total expenditure is incurred on_____
666	Spending more on health- does not mean getting _____ health.
667	Good communication skills are a great weapon for any individual: YES or NO
668	Keep learning regularly makes you a _____ entity that will help in succeeding.
669	It is a necessity that every manager needs to improve Inter-_____skills
670	Self-confidence will relieve _____ and pressures.
671	The _____person is generally an experienced one.
672	Those with the character of _____; are mostly very successful in interviews & etc.
673	Brainstorming is to elicit innovative ideas from the varied background staff. Yes/No
674	Consensus building is-not a good effort to seek a unanimous agreement: Yes or No
675	A _____building approach allows groups to reach a unanimous agreement.
676	A talented manager's message is to the _____ to listen and act accordingly.
677	Coaching, Orienting, _____ (COT)
678	A good manager's priority is to help everyone be on the same _____or level.
679	_____presentation is to ensure that message invites the attention of everyone.
680	Empathy: This is a special characteristic one should have to deal with _____.
681	The object of the feedback on any topic or issue is to get the frank_____
682	_____is the ability to steer their employees toward the achievement of goals.
683	Valuable leadership -the ability to _____, inspire and communicate effectively.
684	_____is guide, direct, & motivate to those around you to help reach a goal.
685	_____is the most significant element in communication skills
686	_____skills are very vital for leaders to lead from the front on schedule time

687	Non-verbal communication message will be effective if one's body language is synchronized with the communication: YES or NO
688	_____ : is also near to empathy and compassion.
689	Widely practiced communication in all most all organizations is _____/_____
690	____ or _____ most economic and time saving mechanism and extremely successful.
691	_____ communication is basically used by everyone in one context or the other.
692	The _____ message could be to a single or an entire organization staff.
693	_____ communication is to carry out an action or agree with an idea.
694	Persuasion is used do to sell products, recruit members to increase _____.
695	A strong _____ skills employee can influence others to perform well and succeed.
696	_____ commitment abilities will lead to gaining long-run relationships and self-esteem
697	_____ is a great tool for bosses to appreciate their staff for organization growth.
698	_____ is the recipe for success when you're trying to be a better manager.
699	"Give _____ and take respect" is an old adage"
700	_____ is a secret weapon or tool to win the war.
701	_____ is a proven path for the roll-out of technical skills in your organization
702	Face to ____ talking helps in seeing body language, instead of the phone call,
703	_____ skills that are essential elements for effective written communication.
704	The simple & clearly _____ document reflects your views & personality
705	Ensure employees understand the vision, mission, and _____ of the organization.
706	Communicate constantly the "What is" behind the business plan" Yes or No
707	Repeat, _____ repeat; to be built-in-mechanism to achieve success & job well done.
708	What an organization expects, end _____, not the process,
709	Communication skills are the most vital skills for any manager to succeed. YES or NO
710	A _____ is "a person who influences a group towards the achievement of a goal".

711	A leader goes _____ and leads by example so that others are motivated to follow.
712	To be a _____, a person must have a deep-rooted commitment to the goal.
713	A _____ who steers the institute to a very high level with good harmony.
714	_____ will always needed to make the right decisions and manage dilemmas.
715	Leaders must respond _____ to failure and take responsibility.
716	_____ to make productive organizations despite lot of pressure & competition.
717	To master _____ development need talent, skills, techniques and experience.
718	Whether to manage “people” or “lead” people.is a dilemma for leaders? YES or NO
719	Senior Leader must have Strategic Knowledge Low or High
720	Mid-Level Leaders must have Strategic Knowledge of High or Moderate
721	Technicians Strategic Knowledge High or Low
722	Senior Leaders must have Technical Knowledge Low or High
723	Mid-Level Leaders need Technical-Knowledge High or Moderate
724	Technicians' Technical Knowledge High or Low
725	The humble leader allows people to explain things to them. YES or NO
726	_____ look for every opportunity to learn something new that helps them
727	The vast majority of leadership training focuses primarily on skills and _____.
728	A leader can achieve greatness only when both outside and _____ qualities
729	Training that focuses on character, values, and principles helps bring _____
730	We believe that sound _____ has the greatest impact on leadership success
731	Leaders attract people that are in _____ with their core thoughts and being.
732	"Trust is the emotional _____ that binds followers and leaders together." - Warren Bennis and Bert Nanus.
733	Trust is the foundation for every successful _____'s accomplishments
734	When people don't _____ the leader, they won't follow very far.
735	Do what you say you're going to do. - Who has to follow this?
736	Show people, you trust them if you want them to trust you. - Who has to follow this?

737	No matter what role you play in your company, becoming a more effective _____ will help you get ahead in your position.
738	Avoid offering solutions if the speaker is expressing a problem. Just _____
739	Listen Fully. A good _____ looks interested in what the speaker is saying
740	_____ having an employee or customer stand in front of your desk.
741	Body language speaks _____.
742	The most important point to be observed here is Leadership Talk doesn't drive purpose. Purpose drives the _____..
743	There is one and only one purpose of the Leadership Talk: that's to _____people to be your cause leaders in meeting the challenges you face.
744	Leadership Talks can be formal ways of communicating but mostly they are _____.
745	As per David Hakala, the definition of leadership is “One's ability to get others to willingly follow the top _____ leadership qualities”.
746	Don't do anything until I tell you- is High Efficiency or Low Efficiency
747	Do it. Is it High Efficiency or Low Efficiency
748	_____ is an internal state or condition (described as a need, desire),
749	_____ Influence of needs and desires on the direction of behavior
750	_____ comes from words beginning with "mo." Motion, motor,
751	_____ is inducing motivation in others in a specific way towards goals
752	The ability to instill "want to" in others, to motivate them, marks the difference between average leaders and _____ leaders.
753	Motivated people lead to leadership to achieve set goals. YES or NO
754	Here are _____ "laws" of motivation that you must adhere to if you want to consistently motivate people to get great results?
755	Motivation is a physical action- What number of 4 laws of motivation?
756	Motivation is their choice – What number of 4 laws of motivation?
757	Emotion drives motivation – What number of 4 laws of motivation?
758	Face-to-face speech is generally the best way to motivate people- What number of 4 laws of motivation?
759	Your job is to organize your work so as to minimize surprises and _____.
760	Define the worry situation clearly in writing - fully _____ of all problems can be solved just by clearly defining them..”
761	Remember, “Accurate diagnosis is _____ the cure.
762	Worry is constant _____:
763	Curiosity _____ Starts Your Personal Brilliance
764	_____ helps you clarify problems, ideas, and situations.
765	“The Questioning curiosity has its own reason for existing.” Said Albert

	Einstein. YES or NO
766	You learn more because you have a _____ to know more
767	When you put past judgments aside, you come up with some of your most _____ ideas.
768	In Neutralizing Situations causing worry - Clarity Is Everything – what step number?
769	In Neutralizing Situations causing worry – Determine the worst – what is the step number?_____
770	In Neutralizing Situations causing worry – Be Willing To Have It So – what is the step number? _____
771	In Neutralizing Situations causing worry – Take Action– what is the step number?
772	Remember, worry is merely a sustained form of _____ caused by indecision.
773	Capability development is a long-term activity, where both how to choose “the right capabilities” and how to _____ the capabilities right” are important.
774	The quality of most business capabilities decreases in reaching the decline stage of the lifecycle, but project-related capabilities are _____.
775	Capabilities and their development techniques are very much practice-_____, especially development techniques
776	Research indicates that it is more important to choose the right capabilities and worry less about their _____-specific issues
777	Many HIMs have the knowledge, skills, and capabilities but very few HIMs have the ability to effectively _____ and achieve the set goals
778	For an organization to deliver _____ performance it must first understand what its strategic objectives are
779	HIM field cannot be _____, and its capabilities need to upgrade time-to-time to move parallel with the healthcare delivery system
780	HIM field cannot be static, and its capabilities need to upgrade time-to-time to move _____ with the healthcare delivery system
781	The HIM professional role is very _____ than one may think
782	Without HIM department the hospital is not on the_____.
783	“Medical Records are the Mother of Information; it can Make or _____ the healthcare institution”. Dr. Mogli’s adage.
784	Hospital statistics play a vital role in a national HI system: YES or NO
785	The MRD provides clinical data concerning patients but also furnishes data on other activities in the hospital. YES or NO
786	Hospital statistics can be defined as a _____ of numbers that present facts for use in a health care facility.
787	Statistics of new, follow-up, and: documented according to nationality, sex,

	clinical service or unit, and age group- belong to which unit of the hospital?
788	Daily census reports of admitted and discharged cases of general and private wards –belong to which unit of the hospital?
789	MLC statistics are collected from which department of the hospital?
790	Labor room beds–should include in the bed compliment: YES or NO
791	Nurses’ residence Beds-to be taken in the bed compliment: YES or NO
792	_____Health Organization recommended the age statistical table
793	International Classification of Diseases is recommended by _____
794	The primary source of patient statistics is from Patient or _____Records
795	The birth/ death register information is primary or secondary source_
796	Coding is assigning numbers to _____ and procedural terms.
797	Classification of diseases helps in preparing morbidity data. YES or NO
798	Dr. Mogli’s ready reckoner for counting Hospital days is used for _____
799	Dr. Mogli’s Ready Reckoner serves - One or Two or Three purposes
800	When no computer does Dr. Mogli’s ready reckoner helpful: YES or NO
801	Change of paper records into electronic records through of_____ method.
802	Dr. Mogli defines “A _____ health record is one where some records are maintained manually and some records are automated.
803	Hybrid is the combination of manual and electronic- partially or fully. Yes/No
804	The transition from an a_____ -based health record to an electronic health record (EHR) environment must be addressed effectively and efficiently
805	Vision & Strategic plan is needed for electronic health records. YES or NO
806	Bar code ID of patients helps in _____ manual records easily.
807	_____ code ID of patients helps in tracking manual records easily.
808	In 1960’s the H.I. information systems were administrative applications. YES or NO
809	In the early 1970’s _____ -computers were available
810	In the mid-1980’s, the Microcomputer or PC was developed. YES or NO
811	The 1990’s marked the evolution and widespread use of _____
812	Electronic Health Records can be used by any place by authorized staff. YES or NO
813	_____technology helps in capturing and integrating diagnostic and radiological images from various devices (e.g., X-ray, MRI, (CT) scan).
814	_____an optical scanner is used to electronically capture information encoded on a product.
815	The health care information generally initiates from the Medical _____dept.,

816	The master patient index (MPI) will be arranged and filled numerically. Yes /No
817	The invention of the LAN and WAN had made these individual computers to be linked with the help of the central _____.
818	_____ analysis is a necessary first step in the design and implementation of any health information system
819	The collection of the data can be done in various methods such as Interviewing, Questionnaires and _____.
820	One of the most useful tools in systems analysis is the_____..
821	_____ design is the creative, technical process of converting information system requirements into a detailed set of specifications for a system
822	The _____ designing is the process of preparing the required format of the forms to capture the data and to present reports.
823	The design of the forms should be standard order and user_____, so that capturing and keying of the data by the end users will he made easy.
824	Data _____Diagram is a graphic tool that analyzes the movement of data through a system, manual or automated, including the process, storing of data.
825	Data flow diagrams are the_____ tool from other components are developed.
826	The _____ charts are hierarchical input process output charts.
827	After designing the needs of the SW, the selection of _____has to be taken.
828	The software will _____ the requirement of the hardware
829	System testing is the critical process for the _____ development
830	The objective of the system testing is to prove that no _____ in the programs
831	The security is an important element to avoid _____ user access.
832	The final aspect of system implementation is the completion of all system documentation, both procedural and machine-related. YES or NO
833	Documentation should not be a continuous process carried out during all phases of system project. YES or NO
834	The system _____ phase is one of the important tasks to be performed after the implementation phase.
835	Information systems require both _____and unanticipated maintenance once they are working.
836	A medical record consists of _____ (coded) and unstructured (such as free narrative text) data.
837	The “one to one” relationship that existed in the past between a physician and a patient is being replaced by a “one to _____ relationship.”

838	_____ is the integration of two well-established disciplines, medicine and telecommunication
839	_____ which offers the options for image transmission including non-standard image formats, very high resolution, error-free, and short time;
840	Health maintenance is divided into _____ health 'and group health maintenance
841	The computerized medical record should be able to retrieve by _____, or number or from a pick list.
842	EHR system must be easy to install, easy to learn; and it should be _____ friendly
843	_____ is SW that allows you to create, store, organize, edit, and retrieve patient health records.
844	EHR's were originally known as Computerized Patient _____.
845	An HER is a longitudinal record of all care provided to the patient. Yes or No
846	The first known Med. Rec., was developed by _____. in the fifth century B.C.
847	Who prescribes the following TWO goals of medical records: 1. Accurately reflect the course of disease 2. Indicate probable cause of disease
848	The first EHR's began to appear in the _____s
849	President _____ in 2004 called for EHRs for most Americans within 10 years to address the rising cost, poor quality and safety record of the U.S. HC system.
850	The healthcare system faces many challenges, including rapidly rising _____.
851	The EHR is about _____, safety, and efficiency
852	Strategic planning enables to reduce costs, improve service, enhance the _____ of care, and achieve the strategic objectives set in an organization.
853	Strategic planning has 2 major components: A.is ____ & the B. Implementation.
854	Gartner, Inc. Consulting proposes one of the most widely recognized descriptions of a _____ to an EHR.
855	Name the creator of 5 generations; Collector, Documenter, Helper, Partner, and Mentor.
856	The Collector generation is also called _____-generation EHR's
857	The Documenter generation is also called _____-generation EHR's
858	The Helper generation is also called _____-generation EHR's
859	The Partner generation is also called as _____-generation
860	The Mentor generation is also known as Fifth-generation EHR's

861	Strategic planning for IT involves four major areas: 1, Infrastructure; 2. Clinical System; 3. Managed Care; 4. _____systems.
862	Earlier EHR readiness assessment surveys were conducted to ascertain the views of _____ and nursing staff.
863	National EHR adoption is “a feat of _____, skill and finance.”
864	HER systems hold the promise to address the two challenges to the U.S. healthcare system: controlling costs and improving _____.
865	HER holds the promise to address the two most crucial challenges to the U.S. healthcare system: controlling _____ and improving quality.
866	In Challenges and Solutions in EH Record adoption - The EHR adoption may face challenges in _____ phases. which are listed:
867	“Evaluating EHR systems” related to which phase?
868	“Completing EHR implementation” related to which phase?
869	“Fully using EHR capabilities to improve clinical care and outcomes” related to which phase?
870	Clinical data are _____ and contextual, but computers have been designed primarily to manipulate discrete, factual data.
871	Clinical data are textual and _____, but computers have been designed primarily to manipulate discrete, factual data.
872	Computers are very good at storing large volumes of data and performing _____ formulas or clearly defined retrieval functions
873	.Computers, however, do not have the human capability of “_____ or making associations or assumptions on their own.
874	A major consideration for any provider adopting EHR’s is _____.
875	Many have questioned whether the EHR can truly pay for _____.
876	Health Level Seven, Inc. (HL7) defined the first EHR functional requirement standard in February _____.
877	The HL7 standard outlines important features and functions that should be contained in an _____ system
878	The _____ standard functional model has proven to be a powerful tool for the Certification Commission for Health Information Technology (CCHIT),
879	The _____ standard for EHR systems has been extremely valuable for CCHIT's development of certification criteria.
880	In EHR functional requirements specifications that are classified into _____ headings.
881	The functional requirement is that the lab results are _____ electronically into the EHR with flags for abnormal results.
882	The purpose of this checklist is to look more specifically at what should be addressed in an HIM department preparing for migration to the _____.

883	Is the Administration requirements is EHR functional requirement specifications - YES or NO
884	Is the Clinical Documentation requirements is EHR functional requirement specifications - YES or NO
885	Is the Data Export Requirements is EHR functional requirement specifications - YES or NO
886	Is the Data Import Requirements is EHR functional requirement specifications - YES or NO
887	Is the Clinical Decision Support System requirements is EHR functional requirement specifications - YES or NO
888	Is the Prescribing requirements is EHR functional requirement specifications - YES or NO
889	Is the Orders Management requirements is EHR functional requirement specifications - YES or NO
890	Is the Reporting requirements is EHR functional requirement specifications - YES or NO
891	Is the Result Management requirements is EHR functional requirement specifications - YES or NO
892	Is the Privacy Protection and security requirements is EHR functional requirement specifications - YES or NO
893	The technologies often included within requirements are _____ to generalize to any potential EHR implementation.
894	A recent practice brief noted that “the decision to go _____ involves having enough confidence in the electronic system to let go of the paper system
895	HER ensures that the system handles amendments, corrections, authentication, backups, downtime, confidentiality, and printouts. YES or NO
896	The purpose of the checklist is to look more specifically at _____ should be addressed in an HIM department preparing for migration to the EHR.
897	Determine who needs to be involved in planning the EHR migration and evaluating its impact on the HIM department. YES or NO
898	_____ the organizational and proposed system processes for amendments, corrections, authentication, backups, and downtime.
899	_____ other sites using the system selected, if possible to know more on installation.
900	Based on the organizational project plan for implementing the EHR system, develop a comprehensive HIM department project plan of action. YES or NO
901	The HIM Dept. must plan & include every step needed in the migration to the proposed system. YES or NO

902	When developing the _____, consider the rollout plan for the organization.
903	_____ executive-level; support that, approve, and fund for the migration project
904	Develop a communication plan that keeps staff and org. leaders updated with the status of HIM department's plan for migration to the EHR. YES or NO
905	_____ a staffing plan for the implementation of the EHR
906	No need to develop an education plan on new or changed processes for both the HIM dept., and other organizational staff and physicians. Yes or No
907	Develop _____, processes, and procedures for the migration. Processes from paper-based documents to the electronic format
908	Review and _____ the definition of the organization's legal health record policy
909	Evaluate privacy and confidentiality of the selected system for compliance with organizational and HIM department policies and _____.
910	Any SW company offers a vast array of services, for surveying the condition of existing IT & telecommunications infrastructure.
911	On-site assessment of IT & telecommunications infrastructure profiles includes the development potential –YES or NO
912	IT & telecommunications infrastructure profiles include: Inspection and inventory of existing equipment, SW and telecommunications infrastructure – YES or NO
913	IT & telecommunications infrastructure profiles include a Review of equipment, SW and telecommunications lease and license agreements – YES or NO
914	The infrastructure includes the backup hardware, _____, and management systems required to run a specific application or applications (in this case the EHR).
915	As the foundation of the HER, IT infrastructure has been raised to a new _____ l of importance and organizational visibility.
916	All physicians should become comfortable using _____ in their office well before an EMR system is installed.
917	A critical first step in establishing any clinical information system is to build reliable _____ infrastructures that move towards computerization.
918	Is <u>Standard Vocabulary</u> is part of developing the EHER system – YES or <u>NO</u>
919	_____ is a standard promoted as a means of permitting easier communications between computer systems
920	COBRA is a new standard for handling objects used by software programs sharing a common environment. YES or NO

921	Is Infrastructure standard is a part of EH Records – YES or NO
922	Is Hardware Infrastructure is part of Electronic Health Records – YES or NO
923	A needs assessment can be defined as a systematic process to develop an accurate understanding of the strengths and _____ of a business process.
924	Needs assessment is the foundation of a successful _____ implementation.
925	Selection of an EHR whether it is developed in-house or purchased from a _____.
926	All systems that support more than a single user require a _____ to allow different users to access the features, functions, and data in the EHR.
927	WAN means Wide Area _____ Work –in computer language.
928	To implement an EHR effectively, operational leaders and implementation teams will need to understand your organization’s current _____
929	As the EHR SW is upgraded, workflows must be reviewed- YES or NO
930	An experienced physician can be named as “Chairperson Medical Informatics” and can be paired with Chief Information Officer. Do you agree – YES or NO
931	EHRs capable of uniting disparate data from many sources are created in the presentation of clinical information to users. YES or NO
932	Most often the EHR implementation teams usually do not include a member trained in usability engineering- YES or NO
933	Many factors contribute to an EHR’s usability. YES or NO
934	The user interface must not use a clear design to provide easy access to complex information. YES or NO
935	Simplicity is at the heart of clarity. Do you agree: YES or NO
936	Duplicating features add significant overhead, to both the scanning process and the comprehension process.- YES or NO
937	A hard stop is a software feature that prevents the user from going on until he performs a required action (e.g., entering a billing code before closing an office visit note). – YES or NO
938	A soft stop requires only that the user acknowledge a recommendation, typically with a single mouse click, before going on. YES or NO
939	Proper color use can make presenting results easier and less error-prone. YES or NO
940	Self-paced learning is effective for learners and efficient for both the learner and the organization. YES or NO
941	The EHR should be built to provide clinical decision support (CDS) as effectively as your car does. YES or NO
942	Every potential EHR user type (clinical and non-clinical) needs to have its

	rights and responsibilities spelled out. YES or NO
043	Integration of ancillary applications is essential to the success of the EHR's usability and reliability. YES or NO
044	Integrated application testing ensures that new and existing software functions perform well together. YES or NO
945	Phased execution is the stepwise introduction of EHR functionality through a series of phases, each with its own analysis, training, and go-live schedule YES or NO
946	When a person is sick or injured, the team that rescue is the medical, _____ paramedical and other allied health workers.
947	Hospital services include primary, _____, and tertiary care.
948	The hospital services include _____, preventive, and others.
949	_____ profession is the most disciplined and dedicated to taking care of the sick, and injured that has been their primary motto.
950	The _____ is a highly disciplined profession; the demand is high than supply; hence, shortage in healthcare institutions.
951	The major goal of _____ personnel is to serve the patient comprehensively to the best of their ability.
952	_____ staff never decline many non-nursing functions which they carry out as part of their routine work without complaining.
953	From the time a patient is admitted till he/she is discharged the major responsibility rests with the in-charge _____.
954	The ward is considered as a “_____ of the Hospital” as such, the nursing staff posted to the ward are well-trained professionals,
955	The Head _____ as the custodian of the ward is responsible for the daily procedures to be followed.
956	_____ responsibility is critical and the techniques of rendering nursing care have become more complex.
957	The nurse spends more time in recording nursing documents which help in _____ of the specific case and also in the treatment of other cases.
958	It is imperative for the _____ staff to make use of electronic health records by understanding the system and its utility.
959	It is imperative for the nursing staff to make use of _____ health records by understanding the mechanism of the system and its utility
960	The Sr. nursing professionals of patient care delivery systems have to take a lead in effective use of _____ technologies
961	Nursing managers to acquire knowledge worker _____ for best use of computerized record system
962	The reputation of the hospital depends mainly on three important departments such as Outpatient, Emergency and _____.
963	Each nursing station will have a _____ screen that will provide hourly

	information of jobs to be performed by the duty nurse.
964	“The _____ is the center of the Medical Universe, around which all our works involve and towards which all our efforts tend”.
965	The blueprint for the development of medical records included _____ phases, in 39 chapter “MR Role in Healthcare delivery in 21 st century”
966	The first phase _____ the existing status of medical records
967	The second phase suggested appropriate _____ and procedures, trained personnel, and organized the medical record departments.
968	The third phase was dedicated to the _____ of electronic health records,
969	Most of the hospitals were functioning without _____ Departments, and their functions were carried out by Medical, Nursing, and Paramedical Staff.
970	In some hospitals, _____ were so poorly organized that Patient face problem.
971	Med. Rec. plays a vital role in healthcare delivery and great value for the patient, _____, hospital, research, education, and national and international organizations..
972	Each medical record reveals information, always centered on a _____ (who may be a man, woman, or child).
973	The records are valuable to _____; physicians; health care; institutions; research teams; the teaching program; national health & int. agencies;
974	An _____) can be defined as a longitudinal medical record that includes all health information about an individual throughout his or her lifetime.
975	The major value of _____ is the availability of electronically stored information online for access to the network authorized at any station
976	“Physician treat _____ and HIM treat hospital for controlling healthcare cost”
977	“Physician treat patient and HIM treat _____ for controlling healthcare cost”
978	The HIM professionals of Developing Countries (DC) are working with the least _____, pay, and esteem, and thereby the progress is badly hampered.
979	The Healthcare industry is plagued by _____ costs and public pressure to contain expenditures.
980	The increased costs could be attributed to manifold reasons including inefficiency, inflation, and _____.
981	Modification of HIM traditional education to the corporate _____ syllabus to generate innovative leaders.
982	Modification of HIM traditional education to the corporate competing

	syllabus to generate innovate _____.
983	HIM move from a conventional _____ zone to a threatening challenging role in controlling the healthcare cost of the hospital.
984	HIM move from a conventional safe zone to a threatening challenging role in controlling the healthcare _____ of the hospital
985	Establish a central HIM department at the national level in the MOH to oversee the HIM programs in the _____.
986	HIM personal move from conventional safe zone to threatening _____ role
987	It is HIM's endeavor to show healthcare providers how they can save time, and effort, reduce _____ costs, and sustain the improved quality of care.
988	The HIM to be recognized as an important professional, the HIM raise _____ by accepting through their excellent digital information leadership responsibilities.
989	HC delivery system can be briefly classified into _____ major parts:
990	Preventive medicine will play very _____ role by imparting healthy living habits in the population.
991	Secondary care hospitals will provide care for all non-major surgical cases of all specialties in the next- 10 to 20 years. True or False:
992	All major surgical cases of all specialties including cancer will be located under one building in the next 10 to 20 years. True /False.
993	_____care hospital is the most sophisticated and well-equipped infrastructure to deal with screened cases by highly trained experts.
994	In the course of the next few years, hospitals, health centers, and clinics will undergo a complete transformation. YES or NO
995	In the next few years, Mobile nursing units and video conferencing will be very common to help patients. Do you agree or disagree
996	The electronic chip will be used to administer the exact dosage on schedule and to observe the feedback from the patient. Yes or No
997	In the future, ATM types of health centers for investigations, diagnostic, consultation, prescriptions, and delivery of medicines will be operational in each urban and sub-urban locality. YES or NO
998	Diagnosis will be more accurate, due to new sources of information through the Internet. YES or NO
999	There would be _____ categories of HIM professionals in HIM field.
1000	3 types of HIM personnel are Managerial; b. Supervisory and c. Operational & each with a different level of education. YES or NO.
1001	The HIM while dealing with healthcare data identifies the pattern & trends of diseases; that need to identify concurrently. True of False.
1002	HIM services are used in clinical, medical education, research, public health, legal, financial services also for insurance. YES or NO

1003	Keeping one's own personal health record help in constant access to his /her health information over the course of time. YES or NO
1004	HIM personnel can maintain the PHR of certain catchment areas and be the liaison between the patient and health institutions. YES or NO
1005	Healthcare will undergo transformation through Artificial Intelligence (AI), Machine Learning (ML), and Robotics. YES or NO
1006	The HIM personnel, besides the hospitals, work for accounting firms, insurance, SW vendors, Govt. agencies, & others. YES or NO
1007	HI Manager is an expert who has knowledge of medical, administrative, & legal issues related to HCD. Agree or Disagree
1008	HIM has the expertise to provide a consultation and advice on efficient management of health, institutions. TRUE or FALSE
1009	HIM has to revolve around the patient as entire healthcare organizations exist because of the patient. YES or NO
1010	The HIM will succeed if he has passion and commitment to the field through persistent, able, and kind leadership. Agree or Disagree
1011	In Developing Countries; there is no HIM leadership at the national level to oversee the progress of the HIM field. True or False
1012	The author found that with a central HIM dept. at the ministry level to oversee the HIM work; has well organized HIM depts. YES or NO
1013	Due to lack of leadership at the top; lack of educational facilities & well-organized MRDs hindered professional progress. YES or NO
1014	The lack of standardized MR forms, missing investigation reports, & records made Doctors less interested in completion. YES or NO
1015	Hospitals faith in keeping registers than patient records. YES or NO
1016	HIM National Association is formed to improve HIM work standards and Professionals proficiency. AGREE or DISAGREE
1017	Involving the Govt. including Central & State in the activities of HIM education, work, and national association, Required or Not
1018	Establish a central HIM dept. in the MOH to be headed by a senior HIM to oversee the HIM progress in the county. YES or NO
1019	Setting of national standards for MR /HIM is very essential. YES or NO
1020	Develop HIM policies and procedures including, the budget, staff pattern, etc., for MRD. YES or NO
1021	The HIM education and training will change in the next 10 to 20 years due to many issues. AGREE or DISAGREE
1022	In the next 20 years; the preset methods of rendering healthcare services will have a changed in minimizing the hospitals and also the number of inpatient beds. YES or NO
1023	Healthcare Transformation through Technology e.g., Artificial Intelligence (AI), Machine Learning (ML), and robotics will take place. AGREE or DISAGREE

1024	Due to Technology, the present tasks of HIM will diminish and need a revision of HIM education to meet the new way of keeping paperless records. YES or NO
1025	The mock-up MR laboratory is essential to train students with real-life expérience in areas of maintaining and managent MR / HIM. YES or NO
1026	In 1913; It was felt that to elevate standards of surgery by standardization of hospitals; an important role played by records was recognized hospital standardization. YES or NO
1027	Mrs. Grace Whiting Myers of USA was the First President of Record Librarians. YES or NO
1028	On 11-11-1928, the Association of Record Librarians of North America was formed “To elevate the standards of clinical records in hospitals, dispensaries, and other distinctly medical institutions; elected the first president_____
1029	In 1934, _____elected to work in hospital administration and was appointed to a new hospital in Manchester, England.
1030	Dr.Skrinjar-Nerima of the WHO and Elsie Royle Mansell presented the first two papers in the _____ International Business meeting held in Stockholm, Sweden from 27-31 May 1968.
1031	Dr. _____ of WHO in her presentation strongly encouraged international cooperation between medical record personnel.
1032	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, the Prof._____ of Australia- Great Educationist, since 1972 fully dedicated and selfless service to IFHIMA till date
1033	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, the Prof. Phyllis Watson of Australia- _____ of USA–Great Consultant- helped many DC professionals; since 1976 fully dedicated and selfless service to IFHIMA till date
1034	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, Prof. Phyllis Watson of Australia, Carol Lewis of USA; _____ of India (Served 9 DC nations since 1959 onwards known as “Father of Medical Records of India and the Middle East”, Great organizer, educationist and actively with IFHIMA from 1976 participating and presenting papers in all the Congress till date.
1035	Role of HIM shouldn’t be the same, instead, observe “Change or Perish” to acquire the latest knowledge, skills, and a positive attitude by all the global HIM professionals to render their services much more efficiently to Healthcare Delivery System. YES or NO
1036	The main objective of IFHIMA is to promote HIM in all the _____ including adopting Int. HIM standards, exchanging HIM educational requirements and training programs and promoting and implementing effective technology e.g. electronic health records.

1037	Patient safety can be defined “as the condition of being _____, freedom from danger or hazard or risk or injury and adverse effects, exemption from hurt, or loss.
1038	Patient care is affected because today’s healthcare is delivered in a pressurized and fast-moving environment, involving a vast array of technology and, daily, many individual decisions and judgments by healthcare professional staff. TRUE or FALSE
1039	Patient safety is affected by inadequate information, illegible entries, lack or change of information, and misinterpretations. YES or NO
1040	The rising rate of litigation in recent years was another vital stimulus for raising awareness of the problem of patient safety. YES or NO
1041	There are human errors, like getting the wrong drug or dosage despite being highly trained with the control system this happens. Agree /Disagree
1042	The WHO informs that DC countries account for around ____% of all reported: fake and substandard drugs as part of patient safety.
1043	IT plays a vital role in reducing errors, improving care; dipping duplication, and increasing time for patient care. YES or NO
1044	In 2003, the Federal Drug Administration, proposed drug _____ code regulations to reduce medical errors related to prescriptions and medication administration.
1045	Wound Infection is a Hospital-acquired infection –Agree or Disagree
1046	Post-operative sepsis is due to Operative and Post-Operative Complications. YES or NO
1047	Which Annexure deals with Definitions of Medical Specialties
1048	Which Annexure deals with “Electronic Health Records Terminology”
1049	Which Annexure deals with “Terms and Definitions used in Healthcare Management
1050	Which Annexure deals with “Standards Abbreviations with single meanings”.

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Brainstorming Topic-wide Quiz Question Bank

Q. No.	Subject
Dr. Mogli's Healthcare Technologist Handbook	
1	What does each alphabet (AUSPICIOUS) communicate in Dr. Mogli's Ten Commandments for Healthcare Professionals?
II	Anatomy and Physiology
2	What Cell contains and its functions?
3	What is Tissue and how many types of Tissues are there?
4	What is an Organ? Give five organs names
5	What is a System? How many systems are there in the human body?
6	What is the body cavity and what do they contain?
7	Write 15 positional and directional terms of the body and their description
8	How many types of muscles are there and name them?
9	How many bones are there in the human body? Questions related to the names of bones and their location will be asked. (Information can be found at the end of Question Bank.
10	How many joints are there and name them?
11	Name important parts of the Brain and what is their main function of them?
12	Name all the sense organs and major functions
13	How many glands are there and name them?
14	What Cardiovascular or Circulatory system consists of naming?
15	What Blood and blood groups include-name them?
16	Name all blood groups
17	What Lymphatic system consists of?
18	Name all major parts of the Respiratory System
19	Name all parts of the Digestive System
20	Name Accessory Organs of the Digestive System
21	Name the parts of the Urinary System
22	Name the parts of Male in Reproductive System
23	Name the parts of the Female in Reproductive System
24	Name Anatomical divisions of the body
25	What are important cavities and what name are their organs or parts?
26	Name the Anatomical division of the back (spinal column) and how many bones are contained in each column?
27	Name all positional and directional terms of the body and description of

	the position
28	What is Oncology? How many types are there? Explain each type,
29	Briefly explain Psychiatry and Psychotherapy
30	What are Clinical Psychology and its purpose?
III	Medical Terminology
31	What is the purpose of studying Medical Terminology?
32	Explain briefly about Word Structure with examples
33	What are the chief sources of Medical Words and give examples of each source?
34	Write five diagnostic suffixes & compound elements with medical terms and definition
35	Write five operative suffixes & compound elements with medical terms and definition
36	Write five symptomatic suffixes & compound elements with medical terms and definition
37	Write Ten color names with medical terms and give examples for each term
38	Write Ten numeral names with medical terms and give example for each term
39	Write Ten root names with medical terms and definitions
40	Write Ten prefixes names with medical terms and definitions
41	Ten terms will be given for which meaning to be written
42	Ten meanings will be given for which medical term to be written
IV	Healthcare Delivery System
43	Where healthcare is provided to patients and name them and their main functions?
44	Write Dr. Mogli's Definition of Hospital
45	What are the major services of a hospital and their functions?
46	Write Ten inpatient specialties' names and their functions?
47	What is a major role of a Nurse related to medical records?
48	Briefly explain the functions of A/E, ICU, OT, and Recovery room
49	What are the major sections of the laboratory and their functions?
50	Write major function of the Blood bank (blood transfusion)?
51	What are major Radiology diagnostic services; name them and their functions
45	What is Radiation Therapy? How many types of therapy are there and what purpose is used?
46	What is Pharmacology? Give five important drugs its action & examples
47	How hospital pharmacy does differ from a general pharmacy store?
48	What is Physical therapy (PT); name therapies with definitions and functions

49	What is Occupation therapy(OT); what are its main functions
50	What is a Rehabilitative service? Its objectives and who are the beneficiaries?
51	What is Optometric and who are beneficiaries of this service?
52	What is Audiometric service and who are beneficiaries of this service?
53	What is the main function of the Public Health Service?
54	What is a Hospital-acquired infection? And How it could be prevented?
55	What do you understand about Occupational Health Safety and its main objectives?
56	What is the difference between Malignant and Benign and in what cases these names are used?
57	What is the difference between Adult and Paediatric Patients? What service do these patients use when they become sick?
58	What are Diabetics; how many types are there and how is it managed?
59	What is Dialysis; how many types and their objectives?
60	What is IVF (In Vitro Fertilization) where and when used?
61	Explain briefly the Dentist and areas of the Dentist?
62	What is Nutrition and how it is useful for good health?
63	What is the role of nutrition in the hospital?
64	What are the seven major classes of nutrients?
65	Who is Medical Social Worker and what is his role in inpatient care?
66	What is the role of the Biomedical Engineering service in the hospital?
67	What are CSSD and its main role in the hospital?
68	Who is the Hospital Patient Care relation Coordinator and are his functions?
69	Who is Medical Transcriptionist and what he does do?
70	Who is Medical Secretary and what is his role in the hospital?
71	List five most important telephone techniques!
V	Medical Records
72	What is the importance of having Medical Record Standards?
73	What is the difference between a Policy and Procedures?
74	Why Policies are important?
75	Define Medical Records and their main purpose
76	What are its values and who benefits from good records?
77	What is the main function of the MRD?
78	What are the main needs of their MRD? Or To maintain MRD what do you need?
79	What is a Personal & Impersonal Document in relation to Medico-legal cases?
80	What is Consent? How many types? Why and when it is taken?
81	What is the Confidentiality? How does MRD protect confidentiality?

82	What information can be released without the permission of a patient? & Why?
83	What are Quantitative analysis and Qualitative analysis?
84	Why do we need an MRD committee and who should be members of the committee?
85	Why Medical Record Forms are important? How do you control the Forms?
86	What type of statistics is collected in the hospital? Why do we collect them and who uses them and for what purpose?
87	What do you understand by preservation and retention of old records?
88	What are the most important records to be retained and how long (years)?
89	List at least FIVE most important registers maintained in the hospital! Why were they maintained? Or purpose of maintaining them.
90	What are the categories of staff work in MRD? And what are their main responsibilities?
91	Explain the main difference between OPD Chit or Slip; departmental record or comprehensive record!
92	What is the purpose of the Alpha Index? Where used and how it is useful?
93	Why records are Assembled and arranged in chronological order?
94	What records are considered to be incomplete?
95	How incomplete records can be completed and who is all responsible for completion?
96	Explain the meaning of Coding & Indexing of records; where and when it is done?
97	Draw a flowchart for OP service by a patient!
98	Draw an Inpatient travel for service!
99	What benefit do we get by processing OPD records?
100	What are the processing methods for completing the inpatient record?
101	Why keeping a complete record is important?
102	What is Hospital Ward Census and why it is important?
103	Why deficiency checklist is required?
104	What are the major sections of the inpatient record?
105	What type of statistics are collected in the hospital and why?
106	What are the major problems and Filing and Retrieving of hospital records?
107	Where are X-rays to be filed in MRD or Radiology and what numbering system to be practiced and justified?
108	What is the main difference between manual and electronic records? Justify your answer by giving Five reasons to justify it.
109	Why do we classify the diseases and operations? Why do we code them and how do we code them?

110	Explain the difference between Morbidity and Mortality/
111	Who needs the information on morbidity and mortality and why?
112	What is the International Classification of Procedures in Medicine? What is the difference between Volume I and Volume II?
113	What is Personal Health Record (PHR) purpose? How this record is useful to treating doctors?
114	In what cases does the court subpoena the medical records to the court?
115	If the medical record is incomplete –what possible bad result can be expected?
116	What is Consumer Protection Act 1986? What advantages to patients?
117	Briefly explain about AYURVEDA
118	What is the Accreditation of a hospital and why it is done?
119	What has to be done to succeed to get an accreditation of the hospital?
120	Briefly explain the role of HIM in getting the hospital accreditation?
121	What is Quality Assurance Standards?
122	Who is responsible to carry out the Quality Assurance Program?
123	What important services or specialties need a periodical QA program?
124	What type of service a present-day patient expects from the hospital or healthcare providers?
125	How do economize the healthcare service expenditure?
126	Why should you have good communication skills?
127	What communication skills you should have and why listening skills are important?
128	Who is a Leader? What characteristics he or she should have?
129	Explain Motivation; how do managers motivate their staff?
130	Write Ten important capabilities of HIM professionals?
131	Why Accurate and comprehensive statistics are essential?
132	What important statistics are collected and compiled in the hospital?
133	What are the advantages of Mogli's Ready reckoner for counting the hospital?
134	How many annexures are there in your book? What purpose?
135	What is the purpose of "Terms and Definition used in the Healthcare Management?
136	Explain briefly Why Standardized Abbreviations with a single meaning are required?
Dr. Mogli's Health Information and Health Informatics Professionals Handbook	
137	How did we transform from Manual records to electronic health records?
138	Write Dr. Mogli's definition of a Hybrid health record
139	What steps are required to computerize the manual records? At the policy and decision making (Govt.) level or at the technical executing level?

140	What is the major difference between computerized appointment systems?
141	Make a Comparison between computer-stored <i>versus</i> manual handwritten medical records
142	What are the advantages of Strategic E.H.R. Planning?
143	What are the challenges of E.H.R. adoption?
144	What are major E. H. R. Limitations- briefly explain.
145	Elaborate E.H. R. Functional requirements
146	What measures are required in Check List for Assessing HIM Department Readiness and Planning for E.H.R
147	Name all-important E.H.R standards that are required to apply while developing the software for achieving interoperability
148	What is Infrastructure? How do we assess them to ensure the E.H.R. System functions well?
149	What ingredient is required for E.H.R. System implementation and maintenance?
150	Explain briefly How the Nursing Electronic records benefits the patient?
151	How do you draft a Blueprint for implementing and executing a good electronic health records system in a hospital?
152	What Core capabilities are expected from the implementation of E.H.R?
153	“Physician treat patient and HIM treat hospital for cost control” how is possible-justify?
154	What is the major role of the Health Information Manager (HIM) in the next10 to 20 years?
155	Why do we need to modify the HIM traditional education to the corporate competing syllabus to generate innovatively leaders?
156	Explain briefly How we can execute Healthcare Transformation through AI, ML, and robotics?
157	What major problems are experienced in maintaining medical records in Developing Countries- list them according to priority and importance?
158	What ate the suggested remedies for improving the Developing Countries HIM system?
159	What capabilities HIM graduates should possess?
160	What type of sacrifices were made by HIM professionals to bring the IFHIMA to the present HIM generation?
161	List the names of those sacrificed by decades of dedicated service to the profession and some are continuing their efforts to uplift the profession status.
162	What suggestions are made by the author for IFHIMA to achieve its set objectives?
163	Why patient record is a legal document?
164	In what cases the medical record is summoned or subpoenaed by the

	court?
165	Name all types of consent taken in the hospital and their purpose?
166	Who are authorized and who have not authorized persons in case of release of information?
167	In what cases patients/attendant permission is not required while releasing the information?
168	What is Medical Malpractice Negligence! What measures need to prevent?
169	What are the Medical Council of India's guidelines on the retention of records?
170	What special measures are to be observed by HIM for legal aspects of E.H.R?
171	What measures are taken in the retention and preservation of E.H.R?
172	Why is the Accreditation of Hospital the required-its purpose?
173	Who are authorized to accredit the hospital and by what methods?
174	What is the difference between NABH and JCI; which is preferred?
175	In JCI 4 days 3 surveyors – program -what they do –briefly explain?
176	Why the hospital should have well-organized and efficiently managed MRD?
177	In the survey process “Closed and Open” words are used for what purpose?
178	What the author has emphasized in his conclusion on Accreditation?
179	Role of HIM in Accreditation of the hospital?
180	Who is a Patient and what does he expect from the hospital?
181	Where and Why the patient safety affected?
182	What is the patient of the common risk suffers in the hospital?
183	How IT can help in preventing the adverse effect!
184	What are patient safety solutions?
185	Why do we need quality assurance standards?
186	What are the data sources for the quality assurance program?
187	What are quality assurance and programs?
188	What is Utilization review by medical staff?
189	What is methodological consideration in Quality Assessment?
190	Briefly explain what are Potential issues in economics in Healthcare Delivery?
191	What measures are needed to Economize Health Service Expenditure?
192	Why managerial skills are very essential for a manager?
193	Why effective Listening is considered most important for a good manager?
194	What the author has emphasized in his conclusion-repeat-repeat –Why?
195	Who is a Leader and what characteristics should have to be a good Leader?

196	How does Manager motivate the staff to be more effective in their work?
197	What are the four laws of Motivation?
198	What are HIM capabilities within the lifecycle?
199	How Mogli's Ready Reckoner is useful in the present computer-oriented days in the hospital. Explain where this can be useful to save the time of staff?
200	How many annexures are there and there? Explain the main purpose –how it will benefit the reader?
201	What is Software? Explain briefly!
202	What is a Program in computer language? Explain briefly!
203	What is an Operating System in computer language?
204	What is Application Program in computer language?
205	What is RAM? Explain
206	What is Primary storage in computer Language?
207	What secondary storage is in computer language?
208	What is the difference between LAN and WAN?
209	Name all the components you need to make the best use of the computer
210	What do you mean by RDMS?
211	What measures you would take to develop computers in MR or HIM Department in a 300 bedded computerized hospital system?
212	Why do we need hospital information? What information is essential and how can we collect accurate information?
213	As an effective MRO or HIM Manager, what line of conduct do you adapt in dealing with the staff to make the MR or HIM department most efficient?
214	What measures you would take in a 500-bed hospital having lots of problems with the MR or HI Department? And How you will bring into an efficient hospital?
215	What steps would you take to organize an MR or HIM Department with a "Unit Record" system in a newly opened 600 bedded acute general hospital (Your answer should cover all salient features)
216	What is Dr. Mogli's definition of Medical Records?
217	What is the purpose of E.H. R?
218	How the Medical Records is important to Patient, Physician, Healthcare Institution, Research team, the teaching program, national health agencies, and International health agencies
219	Define Electronic Health Records!
220	Name the Electronic Health Records-related Standards?
221	The physician treats the Patient and HIM treats the hospital for controlling healthcare cost
222	HIM professionals besides their hospital environment what other places

	work and what do they do?
223	Why the Medical, Nursing, and Hospital Administrator educational institutions incorporate the economics and cost subjects in their curriculum?
224	What measures are required to make HIM profession popular?
225	What methods does the HIM Profession adopt to reduce the cost and minimize the expenses of the hospital?
226	Why a Central HIM department be established in the Ministry of Health and who should head the department?
Health Information Manager (HIM) Education and Training in the next 10 to 20 years	
227	What are the advantages of Healthcare Transformation through Technology e.g., Artificial Intelligence (AI), Machine Learning (ML), and Robotics?
228	Why is HIM education to be modified in the present context?
229	Explain the methodology of teaching and learning in the modern situation!
230	Why Professionals are needed?
231	What is the Mock-up (Stimulation) MR Laboratory at the college site?
232	Role of Health Information Manager (HIM) in the next 10 to 20 years
233	What changes take place in the Health Care Delivery System in the next 10 to 20 years?
234	Why do we use the term “Change or Perish” and what it's the real impact?
235	Briefly explain what would be the HIM Professional role in the 10 to 20 years!
Transformation of HIM Status in Developing Countries (DC) in the next 10 to 20 years	
236	Briefly list the HIM problems experienced 4 decades back is still existed even today in Developing countries- what are they?
237	Why do we need to form a national association for the HIM field?
238	What measures are suggested to improve the HIM departments of any nation?
Evolution of IFHIMA from the 20th century and how it will grow in the 21st Century	
239	How the International Federation of Health Information Management Association (IFHIMA) was created, when and where it was formed, and who was a pioneer of this association?
240	Briefly explain the transformation of Medical records from early stages!
241	What are the three categories of decades of dedicated service to the profession?
242	What are the main objectives of the IFHIMA?
243	What are the new challenges of IFHIMA?

244	What suggestions are made for IFHIMA to achieve its goals?
Leadership	
245	Who is a Leader?
246	How a leader can create a highly productive organization in today's highly competitive world?
247	What type of training makes a good leader?
248	What is trust-building? And how it could be achieved?
249	What is effective listening and how it benefits to a leader?
250	Explain briefly What is a leadership talk?
251	Qualities of a leadership style
252	Who is a Leader: A leader is "a person who influences a group of people towards the achievement/
Motivation	
253	What is Motivation?
254	How managers motivate staff
255	What are 4 laws of Motivation?
256	How to create Motivation?
Managerial Communication Skills	
257	Why do we need to have good communication skills?
258	What is Brainstorming and how it is done what benefit do we get?
259	What are Leadership skills?
260	What benefits are there ineffective listening?
261	What is Non-verbal Communication and when do we use this type of communication?
262	What is stress management
263	Repeat-Repeat and repeat considered being one of the most vital communications –Why?
Quality Assurance	
264	What is Quality Assurance?
265	What is Quality Assurance Program?
266	What is Quality Assurance Process?
267	What are the most important departments of the hospital in which the Quality Assurance is done periodically? & Why?
268	Briefly explain the Risk Management?
269	How Quality Assurance Program is organized?
270	Briefly explain who organizes the QA program?
271	When implementation of the Q. A program is made?
272	What made Oman conduct a Q. A. program in Primary Health Centers (PHCs)?
273	Briefly explain how to develop hospital standards
274	The managerial method must serve whom and how it benefits?

275	Leaders are made and not born! Explain your way of Leader!
276	What are the principal causes for the downfall of leaders? Briefly the causes.
277	What do you read in Dr. Mogli's Mirror an ordinary with minimal education has grown and how it is possible?
278	What should be a strong leader's nature to do his best? Elaborate
279	What is your conclusion from reading Dr. Mogli's Mirror? Briefly explain.
280	Did you have any inspiration to grow yourself to a high level and win self-esteem!

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Brainstorming project Assignment

S. No.	Topic
1	What is Hospital and what are its functions?
2	Accident and Emergency Department
3	Outpatient Services
4	Public Relationship
5	Hospital Patient Care Relationship Coordinator
6	Medical Transcriptionist
7	Medical Secretarial Profession
8	Medical Social Worker
9	Nutritionist
10	Managing Medical Records (Manual)
11	Managing Electronic Health Records
12	Needs of Medical Record Department
13	Retention and Preservation of Medical Records (Manual)
14	Hospital Statistics
15	International Classification of Diseases (ICD)
16	Personal Health Records (PHR)
17	Ayurveda
18	Unani
19	Siddha
20	Yoga
21	Naturopathy
22	Homeopathy
23	Hospital Accreditation
24	NABH or JCI Role in hospital accreditation
25	The Patient his problems and expectation with the hospital
26	Potential issues of economic problems in the hospital
27	How to economize healthcare service expenditure
28	Why do we need Management Skills and what are the benefits
29	Leadership
30	Motivation
31	HIM capabilities
32	Organizing an MRD of a 300-bed new general hospital
33	How you develop a computerized health record in a hospital of 500 beds

34	Why do we need a good hospital Information System?
35	How you carry out the MRD staff management in a 600-bed general hospital
36	What Training or Orientation program for MRD staff in a 300 bedded hospital to maintain an efficient medical record department
37	Control of Incomplete records
38	How HIM Manager can control the hospital cost?
39	As an HIM Manager what measures you would adapt to well organized and managed HIM Department
40	Medico-Legal Cases in the hospital
41	What major problems were encountered by HIM Manager and how to tackle them?
42	How Dr. Mogli's 10 AUSPICIOUS Commandments will be useful to Healthcare professionals
43	Why HIM staff have to study Basic Anatomy, Physiology, and Medical Terminology to be HIM Professional.
44	What is Quality Assurance and its Program- and its benefits to patient care
45	Medical Record Forms
46	Medical Filing Room advantages and disadvantages
47	Conducting a Workshop on Importance of Medical Records in HCD.
48	Conducting a Conference on HIM in efficient management of Hospital
49	What is the ingredients to acquire to be a good healthcare Technologist?
50	When you can say that "I am confident to do the job efficiently and I am very capable to take the managerial position and I will outshine:".
51	Incomplete Records –(the document does not meet the requirement for patient care or other purposes)- what steps you would take to improve?
52	Length of Stay in the hospital (LOS) according to disease/operation- how one can reduce the LOS without sacrificing the quality of care.
53	Retention Period for medical records (Number of years medical records to be retained permanently) and why?
54	Legal Issues related to patient care, and management
55	Computerization of Medical Records - prepare a roadmap
56	Patient Waiting time in different sections of Outpatient clinics

57	Patient visit pattern to the hospital
58	Patient disease pattern.
59	Admission pattern including repeated admissions
60	HIM management system in secondary care hospital.
61	Management of HR of HIM department
62	Patient problems in different areas of hospital wards or clinics
63	Medical and Nursing Staff problems related to HIM work
64	Role of HIM in Medical Education
65	Role of HIM in Medical Research
66	<p>Development of software: ICD coding;, Registration; Admissions; Appointments; Record tracking Medical Transcription- medical reports; Quality Improvement in HCD Quality Improvement in HIM&T; Data storage, coordinating Master patient Index; Online Lab and other Investigations; HIM Department HR management; Online transmission of Health Information; Healthcare cost Information security, privacy and confidentiality; Analysis of Diseases as per approved ICD; Risk Management; Drug prescription and abuse Safety and Back up information; Hospital disaster program</p>
67	Missing and mismatching of investigation reports
68	Incomplete diagnoses and operations
69	Incomplete records
70	Quality Improvement and Assurance of a super specialty hospital
71	Performance Improvement of Healthcare providers in a general hospital
72	Accreditation requirements and you will meet them
73	Technology: Hospital Computerization System –to make paperless.
74	Study of Patient visit pattern in outpatient of a specialty hospital
75	Evidence based Medical Practice in a teaching hospital
76	Cost effectiveness in the HIM dept, – how you will achieve
77	Cost effectiveness in Hospital as a whole-how will you achieve?
78	Human resource management in HIM&T department
79	Retention Period is decided on the basis of what criterion?
80	Legal issues in HCD that need to be protected hospital staff.
81	HIM department requirements to function efficiently

82	Infection Control of the hospital- role of HM
83	Medical Staff relationship with HIM in efficient maintenance of records
84	Nursing staff relationship with HIM in efficient maintenance of records
85	HIM relationship with s Lab, Radiology, Pharmacy and Administration
86	Relationship with Patients and their relatives or attendants
87	Development of Electronic Health Records Administration Records; Clinical Records; Patient information (statistics) Investigation; lab, x-ray and other allied departments. Development of Formats for registration; appointments, clinical visits
88	HIM education /training and curriculum setting
89	HIM student needs and their performance in HIM theoretical Program.
90	HIM staff improvement (continuing education or any other orientation)
91	Development of efficient relationship with the Administration to ensure the HIM moves forward with utmost efficiency.
92	Economic measures suggestions through HIM department
93	Minimize Patient waiting time in different sections of the hospital.
94	Transformation of health records from manual to electronic records.
95	Risk Management- what measures needed to minimize the risks.
96	Drug prescription and abuse- what do you mean how it can be controlled?
97	Safety and Back up information of health information of a hospital
98	Hospital disaster program –that will meet the exigency.
99	Project Evaluation Format: (Sample copy) Student; _____ ID# _____ Organization Project _____ Coordinator: _____ Project: _____ Project Time Frame: _____
100	1. Describe the nature and objectives of given project.

2. What was the final product that you were asked to produce?
3. Describe the mechanisms and skills that you employed to produce the outcomes of the project.
4. Describe the organizational support that you received in accomplishing this project.
5. Describe the strengths of your educational background in performing this project.
6. Describe the weaknesses of your educational background in performing this project
7. Describe how the final product met the initial goals and objectives.
8. Describe the organization's response to the final product.
9. How much time did you commit to this project?
10. Briefly summarize the significance of this learning experience.
11. What grade do you feel you deserve for this project?

Guidelines for writing the Project Assignment Report

- **Introduction including objective of the project**
- **Materials and Methods:**
- **The Body of the report**
- **The Discussion**
- **Summary**
- **Conclusion**
- **Recommendations**
- **References**

Introduction: The **introduction** provides relevant background information and puts the study into context, guiding the readers through the rest of the manuscript and helping. A good introduction skilfully draws the reader's attention to the topic and arouses interest. The introductory paragraph also needs to describe the objective of your paper, and state the methods you will use to achieve your goal.

Materials and methods: section (or sometimes called the methods section) is the heart of your scientific article because it shows the credibility and validity of your work.

The body of the report; is a detailed discussion of your work for those readers who want to know in some depth and completeness what was done. The body of the report shows what was done, how it was done, what the results were, and what conclusions and recommendations can be drawn.

The discussion section: is one of the final parts of a study or research paper, in which an author describes, analyses, and interprets their findings. They explain the significance of those results and tie everything back to the research question(s).

Summary: It should restate the purpose of the report, highlight the major points of the report, and describe any results, conclusions, or recommendations from the report. It should include enough information so the reader can understand what is discussed in the full report, without having to read it.

Conclusion: is the final piece of writing in a research paper, essay, or article that summarizes the entire work. The conclusion paragraph should restate your thesis, summarize the key supporting ideas you discussed throughout the work, and offer your final impression on the central idea.

Recommendations: suggestion or proposal as to the best course of action, especially one put forward by an authoritative body.

References: If you have referred some material and wish to provide reference; it would be appropriate.

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Answers to Brainstorming Questions (Chapter -46)

S. No.	Answer	S. No	Answer	S. No.	Answer	S. No.	Answer
1	Nucleus	2	Trillion	3	Meiosis	4	Intracellular
5	Extracellular	6	Cells	7	4	8	Tissues
9	Viscera	10	Organ	11	Organs	12	System
13	Cardiac	14	Bones	15	206	16	Spinal Cord
17	Tongue	18	Testes	19	Plasma	20	Platelets
21	AB	22	Spleen	23	Lungs	24	Digestive
25	Small	26	Large Intestine	27	Pancreas	28	Urinary
29	Reproductive	30	Reproductive	31	Cranial	32	Thoracic
33	Abdominal	34	Pelvic	35	Spinal	36	Anterior
37	Posterior	38	Deep	39	Superficial	40	Inferior
41	Superior	42	Lateral	43	Supine	44	Prone
45	Afferent	46	Efferent	47	Long	48	Wrist
49	Sternum	50	Vertebra	51	8	52	14
53	6	54	1	55	51	56	26
57	7	58	12	59	5	60	1
61	1	62	Upper Limb	63	Upper	64	Lower
65	Hands	66	Phalanges	67	Lower	68	Leg
69	Lower	70	Lower	71	Cell	72	Muscles
73	Nerves	74	Muscles	75	Organs	76	System
77	Musculoskeletal	78	Bones	79	206	80	Skull
81	Trunk	82	Cranial	83	26	84	Coccyx
85	Arteries	86	Heart	87	Heart	88	Pulmonary
89	Plasma	90	Erythrocytes	91	Leukocytes	92	Four
93	Plasma	94	Vaccination	95	10 billion	96	Neurons
97	Cerebrum	98	Brain	99	Salivary	100	Esophagus
101	GI	102	Small Intestine	103	Appendix	104	Liver
105	Pancreas	106	Thyroid	107	Expiration	108	Diaphragm

109	Pharynx	110	Lungs	111	Three	112	Diaphragm
113	Tongue	114	Nose	115	Urinary	116	Uterus
117	Male	118	Ovaries	119	Testes	120	Placenta
121	Oncology	122	Psychiatry	123	Greek & Latin	124	Arabic
125	Anglo Saxon	126	Modern German	127	Albus or Leukos	128	Melan or Niger
129	Erythros	130	Flavous	131	Blue	132	Green
133	Brown	134	Golden	135	Half	136	First
137	Two	138	Four	139	Three	140	Sex or Hex
141	Quinque	142	Hepta	143	Non	144	Octa
145	End	146	Before	147	Carditis	148	Gastritis
149	Cardiomegaly	150	Myopathy	151	Tonsillectomy	152	Arthroplasty
153	Bronchoscopy	154	Cystoscopy	155	Thoracotomy	156	Renal Pain
157	Pathogenic	158	Haemolysis	159	Lymphocytosis	160	Haemorrhage
161	Blood	162	Hernia	163	Expansion	164	Inflammation
165	Softening	166	Enlargement	167	Tumor	168	Oasis
169	Disease	170	Falling	171	Rupture	172	Excision
173	Desis	174	Pexy	175	Plasty	176	Suture
177	Scopy	178	Incision into	179	Tripsy	180	Pain
181	Origin	182	Lysis	183	Penia	184	Gland
185	Air	186	Vessel	187	Joint	188	Eyelid
189	Heart	190	Brain	191	Head	192	Neck
193	Lip	194	Cartilage	195	Rib	196	Skull
197	Bladder	198	Cell	199	Tear	200	Dactyl
201	Skin	202	Brain	203	Enter	204	Stomach
205	Sweet	206	Blood	207	Liver	208	Uterus
209	White	210	Fat	211	Stone	212	Membrane
213	Muscle	214	Kidney	215	Eye	216	Bone
217	Lung or Air	218	Mind	219	Pelvis	220	Gatekeeper
221	Pus	222	Ray	223	Vertebra	224	Neck
225	Organ	226	Away from	227	Without, not	228	Near, toward
229	Against	230	Two	231	Congenital	232	Contra

233	Dys	234	Ex, Out	235	In	236	Within
237	Epi	238	Ex	239	Half	240	Hyper
241	Hypo	242	Between	243	Meta	244	Para, per
245	Around, about	246	Pre	247	Pus	248	Retro
249	Sub	250	Supra	251	Sym	252	Poison
253	Across, over	254	Three	255	Healthcare	256	AYUSH
257	Care / Centre	258	PHC	259	Hospitals	260	Hospitals
261	Tertiary	262	A/E	263	A/E Dept.	264	A/E Dept.
265	A/E	266	A/E	267	OP	268	Cardiology
269	Nervous	270	IP	271	YES	272	NO
273	NO	274	NO	275	NO	276	NO
277	ICCU	278	Paediatrics	279	Dermatology	280	Orthopaedics
281	Orthopaedics	282	Ophthalmologist	283	Surgeon	284	NO
285	NO	286	YES	287	YES	288	NO
289	Appointment	290	Number	291	Alphabetically	292	Inpatient
293	Nurse	294	Nurse	295	YES	296	YES
297	Radiolog	298	Patient record	299	Biopsy	300	Yes
301	Admitting Office	302	24 hours	303	YES	304	YES
305	YES	306	NO	307	YES	308	Nurse
309	Same	310	OT	311	OT	312	After
313	ICU/ICCU	314	Laboratory	315	No	316	YES
317	YES	318	Laboratory	319	YES	320	YES
321	YES	322	Radiology	323	Ultrasonography	324	NO
325	Breast	326	No	327	Radiation	328	Pharmacology
329	Pharmacist	330	Pharmacopeia	331	YES	332	Toxicology
333	Antidotes	334	Anaesthetic	335	Tranquilizers	336	Analgesic
337	Sedative	338	Antibiotics	339	Laxative	340	Heparin
341	Electrotherapy	342	Physical Therapy	343	Hydrotherapy	344	Message
345	Physiotherapy	346	OT	347	Rehabilitation	348	NO
349	NO	350	NO	351	Optometry	352	Audiometric
353	Audiometer	354	Audiogram	355	NO	356	NO
357	NO	358	YES	359	Primary Health	360	YES

361	YES	362	School Health	363	YES	364	YES
365	Dietician	366	No	367	NO	368	YES
369	NO	370	YES	371	YES	372	NO
373	Agree	374	YES	375	NO	376	YES
377	NO	378	Disagree	379	YES	380	YES
381	YES	382	YES	383	YES	384	YES
385	YES	386	NO	387	A/E Dept.	388	MRD
389	YES	390	24	391	Admission	392	YES
393	Agree	394	Remember	395	Hospital	396	Patient
397	Patient	398	Injured	399	YES	400	YES
401	YES	402	Medical Record	403	NO	404	Accident
405	YES	406	YES	407	Police	408	YES
409	YES	410	YES	411	Hospital	412	Authorized
413	YES	414	YES	415	Agree	416	No
417	YES	418	NO	419	Nursing	420	NO
421	Treating	422	MRD	423	WHO	424	Ward Nurse
425	NO	426	Two	427	NO	428	YES
429	YES	430	NO	431	LOS	432	YES
433	YES	434	YES	435	YES	436	YES
437	YES	438	YES	439	YES	440	YES
441	LOS	442	YES	443	Good	444	YES
445	3	446	5	447	24 hours	448	24 hours
449	A/E Dept.	450	YES	451	Admission	452	Abbreviations
453	YES	454	YES	455	YES	456	NO
457	YES	458	Agree	459	Number	460	Hospital No.
461	NO	462	Hospital Number	463	YES	464	YES
465	50	466	Midnight	467	Standard	468	Deficiency
469	YES	470	NO	471	YES	472	Court of Law
473	YES	474	One Patient only	475	YES	476	Number not used
477	Number not used	478	Number not used	479	Number not used	480	YES
481	YES	482	YES	483	NO	484	Gynaecology

485	NICU	486	NO	487	Three	488	Standard
489	Information	490	YES	491	YES	492	YES
493	YES	494	Electronic	495	Hippocrates	496	Safety
497	YES	498	NO	499	Morbid	500	Coding
501	Coding	502	YES	503	3	504	Tabular
505	2	506	3	507	21	508	No
509	YES	510	YES	511	Operative	512	Current
513	YES	514	YES	515	YES	516	PHR
517	Passbook	518	Parent/ guardian	519	Computer	520	YES
521	YES	522	Duplicate	523	YES	524	NO
525	NO	526	PHR	527	NO	528	YES
529	NO	530	Hospital	531	Medical Records	532	A/E
533	Police	534	MLC	535	YES	536	Court
537	Authorized	538	Impersonal	539	A/E	540	24
541	YES	542	YES	543	YES	544	YES
545	YES	546	Special	547	NO	548	YES
549	YES	550	NO	551	YES	552	YES
553	YES	554	NO	555	NO	556	YES
557	YES	558	NO	559	YES	560	YES
561	YES	562	NO	563	YES	564	YES
565	YES	566	NO	567	3	568	72
569	One	570	5	571	3	572	YES
573	3	574	YES	575	YES	576	YES
577	YES	578	NO	579	Initial	580	YES
581	Digital	582	YES	583	Written	584	Number
585	Date	586	Black	587	YES	588	YES
589	Hybrid	590	Purging	591	Integrity	592	YES
593	YES	594	Science of life	595	Ayurveda	596	Mahabhut
597	22	598	Tibb	599	4000	600	Yoga
601	YES	602	YES	603	YES	604	YES
605	NO	606	United	607	ISO	608	NO
609	1951	610	1990	611	YES	612	YES

613	Quality	614	USA	615	1990	616	NABH
617	4, 3,	618	Two	619	MRD	620	Patient
621	JCI/NABH	622	Feedback	623	Nurse	624	YES
625	NO	626	YES	627	YES	628	YES
629	64	630	YES	631	NO	632	YES
633	NO	634	NO	635	Two	636	YES
637	YES	638	YES	639	NO	640	YES
641	No	642	YES	643	YES	644	YES
645	YES	646	YES	647	YES	648	YES
649	YES	650	YES	651	One	652	Satisfaction
653	YES	654	YES	655	YES	656	NO
657	NO	658	Patient	659	Patient	660	Outpatient
661	Day-care	662	Inpatient	663	Statistics	664	Standards
665	Manpower	666	Better	667	YES	668	Masterly
669	Personal	670	Tension	671	Confident	672	Confidence
673	YES	674	NO	675	Consensus	676	Audience
677	Training	678	Page	679	Emotional	680	Others or All
681	Opinion	682	Leadership	683	Delegate	684	Leadership
685	Listening	686	Motivational	687	YES	688	Open-mind
689	Oral/verbal	690	Oral/verbal	691	Personalized	692	Personalized
693	Persuasion	694	Productivity	695	Persuasion	696	Positive
697	Recognition	698	Recognition	699	Respect	700	Respect
701	Roadmap	702	Face	703	Writing	704	Writing
705	Goals	706	YES	707	Repeat	708	Results
709	YES	710	Leader	711	First	712	Leader
713	Leader	714	Leader	715	Courageously	716	Leaders
717	Leadership	718	YES	719	High	720	Moderate
721	Low	722	Low	723	Moderate	724	High
725	YES	726	Leaders	727	Behaviours	728	Inside
729	Leadership	730	Character	731	Harmony	732	Glue
733	Leader	734	Trust	735	Leader	736	Leader
737	Listener	738	Listen	739	Listener	740	Avoid

741	Volumes	742	Leadership Talk	743	Motivate	744	Informal
745	Ten	746	Low-Efficiency	747	High-Efficiency	748	Motivation
749	Motivation	750	Motivation	751	Motivator	752	Great
753	YES	754	Four	755	One	756	Two
757	Three	758	Four	759	Problems	760	Half
761	Half	762	Fear	763	Jump	764	Curiosity
765	YES	766	Desire	767	Innovative	768	One
769	Two	770	Three	771	Four	772	Fear
773	Develop	774	Improving	775	Oriented	776	Development
777	Execute	778	Superior	779	Static	780	Parallel
781	Vital	782	Wheels	783	Break	784	Yes
785	Yes	786	Collection	787	Outpatient	788	Inpatient
789	A/E or ER	790	NO	791	NO	792	World
793	WHO	794	Medical	795	Secondary	796	Disease
797	YES	798	LOS	799	Two	800	YES
801	Hybrid	802	Hybrid	803	YES	804	Paper
805	YES	806	Tracking	807	Bar	808	YES
809	Mini	810	YES	811	Internet	812	YES
813	PACS	814	Bar coding	815	Record	816	No
817	Server	818	System	819	Meetings	820	Flow-chart
821	System	822	Form	823	Friendly	824	Flow
825	Central	826	HIPO	827	Hardware	828	Decide
829	Program	830	Error or Bugs	831	Unauthorized	832	YES
833	NO	834	Evaluation	835	Scheduled	836	Strctured
837	Many	838	Telemedicine	839	Tele-radiology	840	Individual
841	Name	842	User	843	EHR	844	Records
845	YES	846	Hippocrates	847	Hippocrates	848	1960s
849	George W Bush	850	Costs	851	Quality	852	Quality
853	Formulation	854	Pathway	855	Gartner	856	First
857	Second	858	Third	859	Fourth	860	Fifth
861	Business	862	Physician	863	Culture	864	Quality
865	Costs	866	6	867	2	868	4

869	6	870	Textual	871	Contextual	872	Mathematical
873	Thinking	874	Cost	875	Itself	876	2007
877	EHR	878	EHR	879	HL7	880	10
881	Populated/Import.	882	EHR	883	YES	884	YES
885	YES	886	YES	887	YES	888	YES
889	YES	890	YES	891	YES	892	YES
893	Difficult	894	Paperless	895	YES	896	What
897	YES	898	Document/Record	899	Visit	900	YES
901	YES	802	Plan	903	Decide	904	YES
905	Develop	906	NO	907	Policies	908	Revise
909	Procedures	910	Vast	911	YES	912	YES
913	YES	914	Software	915	Level	916	Computers
917	Computing	918	YES	919	Health Level-7	920	YES
921	YES	922	YES	923	Weakness	924	EHR
925	Vendor	926	LAN	927	Network	928	Workflow
929	YES	930	YES	931	YES	932	YES
933	YES	934	NO	935	YES	936	YES
937	YES	938	YES	939	YES	940	YES
941	YES	942	YES	943	YES	944	YES
945	YES	946	Nursing	947	Secondary	948	Curative
949	Nursing	950	Nursing	951	Nursing	952	Nursing
953	Nurse	954	Window	955	Nurse	956	Nursing
957	Diagnosis	958	Nursing	959	Electronic	960	Elcetriconic
961	Skills	962	Inpatient	963	Master	964	Patient
965	Three	966	Surveyed	967	System	968	Execution
969	Medical Record	970	MRD's	971	Physician	972	Patient
973	Patient	974	EHR	975	EHR	976	Patient
977	Hospital	978	Recognition	979	Increasing	980	Duplication
981	Competing	982	Leaders	983	Safe	984	Cost
985	Country	986	Challengng	987	Operating	988	Revenue or Income
989	Three	990	Vital	991	TRUE	992	TRUE

993	Tertiary	994	YES	995	Agree	996	YES
997	YES	998	YES	999	Three	1000	YES
1001	TRUE	1002	Yes	1003	YES	1004	YES
1005	YES	1006	YES	1007	Agree	1008	TRUE
1009	YES	1010	Agree	1011	TRUE	1012	YES
1013	YES	1014	YES	1015	YES	1016	Agree
1017	Required	1018	YES	1019	YES	1020	YES
1021	Agree	1022	YES	1023	Agree	1024	YES
1025	YES	1026	YES	1027	YES	1028	Mrs. Grace Myers
1029	Elsie R. Mansell	1030	Fifth	1031	Skrinjar	1032	Phyllis Watson
1033	Carol Lewis	1034	Prof. Dr. Mogli	1035	YES	1036	Countries
1037	Safe	1038	TRUE	1039	YES	1040	YES
1041	Agree	1042	77	1043	YES	1044	BAR
1045	Agree	1046	YES	1047	Annexure-I	1048	Annexure-II
1049	Annexure-III	1050	Annexure IV				

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Brainstorming Quiz Question bank for HIM and Health Informatic Professionals (Answers are given below)

This chapter has 70 Brainstorming Quiz Questions with answers at the end of the questions. This contains vital and all HIM professionals should know as they play a vital role in the patient care process and the HIM should be aware of the fundamentals of each service or procedures to succeed in the profession.

Q. No.	Quiz Question bank for HIM and Health Informatic Professionals
1	What is Clinical Pathology
2	What is the Classification of Disease
3	What is the Classification of Lesions?
4	What are the classifications of tumors?
5	What are the classifications of tumors?
6	What is Microbiology?
7	What are the 5 methods of disease transmission?
8	What is Immunodiagnostics?
9	What is Immunological Diagnostic Techniques of Medical Viruses?
10	What are the principles of diagnosis?
11	What are the principles of bacteria identification?
12	What are Infectious diseases:
13	What are the principles of diagnostics of infectious diseases
14	What are the diagnostic techniques for the identification of parasitic infection
15	Diagnosis of fungal infection:
16	What is the principle of laboratory diagnosis of viral disease?
17	What is biochemistry in simple words?
18	What is sugar?
19	What is Protein?
20	What is a Protein-bound iodine test?
21	What binds iodine?
22	What is Lipids?
23	What is Lipid metabolism?
24	What is the glucose tolerance test?
25	What is radioactive iodine uptake (RAIU)?
26	What is the principle of radioimmunoassay?
27	What is the meaning of vitamin deficiency?
28	What is Vitamin B12?
29	What are deficiency diseases of vitamins?
30	What are normal and abnormal constituents of Urine?
31	What is the normal constituent of urine?
32	What is Haematology?
33	What is Serology?
34	What is a serology test for?
35	What is Blood Transfusion?
36	What is Radiology?

37	What is Radiation therapy?
38	What do you do during radiation treatment?
39	What is Chemotherapy?
40	What exactly does chemotherapy do?
41	What is the procedure for an angiogram
42	What is angioplasty?
43	What are Stents?
44	What is Open heart bypass surgery?
45	What is the difference between open heart surgery and bypass surgery?
46	What is Open Heart Surgery?
47	What is a Bypass Surgery?
48	What is Pharmacology?
49	What is Pharmacy?
50	Who is Pharmacist?
51	What is Psychiatry?
52	What is Psychology?
53	What is Behavioral Neuroscience?
54	What is Clinical Psychology?
55	Who is Child Psychologist?
56	What cardiac or heart failure, respiratory failure or peripheral failure are considered as cause of death?
57	What is the Definition of the Cause of Death?
58	What is the Underlying Cause of Death?
59	Why it is important training of medical staff and nursing staff on writing cause of death?
60	What is Medical Auditing?
61	What is Patient Care Evaluation?
62	What period a discharged patient record can be kept by the ward?
63	What is the confidentiality of patient records?
64	What is Security of Medical Records?
65	Why MRD has to make monthly and yearly statistical reports?
66	Role of MRO in the hospital:
67	Observing Dr. Mogli's Oath of Ten AUSPICIOUS Commandments by MRO:
68	What is the Definition of MLC
69	What is the Hospital disaster management?
70	What are the Top 10 Killer Death Diseases in India?

Answers to the 70 Brainstorming Quiz Questions.

- 1. What is Clinical Pathology:** Clinical pathology covers many lab functions. It is concerned with disease diagnosis, treatment, and prevention. Clinical pathologists are healthcare providers with special training. They often direct all the special divisions of the laboratory. (e.g., Blood, other body fluids, and Urine is collected as a specimen for many tests)
- 2. What is the Classification of Disease:** A classification of diseases may be defined as a system of categories to which morbid entities are assigned according to some established criteria. There are many possible choices for these criteria.
- 3. What is the Classification of Lesions?** According to Andreasen's classification, the lesions are classified into six clinical types: reticular, erosive, atrophic, plaque, popular, and bullous. And they classify three different classes of lesions called melanoma, seborrheic keratosis, and benign or nevus.
- 4. What are the classifications of tumors?** Two main classifications: germinomatous or seminomatous germ-cell tumors (seminoma, germinoma) and non-germinomatous or non-seminomatous germ-cell tumors (choriocarcinoma, teratoma, gonadoblastoma).
- 5. What is the Classification of a tumor?** Tumors can be classified as benign or malignant. Benign tumors are those that stay in their primary location without invading other sites of the body. They do not spread to local structures or to distant parts of the body. Benign tumors tend to grow slowly and have distinct borders. A benign tumor can become quite large, but it will not invade nearby tissue or spread to other parts of your body. A malignant tumor has irregular borders and grows faster than a benign tumor. A malignant tumor can also spread to other parts of your body.
- 6. What is Microbiology?** is the study of the biology of microscopic organisms - viruses, bacteria, algae, fungi, slime molds, and protozoa that are too small to be visible to the naked eye. This includes bacteria, archaea, viruses, fungi, prions, microbes, and the human body · Fungi · Bacteria · Viruses. The methods used to study and manipulate these minute and mostly unicellular organisms differ from those used in most other biological investigations. The mode of transmission can include direct contact, droplets, and a vector such as a mosquito, a vehicle such as food, or the airborne route. The susceptible host has multiple portals of entry such as the mouth or a syringe
- 7. What are the 5 methods of disease transmission?** Or (5 common ways germs are spread) Nose, mouth, or eyes to hands to others: Germs can spread to the hands by sneezing, coughing, or rubbing the eyes and then can be transferred to other family members or friends. Hands to food - Food to hands to food - Infected child to hands to other children: Animals to people:
- 8. What is Immunodiagnosics?** this is a diagnostic methodology that uses an antigen-antibody reaction as their primary means of detection. The concept of using immunology as a diagnostic tool was introduced in 1960 as a test for serum insulin.
- 9. What is Immunological Diagnostic Techniques of Medical Viruses?** Several immunological diagnostic techniques are available for the detection of human viral infections in clinical samples, including enzyme-linked immune-sorbent assay, western blotting, immunofluorescence assay, and hem agglutination inhibition assay. The general approaches to laboratory diagnosis vary with different microorganisms and infectious diseases. However, the types of methods are usually some combination of direct microscopic examinations, culture, antigen detection, and antibody detection (serology).

10. What are the principles of diagnosis? Signs and symptoms vary according to the site and severity of the infection. Diagnosis requires a composite of information, including history, physical examination, radiographic findings, and laboratory data.

11. What are the principles of bacteria identification? Identification of bacteria (including mycobacteria) is based on growth characteristics (such as the time required for growth to appear or the atmosphere in which growth occurs), colony and microscopic morphology, and biochemical, physiologic, and, in some instances, antigenic or nucleotide sequence characteristics.

12. What are Infectious diseases: Infectious diseases are diagnosed by the detection of a bacterium, virus, fungus, protozoan, or helminthic in a patient with a compatible clinical illness.

13. What are the principles of diagnostics of infectious diseases? There are four steps in the discovery of emerging pathogens: (1) awareness of the presence of an unknown disease, (2) detection of an infectious agent in association with the disease, (3) determination that the agent causes the disease (Koch's postulates revisited), and (4) determination that the etiologic agent.

14. What are the diagnostic techniques for the identification of parasitic infection? An etiological examination is to detect the parasitic pathogen from such specimens as stool, blood, bone marrow, sputum, body excretions, and secretions as well as tissue from the patient. It can be categorized into a staining test and a non-staining test. The test is done health care provider taking a blood sample and sending it to a lab. Blood smear. This test is used to look for parasites that are found in the blood. By looking at a blood smear under a microscope, parasitic diseases such as filariasis, malaria, or babesiosis, can be diagnosed.

15. Diagnosis of fungal infection: has relied primarily on methods such as direct microscopic examination of clinical samples, histopathology, and culture.

16. What is the principle of laboratory diagnosis of viral disease? The traditional approaches to the laboratory diagnosis of viral infections have been (1) direct detection in patient material of, viral antigens, or viral nucleic acids, (2) isolation of the virus in cultured cells, followed by identification of the isolate, and (3) detection and measurement of antibodies.

17. What is biochemistry in simple words? Biochemistry is the application of chemistry to the study of biological processes at the cellular and molecular levels. It emerged as a distinct discipline around the beginning of the 20th century when scientists combined chemistry, physiology, and biology to investigate the chemistry of living systems. In other words; the branch of science concerned with the chemical and physicochemical processes and substances that occur within living organisms. The processes and substances with which the science is concerned is biochemistry.

18. What is sugar? The white stuff we know as sugar is sucrose, a molecule composed of 12 atoms of carbon, 22 atoms of hydrogen, and 11 atoms of oxygen (C₁₂H₂₂O₁₁). Like all compounds made from these three elements, sugar is a carbohydrate. The primary function of sugar in your body's metabolism is to provide energy to power your activities. Additionally, sugar can convert to a stored form of energy in your body, and it plays a role in conserving your lean muscle mass.

19. What is Protein: The nutrient that is used in building, repairing, and maintaining body tissues. Every tissue Protein metabolism helps repair and build your body's tissues. It drives metabolic reactions, maintains pH and fluid balance, and keeps the immune system strong. It also transports and stores nutrients and can act as an energy source. These proteins provide structure and support for cells.

On a larger scale, they also allow the body to move. These proteins bind and carry atoms and small molecules within cells and throughout the body. Protein **helps repair and build your body's tissues**. It drives metabolism the major functions of proteins are **providing structure, regulating body processes, transporting materials, balancing fluids**, helping with ...actions, maintaining pH and fluid balance, and keeping the immune system ...

20. What is a Protein-bound iodine test: also called the PBI test, a laboratory test indirectly assesses thyroid function by measuring the concentration of iodine bound to proteins circulating in the bloodstream.

21. What binds iodine? Thyroglobulin is a protein made from amino acids. The most important amino acid in thyroglobulin is tyrosine because it is the component that binds with iodine.

22. What is Lipids? are fatty compounds that perform a variety of functions in your body. They're part of your cell membranes and help control what goes in and out of your cells. They help with moving and storing energy, absorbing vitamins, and making hormones. Having too many lipids is harmful. Within the body, lipids function as an energy reserve, regulate hormones, transmit nerve impulses, cushion vital organs, and transport fat-soluble nutrients.

23. What is Lipid metabolism? is involved in different active functions of our body, such as energy storage, hormone regulation, nerve impulse transmission, and fat-soluble nutrient transportation. Liver function tests are **blood tests that measure different enzymes, proteins, and other substances made by the liver**.

24 What is the glucose tolerance test, also known as the oral glucose tolerance test, which **measures your body's response to sugar (glucose)**.

25. What is radioactive iodine uptake (RAIU) tests for thyroid function? It measures how much radioactive iodine is taken up by your thyroid gland. Radioactive Iodine Uptake, or RAIU, is a test of thyroid function. The test measures the amount of radioactive iodine (taken by mouth) that accumulates in the thyroid gland.

26. What is the principle of radioimmunoassay? The basic principle of radioimmunoassay is **competitive binding**, where a radioactive antigen ("tracer") competes with a non-radioactive antigen for a fixed number of antibody or receptor binding sites. A radioimmunoassay (RIA) is an immunoassay that uses radiolabeled molecules in a stepwise formation of immune complexes.

27. What is the meaning of vitamin deficiency? Vitamin deficiency is the condition of a long-term lack of a vitamin. When caused by not enough vitamin intake it is classified as a primary deficiency, whereas when due to an underlying disorder such as malabsorption it is called a secondary deficiency.

28. What is Vitamin B12: Lack of vitamin B12 causes pernicious anemia. Other diseases related to B12 deficiency are muscle and nerve paralysis, extreme fatigue, and dementia. K (Phylloquinone): Excessive bleeding. C (Ascorbic acid): Scurvy; Iron: Anaemia and Iodine: Goitre, enlarged thyroid gland

29. What are deficiency diseases of vitamins?

List of Deficiency Diseases

Types of Vitamins	Deficiency Diseases
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B12 (Cyanocobalamin)	Anaemia
C (Ascorbic acid)	Scurvy
D (Calciferol)	Rickets
K (Phylloquinone)	Excessive bleeding due to injury

30. What are normal and abnormal constituents of Urine? These include urea, uric acid, and creatinine. The abnormal constituents of the urine are blood cells, albumin, and glucose. The presence of albumin, glucose, and blood cells in the urine causes pathological conditions called albuminuria, glycosuria, and haematuria respectively

31. What is the normal constituent of urine? It is an aqueous solution of greater than 95% water. Other constituents include urea, chloride, sodium, potassium, creatinine, other dissolved ions, and inorganic and organic compounds.

32. What is Haematology? The branch of medicine involves the study and treatment of blood. Hematology involves the diagnosis and treatment of patients who have disorders of the blood and bone marrow. Whilst a major part of a hematologist's time is spent in providing direct clinical care to patients, diagnostic work in the laboratory is also a significant part of their work.

33. What is Serology? The scientific study or diagnostic examination of blood serum related to the response of the immune system to pathogens or introduced substances.

34. What is a serology test for? A laboratory test that checks for the presence of antibodies or other substances in a blood sample. Antibodies are proteins made by the body's immune system in response to a foreign substance or microorganism, such as a virus.

35. What is Blood Transfusion: an injection of a volume of blood, previously taken from a healthy person, into a patient. A procedure carried out in which whole blood or parts of blood are put into a patient's bloodstream; through a vein. The blood may be donated by another person or it may have been taken from the patient and stored until needed.

36. What is Radiology: is a branch of medicine that uses imaging technology to diagnose and treat disease. Radiology may be divided into two different areas, diagnostic radiology, and interventional radiology. Doctors who specialize in radiology are called radiologists. Radiology science deals with X-rays and other high-energy radiation, especially the use of such radiation for the diagnosis and treatment of disease.

37. What is Radiation therapy uses high-energy particles or waves, such as x-rays, gamma rays, electron beams, or protons, to destroy or damage cancer cells. Your cells normally grow and divide to form new cells. Radiation therapy kills cancer cells or slows their growth by damaging their DNA. Radiation therapy (also called radiotherapy) is a cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors that grow and divide faster than most normal cells.

38. What do you do during radiation treatment? During external beam radiation therapy, you're positioned on a table and a large machine moves around you sending beams of radiation into precise points in your body. External beam radiation therapy is usually conducted using a linear accelerator — a machine that directs high-energy beams of radiation into your body.

39. What is Chemotherapy: The treatment of disease includes the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs.

40. What exactly does chemotherapy do? Chemotherapy circulates throughout your body in the bloodstream. So it can treat cancer cells almost anywhere in the body. This is known as systemic treatment. Chemotherapy kills cells that are in the process of splitting into 2 new cells.

41. What is the procedure for an angiogram? An angiogram is a **diagnostic procedure that uses imaging to show your provider how your blood vessels or heart are.** In a coronary angiogram, a catheter is inserted into an artery in the groin, arm, or neck and threaded through the blood vessels to the heart. A coronary angiogram can show blocked or narrowed blood vessels in the heart. A coronary angiogram is a procedure that uses X-ray imaging to see your heart's blood vessels.

42. What is angioplasty? Angioplasty is a procedure used to open blocked coronary arteries caused by coronary artery disease. It restores blood flow to the heart muscle without open-heart surgery. Angioplasty can be done in an emergency setting such as a heart attack. Or it can be done as elective surgery if your healthcare provider strongly suspects you have heart disease. Angioplasty is also called percutaneous coronary intervention.

43. What are Stents? Coronary stents are now used in nearly all angioplasty procedures. A stent is a tiny, expandable metal mesh coil. It is put into the newly opened area of the artery to help keep the artery from narrowing or closing again.

44. What is Open heart bypass surgery? Heart bypass surgery is typically an open-heart surgery, which means the surgeon cuts the chest open to reach the heart. The surgeon can then perform the surgery “on-pump” or “off-pump.” On-pump surgery involves using a heart-lung machine that circulates blood and performs the gas-exchange function of the lungs.

45. What is the difference between open heart surgery and bypass surgery? Open heart surgery is performed by making cuts in the patient's chest to reach the heart. In case of bypass surgery is a specific type of open-heart surgery where the remainder of surgery is off-pump or on-pump.

46. What is Open Heart Surgery? As the name suggests, this kind of heart surgery is performed by making cuts in the patient's chest to reach the heart. Open heart surgery is performed in case there is a blockage in the artery supplying blood to the heart. It is conducted to prevent the risk of a fatal heart attack and replace or repair damaged heart valves.

47. What is a Bypass Surgery? Bypass surgery is a specific type of open-heart surgery where the doctors usually open up the patient's chest to access the heart. After opening up the chest, the

doctors perform the remainder of the surgery in two avatars: off-pump and on-pump. For off-pump surgeries, the patient's heart keeps on beating throughout the entire procedure; thus, it is also known as beating heart surgery. Under this surgery, no heart-lung machine is required by the doctor. Also, this type of surgery is often possible without the cut in the chest and is thus categorized as closed heart surgery. The side effects and risks vary from individual to individual. Seek the advice of doctors in this case.

On the other hand, in the case of an on-pump surgery, the surgeons use heart-lung machines to stop the heart and efficiently conduct the operation. The heart-lung device helps in blood circulation and breathing alike. This surgery is performed by making cuts in the chest of the patient.

48. What is Pharmacology? The study of the origin, chemistry, and uses of drugs and their effects on the body? Pharmacology is the scientific study of the effects of drugs and chemicals on living organisms where a drug can be broadly defined as any chemical substance, natural or synthetic, which affects a biological system.

49. What is Pharmacy? a shop or hospital dispensary where medicinal drugs are prepared or sold. A pharmacy is a place of preparation and dispensing of medicines or drugs or ointments to needy patients. There are five types of pharmacies that also create and distribute medication. Hospital pharmacies provide drugs for patients who are getting inpatient and outpatient services in the facility such as 1. Clinic Pharmacy. 2. Research Pharmacy. 3. Regulatory Pharmacy. 4. Compounding and 5. Infusion Pharmacy.

50. Who is Pharmacist? The basic duty of a pharmacist is to check prescriptions from physicians before dispensing the medication to the patients to ensure that the patients don't receive the wrong drugs or take them.

51. What is Psychiatry: Psychiatry is the branch of medicine focused on the diagnosis, treatment, and prevention of mental, emotional, and behavioral disorders. A psychiatrist is a medical doctor (an M.D. or D.O.) Examples of mental health problems psychiatrists deal with include bipolar disorder, depression, anxiety disorder, personality disorder, panic disorder, post-traumatic stress disorder, and schizophrenia. They also handle drug and substance abuse, addiction, and dependence.

52. What is Psychology? Psychology is the scientific study of the mind and behavior. Psychologists are actively involved in studying and understanding mental processes, brain functions, and behavior. The field of psychology is considered a "Hub Science" with strong connections to the medical sciences, social sciences, and education.

53. What is Behavioral Neuroscience?

- Factors influencing plasticity of the brain and behavior through development and into adulthood
- Hippocampal Biology and Function
- Stress and the brain
- Neurogenesis and brain Plasticity across the lifespan
- Sex-related differences in brain function
- Endocrine and immune regulation of the brain and behavior
- The neurobiology of cognitive control

54. What is Clinical Psychology?

- The treatment of mood and personality disorders using cognitive behavioral therapies
- Biobehavioral Responses to cancer diagnosis and Treatment
- Testing and dissemination of psychological treatments for cancer patients
- Psychological and behavioral adaptation to chronic health problems
- Effects of Exercise on Psychological and cognitive functioning
- Neuroplasticity in healthy aging and neurological disorders
- Mindfulness and cognitive functioning in older adults

55. Who is Child Psychologist? Those who are specialized in Child Psychology are called “Child Psychologist”

56. What cardiac or heart failure, respiratory failure or peripheral failure are considered as cause of death? NO, most of the medical practitioners including senior consultants too write as cause of death. They are symptoms and mode of dying; hence cannot be taken as cause of death or underlying cause of death.

57. What is the Definition of the Cause of Death? The cause of death to be entered on the medical certificate is defined as “those diseases morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries”.

When only one cause of death is recorded, this cause is selected for tabulation. When death results from the combination of two or more conditions, these conditions may be completely unrelated, arising independently of each other; or they may be casually related to each other, that is, one condition may lead to another which in turn leads to a third condition and so on. Where there is a sequence, the underlying cause, i.e., the disease or injury that initiated the sequence of events will get selected for the purpose of tabulation. The condition does not include symptoms and modes of dying, such as heart failure or respiratory failure.

58. What is the Underlying Cause of Death? The cause of death for primary tabulation should be designated the underlying cause of death. To prevent the precipitating cause from operating the underlying cause has been defined as:

(a) the disease or injury that initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence that produced the fatal injury. All these morbid conditions or injuries and consequences to the underlying cause relating to death are termed as the antecedent and immediate cause.

59. Why it is important training of medical staff and nursing staff on writing cause of death? It has been the experience of many hospitals and MROs that their death certificates don't meet the prescribed information on most of the death certificates. The MROs do not dare to question or ask the senior consultants and under their care patients are admitted and treated. The responsibility for accuracy, timely written, relevant, and complete records rests with the doctor under whose care was admitted. To avoid litigations, and to maintain a good record system; the need to impart a regular orientation to all the doctors and nurses about properly writing the cause of death in the death certificates and proper tabulation of mortality statistics.

60. What is Medical Auditing? Medical auditing is a systematic performance assessment within a healthcare organization. A medical audit is a systematic approach to peer review of medical care in order to identify opportunities. Most healthcare elements can be audited, but many audits look at components of payer reimbursement processes to evaluate compliance with payer guidelines and federal and state regulations.

61. What is Patient Care Evaluation: Patient evaluation is made through medical history, physical examination, routine laboratory tests, and other diagnostic procedures. Healthcare evaluation is the critical assessment, through rigorous processes, of an aspect of healthcare to assess whether it fulfills its objectives. Aspects of healthcare that can be assessed include Effectiveness – the benefits of healthcare measured by improvement.

62. What period a discharged patient record can be kept by the ward? As a policy the patient discharged records are to be handed over to the Census clerk or return to MRD within 48 hours. Due to Corporate hospitals dealing with many insurance cases; it has become necessary to access and keep the records by them till the patient payment is paid by the either insurance company or by the patient. In such situation, the MRD will not be getting records within 48 hours. The MRD needs to wait one more day extra in some cases or even more. This may not have much effect. If the record is incomplete or has some deficiencies by doctors or healthcare providers, the MRD applies the “Deficiency Check List” to the record and gets completed by the healthcare providers later. The crux of the issue; is in some incomplete records have gone into the hands of corporate staff for settling the bill. As a general practice, the entire discharged record is photocopied or scanned; hence this record information is with them. Later, after the completion of records by the healthcare providers; the record has varied information with the insurance company and the MRD. This will create administrative and legal problems.

Hence, it is necessary for the hospital and the MRD to ensure all the patient records must be completed on a concurrent basis. This system is very much practically applicable to electronic health records. To avoid any issue later, the hospital and MRD policy should be that records be complete on a regular basis and to ensure this, the MRD should send the Census or any designated clerk on a daily basis to all the wards to check whether the treating records are complete or not. If not, insert a deficiency slip and make the staff including the treating doctor and nurse ensure that all the information is completed and intact, and then only the record is given to the insurance staff before the record is scanned.

63. What is the confidentiality of patient records? Confidentiality in the medical setting refers to “the principle of keeping secure and secret from others, the information given by or about an individual in the course of a professional service rendered to the patient. Confidentiality means the state of keeping secrets or not disclosing information. Confidential information, therefore, is information that should be kept private or secret. It is the right of an individual that his/her personal and medical information is kept private or confidential. Such delicate and confidential information about the individual should only be between him and the doctor, physician, healthcare, or Health Insurance Company. The medical information of the patient given to a health care provider shall not be divulged to others unless the patient gives his consent to disclose such information to others. In the USA, HIPAA’s privacy rules are very stringent, and any deviant will be liable for penalties and the responsible for patient confidentiality, as per HIPAA's Privacy Rule, which states that medical professionals cannot legally share patient information without their consent. Patient confidentiality supports the needs of both patient and physician. It protects patients from having their data misused, relationship and it is the right of every patient, even after death.

64. What is Security of Medical Records? Security of Medical Records or Health Record Information means the records in MRD to be safeguarded from any unauthorized to access the records or the information in it whether manual or electronic. And ensure the records are kept under lock and key or access to only authorized staff and protected from insects, termites, sun, water, fire, smoke or any other item that damage the quality of records or information. Preserve records according to the laws of national or state or hospital retention policy schedule. Be careful the records in teaching or research institutions and other institutions have the infrastructure to retain longer periods can be done. But never destroy records prior to the mandatory schedule period. Security also refers to maintaining the integrity of manual and electronic medical information. It is advisable to protect the manual records and network, educate the staff on the security of records,

65. Why MRD has to make monthly and yearly statistical reports? Statistics is a yardstick or barometer to measure the quantitative work done by the hospital staff, especially medical, nursing, and allied health departments. Through this practice, the MRD is collecting daily/monthly reports of OPD, A/E, IP and lab, radiology, dietary, etc. by the 5th of every month and prepares a consolidated report comparing with the last month's and last year's reports. The MRO has to do the collected data analysis and interpret the outcome of each department. The monthly report should be released to all the heads of department and the administration by the 10th of every month promptly. The report attracts the department heads to note the progress made and lacuna compared to others; and not only become interested in but competitive to do better than others. If they find any information is not tallying according to their calculation, they discuss it with MRO. In this way, the HODs depend on MRD and becomes in maintaining good records that will be useful for medical education and research besides protecting legally. In turn, you and your department become indispensable. There are many ways of presenting reports for efficient management that will lead the MRO to develop the MRD as one of the efficiently managed departments and his close link with management will enhance and that will help to promote the department and staff career.

66. Role of MRO in the hospital: Any qualified MRO has to realize that his job is to ensure that the staffs are trained and organize the MRD effectively to serve patient care efficiently. The MRD is not just a store room where records are stored, arranged, and retrieved. Its functions include developing medical record forms, or computer screens, and organizing the record system in OPD, A/E, and Inpatient wards. Wherever the records are used or processed; the MRO and his department involves. Currently, most corporate hospital MRDs are restricted to only the Inpatient records and the MRD. The outpatient registration and processing of records are managed by other staff; could be outsourced but not under the MRO. Similarly, the hospital coordinators in the inpatient wards also play a good role but are not attached to the MRD; in this way, although there are many staff working for the Medical record services throughout the hospital; but under various leaders. A prudent MRO will work hard and commit to his job and take all these responsibilities under his supervision as he is fully qualified and trained in the field. He will have adequate staff to train and arrange judiciously and improve the record system to a greater level and that will make his MRD and his status valuable. This way the MRO and his staff will outshine and succeed in achieving their goal.

67. Observing Dr. Mogli's Oath of Ten AUSPICIOUS Commandments by MRO:

Ten AUSPICIOUS Commandments: strongly suggested as the Ten Commandments comprehensively covers all healthcare professionals' especially the MROs responsibilities. If honestly executes he/she will outshine and succeed.

A: Acquaint	U: Uphold
S: Serve	P: Participate
I: Innovate	C: Contribute
I: Inspire	O: Outshine
U: Unify	S: Succeed

Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals"

In the name of my beloved parents, and teachers, God, made them as my witnesses that I, (Name)_____ take the Oath to fulfill my obligation to serve the sick and injured with full devotion by executing Dr. Mogli's Ten (AUSPICIOUS) Commandments throughout my professional life. I will...

68. What is the Definition of MLC? As per Prof. Dr. Mogli "all cases of Accidental, Homicidal and Suicidal are considered to be Medico-Legal cases in exceptional cases like children; or patient was getting care in the same hospital are "Brought Dead" at the discretion of treating physician to treat them as MLC or not. Cases wherever the attending doctor after taking history and clinical examination of the patient the treating physician determines whether the patient is a medic-legal or not; in fact all the cases of Accidental, Homicidal and Suicidal and all adult cases are MLCs, except in children are generally considered MLC. In some cases like Poison; rape need to collect investigations samples by law are essential to diagnose or right cause in accordance with the law of land.

Examples of MLC: 1. Injuries due to Accidents and Assault. 2. Suspected or evident cases of suicides or homicides (even attempted cases). 3. Confirmed or suspected cases of Poisoning. 4. Burns. 5. Cases of injuries with the likelihood of death. 6. Sexual Offences. 7. Suspected or evident Criminal Abortion. 8. All patients brought to the hospital in suspicious circumstances/ improper history (ex: found dead on road). 9. Unconscious patients where the cause of unconsciousness is not clear. 10. Child Abuse 11. Domestic violence, 12. A person under Police Custody or Judicial Custody. 13. Patients dying suddenly on the operation table or after the parenteral administration of a drug or medication. 14. Case of Drunkenness. 15. Brought Dead. 16. Natural Disaster.

The Police intimation: The police should be informed under Section 39 of Criminal Procedure. Code, the attending MO is legally bound to inform the police about the arrival of an MLC. Any failure to report the occurrence of an MLC may invite prosecution under Sections 176 and/or 202 of I.P.C. (According to Prof. Dr. Mogli; "Not documented in the patient record means not done".

69. What is the Hospital disaster management? Hospital disaster management provides the opportunity to plan, prepare and when needed enables a rational response in case of disasters/ mass casualty incidents (MCI). Disasters and mass casualties can cause great confusion and inefficiency in hospitals. The main objective of the Hospital Disaster Management Plan is to optimally prepare the staff, institutional resources, and structures of the hospital for effective performance in different disaster situations. The role of HIM is to be very active members of the hospital disaster team and facilitate the medical record system including the spot registration with identification tags, pre-numbered labels; apply bar-code system; (if necessary photographs of patients and keeping ready a few hundred records well-arranged and train the HIM staff and also doctors and nurses who use these records the methodology applied so that the treatment of injured and other patients can be carried out instantly. All these records with proper arrangements are kept in a well-designed trolley for disaster cases either kept in the A/E department or in MRD. If kept in MRD, it is ensured the moment disaster alarm or alert notification is received; the trolley is available place of care in a few minutes' time. The

HI Manager or his designate for the purpose must be alert and along with his team ready to assist the medical disaster team.

70. What are the Top 10 Killer Death Diseases in India?

(With the advancement in the medical and healthcare industry, a lot has changed in India. Many fatal diseases have been exterminated with the invention of powerful vaccinations and treatment courses)

S. No	Disease	Causes of Disease	% of Deaths	Prevention Methods
1	Cardio-vascular Diseases	1. Use of tobacco 2. Diet, physical inactivity, and obesity 3. High cholesterol and high blood pressure 4. Heredity	24.8%	1. Quit smoking and use of tobacco 2. Eat a heart-healthy diet 3. Maintain a healthy weight
2	Respiratory Diseases	1. Smoking 2. Air pollution 3. Silica dust, Asbestos, grain dust	10.2%	1. Stay active; make sure your workplace is safe 2. Eat a healthy diet 3. Breathe deeply 4. Quit smoking
3	Tuberculosis	1. Contagious causes	10.1%	1. Vaccination with BCG vaccine 2. Eat a healthy diet 3. Regular preventative tests
4	Malignant and Other Tumours	1. Chemical or toxic compound exposures 2. Ionizing radiation 3. Pathogens 4. Genetics 5. Some unknown causes	9.4%	1. Avoid tobacco usage 2. Eat a healthy diet 3. Maintain a healthy weight and stay active 4. Get regular medical care and immunization
5	Defined Conditions.	Defined Conditions (In India die due to III defined conditions due to unknown and undetermined)	5.3%	1. Get regular medical care
6	Digestive Diseases	The major cause is the negligence of people while consuming food.1. Unhealthy food 2. Medications: Aspirin 3. Alcohol and tobacco abuse	5.1%	1. Quit smoking and void the use of alcohol 2. Eat a healthy diet 3. Exercise lightly 5 days a week 4. Avoid daily use of aspirin, sulpha drugs, and steroids
7	Diarrheal Diseases	1. Food poisoning (bacterial infection) 2. Eating foods that upset the digestive system; allergic food 3. Medications and radiation therapy	5.0%	1. Wash hands frequently 2. Eat a healthy diet 3. Quit alcohol

8	Unintentional Injuries	India is rated as the number 1 country when it comes to deaths in road accidents!1. Accidents/disasters	4.6%	<ol style="list-style-type: none"> 1. Drive carefully 2. Carry a first aid kit
9	Intentional Self Harm	<p>Suicide is the second most cause of death among Indians aged 15-29 years</p> <ol style="list-style-type: none"> 1. Suicide 	3.0%	<ol style="list-style-type: none"> 1. Don't stress yourself 2. Talk to loved ones 3. Rehabilitation and counselling
10	Malaria	<p>A survey report has revealed that about 95% of the country's population resides in malaria-endemic areas.</p> <ol style="list-style-type: none"> 1. Parasite transmission by mosquitoes 	2.8%	<ol style="list-style-type: none"> 1. Avoid traveling to unhygienic places 2. Avoid mosquito bite 3. Use mosquito repellent cream

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Brainstorming Quiz Question Bank for HIM & Health Informatics Professionals

Kindly Note: Search the answer from the book - and write the Chapter number (Ch. No) & Page number (P. No). If you do not find the answer in the book; prepare your answer referring other books.

S. No	Question	Ch. No & P. No.
1	What is MRD or HI Department?	
2	Who is called Medical Records Officer or Health Information Manager(HIM)	
3	What are MRO/HIM' academic and Professional Qualifications	
4	What are MRO/HIM responsibilities?	
5	Why does the MRO/HIM have to learn Anatomy & Physiology/	
6	Why does the MRO/HIM have to Learn Medical Terminology?	
7	Why the MRO /HIM has to learn Pathology?	
8	Why the MRO /HIM has to learn basic Microbiology?	
9	Why does the MRO/HIM have to learn basic Biochemistry?	
10	Why does the MRO/HIM have to learn the basics of Haematology?	
11	Why does the MRO/HIM have to learn the basics of Serology?	
12	Why does the MRO/HIM have to learn the basics of Blood Bank?	
13	Why does the MRO/HIM have to learn the basics of Radiology?	
14	Why does the MRO/HIM have to learn the basics of Radiation therapy?	
15	Why does the MRO/HIM have to learn the basics of ECG?	
16	Why the MRO /HIM has to learn the basics of Echocardiogram?	
17	Why does the MRO/HIM have to learn the basics of EEG?	
18	Why does the MRO/HIM have to learn the basics of the Treadmill?	
19	Why does the MRO/HIM have to learn the basics of Ultrasound?	
20	Why does the MRO/HIM have to learn the basics of CT scans?	
21	Why does the MRO/HIM have to learn the basics of MRI?	
22	Why does the MRO/HIM have to learn the basics of Oncology?	
23	Why does the MRO/HIM have to learn the basics of Psychiatry?	
24	Why does the MRO/HIM have to learn the basics of Psychology?	
25	Why does the MRO/HIM have to learn the basics of Nutrition?	
26	Why does the MRO/HIM have to learn the basics of Dietetics?	
27	Why the MRO /HIM has to learn the basics of CSSD?	
28	Why does the MRO /HIM do has to learn the basics of the Biomedical Department?	
29	Why does the MRO /HIM do has to learn the basics of Public Relation service?	
30	Why does the MRO /HIM do has to learn the basics of the Patient Care Relationship Service?	
31	Why does the MRO/HIM have to learn the basics of Quality Assurance?	
32	Why does the MRO /HIM do has to learn the basics of Medical Audit?	
33	Why does the MRO/HIM have to learn the basics of OP service?	
34	Why does the MRO /HIM do has to learn the basics of A/E or ER or	

	Casualty service?	
35	Why the MRO/HIM has to learn the basics of Inpatient?	
36	Why the MRO/HIM has to learn the basics of Operation theatre (OT) service	
37	Why the MRO /HIM has to learn the basics of ICU, ICCU, and NICU?	
38	Why the MRO /HIM has to learn the basics of Physiotherapy?	
39	Why does the MRO /HIM do has to learn the basics of Occupation therapy?	
40	Why does the MRO/HIM have to learn the basics of the Re-habitation service?	
41	Why the MRO /HIM has to learn the basics of Medical Transcription service?	
42	Why does the MRO /HIM do has to learn the basics of the Medical Secretarial Service?	
43	Why does the MRO /HIM do has to learn the basics of Medical /Bio-Statistics?	
44	Why does the MRO /HIM do has to learn the basics of Hospital Administration services?	
45	Why does the MRO/HIM have to learn the basics of Leadership qualities and why?	
46	Why does the MRO /HIM do has to learn the basics of Motivation and how to apply it?	
47	Why does the MRO /HIM do has to learn the basics of Communication Skills?	
48	Why does the MRO /HIM do has to learn the basics of the development of medical record forms?	
49	Why the MRO /HIM has to learn the basics of computer application in HIM dept.?	
50	Why does the MRO /HIM do has to learn the basics of developing computer screens in place of manual forms?	
51	Why does the MRO /HIM have to learn the basics of Financial implications in the patient care system?	
52	Why the MRO /HIM has to learn the basics of improving the quality of patient care?	
53	Why the MRO /HIM has to learn the basics of the difference between data and information?	
54	Why does the MRO /HIM do has to learn the basics of daily ward census?	
55	Why does the MRO /HIM do has to learn the basics of Assembling patient records?	
56	Why does the MRO /HIM do has to learn the basics of how to assemble the patient record in a systematic order?	
57	Why does the MRO /HIM have to learn the basics of the difference between patient record assembling order in the ward and after discharge of a patient in the MRD?	
58	Why does the MRO /HIM do has to learn the basics of Deficiencies in the content of patient records/documented by doctors? By nurses or by other healthcare providers?	
59	Why does the MRO/HIM have to learn the basics of the collection of OP	

	Date and what type of data is collected?	
60	Why does the MRO/HIM have to learn the basics of collecting Emergency patient data and what type of data is collected?	
61	Why does the MRO /HIM do has to learn the basics of recruiting the MR/HIM staff and what type of staff are recruited and what qualities are checked in the personnel?	
62	Why does the MRO /HIM do has to learn the basics of preparing the MR/HIM department policies?	
63	Why does the MRO/HIM have to learn the basics of Medical Record content writing policies by healthcare providers, especially medical, nursing, and paramedics?	
64	Why does the MRO /HIM do has to learn the basics of preparing MR maintenance procedures?	
65	Why does the MRO /HIM do has to learn the basics of the MR organization system?	
66	Why the MRO /HIM has to learn the basics of equipping the MRD?	
67	Why does the MRO/HIM have to learn to prepare the MR policies and procedures?	
68	Why does the MRO/HIM have to be a good recruiter to select his /her staff?	
69	Define the Medical Records as defined by Dr. Mogli	
70	Write important purposes of Medical Records?	
71	Who documents the medical record forms/records? What do they write?	
72	Who the medical records are valuable?	
73	How Does the Medical Record Benefit Doctor/Physician?	
74	How Does the Medical Record Benefits Hospital?	
75	How Does the Medical Record Benefits Medical Education?	
76	How Does the Medical Record Benefits Medical Research?	
77	How Does the Medical Record Benefits Public Health?	
78	How Does the Medical Record Benefits Insurance company?	
79	How Does the Medical Record Benefits Medical Reimbursement?	
80	How Does the Medical Record Benefits Medical Legal Purpose?	
81	How Does the Medical Record Benefits National Health Data?	
82	How Does the Medical Record Benefits International Health Data?	
83	What is the minimum retention period required for OP records?	
84	What is the minimum retention period required for IP records?	
85	What is the minimum retention period required for A/E records?	
86	What is the minimum retention period required for MLC records?	
87	What is the minimum retention period required for OP-xrays?	
88	What is the minimum retention period required for IP-X-rays?	
89	What is the minimum retention period required for OP-X-rays?	
90	What do you mean by the confidentiality of medical records?	
91	What do you mean by the security of medical records?	
92	What do you mean by the records to be relevant?	
93	What do you mean by the records being timely documented?	
94	What do you mean by the records to be accurate?	
95	What do you mean by the records to be complete as a document?	

96	What do you mean by incomplete medical records?	
97	What do you mean by recording to be legible and readable?	
98	What do you mean by ICD-10?	
99	What do you mean by coding of diseases?	
100	Why do we need to code patient records?	
101	Which organization introduced the ICD-10 in the world?	
102	How many volumes are there in ICD-10?	
103	How many chapters are there in ICD-10?	
104	How the ICD-10 code is in numerical or alphabetical or Alphanumeric?	
105	What is the purpose of Volume I?	
106	What is the purpose of Volume II?	
107	What is the purpose of Volume III?	
108	What is the arrangement of ICD-10 or Hierarchical structure?	
109	What do you mean by dual Coding and why do we code–dual coding?	
110	What purpose does the Dagger code is used for?	
111	What purpose does the Asterisk code is used for?	
112	What do you mean by Indexing coded cases?	
113	How the disease index information is useful?	
114	How many important types of disease index cards or computer screens - one should have and Why?	
115	What do you mean by Physician index card?	
116	How to use ICD-10 Coding books and which one was used first and why as a general principle?	
117	Why we should know the rules of ICD-10 coding thoroughly?	
118	What is Co-morbid disease?	
119	Why the ICD is called the International Classification of Diseases? What advantages of using the ICD-coded information?	
120	Why, when, and where the classification of the disease started?	
121	Do we need to code co-morbid diseases? If so, Why?	
122	What is the main difference between ICD-9 and IC D-10?	
123	How to use Volume-1?	
124	How to use Volume-3?	
125	What special types of Abbreviations are used in ICD and why?	
126	Define Diagnosis.	
127	Define clinical Diagnosis.	
128	What is Principal Diagnosis?	
129	What is Pathological Diagnosis?	
130	What is Differential Diagnosis?	
131	What is a Provisional or Tentative Diagnosis?	
132	What is the Final Diagnosis?	
133	What is Pre-operative Diagnosis? Is it important if so, why?	
134	What is Post-operative Diagnosis? Is it important, if so why?	
135	What is the revision of codes and who does it?	
136	Do we need to consider the revised code number or still use the old number?	
137	Do we need proper training in coding the diseases? If so, why?	
138	What is the International Classification of Procedures in Medicine?	

139	How many volumes do the Procedures in Medicine book have?	
140	How many chapters are in Volume I of Procedures in Medicine? Name them.	
141	How many chapters are in Volume II of Procedures in Medicine? Name them.	
142	Why do we need to publish every year the morbidity information of the hospital?	
143	Why do we need to publish every year the mortality information of the hospital? What is its significance to have very accurate information?	
144	What is the definition of statistics?	
145	What do you mean by general Statistics? Where do we collect & use them?	
146	What is Health Statistics? Where do we collect and use them?	
147	What is Medical Statistics? Were we using them?	
148	What is Vital Statistics? From where do we collect them?	
149	What do you mean by collection and presentation of statistics?	
150	What do you mean by Analysis and interpretation?	
151	What is the source for collecting statistics in the hospital?	
152	What is the difference between data and information?	
153	Why we present information in a table with different headings?	
154	Whether table form or drawing or diagram form presentation is better? And Why?	
155	When the histogram graphic presentation is used?	
156	When the Frequency polygon is used and why?	
157	When the Frequency curve diagram is used?	
158	When the Line chart or graph is used?	
159	When the Bar diagram is used?	
160	When the Pie or sector diagram is used?	
161	When the Figure or picture diagram is used?	
162	When the Scatter or dot diagram is used?	
163	When the Map or spot map is used?	
164	What do you mean by statistical methods average calculation?	
165	What do you mean by average? When do we use it?	
166	What do you mean by Median? When do we use it?	
167	What is Mode? When do we use it?	
168	What is Range? When do we use it?	
169	What is Standard Deviation? When do we use it?	
170	What is the coefficient of variation? When do we use it?	
171	What is Normal Distribution?	
172	What is a Normal Curve?	
173	What is Measure for Sampling Variability OR Tests of Significance?	
174	What do mean by Standard Error of Mean?	
175	Define Sampling and explain Methods of sampling.	
176	What is the difference between Random, Systematic, stratified and	
177	What are Correlation and Regression?	
178	What is Probability?	
179	What is the Standard Error of Proportion?	

180	What is the Chi-Square Test? Where this test is used?	
181	Explain the uses of statistics.	
182	Why statistics are very useful- elucidate?	
183	What is a hospital's Gross Death Rate? Why do we calculate them?	
184	What is Hospital (Institutional) Net Death Rate? Why do we calculate them?	
185	What is Gross Autopsy Rate? Why do we calculate them?	
186	What is Net Autopsy Rate? Why do we calculate them?	
187	What is Bed Turn Over? How do you calculate? Explain the purpose.	
188	What is Bed Turn Over Interval? How do you calculate the reason?	
189	When we present OP or A/E or IP statistics we need to provide the last one or two year's comparison? How it benefits?	
190	Why do we follow the Age-group recommended by WHO and what benefit it has?	
191	What type of filing systems are used by most of hospitals within India?	
192	How many filing systems are there? Which one is better?	
193	How Medical Records Department is so vital- without MRD or records the hospital cannot function. Do you agree? If yes; why?	
194	Who is a Leader?	
195	What type of vital knowledge he should have to manage the organization efficiently?	
196	How do leaders make their followers trust them?	
197	What Qualities a Leader should possess?	
198	What is Motivation?	
199	How do Managers Motivate staff?	
200	What are the important communication skills required for a good leader?	
201	What is Quality Assurance?	
202	What is a Quality Assurance program?	
203	What is Quality Improvement?	
204	What is Patient Safety?	
205	How to Economize Health Service Expenditure?	
206	How MRO or HIM can help improve the quality of care of a patient?	
207	How MRO /HE can help in saving patient care expenditure?	
208	Who are customers and what type of information is required? This is related to the Release of Hospital Information.	
209	Why HIM need to participate in continuing education?	
210	What are different avenues available to improve the knowledge for MRO? Why should he or she improve or update the knowledge?	
211	Why MRO or HIM should develop an HIM training program in his department? If he does what benefits can be achieved?	
212	What is a Medical Legal case?	
213	How Medical Record can protect the hospital or physician or any staff from medical legal issues?	
214	What is Temporary permission to leave the hospital?	
215	When an Emergency Operation is done to save a life; (when none is there to give consent – what protective measures do you take?	
216	In what type of cases a written consent is needed?	

217	Who is authorized to sign consent? Or anyone can sign consent?	
218	What type of cases comes under the discharge of a patient?	
219	What are the different DAMA, LAMA, and GAMA? This term is used at the time of discharge	
220	When a patient record is considered Personal?	
221	When a patient record is considered Impersonal?	
222	When we can use impersonal records without the permission of a patient?	
223	In what type of personal cases do we need not to take permission of a patient to release the information!?	
224	What special measures are to be taken when the hospital is using electronic health records related to ML issues?	
225	What type of cases is to be informed or reported to the police?	
226	In what type of cases are patients' dead bodies to be handed over only to the police and none?	
227	When is a dead body non-medico-legal case considered to be reported and handed over to the police?	
228	When and what type of inpatient cases the police be informed about?	
229	What is hybrid record?	
230	What is the difference between Curative, Preventive, Promotive, Rehabilitative, and Palliative?	
231	What is the main difference between Primary health centers?	
232	What is the difference between primary, secondary, and tertiary care hospitals?	
233	What are the main medical services in a general hospital?	
234	What are the main specialty services in a super specialty hospital?	
235	What is the difference between Radiology, Radiation therapy, and Chemotherapy?	
236	What are medical allied health services?	
237	What are Paramedical services besides nursing?	
238	What are the auxiliary services in the hospital?	
239	What is the difference between the Nutrition and Dietary dept?	
240	What is the difference between Pharmacology and Pharmacy?	
241	What measures are to be taken when a non-medical legal case is being post-mortem?	
242	What measures to be taken when a medical-legal case is being post-mortem?	
243	What is diplomacy? Why HI Manager should possess?	
244	How HI Manager can be influential in the hospital?	
245	What are the ways to apply to grow from MRO to Sr. MRO or from one income to higher income?	
246	Why the training of his staff be a continuous process?	
247	Why HI Manager should strive hard to uplift the subordinate to a higher position?	
248	How the HI Manager can become indispensable?	
249	What type of public relations should maintain with the medical, nursing, and other heads of department? And Why?	
250	What should be the first priority to make the MRD one of the well-organized and efficiently managed departments in the hospital?	

251	How HI Manager can make the MRD a “Window of the Hospital” so all VIPs and VVIPs visit and appreciate the work? What efforts and measures are to be taken?	
252	Why HI Manager ensure that his department is always trying hard to ensure patient care flow is smooth and efficient?	
253	Why does the HI Manager need to know the Vision, Mission, and goal of the organization? By knowing what improvements he can make?	
254	HI Manager should apply Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments that covers all the responsibilities of HI Manager.	
255	Why the Medical Records is called “Mother of Information and it can Make or Break Healthcare institutions?	
256	Why HI Manager should understand that the “MRD is a gold mine and the more you dig – The more you get”. ?	
257	Why HI Manager should ensure each and every staff of MRD is well trained in his /her job and well-disciplined to do his /her best.	
258	Why HI managers should maintain good public relations within and outside agencies such as the police, Insurance, and other organizations?.	
259	Why HI Manager should try to innovate new methods to improve the quality of service of his own staff and patient care services.	
260	Why HI Manager should try to be a Master than taking always taking instructions and carrying out the work.?	
261	Why HI Managers should be excellent facilitators to medical education and research team thru will maintained record system?	
262	What is Dr. Mogli’s Formulae for calculating Bed-Occupancy Rate with & without Day-Care Cases?	
263	What is Mogli’s Ready Reckoner for counting hospital days or Length of Stay (LOS) and how it saves time in the case of computer-calculated (LOS)	
264	Why HIM should be ready to sacrifice for his department?	
265	Why HIM is expected to dedicate to make is a dept. efficient?	
266	What else the HIM should have besides good professional qualifications and experience to be successful?	
267	Why the HIM should be shrewd besides being nice to all?	
268	Why does the HIM keep an excellent rapport with all the departments?	
269	What is the benefit of taking on additional responsibilities?	
270	Why the HIM should expand its department by training more staff and taking on additional responsibilities?	
271	How HIM should improve the knowledge and skills of his employees?	
272	How can save the cost of the hospital and the cost of patient care?	
273	How the HIM can make well organized and efficiently managed HIM department and best in the institution?	
274	What is the source-oriented record arranging?	
275	What is Integrated record arranging?	
276	What is Problem oriented record arrangement?	
277	What is straight numerical filing system?	
278	What is terminal filing system?	
279	What is middle digit filing system?	
280	What is centralized filing system means?	

Annexure-I

Definitions of Medical Specialties

Specialty	Specialty Focus
Allergy & Immunology	Allergic and immunologic diseases and their respirator complications (such as pollen, chemical and food allergies, asthma and AIDS)
Anesthesia	Anesthesia or relief of pain during surgery and childbirth, and control of pain due to various causes.
Bariatric Surgery	Weight loss surgery –includes a variety of procedures performed on people who are obese, weight loss is achieved by reducing the size of the adjustable gastric band. Gastric bypass surgery- Sleeve gastrectomy.
Cardiovascular Disease	Diseases of the heart and blood vessels.
Dermatology	Diseases of the skin.
Emergency Medicine	Diseases that are acute medical or surgical conditions or injuries that require urgent or immediate care (usually in a hospital emergency room).
Endocrinology and Metabolism	Diseases of the internal glands of the body, including diabetes mellitus.
Family Practice	All diseases and related total health care of an individual and the family
Gastroenterology	Diseases of the digestive tract, including the stomach, bowel, liver and pancreas.
General Practice	All diseases and related total health care of an individual and the family
Geriatric Medicine	Disease of the elderly.
Gynecology	See “Obstetrics and Gynecology.
Gynecology Oncology	Cancer diseases of the female reproductive system.
Hematology	Disorders of the blood and blood-forming organs (including cancerous disorders of the blood) such as anemia, leukemia and lymphoma (see Oncology, Medical)
Infectious Diseases	Infections of all types.
Internal Medicine	All diseases and total healthcare of adults, usually 18 years of age and older.
Neonatology	Diseases of the newborn child.
Nephrology	Diseases of the kidney, including dialysis
Neurology	Diseases of the brain, spinal cord, nervous system and related structures.
Neurological Surgery	Diseases of the brain, spinal cord, nervous system and related structures requiring surgery.
Obstetrics and Gynecology	Normal and abnormal pregnancy, diseases of the female reproductive system and fertility disorders.

Oncology, Medical	Cancer and disorders of the blood and blood-forming organs (see Hematology)
Ophthalmology	Diseases of the eye.
Orthopedic Surgery	Diseases of the bones, joints, muscles and tendons.
Otorhinolaryngology (Ear, Nose & Throat)	Diseases of the ears, nose, sinuses, throat and upper airway passages.
Pathology	Tissues and specimens removed by biopsy and surgery to diagnose normal from diseased tissues and specimens; supervises and interprets laboratory tests on blood, urine and other body fluids.
Pediatrics	All diseases and total health care of newborns, infants, children and adolescents.
Physical Medicine and Rehabilitation	Diseases with major and minor disabilities requiring restoration of functional ability such as assistance, retaining and recondition of muscles, tendons and extremities for ambulation and other activities of daily living.
Plastic Surgery	Diseases and conditions requiring surgical reconstruction for deformity or loss of a body part, or for cosmetic purposes to improve appearance or function.
Podiatric Medicine (Podiatry)	Diseases of the foot and ankle as they affect the conditions of the feet.
Preventive Medicine	Healthcare and other measures to avoid delay or prevent disease or illness from occurring.
Psychiatry	Diseases affecting mental health including diseases of the brain, nervous system and substance abuse of drugs or chemicals.
Pulmonary Disease	Diseases of the lung.
Radiology	Diagnostic X-ray, ultrasound and other imaging techniques such as Computerized Tomography (CT) and Magnetic Resonance Imaging (MRI).
Radiology Nuclear	Diseases requiring use of radioactive isotopes or as an aid in diagnosis and /or therapy.
Radiation Oncology	Cancer and other diseases with x-ray therapy, radioactive isotopes and linear accelerator particle radiation.
Rheumatology	Diseases of the joints including arthritis and autoimmune diseases.
Sports Medicine	Diseases and injuries acquired in sports.
Surgery, General	Diseases that require surgical operation for diagnosis or treatment.
Surgery, Hand	Diseases and injuries of the nerves, tendons, muscles, bones or skin of the hand requiring surgery.
Surgery, Thoracic	Diseases of the chest, including lungs, heart, blood vessels and chest wall that require surgical operation for diagnosis and or treatment.
Surgery, Vascular	Diseases of the blood vessels that require surgical operation for diagnosis or treatment.
Surgery, Colon and Rectal	Diseases of the large intestine (bowel), rectum and anus that require surgical operation for diagnosis or treatment.
Surgery, Urology	Diseases of the kidneys, bladder and male reproductive tract that require surgical operation.

Annexure-II
Glossary of Terms used in software structure for EMR

Addendum	Text that is added to a document after it has been finalized.
Alerts Pop-ups or reminders	An automated warning system such as a clinical alerts, preventive health maintenance, medication interactions, etc.
Ambulatory care	Medical care provided on an outpatient basis.
Annotator	A system function that allows and explanatory note or diagram to be added to an image.
ANSI (American National Standard Institute)	Organization that develops industrial standards, in particular recommendations for languages electronic data exchange (EDI) and peripheral devices.
ASP (An application Service Provider (ASP))	ASP is a third party entity that deploys hosts and manages software from a centrally managed host facility (offshore). Applications are delivered over networks (WAN, Internet) on a subscription fee /rental basis. This model is also been referred to as “software-as-a-service”.
Audit trail	Security system that tracks a user’s access, deletion or modification of data. The term used in healthcare information security refers to a chronological record of system resources usage. This includes user login, file access, other various activities, and whether any actual or attempted security violations occurred, legitimate or unauthorized.
Authentication	The verification of the identity of a person or process.
Bandwidth	A data transmission rate; the maximum amount of information (bits/second) that can be transmitted along a channel.
Bar code	A printed horizontal strip of vertical bars which represent decimal digits use for identification. Bar codes must be read by a bar code reader.
Biometrics	Biometrics are automated methods of recognizing a person based on a physiological characteristic such as fingerprints, retina, voice, etc.
Browser	Short for web browser, a software application used to locate and display web pages.
Case management	A process of identifying individuals at high risk for problems associated with complex healthcare needs and assessing opportunities to coordinate care to optimize the outcome.
Chart of patient / Medical Record	A document, written by the clinician or healthcare provider, which describes the details of patient’s condition including history, physical exam, investigations, progress, diagnosis, treatment including medical and surgical, medication, and the end results.
Client Server architecture	Information transmission arrangement, in which a client program sends a request to server. When the server receives the request, it disconnects from the client and processes the request. When the request is processed, the server reconnects to the client program and the information is transferred to the client. This usually implies that the server is located on site as opposed to the ASP (Application Server Provider) architecture.
Clinical data	A real-time database that consolidates data repository (CDR) from a variety of clinical sources to present a unified rather than to identify a population of patients with common characteristics or to facilitate the management of a specific clinical department.
Clinical decision support system (CDDS)	A clinical decision support system (CDSS) is software designed to aid clinicians in decision making by matching individual patient characteristics to computerized knowledge bases for the purpose of generating patient-specific

	assessment or recommendations.
Clinical guidelines protocols	Clinical guidelines are recommendations based on the latest available evidence for the appropriate treatment and care of a patient's condition.
Clinical messaging	Communication of clinical information within the electronic medical record to other healthcare personnel.
CPG	Clinical practice guidelines.
CPM	Clinical performance measures.
CPOE	Computerized physician order entry or Computerized provider order entry. This order could be investigations, medication or any other orders
CPR	Computer patient record. Electronically maintained information about a patient related to his health history, physical exam, investigations, diagnosis, treatment including medical or surgical, progress, end results etc.
Current procedural terminology (CPT)	The purpose of CPT codes is to provide a uniform language that accurately describes medical, surgical and diagnosis services.
Data conversion	The conversion of data from one software to another
Data encryption standard (DES)	Data encryption standard (DES) is a widely-used method of data encryption using private (secret) key.
Data integrity	Refers to the validity of data. A condition in which data has not been altered or destroyed in an unauthorized manner.
Data mining	The process of analyzing or extracting data from a database to identify patterns or relationships.
Data set	A group of data element relevant for a particular use.
Data structure	A way to store and organize data in order to facilitate access and modification.
Data base	A collection of information organized in such a way that computer program can quickly select
Data Base Management System (DBMS)	A set of computer programs for organizing the information in a database. A DBMS supports the structuring of the database in a standard format and provides tools for data input, verification, storage, retrieval, query and manipulation.
DIOCOM	Digital imaging of communications in medicine images such as CT scans, MRI and Ultrasound.
Dictation	The process by which a physician records his/her notes about a patient. This recording is intended for reproduction in written word (Transcription).
Digital signature	Digital signature take the traditional hand-written signature and creates a digital image of the signature to eliminate the need to print and sign documents. This is knows as Advanced Electronic Signature.
Discrete data	A set of data is said to be discrete if the values belonging to it are distinct and separate, (i.e. they can be counted). Discrete dat is non-discrete or unstructured data.
Document imaging	Converting paper documents into an electronic format usually through a scanning process.
Documentation	The process of recording information.
Document Management	Document management's system involving scanning, categorizing and storing vital patient documents.
DOQ-IT Doctors office	DOQ-IT is a two-year special study that is designed to improve quality of care, patient safety, and efficiency for services provided to Medicare beneficiaries by promoting the adoption of Electronic Health Records.
Quality information	Information Technology (IT) in primary care physician offices.
E and M Coding	Documentation guidelines for evaluation and management CPT codes from the

	Center for Medicare and Medicaid Services (Formerly HCFA).
EDI	Electronic data interchange.
Electronic Health Record (EHR)	An electronic repository of information re-generic term for all electronic patient care systems. EHR's simply a level of interoperability beyond the capability of an EMR (Electronic Medical Record).
Electronic super bill	An electronic encounter form used for coding and billing.
Electronic medical record (EMR)	Electronic medical record has a level of sophistication beyond a document management system. An EMR is a provider-based medical record that includes all health documentation for one person covering all services provided within an enterprise.
Electronic order entry (EOE)	The function of this program is to move from hand-written and verbal orders to computer based entry.
Electronic patient record (EPR)	Same as CPR (Computerized Patient Record).
Encryption	Process of converting messages or data into a form that cannot be read without decrypting or deciphering it.
e-prescribing	Prescription medicine through an automated data-entry process and transmitting the information to the participating pharmacies.
Evidence base medicine (EBM)	Evidence based medicine (EBM) is the integration of research evidence with clinical expertise to aid in the diagnosis and management of patients.
Face sheet	Also called summary screen or patient dash-board. This screen includes a summary of patient relevant information on one screen.
Fat client	A fat client is a network computer with a hard disc drive as opposed to a thin client which has no disc drive.
Firewall	A sytem designed to prevent unauthorized access to or from a private computer network.
Formulary	A listing of prescription drugs established by a particular health plan which includes both brand name and generic drugs. It serves to suggest covered, preferred and lower cost drugs.
FTP	File transfer program.
(GUI) Graphical User Interface	Abbreviated GUI .A program interface that takes advantage of the computer's graphics capabilities to make the program easier to use. Well-designed graphical user interfaces can help expedite the software learning process.
HIE	Health Information Exchange
HIT) Health Information Technology	HIT) Health Information Technology
Hot Keys	One- or two-keystroke command that switches the user to a different program or function within a software program. Hot keys are useful to expedite movement within a software program.
Informatics	The application of computer technology to the management of information.
Interoperability	The capability to provide successful communication between end-users across a mixed environment of different domains, networks, facilities and equipment.
(IT) Information Technology	The development, installation, and implementation of computer systems and applications.
Kiosk	Small computer workstations which allow information to be input. Patient kiosks are used for patients to input information into the system at the medical practice, usually input through a workstation in the waiting room.

(LAN) Local Area Network	A LAN supplies networking capability to a group of computers in close proximity to each other such as in an office building, a school, or a home.
(LEPR) Longitudinal Patient Record	Longitudinal Patient Record is an EHR that includes all healthcare information from all sources.
(OCR) Optical Character Recognition	OCR is recognition of printed or written characters by a computer.
(PACS) Picture Archiving and Communication System	An information system for the storage and distribution of digital radiology images over a networked environment that allows for instant access to images and reports.
Patient Portal	Allow patients and providers to communicate over the Internet in a secure environment.
PHI	Personal Health Information
Platform	The basic technology of a computer system's hardware and software that defines how a computer is operated and determines what other kinds of software can be used.
Point and Click	Allowing the activation of commands by moving the cursor over certain areas or icons and clicking a pointing device.
Point-of-Care	POC refers to the time while with the patient, either bedside or during an encounter.
Portal	A website considered as an entry point to other websites. Examples are a Patient Portal.
Pull Down Menu	Also called a drop-down menu. These are a menu of commands or options that appears when you select an item with a mouse.
Query	The primary mechanism for retrieving information from a database and consists of questions presented to the database in a predefined format.
RFID	Radio Frequency Identification
Scalable	Refers to how well a hardware or software system can adapt to increased demands.
Security	Is the effort to create a secure computing platform, designed so that agents (users or programs) can only perform actions that have been allowed.
Speech Recognition	The ability of a computer to understand the spoken word for the purpose of receiving commands and transforming speech into text.
Structured Data	Structured data is managed by technology that allows for querying and reporting against predetermined data types and understood relationships.
Tablet pc	A tablet pc is a computer shaped in the form of a notebook except it has the capabilities of being written on through the use of digitizing tablet technology or a touch screen. A user can use a stylus and operate the computer without having to have a keyboard or mouse.
Template	Often called a library or dictionary. Templates are pre-defined choices of pick-lists designed to streamline the documentation process.
Thin Client	A thin client is a network computer without a hard disc drive, as opposed to a fat client which includes a disc drive.
Touch Screen	An input device that allows user to interact with the computer by touching the display screen.
Unstructured Data	Data which is not structured such as free-text. The computer cannot automatically extract properties and relationships from unstructured data.

(WAN) Wide Area Network	A computer network that spans a larger geographical area than a LAN (Local Area Network).
Web Portal	A website considered as an entry point to other websites.
Wireless	A system employing no connecting wire between the transmitting and receiving stations.
Workflow	The automation of a process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.

Annex III
E.H.R Terminology

Term	Explanation
Alerts	Pop-ups or reminders. An automated warning system such a clinical alerts, preventive health maintenance, medication interactions etc.
Ambulatory Care	Medical care provided on an outpatient basis.
Annotator	A system function that allows an explanatory note or diagram to be added to an image.
ASP Application Service Provider	An Application Service Provider (ASP) is a third party entity that deploys hosts and manages software from a centrally managed host facility (offsite). Applications are delivered over networks (WAN, Internet) on a subscription fee/rental basis. This model is also been referred to as “software-as-a-service”.
Audit Trail	Security system that tracks a user’s access, deletion or modification of data. The term used in healthcare information security refers to a chronological record of system resource usage. This includes user login, file access, other various activities, and whether any actual or attempted security violations occurred, legitimate or unauthorized
Authentication	The verification of the identity of a person or process.
Bandwidth	A printed horizontal strip of vertical bars which represent decimal digits used for identification. Bar codes must be read by a bar code reader.
Bar Code	A printed horizontal strip of vertical bars which represent decimal digits used for identification. Bar codes must be read by a bar code reader.
Biometrics	Biometrics are automated methods of recognizing a person based on a physiological characteristic such as fingerprints, retina, voice etc.
Browser	Short for Web browser, a software application used to locate and display Web pages
Case management	A process of identifying individuals at high risk for problems associated with complex health care needs and assessing opportunities to coordinate care to optimize the outcome.
Chart	Medical record
Chart Note	A document, written by the clinician or provider, which describes the details of a patient’s encounter. Sometimes referred to as a progress note.
Client/Server architecture	An information-transmission arrangement, in which a client program sends a request to a server. When the server receives the request, it disconnects from the client and processes the request. When the request is processed, the server reconnects to the client program and the information is transferred to the client. This usually implies that the server is located on site as opposed to the ASP (Application Server Provider) architecture.
Clinical Data Repository(CDR)	A real-time database that consolidates data from a variety of clinical sources to present a unified view of a single patient. It is optimized to allow clinicians to retrieve data for a single patient rather than to identify a population of patients with common characteristics or to facilitate the management of a specific clinical department.
Clinical Decision support system(CDSS)	A clinical decision support system (CDSS) is software designed to aid clinicians in decision making by matching individual patient characteristics to computerized knowledge bases for the purpose of generating patient-specific assessments or recommendations.
Clinical Guidelines(Protocols)	Clinical guidelines are recommendations based on the latest available evidence for the appropriate treatment and care of a patient’s condition

Clinical messaging	Communication of clinical information within the electronic medical record to other healthcare personnel.
CPG	Clinical Practice Guidelines
CPM	Clinical Performance Measures
CPOE	CPOE (Computerized Provider Order Entry) refers to the act of a clinician entering an order for patient services into an information system
CPR Computerized Patient Record,	CPR (Computerized Patient Record, Computer-Based Patient Record Electronically maintained information about an individual's lifetime health status and healthcare from all specialties
CPT Current Procedural Terminology	CPT (Current Procedural Terminology) The purpose of CPT codes is to provide a uniform language that accurately describes medical, surgical, and diagnostic services.
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Data Mining	The process of analyzing or extracting data from a database to identify patterns or relationships.
Data Set	A group of data elements relevant for a particular use.
Data Structure	A way to store and organize data in order to facilitate access and modifications.
Data base	A collection of information organized in such a way that a computer program can quickly select desired pieces of data.
Database management system (DBMS)	A set of computer programs for organizing the information in a database. A DBMS supports the structuring of the database in a standard format and provides tools for data input, verification, storage, retrieval, query, and manipulation.
DICOM	Digital Imaging and Communications in Medicine (DICOM) is a standard to aid the distribution and viewing of medical images, such as CT scans, MRIs, and ultrasound
Dictation	The process by which a physician records his/her notes about a patient. This recording is intended for reproduction in written word (Transcription).
Digital Signature	Sometimes referred to as Advanced Electronic Signature. Digital signature takes the traditional hand-written signature and creates a digital image of the signature to eliminate the need to print and sign documents.
Discrete Data	A set of data is said to be discrete if the values belonging to it are distinct and separate, (i.e. they can be counted). Discrete data is more easily reportable as opposed to non-discrete or unstructured data.
Document Imaging	Converting paper documents into an electronic format usually through a scanning process.
Documentation	The process of recording information.
Document Management	Is a system involving scanning, categorizing and storing vital patient documents?
DOQ-IT Doctors Office	DOQ-IT is a two-year special study that is designed to improve quality of care, patient safety, and efficiency for services provided to Medicare beneficiaries by promoting the adoption of EHR's and

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Firewall	A system designed to prevent unauthorized access to or from a private computer network.
Formulary	A listing of prescription drugs established by a particular health plan which includes both Brand name and Generic drugs. It serves to suggest covered, preferred and lower cost drugs.
FTP	File Transfer Program

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Dr. Mogli's Practical Book for HIM and Health Informatics Professionals (Salient Features of the book)

The book is unique and fully tailor-made for HIM & Health Informatics Professionals & students deals with what basic knowledge, skills & workable attitude that required to practice and succeed to be a Global Expert. The Manual has 51 (37+14) chapters in two parts. The first part dealing with hospital services including, medical records; electronic; Transformation of HIM Education in the next 10-20 years. The critical role of Health Records in advancing diagnosis and treatment thru AI, the role of the future of HIM; what is new in ICD-11 of WHO; Healthcare data. Digital health, healthcare Informatics, and Business Intelligence; Emerging trends and challenges for HIM Professionals in India; Strategic role of National HIM Association, and evolution of IFHIMA, Names of six dedicated distinguished professionals of the globe to inspire young HIM Professionals. Management comprises leadership, motivation, and communication skills. Quality, legal, and cost control and meeting the needs of hospital accreditation by JCI or NABH.

The second part is fully dedicated to professional education and practical working knowledge with the basics of Anatomy, Physiology, and Medical Terminology, Dr. Mogli's Free HIM Education Program, conducting conferences including two Workshops. Gold mine with six chapters on Brainstorming Quiz Questions and Answers with 1780 Quiz Question banks and answers to 1120 and the rest is Quiz exercise. The manual will be of immense value to HIM and Health Informatics and all healthcare professionals e.g. doctors, nurses, paramedical, medico-legal, insurance, etc. Universities; colleges and all healthcare educational institutions need to use this book is a masterpiece and good nutritious food for all the honorable readers including students of all healthcare fields will lead in managing globally efficient optimal hospitals.

	<p>Prof. Dr. G. D. Mogli, Ph.D., MBA. FHRIM (UK), FAHIMA (USA), is Visiting Professor of Medical Informatics, Mahatma Gandhi Institute of Medical Sciences, Maharashtra, India. He is the Fellow of American Health Information Management Association (FAHIMA), USA; Fellow of Health Record Information Management (FHRIM), UK; and Doctorate in Medical Record Administration, Chief Executive Officer of Dr. Mogli's Healthcare Management Consultancy and Ex. Senior Consultant (eHealth Management) HEARTCOM Inc. (USA). He served the World Health Organization (WHO) as a Visiting Consultant. He has vast experience in the Healthcare Delivery System in general and Medical Records/Health Information Management in particular. During his five decades of career, he has received many distinguished awards and credentials from professional organizations and countries wherever he served. In 2004, the American Health Information Management Association (AHIMA) has awarded him as one of the 2004 Triumph Award nominees for 'Honoring Those Who Make a Difference'. He is the first person to have HIM Fellow from UK and USA, First AHIMA Fellow outside USA. He is a listee of the International Biographical Center (IBC) Leading Health Professionals of the World-2008 and as such stands testament to the efforts made by said individual in the arena of eHealth Management. He has served as Sr. Consultant / Adviser to the Ministries of Health, India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar and UAE. He is an active member of AHIMA (USA), IRHIM (UK), IFHIMA (World), President of HIMA India and serving as Academic Advisory board to educational institutions. He is well-known as —Father of Medical Records of India and Middle East, Known as Champion of Developing Countries by IFHIMA (World). He presented papers in 24 world conferences held throughout globe and delivered guest lectures in 14 overseas nations currently involved in healthcare education and research and published 15 books and 31 scientific papers in international journals of repute.</p>
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