



**RAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED TO BE UNIVERSITY)**

**Loni, Tal. Rahata, Dist. Ahmednagar 413736
NAAC Re-accredited with 'A' Grade**

SYLLABUS

**Post Doctoral Fellowship in Medical Records and Hospital Information
Management**

**(Dept. of Biostatistics and Health Informatics)
(Dr. Balasaheb Vikhe Patil Rural Medical College)
(Academic Council Meeting Dated 28th October 2021)**

**Title: Post Doctoral Fellowship in Medical Records and Hospital
Information Management (FMR&HIM)**

I. Introduction:

Medical Records Science (also called Health Information Science) is an established field, dealing with the management of the documentation of a patient's history and treatment: its systematic collection, storage and timely retrieval, and with its analysis for patient care, research, statistics, policy, finance, medico-legal issues, etc.

Medical Records and Hospital Information Management compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. They process, maintain, compile, and report patient information for health requirements and standards in a manner consistent with the healthcare industry's numerical coding system Personal Attributes:

Medical Records and Hospital Information Management expert should have the ability to understand and follow complex technical instructions, ability to pay close attention to detail, ability to effectively use computer applications, familiarity with the techniques of maintaining a filing system, accuracy, dependability, meticulous, communicative, a passion for helping people, experience in medical environment and terminology.

This is a **one year** fellowship course for Medical, Dental, Nursing and Allied health sciences graduates interested in hospital administration with a strong theoretical foundation, and exposure to research and practical experience of hospital operations.

At the end of this course students will

- Be qualified hospital administrators with a strong theoretical foundation, an exposure to research and practical experience of hospital operations in a renowned hospital.
- Exhibit enhanced skills especially in decision making, financial analysis, interpersonal relationships, etc.

- Understand the legal and ethical environment of hospitals and how this relates to employment practices, systems, and behavior.
- Be able to apply the principles of effective self management, teamwork, and leadership in team, intra-hospital, and inter- hospital environments.

Be enabled to contribute in developing hospital related policies and practices in relevant context

II. The course includes:

- Relevant basic sciences, symptoms, pathology and treatment of illnesses, their classification and codification using international classification of diseases.
- Systems of scientific documentation, storage, information search and retrieval, manually as well as with the help of computers.
- Data collection and statistical analysis to assist in management of hospital operations, research, policy, etc.
- Statutory laws and medico-legal aspects related to patient care and documentation
- The impact of changing trends such as health insurance, telemedicine, data mining, etc.
- Organizing and evaluating the record of observations, medical or surgical interventions, and treatment outcomes for completeness and accuracy
- Collection of the discharge notes or previous day discharge file from the concerned Nurse, Check that all related forms are completed, properly identified and authenticated, and that all necessary information is present
- Correlation of laboratory test results, procedures, and treatments with diagnosis or seek the help of nurse or concerned doctor
- Demonstrate the ability to adapt to rapidly changing situations, e.g.: responds appropriately to critical situations, retains composure in stressful situations, applies existing skills to new situations.
- The importance of maintaining confidentiality of the patient information

III. Curriculum:

Code	Subject	Scheme of instruction		Scheme of examination		
		Theory	Practical	Internal marks	External marks	Total marks (1000)
101	Hospital organization and management theory	80 hrs.	20 hrs.	20	80	100
102	Legal & Medical Issues in Hospital	100 hrs.		20	80	100
103	Medical Records Management	100 hrs.		20	80	100
104	Medical Coding: International Classification of Disease (ICD) and Functioning	80 hrs.	20 hrs.	20	80	100
105	Sensitization on current best practices in Medical record & Health Information Management System (HIMS)	100 hrs.	-	20	80	100
106	Bio Statistics and Research Methodology in Hospitals	80 hrs.	20 hrs.	20	80	100
107	Management of Hospital Services	80 hrs.	20 hrs.	20	80	100
108	Hospital Information Systems (HIS)	100 hrs.	-	20	80	100
109	Health care quality management	100hrs.	-	20	80	100

PIMS (DU), Post Doctoral Fellowship in Medical Records and Hospital Information Management (Dept. of Biostatistics & Health Informatics)-Syllabus, implemented from Academic Year 2021-2022

Notification No.89/2021

Academic Council Meeting dated 28.10.2021

110	Biomedical instrumentation	100 hrs.	-	20	80	100
111	Know your hospital			grade	grade	grade
112	Computer & IT for Hospitals	80 hrs.	20 hrs.	grade	grade	grade
113	Dissertation	2 months		grade		

Commencement of Dissertation

Total time frame for dissertation should not be more than eight (8) weeks.

IV. Syllabus:

101: Hospital organization and management theory:

Contents:

- ✓ Management process and functions, nature of management process and managerial functions - planning, organizing, staffing, directing, coordinating and controlling. Application of managerial functions to health care organizations.
- ✓ Nature and structure of organization, types of organizations- functional, divisional, departmental and matrix forms. Setting priorities for planning and decision-making, guidelines for improved decision-making, modern approach to decision making. Significance of leadership, traits of leaders, functions of leadership.

102 : Legal & Medical Issues in Hospital:

Contents:

- ✓ Basic concepts of labour laws in India. Hospitals as an 'industry' - application of labour enactments - discipline in hospitals- disciplinary action - a study of valid requirements of domestic enquiry. Trade union act
- ✓ Essentials of contract Act. Contractual obligations in hospital services - requisites of a valid contract - hospital as 'bailer' - sale and purchase of goods- duties towards patients- code of ethics - violation legal consequences.
- ✓ Legal liability of hospitals- criminal, civil and tortious; liability for negligence, consumer protection law, absolute liability and vicarious liability, legal remedies available to patients: remedies under contract law, tort, criminal law and consumer protection' Act. Medical Jurisprudence.

103: Medical Records Management

Contents:

- ✓ Policies & procedures for maintaining medical records. e-records, legal aspects of medical records, its safety, preservation and storage.
- ✓ Organizational Aspects of Medical Record Department/Services
- ✓ Methods for Filing, Storage and Retention of Medical records.
- ✓ Medical Records Flow and Processing
- ✓ Analysis of Medical Record- Quantitative & Qualitative

104: Medical Coding: International Classification of Disease (ICD) and Functioning:

Contents:

- ✓ Standard Nomenclatures of diseases (SNDO).
- ✓ Procedures Coding System (HCPCS)
- ✓ Current Procedural Terminology. International Classification of Functioning, Disability and Health (ICF) Case-Mix Classifications
 - . Diagnosis Related Groups
 - . ICD - (CM)
 - . ICD- Oncology (ICD - O)
- ✓ International classification of Disease ICD-10, ICD-9 CM (Surgical Procedures)
- ✓ CPT- Current Procedural Terminology (Introduction) HCPCS - Healthcare Common Procedure Coding System (Introduction) ICD-10 - Alpha-numeric coding
- ✓ Volume 1 - Tabular list
- ✓ Volume 2 - Instruction manual

105: Sensitization on current best practices in Medical record & Health Information Management System (HIMS)

Contents:

- ✓ Introduction, Health care delivery systems, Informatics in Health Care, Health Information Management profession, Data and formation management, Information systems Development.
- ✓ Secondary records and Health care database, Clinical classification and Terminologies, Reimbursement methodologies.
- ✓ Health Care Information standards, Paper based Health Records, Computer based patient records, Ethical issues in Health Information Management.
- ✓ Principles of Management and Leadership, Work Design and Performance improved, Human Resources Management, Training and Development, Project Management, Strategic Management.

106: Bio Statistics and Research Methodology in Hospitals:

Contents:

- ✓ Statistical Measures and Presentation of Data - Basic concepts of statistics - utility and limitations of Statistics
- ✓ Measures of central tendency-Arithmetic Mean, Weighted Arithmetic Mean, Median, Mode, Quartiles; Measures of Variation, Standard Deviation, Coefficient of Variation, Presentation of data-Bar Diagram, Histogram, Frequency Polygon, Frequency Distribution Curves, Ogives

- ✓ Probability: Concepts and definitions of probability, Additive and Multiplicative laws, Conditional probability. Probability distributions: Discrete-Binomial and Poisson; Continuous-Normal, Simple Correlation and Simple Regression. Time Series - components, fitting a trend line by least squares method Testing of Hypothesis: Null and alternative hypotheses, Chi-Square and t-tests. Analysis of Variance: One-way and two-way classification
- ✓ Research methodology: Introduction and significance, research types, research process (8 step model), research proposal, research designs, report writing

107: Management of Hospital Services

Contents:

- **Overview:**
 - ✓ Hospital operations management, role and decisions, Difference of hospital operations from other service and manufacturing organizations.
- **Outpatient care:**
 - Overview of the department, day care, accident and emergency services, physical medicine and rehabilitation, occupational therapy unit, physiotherapy department
- **In patient care:**
 - ✓ Ward design (general & specialized), critical care services - ICU, CCU, NICU, , medical services, surgical services- operation theatre, nuclear medicine, burn unit, nursing services and administration.
- **Super-specialty Services**
 - ✓ Cardiology, Thoracic Surgery, Neurology, Neurosurgery, Nephrology-Dialysis Unit.
- **Support services:**
 - ✓ Diagnostic-Radiology & Imaging Services, Hospital Laboratory etc, Blood Bank & Transfusion Services, Ambulance Services, Pharmacy, CSSD, Oxygen Manifold / Concentrator, Dietary Service, Hospital Laundry and Linen, Medical Social Worker, Marketing and Public Relations, Finance and Administrative Departments, Outsourcing.
- **Utility Services**
 - ✓ Housekeeping, Hospital Engineering and Maintenance, Biomedical Department, Central Stores and Purchase Department, Medical Records-confidentiality of records, reception, enquiry, registration and admission, central billing and accounts, Cafeteria/canteen, Mortuary.

- **Hospital Acquired Infection**
- ✓ Source and Control, Modern trends in Hospital Administration, Disaster Management, Information Systems, Telemedicine.
- **Disaster management**
- ✓ Basics of disaster management and Mass casualties
- ✓ Components of disaster plan : pre-hospital and hospital Disaster alertness in Hospital
- ✓ Disaster management planning and implementation
- ✓ Severity of illness amongst disaster victims and risk assess.Triage

108: Hospital Information Systems (HIS)

Contents:

- **Information System**
- ✓ Overview, structure of MIS specific to hospital; information and data; information for control, decision, statutory needs, feedback; hierarchy of management activity; decision making process; document preparation, data capture, POS method.
- **Project Life Cycle**
- ✓ Physical systems design, physical data base design; Programme development, procedure development; input-output design, online dialogue; design of files, data communication; Project life cycle, installation and operation, conversion, operation, documentation, training, maintenance, post audit system evaluation.
- **Approaches to HIS**
- Patient based, functional organization based, user department based, clinician based HIS, Medical records, nursing information system; appointments scheduling, dissemination of tests and diagnostic information, general administration, productivity.
- **Decision Support System**
- ✓ Concepts, DSS software, applications for hospital activities.
- ✓ Expert System Concepts, applications in healthcare management, dedicated SW packages.
- ✓ Telemedicine, Knowledge management, IT integration.

109: Health care quality management:

Contents:

- **Aspects of quality**
- Quality mission, policy and objectives; concepts, evolution and determinants of quality; interpretation and process of quality audits; cost of quality and economics of quality. Concepts of quality improvement, quality assurance, business score card. Contribution of quality gurus: Shewhart, Juran, Figenbaum, Ishikawa, Deming and Taguchi; SPC, SQC, CWQC, TPM, TQC:
- Definition, underlying concepts, implementation and measurement of TQM, internal

- customer- supplier relationship, QFD, Quality Circles, Quality improvement teams, team work and motivation in TQM implementation, training and education, role of communication in implementing TQM, policy deployment.
- **Quality Management Processes**
- ◆ **Management of process I**
- ✓ Processes in service organization and their control, simple seven tools of quality control; check sheet, Histogram, Scatter diagram, Process Mapping, Cause and Effect diagram,
- ✓ Pareto analysis, control charts and Advanced tools of quality
- ◆ **Management of process II**
- ✓ SQC; control charts for variables- \bar{X} , \bar{X} bar, and R charts and control charts for attributes- p,
- ✓ Np, and c charts. Acceptance sampling plan and occurrence .
- **Approaches to Quality Management**
- ✓ Facets of quality, quality planning, quality improvement methods, Kaizen, quality audits, dicmeal audit, accreditation, nursing care standards, Six Sigma, JIT and NABL
- **Systems approach to Quality**
- ✓ Introduction to ISO2000, ISO 14000, and ISO 18000.
- ✓ Documentation of quality systems, quality manual, procedure manuals, work instruction manuals and records for ISO 2000.
- ✓ Bench marking and Business Process Reengineering: definition, methodology and design, evaluation and analysis

110: Biomedical instrumentation:

Contents:

- **List of common medical equipments**
- ✓ Justification of purchase proposal, hospital need assessment,
- ✓ Equipment selection guideline, estimation of cost and planning, purchase, installation, commissioning,
- ✓ Replacement and buy back policy, International and indigenous standards
- **Operations Strategy**
- ✓ Operations strategy a competitive tool, elements, technology selection and process: development, developing operations strategy. operations of clinical services, supportive services, and administrative services general introduction to the various specialties, super specialties and other subspecialties
- **Value Management**
- ✓ Value engineering, value analysis, quality control, applications in hospital.
- **Technology Management in Hospitals**
- ✓ Evolution of technology in hospitals, advanced technology in diagnostics and therapeutics, telemedicine concepts and applications, artificial intelligence and robotics in Healthcare.

- **Maintenance Management**
- ✓ Objectives, types of maintenance systems, equipment maintenance, quality and reliability, equipment history and documents, maintenance planning, maintenance information system, maintenance and monitoring of biomedical equipments, predictive maintenance, equipment availability, spares management, replacement policy, depreciation and loss of value, economic life, costing.
- ✓ Bio-Medical Technology, application in hospital environment, calibration tests, maintenance features, hazards.

111: Know your hospital:

Contents:

- **Pedagogy**
- ✓ Every student will be exposed to every Activity Cluster in rotation. A schedule covering the post-lunch periods allocating all teams over all activity Clusters will be prepared. The students will visit the Cluster on the allotted days and study the activities as per the guideline provided by the faculty. The students will also be required to do night duty, at least on three occasions.
- ✓ The students are encouraged to make Power Point Presentations.
- **Evaluation**
- ✓ Total marks of 100 will be distributed as:
 - 50 for the content of reports
 - 30 for the presentation on the assigned department
 - 20 for attendance and submission of night duty report.
- ✓ The evaluation will be done by a panel of three members including head of the concerned department of the hospital.

112: Computer & IT for Hospitals:

Contents:

- ✓ Introduction to computers
- ✓ Definition, characters, hardware, software, generations of computers, Operating system.
- ✓ Networks and database
- ✓ Importance of network, types of network, network software and hardware, database languages, Backup features, data recovery security features.
- ✓ Practices
- ✓ Windows and MS Office
- ✓ MS Word: Templates and Wizards, formatting text, , editing, tables and graphics, spell check, printing, macro commands
- ✓ MS Excel: Data entry, formatting, data handling, functions, formula, goal seek, scenario solver, filter, graphs, charts and mapping, statistical applications;
- ✓ MS PowerPoint: Converting Word into PP, formatting, templates, slide show, animation, art and sound, file management, handout printing.
- ✓ MS Access: Data in tables, using forms, queries, reports.

113: Dissertation:

Contents:

- **Pedagogy**
- ✓ Identifying several situations amenable to dissertation work, writing a proposal and making a presentation to the Dissertation faculty advisory committee.
- ✓ Reporting to the committee on the progress of research work periodically. Making use of a variety of research methods.
- ✓ Defending the inference before the Examining Committee.
- ✓ Every student will do a detailed study on the topic selected for the dissertation , and is expected to prepare a two or three proposals which he intends to take up for the Dissertation. Faculty will examine this and decide on the topic of dissertation .

The Process involves:

1. Formulation of objectives and hypothesis
2. Review of literature
3. Designing the tool for data collection
4. Data collection
5. Coding, classifying and analysis of data
6. Inferences, conclusions and recommendations
7. Preparing a bibliography
8. Writing the dissertation and submission

EVALUATION PHASE

A three member panel consisting of an expert from Healthcare industry, one from other Hospital Management Institute approved by PIMSDU and the other from the mother Institute will conduct the viva voce examination.

The allocation of marks is

- 25 marks for the content and approach to the dissertation
- 25 marks for defending the dissertation in the Viva Voce examination

- **PRACTICAL**
- ✓ Objective: To have a practical exposure of various departments of a hospital. It is included in the syllabus to make the students aware of the functioning of different departments of hospital.
- **Pedagogy**
- ✓ It will consist of different departments in own hospital during the course of 'Know our Hospital' in Second Semester and 'Internship' during Fourth Semester.
- **Evaluation:** Evaluation of Practical session will be made end of Second course.

V. Over all Organization:

This one year fellowship programme offered by Dr. Balasaheb Vikhe Patil Rural Medical College(DBVRMC) through the Department of Biostatistics and Health Informatics with affiliation from Pravara Institute of Medical Sciences (Deemed to be University), Loni. The aim of this course is to develop hospital administrators with required knowledge, skills and values to manage hospitals effectively with a spirit of compassionate service and ethical leadership.

Dr. Balasaheb Vikhe Patil Rural Medical College and Dr. Vitthalrao Vikhe Patil Pravara Rural Hospital, Loni has a well-established Medical Records department recognized nationally and internationally, offering formal training since 1984. The Fellowship course in Medical Records and Hospital Information Management (FMR&HIM) is a 1 year course affiliated to the Pravara Institute of Medical Sciences (Deemed to be University), Loni. With the many changes in healthcare, there are increasing career opportunities such as Hospital Administrator, Clinic Co-ordinator, Medical Record Librarian, Health Information Manager, Quality Control Manager, Coder, Clinical Data Specialist, Patient Information Co-ordinator, Research Data Analyst etc.

VI. Faculty:

Sr. No.	Name and designation	Department	Qualification	Experience
1.	Hemant J. Pawar, Coordinator and Associate Professor	Department of Biostatistics and Health Informatics	M.Sc. (Statistics) PGDCA, Ph.D.(Statistics)(Pursuing)	27 years
2.	Dr. Mohan N. Pawar, Prof. and Head, Department of Forensic Medicine and Toxicology	Department of Forensic Medicine and Toxicology,	M.D. (Forensic Medicine and Toxicology), LLB, ACME	18 years
3.	Dr. Rajeev Desai Professor, Department of Anatomy	Department of Anatomy,	M.D. (Anatomy), PG Diploma in Emergency Medicine	20 years
4.	Dr. J M Farooqui, Professor, Department of Forensic Medicine and Toxicology	Department of Forensic Medicine and Toxicology,	M.D. (Forensic Medicine and Toxicology)	15 years
5.	Mr. Mahesh Tambe, Head, Management Information Center	Management Information Center, DBVPRMC, Loni	B.E. (IT) and Biomedical Engineering	12 years

VII. Time Line of the course:

This is a one year course involving both theory and practical component.

VIII. Block Time table:

Code	Subject	Theory	Practical
101	Hospital organization and management theory	✓	✓
102	Legal & Medical Issues in Hospital	✓	
103	Medical Records Management	✓	
104	Medical Coding: International Classification of Disease (ICD) and Functioning	✓	✓
105	Sensitization on current best practices in Medical record & Health Information Management System (HIMS)	✓	
106	Bio Statistics and Research Methodology in Hospitals	✓	✓
107	Management of Hospital Services	✓	✓
108	Hospital Information Systems (HIS)	✓	
109	Health care quality management	✓	
110	Biomedical instrumentation	✓	
111	Know your hospital		
112	Computer & IT for Hospitals	✓	✓
113	Dissertation		

PIMS (DU), Post Doctoral Fellowship in Medical Records and Hospital Information Management (Dept. of Biostatistics & Health Informatics)-Syllabus, implemented from Academic Year 2021-2022

- Total time frame for dissertation should not be more than eight (8) weeks.
- 75% attendance (Theory and Practical) is mandatory to appear in the final examination
- Internal theory examinations will be conducted twice in a year (i.e. after every six months)

IX. Assessment Process:

Code	Subject	Duration of exam	Internal assessment marks	University marks
101	Hospital organization and management theory	3 hours	20	80
102	Legal & Medical Issues in Hospital	3 hours	20	80
103	Medical Records Management	3 hours	20	80
104	Medical Coding: International Classification of Disease (ICD) and Functioning	3 hours	20	80
105	Sensitization on current best practices in Medical record & Health Information Management System (HIMS)	3 hours	20	80
106	Bio Statistics and Research Methodology in Hospitals	3 hours	20	80
107	Management of Hospital Services	3 hours	20	80
108	Hospital Information Systems (HIS)		20	80
109	Health care quality management	3 hours	20	80
110	Biomedical instrumentation	3 hours	20	80
111	Know your hospital	-	Grade	
112	Computer & IT for Hospitals	-	Grade	
113	Dissertation	2 months	Grade	

* Separate passing is mandatory in Theory and Practical examinations.

* 50% passing respectively required in Internal assessment examination and University examination

X. Eligibility:

The candidates should have

- 1) MBBS / BDS / BAMS / BHMS / BUMS or B.E. Biomedical Engineering / B. Tech Biotechnology or B.Sc. (N) / B. Pharmacy / BPT or BBA and BHA in Hospital Administration or B.Sc. Allied Health Sciences (any) or B.Sc. (Biochemistry / Microbiology / Biotechnology / Chemistry / Physics / Botany / Zoology)
- 2) Masters Degree in a health discipline from any recognised University with 1 year experience of working in development projects, hospital or health programs.

Application Form: can be downloaded from the following website address:

<http://www.pravara.com>

XI. No. of seats: 10 (Ten)

XII. Course Fee and other charges:

Candidates selected for admission into the programme will be required to register by paying the prescribed fee and completing other admission formalities. Submission of all original certificates is mandatory at the time of registration for the programme. Admission to the programme will continue to be provisional until approved by Pravara Institute of Medical Sciences (Deemed to be University), Loni, Tal. Rahata, Dist. Ahmednagar, Maharashtra

Fees proposed to be charged per course-Rs. 10,000/person/ yr.

XIII) Evaluation:-

Term end examination will be arranged and conducted by Dept. of Biostatistics and Health Informatics, Dr. Balasaheb Vikhe Patil Rural Medical College and declare the result.

Examination Scheme

Paper – I :Post Doctoral Fellowship in Medical Records and Hospital Information Management – I

Paper – II : Recent advances in Post Doctoral Fellowship in Medical Records and Hospital Information Management

Theory Examination:- (2 Paper of 100 marks each)

2 LAQ x 20 Marks = 40 Marks

6 SAQ x 10 Marks = 60 Marks

Practical Examination:-

One Long Case / Long experiments = 50 Marks

Three Short Cases (3 x 30) = 90 Marks

Viva Voce / Oral / OSPE / Spottes = 60 Marks

Minimum Passing:-

i) Minimum 50% in Theory papers (Each paper minimum is 40%)

ii) Minimum 50% in Practical /Clinical & Viva Voce

iii) Overall 50% Theory & Practical/Clinical

Award of class:-

50% to 59.5% = IInd class

60 to 74.5% = Ist Class

Above 75% = Ist Class with Distinction

Attempts:-

- A student shall clear the Examination only within three attempts or within 4 years of admission.
- Result / Issue of Mark Sheet - Head of Institute & HOD will jointly issue the Mark Sheet.

Certification:-

- A) Title – Post Doctoral Fellowship in Medical Records and Hospital Information Management.
- B) A fellowship is awarded upon successful completion of the prescribed study program, which will state that i) Candidate has completed the prescribed course of Post Doctoral Fellowship in Medical Records and Hospital Information Management. ii) Candidate has completed prescribed clinical experience. iii) Candidate has passed the prescribed examination.
- C) Certificate will be issued with the signatures of concern Dean, Dr. Balasaheb Vikhe Patil Rural Medical College& Vice-Chancellor, Pravara Institute of Medical Sciences (Deemed to be University).
- D) Certificates to be prepared by concern College.

XIV. Mandatory Fulfillment:-

- 1) To participate in UG teaching / PG teaching.
- 2) Presentation of 6 assignments.
- 3) One Research Methodology Workshop.
- 4) Participation / Presentation with minimum One Research article in Seminars/Conferences/workshop etc.
- 5) One Research Paper in Indian / Scopas / UGC Care list journal.

