PART II

CHAPTER 1

OBJECTIVES AND METHODOLOGY

Introduction

1.1   India, a country of 1.3 billion people with a population increasing every day, faces all seasons and weather and has a geography and climatic condition conducive to several diseases. This coupled with the mostly unhealthy conditions, in which a large section of the population resides, generates the requirement of a complex health care system to meet health needs which are ever evolving due to globalization and migration. The challenge, therefore, is to ensure the protection and promotion of public health, by not only keeping abreast with the health needs, but also to plan for the future to cater for new and emerging health requirements.

1.2   Public health aims at promoting the health of the population and preventing the occurrence of disease and in case it occurs, controlling the disease burden. While the word 'health' per se, evokes a close relationship between a doctor and his patients, it is much more complex and involves assorted players. The most important amongst them, is the manager, who, in addition to attending to health care delivery, coordinates with medical and non-medical agencies to ensure a smooth operation. He is a leader who not only has an in depth knowledge of management skills but is also well aware of health policies and issues, as well as, the intricacies of health care and is able to synergies management skills with effective health care delivery which is both cost effective

and qualitatively supreme. This is feasible only through health focused management education which imparts training in public health and business so as to prepare leaders who can meet the health management challenges.

1.3   IIHMR, New Delhi established in 2008, is a premier institute which prepares health care managers through a syllabus, specifically tailored to impart a concomitant health and management education. While management involves planning, organizing, accounting, staffing, marketing, public relations, human resource management, epidemiology, biostatistics, health care is oriented towards ensuring the good health of the population. An amalgamation of the two at IIHMR intends to produce leaders who can play an effective role in ensuring public health through hospitals, clinics, nursing homes, insurance companies and organizations undertaking health research, health related IT development or health related data collection. Though the syllabus at IIHMR, New Delhi is focused to meeting this end, the increased focus on public health in India, commitment to achieving the Sustainable Development Goals, issues pertaining to emerging new technologies in health care, renewed government focus on meeting the health needs of the neglected and impoverished populations, as well as, the special health care needs of the elderly, increasing health awareness and changing disease patterns has necessitated a review of the curricula and restructuring the same to meet the emerging demands and challenges of the Indian health care sector. It is expected that by 2022, the health care sector shall be worth 77 billion dollar by growing at an annual rate of 23% per annum [1] . According to a recent research study, India has a requirement of estimated 19,930 qualified professionals to function as health care managers[2] which is set to grow to 44,936 by 2030, an assessment made based on benchmark analysis [3] .

1.4   A secondary data review of the number of colleges offering health/hospital management/administration in India revealed 475 academic programs with 6963 seats as of 2017[3]. Out of these, the programs offered exclusively to medical students were 302 with 1044 seats, while the balance was for both medical and or non-medical students. A 2010 study[2] identified 51 institutes, which offered courses in health management/administration. In another recent work in 2018, it was found that despite an increase of seats for Masters in Public Health by 107%, the enrolment had declined from 75% in 2010 to 59% by 2016 [4]. The proposal by National Health Policy, 2017 to create a cadre of public health management in the country, comprising of both medical and non-medical backgrounds [5] is a right fillip to ensuring the required number of health care managers. The next few years shall therefore see an increasing requirement of trained health care managers. In order to equip students at IIHMR, New Delhi with requisite skills and knowledge meeting the competitive standards and increasing demand, IIHMR, New Delhi proposes to review the syllabus.

Aim

1.5   To prepare health care leaders to meet the latest health challenges by developing an innovative course curriculum through a review and merit based restructuring of the curricula of Post Graduate Diploma in Hospital and Health Management at IIHMR, New Delhi.

Objective

1.6   To critically analyze the syllabus of Post Graduate Diploma in Hospital and Health Management being imparted by IIHMR, New Delhi with a view to: -

1.6.1 Suggest addition of new modules/deletion of existing modules, keeping in mind the current health management policy and practices separately for first year and second year (Health Stream).

1.6.2 Review the modules and identify overlapping topics across modules separately, for first year and second year (Health Stream) for deletion/retention.

1.6.3 Review and suggest addition and deletion of topics for each module, separately for first year and second year (Health Stream).

1.6.4 Suggest appropriate sequencing of modules separately for first year and second year (Health Stream).

Methodology

1.7 The review of the curricula involved a multi-pronged approach. Three activities were undertaken as part of the review. These were as under: -

1.7.1 An intensive web search for institutes offering a course on Public Health Management.

1.7.2 Interactions with students and the agencies/organizations that employ them after graduation.

1.7.3   Analysis of the curriculum offered for PGD Health Management at IIHMR, New Delhi.

1.7.4   Interaction with Academia.

1.8   The web search was carried out using key words, 'Public Health, Public Health Management, Health Management, Diploma in Health Management, PGDHM, M.A in Public Health, MSc in Public Health, Public Health Management Syllabus, Public Health Management Curriculum, Public Health Challenges in the 21st century, Management and Public Health' to name a few. Once a certain institute was identified, its official website was studied for the curricula/syllabus being offered. Various articles and papers on the global concern for meeting health challenges were analyzed to understand their effect on the formulation of syllabus for Public Health Management. A web sea identify public health institutes in India and MOHFW supported Public Health Management courses and their syllabus was also undertaken. A telephonic interaction was carried out with placement agencies to ascertain the requirements of the sector. This helped understand the industries aspirations and if the syllabus being imparted met these. An informal interaction was also carried out with students of first year and second year PGDHM at IIHMR, New Delhi to obtain their views on the syllabus. The syllabus at offer at IIHMR, New Delhi (made available by the institute, as well as, through a net search) was analyzed, after collating the findings of all the inputs obtained from the above sources. An interaction with the academia too was carried out to obtain their inputs.

CHAPTER 2

MODULE ADDITION/DELETION

PGDHM Curriculum at IIHMR, New Delhi

2.1.   PGDHM course curricula at IIHMR, New Delhi is conducted over two years with the first year being dedicated to topics that are common to all students, and the second year being dedicated to specialization in health management, hospital management and health IT. This review shall restrict itself to the syllabus of the first year common syllabus and second year health management stream only (but including those which are common to both or all three streams in the second year). Broadly the syllabus can be classified into topics related to management and another set of topics which deals with health [6]. These are as under: -

Table 2.1: First year and Second Year (Health Stream) Syllabus at IIHMR, New Delhi

Ser	First Year	Second Year (Health Stream)
2.1.1	Health and Development	Operations Research
2.1.2	Health Policy and Health Care Delivery System	National Health Programs
2.1.3	Essentials of Hospital Services	Applied Epidemiology
2.1.4	Essentials Epidemiology	Health Insurance and Managed Care
2.1.5	Research Methodology	Health Survey and Research Methods
2.1.6	Health Information Management	Program Planning, Implementation, Monitoring and Evaluation
2.1.7	Biostatistics	Strategic Planning
2.1.8	Demography and Population Science	Logistics and Supply Chain Management
2.1.9	Principles of Management	Quality Management and Patient Safety
2.1.10	Human Resource Management	Global Health
2.1.11	Financial Management & Accounting	Health Management Information System

Ser	First Year	Second Year (Health Stream)
2.1.12	Marketing Management	Population Program Management
2.1.13	Organizational Behavior	Data Management and Analysis
2.1.14	Essentials of Health Economics	Global Health
2.1.15	Communication Planning and Management	Disaster Management
2.1.16	-	Legal Framework in Health Care

2.2.   In addition to the above, the following is also offered: -

    2.2.1 **Non-Graded Induction Courses**.

        2.2.1.1   Human Process Lab.

        2.2.1.2   Communication Lab.

        2.2.2.3   Essentials of Computer Technology.

    2.2.2 **Electives**.   Students can opt for two out of the following: -

        2.2.2.1   Corporate Social Responsibility.

        2.2.2.2   Entrepreneurship.

        2.2.2.3   Big Data Analysis.

        2.2.2.4   Business Ethics.

        2.2.2.5   Urban Health.

2.3   **Comparison**. A comparison with the syllabus of other institutes in India and reputed foreign institutes providing similar course is as below: -

Table 2.2: Comparison of Curriculum at Various Institutes/Universities

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
2.3.1	Health and Development	Introduction to Public Health			
2.3.2	Organisational Behaviour	Organisational Behaviour	Organizational Behaviour		Organisational Behaviour
2.3.3	Bio Statistics	Introduction to Biostatistics	Biostatistics & Basic Epidemiology	Biostatistics in Public Health I	
2.3.4		Elective - Advanced Biostatistics			
2.3.5	Essentials of Hospital Services		Fundamentals of Hospital Planning and Engineering Issues		
2.3.6	Health Policy and Health Care Delivery System	Evolution and Administration of Health Services		Health Policy & Health Care Systems	
2.3.7	Principles of Management		Principles and Practices of Management		
2.3.8	Financial Management and Accounting	Financial Management and Accounting	Management Accounting	Fundamentals of Accounting and Valuation	Financial Accounting and Analysis
2.3.9			Introduction to Financial Management		Financial Management of

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
					Health Care Institutions
2.3.10			Financial Management		
2.3.11	Research Methodology	Philosophy of Research	Research Methodology	Methods in Health Services Research	
2.3.12		Research Methodology (Quantitative Method)	An Overview of Clinical Research		
2.3.13		Research Methodology (Qualitative Method)			
2.3.14	Communication Planning &Management				Communication Skills for Managers
2.3.15	Human Resource Management	Human Resource for Health	Human Resource Management		
2.3.16	Essentials of Epidemiology	Introduction to Epidemiology		Foundations of Epidemiology for Public Health	Environmental health and Epidemiology
2.3.17	Marketing Management		Essentials of Marketing Management		Marketing
2.3.18					Marketing of health Services
2.3.19	Essential of Health Economics	Basic economics & Health economics	Health Economics	Health Care Finance, Policy and Economics	
2.3.20	Operations Research		Operations Research		

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
2.3.21	National Health Programs	Management of National Health Programs	National Health Program		
2.3.22	Health Insurance and Managed Care	Health Financing Including Health Insurance	An Overview of Health Insurance		
2.3.23		Elective - Health Insurance	Healthcare Insurance		
2.3.24			Elective (Choose 1)- Health Care IT - II		
2.3.25			Elective - Health Care Insurance -- II		
2.3.26	Strategic Management	Elective - Strategic Management in Health Care	Strategic Management		Competitive Strategic
2.3.27	Logistics and Supply Chain Management	Supply Chain Management			
2.3.28	Quality Management and Patient Safety in Hospitals		Quality & Accreditation in Healthcare Sector		Quality Improvement in Health Care
2.3.29					Field Project in Quality Improvement
2.3.30	Health Management Information System	Health Management Information System			Managing Information in Health Care
2.3.31	Disaster Management		Integrated Disaster Management		

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
2.3.32	Legal Framework in Health Care	Health Legislation			
2.3.33					
2.3.34	Essentials of Computer Services	Foundation Course	%Materials Management	Professional Skills Series	Transitioning to Physician Leadership
2.3.35	Communication Lab	Social Science Perspective on Health	Business Communication	Ethics and Public Health: An Introduction	Operations Management
2.3.36	Human Process Lab	Elective foundation	%Planning & Management of Hospital Clinical Services	Microeconomics for Health Policy and Health Management	Health Care Negotiation and Conflict resolution
2.3.37	Demography and Population Sciences	Open Elective	%Planning & Management of %Hospital Supportive Services	Health Care Leadership Seminar(half semester)	Social and Behavioural determinants of health
2.3.38	Introduction to Health Information Management	Community Engagement in Health	IT Applications for Healthcare	Social, Environmental, and Biological Determinants of Major Health Threats	Cost Accounting and Analysis
2.3.39	Applied Epidemiology	Health Planning	Community Project	Competitive Strategy	Health Care Management Practicum
2.3.40	Health Survey and Research Methods with field visit	Gender Health and Rights	An Overview of Pharmaceutical Sector	Health Care Leadership Seminar(half semester)	Provider Payment Systems and Policy

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
2.3.41	Program Planning, Implementation, Monitoring and Evaluation	Disciplinary Elective (Any Two) Elective - Mental Health	Health Regulatory Environment	Managing Marketing	Innovative Problem Solving and Design Thinking
2.3.42	Global Health	Elective - Urban Health	%MIS for Hospitals	Elective	-
2.3.43	Population Program Management	Elective - Operations Management and Organisational Development (S)	Non Profit Sector in Healthcare	Social Justice and Health Equity	-
2.3.44	Data Management and Analyisis	-	Study Report :Public health Sector Undertakings /Healthcare Govt. agencies	Negotiations	-
2.3.45	Elective - CSR/ Business Ethics	-	Conceptualization & Management of Events – I	Elective	-
2.3.46	Elective – Entrepreneurship/ Urban Health	-	Business Statistics	Elective	-
2.3.47	Elective – Big Data Analytics	-	Organisation & Administration of Super Specialty Hospitals	Elective	-
2.3.48	-	-	Project Management	Elective	-
2.3.49	-	-	Community Health	Health Care Operations	-

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
2.3.50	-	-	Introduction to Operations Management	Sustainable Innovation in Health Care	-
2.3.51	-	-	Comparative Health Systems	Creating Health Care and Life Sciences Ventures(Optional)	-
2.3.52	-	-	Conceptualization and Management of events - II	Elective	-
2.3.53	-	-	Business Analytics	Elective	-
2.3.54	-	-	Healthcare IT - I	Elective	-
2.3.55	-	-	Pharmaceutical Management - I	Elective	-
2.3.56	-	-	Corporate Governance and Business Ethics	-	-
2.3.57	-	-	Introduction to Entrepreneurship	-	-
2.3.58	-	-	Emerging Trends in Healthcare Sector	-	-
2.3.59	-	-	Industrial Regulatory Environment	-	-
2.3.60	-	-	Elective - Pharmaceutical Management - II	-	-
2.3.61	Internships – One in 1st Year	Internships – 2 1st Year – Rural Health Agency 2nd Year – Rural NGO	One Project and One Dissertation both in 2nd Year	Internships – One in 1st Year	One Field Project One Capstone Project

Ser	IIHMR (PGDHM Health and Hospital Management)	TISS (Masters of Public Health Administration)	Symbiosis Institute of Health Sciences (MBA Healthcare and Hospital Management)	Yale School of Public Health (MPH in Health Care Management)	Harvard School of Public Health (Masters in Health Care Management)
	Internship and Dissertation in 2nd Year				

Note

- ✓ **Same colours indicate similarity of syllabus amongst the compared universities/institutes**

- ✓ **Use of the symbol for percentage (%) implies that the topic is covered in Hospital Stream**

- ✓ **IIHMR, New Delhi conduct certain un-graded modules viz. Essential of Computer Service, Human Process Lab and Communication Lab over a fifteen-day period with five days earmarked for each**

2.4   Johns Hopkins University, Carey Business School offers a one-year full time or a two year part time Master of Science in Health Care Management. A perusal of the curricula reveals that the university offers subjects as per Table below: -

Table 2.3: Course Syllabus MS in Health Care Management at Johns Hopkins University [11]

Core Credits (20 Credits)	Health Care Depth Electives (Choose 4 Credits/2 Course Set)	Non-Health Care Depth Electives (Choose a maximum of 4 credits/2 Courses)
• Accounting for Decision Making in Health Care • Frameworks for Analyzing Health Care Markets • Fundamentals of Health Care Operations • Fundamentals of Health Care Systems • Health Care Law and Regulation • Health Innovation and Evaluation • Health Marketing and Access • Health Care Organizations and Management • Providers and Payers • The U.S. Health Care System: Past, Present, and Future **Action Based Learning (Choose 4 Credits/One Set)** • Client Consulting Practicum I and II • Biomedical Innovations Commercializing I and II	• Applied and Behavioral Economics in Health Care • Biotechnology and Pharmaceuticals • Emerging Frontiers in Health Technologies and Strategies • Heath Care Financing and Financial Management • Medical Devices and Diagnostics • Negotiation in Health Care Settings • Research and Policy Seminars in Health Care • The Wire: Business Solutions for Community Health Improvement	• Accounting and Financial Reporting • Big Data Machine Learning • Consumer Behavior • Corporate Finance • Data Analytics • Decision Models •Managing Complex Project • Pricing Analysis • Strategic Human Capital

Core Credits (20 Credits)	Health Care Depth Electives (Choose 4 Credits/2 Course Set)	Non-Health Care Depth Electives (Choose a maximum of 4 credits/2 Courses)
• Health Policy Design and Implementation I and II • Improvement of Health Services I and II		

2.5   Carey Business School does offer a two year Masters in Health Administration [12] which has in its curriculum modules which are similar to those in the curriculum of IIHMR, New Delhi. These include Statistics, Legal and Ethical Issues in Health Services Management, Managed Care and Health Insurance, Fundamentals of Management for Health Care Organizations, Budgeting and Financial Management in Healthcare Organizations, Quantitative Tools for Managers, Organizational Leadership, Financial Accounting, Strategic Planning, Health Management Information Systems, Human Resources in Health Organizations, Marketing in Health Care Organizations, Medical Practice Management, Healthcare Quality and Patient Safety, Current Topics in Public Health, Health Economics and Epidemiologic Inference in Public Health.

2.6   While there are several institutes in India, which conduct a course on health management, of which two i.e. TISS, Symbiosis and NIHFW have already been compared, two prominent management institutes which offer the course are ISB which offers an Advanced Management Program in Healthcare and IIM, Bangalore's General Management Program for Healthcare Executive. The curriculum offered are placed at **Appendix A** and **B** respectively.

The syllabus offered by ISB covers managerial and health related aspects, under Functional and Core heads, and is designed to meet the needs of a healthcare manager. The course offered by IIM, Bangalore is a seven-month course designed for healthcare executives and offers a mix of modules under the heads "Functional Knowledge, Business Environment, Entrepreneurship and Individual Competencies".

2.7   Before proceeding any further, it is essential to examine whether a nationally or internationally prescribed curriculum for health management exists. In 2012, a conference, "21st Century Health Care Management Education: Confronting Challenges for Innovation with a Modern Curriculum", [13] was held at Harvard Business School, as a first step in reshaping health management education to meet the latest challenges such as unsustainable economics, erratic quality, and unequal access. To address these challenges, the conference recommended an education, specifically designed to prepare health care managers, who can provide delivery of health care in a manner as to control costs and improve quality and access. The conference acknowledged the inability of the current curricula to develop these innovative capabilities for which skills in change management, communication, and team building; a more holistic curriculum that mirrors real-life situations; broad-based knowledge of how health care works, including financing, organizational structures, technology, and public policy and application of that knowledge for innovative health care delivery is essential. The conference recommended curricular content, pedagogical tools and professional values, key amongst which were knowledge of innovation and entrepreneurship, quantitative expertise, change management skills, project-based learning, case studies (particularly those of failure), field-based learning, interactive learning and building ethical/moral dimensions appropriate to science and medicine into all managerial courses.

2.8   At the national level in India, consequent to the working of a Joint Indo – UK Working Group formulated in 2014, the Ministry of Health and Family Welfare, Government of India recommended a model curriculum for Masters in Public Health [14] as part of which 15 core modules and five Electives (one to be taken) were recommended to be conducted by Indian institutes/universities. The modules included of the following: -

2.8.1   **Core Modules**.

2.8.1.1   Principles and practice of Public Health

2.8.1.2   Introduction to health system and policy in Developing countries

2.8.1.3   Health Management: Management Principles and practices

2.8.1.4   Basic Epidemiology

2.8.1.5   Basic Biostatistics

2.8.1.6   Demography and population sciences

2.8.1.7   Introduction to health economics

2.8.1.8   Health promotions approaches and methods and evaluation

2.8.1.9   Introduction to financial management and budgeting

2.8.1.10   Social and behaviour change, effective communication in health care

2.8.1.11   Reproductive, Maternal, Neonatal, Child Health and Adolescent Health (RMNCH+A) also to include Family Planning

2.8.1.12   Introduction to health program evaluation

2.8.1.13   Principles of social research methods

2.8.1.14   Environment and occupational health

2.8.1.15   Law and ethics in public health

2.8.2   **Elective Modules**.

2.8.2.1   Epidemiology

2.8.2.2   Health system

2.8.2.3   Health Program Policy

2.8.2.4   RMNCH+A

2.8.2.5   Institutes could also offer elective modules in other thematic areas such as Advanced Health Economics and Financing, Advanced Health Informatics, Demography and Population sciences, Advanced Environmental and Occupational health, Global health security and International Policies, Advanced Health Promotions, Human Resources for Health.

View of Employing Organizations/Agencies

2.9   An interaction was carried out with certain agencies/organizations which had undertaken placement interview for placement of students in their agencies/organizations. These included of NHSRC, ZS Associates, Helpage India and Apollo Munich. The organizations were of the opinion that while the students were knowledgeable. The application

was lacking and improvement in certain aspects would help them perform better professionally. The reasons ascribed by them were as under: -

2.9.1 The knowledge was bookish and expression in some cases was weak.

2.9.2 Students lacked self-confidence.

2.9.3 Students lacked the ability to apply their knowledge practically, for instance, perquisites for conducting a Health Camp?

2.9.4 Students were unable to handle situational leadership requirements. In other words, they were unable to think and apply themselves to handling tight, suddenly emerging situations through innovative/out-of-box solutions.

2.9.5 Students were found lacking in general awareness about the health care sector and were unaware and not up-to-date with the latest developments.

2.9.6 Students were weak in Biostatistics and basic understanding of Epidemiology.

View of Academia

2.10 On 20th April 2019, an interaction on Curriculum Revision of Health Management was carried out at IIHMR, New Delhi with experts in the field of health care. They included of the following: -

2.10.1 Dr. J.N Srivastava (NHSRC)

2.10.2 Dr. J.K. Das (NIHFW)

2.10.3 Dr. S.B. Arora (IGNOU)

2.10.4 Dr. Dharmesh Lal (PHFI)

2.10.5 Dr. Markandey Rai (Indira Gandhi Technological and Medical Sciences University)

2.10.6 Dr. Gaurav Pal Tomar (IQVIA)

2.10.7 Dr Sanjiv Kumar, Director IIHMR, New Delhi

2.10.8 Various Professors from IIHMR, New Delhi

2.11   The presentation cum discussion that lasted for three hours proposed in the following suggestions/recommendations: -

2.11.1   General curriculum of MPH program (MoHFW), available online in the NIHFW site is suitable for all institutes that wish to host a Masters in Public Health program.

2.11.2   Other institutes in India, such as ISB and the course being run by IIM can be considered for comparison.

2.11.3   The syllabus review should contain elements that potential employers seek, and the same should be incorporated in the syllabus. This will ensure that the

employers will not have to conduct in house training on these aspects post-employment of students. The required information could be obtained through a questionnaire sent to select employers.

2.11.4   To ensure a common and better understanding of health related topics, the feasibility of changing the eligibility criteria for selection for the course to exclude non-medical students should be explored. This would ensure that only students with medical background were eligible for the course, thereby ensuring early and holistic understanding of the subject.

2.11.5   If Para 2.11.4 is not feasible, a module for imparting knowledge on basic health and medical-technical terms will be useful. However, since time may be a constraint, it may be more feasible to dispatch study material to the students, a month in advance of their joining so that they can get conversant with the requisite definitions.

2.11.6   While theoretical knowledge is important, equally important is to ensure greater use of pedagogical tools, both within the classroom and outside. The following could be done: -

2.11.6.1   Address by industry speakers (experts/achievers).

2.11.6.2   Exposure to the health set up, particularly primary and secondary health care set up, Health Wellness Centre etc.

2.11.6.3   Hands-on application of theoretical knowledge which can also be ensured by approaching alumni o involve students in their work.

2.11.6.4   Establishing field-practice area of the Institute.

2.11.7   Before commencing a module, students should be explained the module's significance in their career to pique their interest.

2.11.8   There should be a greater focus on Biostatistics, particularly on aspects which are in common use in the day to day life of a health care manager. Conduct of more number of practical exercises should be ensured especially on how to collect, evaluate and convert data into a meaningful presentation.

2.11.9   Rigor in marking should be ensured with questions being set and answers checked by external examiners based on guidelines forwarded by IIHMR or if infeasible by Professors different from the class conducting Professor in the knowhow of the subject in IIHMR itself.

2.11.10   Consequent to evaluation of term papers, the mistakes committed by students should be explained to them, so that they could better learn how to respond to questions, as well as, be aware of their shortcomings and work on them.

2.11.11   The health care industry is using a number of software. Since the industry is IT based students should be exposed to these.

2.11.12   Students should be made aware of the emerging trends. They should also know the sources from which they can gain information about the emerging trends in the health care sector.

2.11.13   The feasibility of reversing the evaluation to 30% for written and 70% practical be explored.

2.11.14   Recommendations to focus on certain emerging and important areas during the conduct of the course as under were also received: -

2.11.14.1   Social and economic determinants of health.

2.11.14.2   Community ownership (in addition to community participation and community engagement).

2.11.14.3   Social behavior and change communication.

2.11.14.4   Legal aspects, Ethical issues, various Acts.

2.11.14.5   Logistics and supply chain management; cold-chain management.

2.11.14.6   Human resources in health (planning, retention etc.)

2.11.14.7   Healthcare financing at project level (at least basic understanding, alternative financing).

2.11.14.8   Quality.

2.11.14.9   National health programs and policies (latest developments, guidelines).

2.11.14.10   Public Private Partnership (legalities and execution).

2.11.14.11   Patient safety.

2.11.14.12   SDGs (what is happening at which levels).

2.11.14.13   Community-based program (e.g. health and wellness centers, CSR).

Results

2.12   A comparison of the curricula above shows that the course content of PGDHM at IIHMR, New Delhi is a focused syllabus as compared to others in India and indeed is better structured since it is delineated into three different streams of health care management viz. health, hospital and health IT management (the latter two have not been compared due to the scope of this report). Health IT management is in fact not offered as a specialization by anyone. When we consider TISS which conducts a two year course of MPH in Health Administration, the course covers aspects of Health Management. But unlike IIHMR, New Delhi the course does not give a student the foundation of hospital administration, primarily because TISS conducts a different course on Hospital Management, thereby restricting a student's employability to a particular stream only. Symbiosis Institute of Health Sciences offers a two year MBA in Health and Hospital Management. A scrutiny of the syllabus shows that it is quite exhaustive. This is mainly because Symbiosis offers a combined Health and Hospital Management curriculum which in IIHMR, New Delhi is offered during the second year. The result is a large number of modules to be covered (49 including electives), which appears to be far too many. The syllabus offered by ISB is a comprehensive one and includes of modules which are quite similar to that offered by IIHMR. Similarly, the syllabus offered by IIM, Bangalore though for a seven-month program covers similar modules with certain differences.

Within this microcosm of Indian institutes offering a course in health management/administration, an absolute commonality of syllabus does not exist, except for institutes offering MOHFW supported PGDPHM (Refer Para 2.20). However, it would not be incorrect to state that the syllabus is largely overlapping among the Indian institutes.

2.13   When the course syllabus at IIHMR is equated with that being imparted by Harvard T.H Chan School of Public Health and Yale School of Public Health, there are vast differences. A number of courses being conducted at Yale and Harvard are not being conducted at IIHMR, New Delhi. This can be attributed primarily to both striking a balance between catering to their national requirements, while at the same time being viable enough to suit the large number of international students, who attend these courses. Interestingly, the syllabus offered through Master of Science in Health Care Management at Johns Hopkins University is dissimilar to the one being offered at IIHMR, New Delhi (whether one-year full time or two-year part time), but the Masters in Health Administration offered by Johns Hopkins, is very similar. For instance, their two year Masters in Health Administration covers nearly all the topics that are covered at IIHMR, except for Research Methodology while the same is offered in the Master of Science in Health Care Management, although as an elective.

2.14   Globally, identifying a curriculum, which prepares health care managers to meet the challenges of the 21st Century is a matter of concern. An ongoing effort initiated by Harvard Business School has identified development of innovative ability amongst health care professionals as significant to meeting these challenges and has made certain recommendations regarding the curricula. MoHFW, Government of India too in a collaborative effort with NHS, UK has recommended a model guideline for the syllabus of Masters in Public Health, which

is largely followed by IIHMR, New Delhi. In fact, more modules have been added, including the Electives (some offered as Core modules), while the others are covered as topics within modules.

2.15   A comparison of the modules, without comparing the topics that are covered within the modules, to a large extent resonates the similarity of core modules across institutes whether national or international.   For e.g. Yale conducts modules of Epidemiology and Research Methodology, as well as, Biostatistics, but Harvard only conducts the modules of Epidemiology, whereas Johns Hopkins does not cover Research Methodology. TISS covers Research Methodology in great detail followed by Biostatistics (two modules Introduction to Biostatistics and Advanced Biostatistics) and Epidemiology whereas Symbiosis covers Research Methodology, with Epidemiology and Biostatistics being covered as one module (module on Research preceding that of Epidemiology and Biostatistics). Yale (which offers modules on Research Methodology, as well as, Epidemiology) conducts Epidemiology before Research Methodology. Amongst the modules which are common in the syllabi of the institutes, but are not conducted at IIHMR, New Delhi are Negotiation and Conflict Resolution, Emerging Trends/ Current Issues in Health Care and Innovative Problem Solving and Design Thinking.

2.16   When the comments of various placement interviewers at Para 2.9 above is considered, it is evident that they have experienced a lack of some skills amongst the students that they interviewed.

2.17   The interaction with the academia experts, resulted in several valuable suggestions/recommendations. While a few of them have been already implemented or were already considered in this paper, before the conduct of the interaction, there are several others which merit due diligence for a nuanced response/action.

Discussion

2.18   The topics covered at IIHMR, New Delhi indicated in Tables 2.2 and 2.3 are comprehensive and meet the current requirements of educating and skilling Health Care Managers so that they can perform. The curricula, in fact, is better than other institutes in India as shown in Table 2.2 and is indeed better structured and focused. At the same time, the focus remains on building leaders and management skills. TISS conducts a course in Masters in Health Administration, which also covers some aspects of Health Management but not as comprehensively as done at IIHMR and none of Health IT Management. This could also be because it offers courses on Hospital Administration, Epidemiology and Health Policy as independent masters programs. The two year MBA in Health and Hospital Management offered by Symbiosis Institute of Health Sciences though comprehensive and in great detail, since it covers various aspects of both health and hospital management, does not offer Health IT as a separate stream of management which today owing to the IT interface requirement for smoother work performance and timely, as well as, better health care delivery is a must, and is a stream offered as a stream for specialization in the second year at IIHMR, New Delhi. Also, the 46 modules and three Electives on offer (one to be chosen) which totals to 49 modules besides internship and project, appears to be content heavy and makes comprehension tenuous. The course offered at ISB covers health and management aspects as does IIHMR, with the notable difference being that ISB offers a module on Business Model Innovation and

Entrepreneurial Mind-Set not offered at IIHMR. Though IIM, Bangalore offers an Executive Course the curricula covers pertinent health, managerial and competency development related modules a perusal of which shall reveal their similarity to that at IIHMR with the interesting difference being that of Negotiation and Conflict Management and the heavy focus on Entrepreneurship where in several modules are covered. The emphasis apparently is since IIM also intends to train entrepreneurs, which are not an exclusive focus with IIHMR.

2.19   The international universities under comparison in Table 2.2 viz. University of Harvard, T.H Chan School of Public Health and University of Yale, School of Public Health, offer a syllabus, which is understandably quite different from that being offered at IIHMR, New Delhi owing to both these universities striking a balance between meeting their country's requirement, while at the same time being appealing to International Students. Also, they are apparently following the recommendations of the conference under mention at Para 2.7. But unlike at IIHMR, nothing related to hospital is covered for the reason that the course under comparison is for health care. A question arises as to what is it that the foreign universities do differently. Firstly, the course content is less, which implies that education is in-depth and comprehension is better. This is also due to the fact that there is greater time available and fewer modules to impart. Secondly, they offer more practice, not only within a module i.e. in class, but also through greater emphasis on industry-based practicum. Certain interesting modules being offered are Determinants of Health, Ethics in Public Health, Negotiation in Health Care Settings, Emerging Trends in Healthcare Sector (also offered by Symbiosis Institute of Health Sciences), Innovative Problem Solving and Design Thinking, Leadership, Social Justice and Health Equity. These modules are not in vogue in the Indian institutes. All or few can be included, not because they are being offered at Yale or Harvard Universities or

at Johns Hopkins, but because their applicability is relevant to the Indian health milieu. This is particularly true with modules like Leadership, Innovative Thinking, Negotiation and Emerging Trends in Health Care. Modules of Determinants of Health, Ethics in Public Health and Social Justice and Health Equity too are significant in our national setting, but their conduct is to be weighed against modules on leadership etc. and also against whether including them would make the course, syllabus intensive. When the comments of various placement interviewers at Para 2.9 above is considered, they have highlighted few aspects in which our students lack viz. situational leadership and knowledge of current happenings in health care sector. Inclusion of the modules of Leadership and Innovative Thinking, Negotiation and Conflict Resolution; and Emerging Trends/ Current Issues in the Health Care Sector will help tide over these issues and help the students at IIHMR, New Delhi to be better managers in their professional life. It is important to note that including these however, would imply that the existing curricula has to be finely sieved to delete modules/topics which are not viable any longer or are repetitive in nature. This will help in better allocation of time for covering these topics even as the syllabus remains India centric. Nevertheless, if the syllabus at IIHMR, New Delhi is scrutinized in light of the recommendations of the conference at Para 2.7, it can be seen that these have been implemented and are covered as modules, or as topics within modules. There is however, a requirement to plan and enforce greater implementation of the pedagogical tools, as recommended by the Conference at Harvard.

2.20   The syllabus at IIHMR, New Delhi, though not based on the Guidelines for Masters in Public Health issued by the MoHFW, Government of India, includes of several of the modules recommended by the Guidelines. Similar modules have not been included, since the guidelines are for Masters in Public Health where as IIHMR, New Delhi offers a PGD in Heath

Management, that focuses both on understanding of health including leadership and managerial aspects. The course is that management of Public Health Extract of the Guidelines issued by MoHFW, giving the topics to be covered, within each module is placed as **Appendix C**. Interestingly, the syllabus of the one year PGD in Health and Family Welfare Management, supported by MOHFW under NRHM [15] and being conducted before the formulation of the guidelines and offered at NIHFW New Delhi, AIIH & PH Kolkata, IIPH in its various centers, JIPMER Puducherry, MGIMS Wardha, PGIMER Chandigarh (syllabus common to all, refer **Appendix D**) includes most of the topics, which have been recommended by the Guidelines and is akin to the syllabus followed at IIHMR, New Delhi. Thus, government-backed institutes in the country follow a common syllabus. The fact that the syllabus at IIHMR, New Delhi, though not similar, is not at an absolute variance gives the students an opportunity to seek employment in government backed projects and programs and with the likelihood of the founding of a Public Health Cadre recommended by National Health Policy, 2017, a possibility of joining the cadre since they are learning, what has been prescribed by MOHFW. An additional module which can be considered for being added is that of Social and Behavioral Change Communication. This would also be in keeping with the suggestions of the meeting with experts on 20 April, 2019. However, paucity of time would preclude the conduct of this module, unless the existing module on communication is replaced by a module on Social and Behavioral Change Communication and Communication Management. The module can cover topics, as is recommended in the Model Curricula for MPH (refer Appendix C), or can follow the curricula developed by NIHFW, in collaboration with USAID funded, FHI 360-led Improving Healthy Behaviors Program (IHBP) issued by MOHFW on Sep 2013[16]. Alternatively, a syllabus can be developed at IIHMR. A recommended syllabus shall be covered subsequently.

2.21   From amongst the modules being conducted at IIHMR, New Delhi, the modules of Health Information Management and Principles of Management can be deleted. The topics in health information management can be covered as part of Health Management Information System, while a few can be covered as part of the new module of Emerging/Current Trends in the Health Care Sector. Principles of Management can be deleted because its topics, except Introduction to Management and Evolution of Management, can be covered in other modules such as Human Resource Management, Strategic Management, Leadership and Supply Chain Management or are being covered in them. The topics of these modules which can be deleted and others which are required to be shifted to other modules or are already being covered in them shall be indicated in Chapter 3 and 4. Furthermore, the ungraded modules, viz. Essential of Computer Service, Human Process Lab and Communication Lab should be deleted, since they are more in the nature of an ice breaker amongst students, enlighten students about the basics of computers which most students today are already aware of and undertake certain exercises, which being ungraded have no record and are thus of no consequence to the student's personal development and progression. This is owing to the fact that in the absence of individual grading, the Professors handling the students after these ungraded modules have no available pre-assessment about the capabilities and qualities of the students and have to arrive at individual deductions. These deductions would be mostly correct, given their experience, but may not necessarily be so.

2.22   The lack of self-confidence in students and their restricted ability to express themselves, highlighted by interviewers, can only be applicable to some students. Nevertheless, it is essential that this lacuna is addressed. One way of doing so could be by ensuring that students

individually, present a topic of at least two to three slides or while making a group presentation (as part of presentations during modules) within the first few weeks of the course, so that their verbal expression and tentativeness during public -speaking can be ascertained. This should be graded and should be accessible by subsequent Professors so that they can focus upon the weak students. They should provide the week students more opportunities than others through the duration of the course and mark their improvement. Another option is to include a five day module of mock interview at the beginning of the course, where after those identified as weak can be interviewed repeatedly through the duration of the course. Additionally, while the ungraded modules have been recommended to be deleted, instead of them a Student Induction program primarily to ascertain their communication capabilities can be conducted within the first few weeks or in the first week itself for a duration of not more than five days. The present syllabus of Communication Process Lab should be pruned to being 90% practical with 10% lectures on topics such as how to make a presentation. This should be graded so that the professors are able to identify students with weak communication skills/comprehension/analytical ability who can then be honed through mock interview and opportunities for class participation and presentations. The methodology of conducting this exercise shall be discussed in a subsequent Chapter.

2.23   The suggestions/ recommendations of the academia which are backed by their years of experience bear merit. The suggestions and the recommended action with reference to their implementation are highlighted below: -

Table 2.4: Recommendations on Suggestions by Academia Experts

Ser	Suggestion by Academia	Recommendation on Action to be Taken
2.23.1	Use of MPH Curricula	IIHMR syllabus already compared and found to be quite similar just as PGDHM at NIHFW is similar
2.23.2	Comparison with other institutes particularly ISB and IIM	Such a comparison has been done
2.23.3	Considering industry requirement	Views of industry obtained earlier as part of this paper
2.23.4	Feasibility of changing eligibility criteria	Not feasible being AICTE guidelines
2.23.5	Conduct of module for medical terms/ dispatch of study material on the same before students join	Time constraints preclude the conduct of a module. However, study material can be sent beforehand and the students can be tested on the same during Student Induction
2.23.6	Use of pedagogical tools	Should be ensured. Establishment of a field practice area of the Institute should be explored
2.23.7	Explaining importance of module	Should be implemented
2.23.8	Focus on Biostatistics	Should be ensured
2.23.9	Rigor in Evaluation	Feasibility of external paper setters and evaluators be explored. Setting of question paper and its evaluation by in house professors in the know of the subject be implemented in the interim or in lieu
2.23.10	Explanation of errors post evaluation of term paper	Should be implemented
2.23.11	Exposure to software in vogue in the industry	Should be implemented
2.23.12	Awareness of emerging trends	Should be implemented. In fact a module on the topic has been recommended to be added
2.23.13	Reversing the percentage grading for practical and theory	The recommendation enables evaluation of a student's comprehension which is best displayed through practical application. Thus, while implementing this recommendation may not be permissible as per AICTE norms, the feasibility of doing so must be explored, if need be through a special waiver
2.23.14	Inclusion of various topics/modules	While most of the suggestions are already implemented, including others

Ser	Suggestion by Academia	Recommendation on Action to be Taken
		may not be feasible considering the time available

2.24   Electives offer students the opportunity to learn a topic that is of interest to them. The five electives offered at IIHMR, New Delhi limit the choices available to the students. More number of electives should be offered by weighing these against the availability of Professors for conducting these Electives. If required Adjunct Professors or industry experts can be involved. The present five-day duration for conduct of the Electives is adequate for all except Big Data Analytics. The class on Big Data Analytics, held presently, gives little time for practice and is therefore unsuitable for learning. Primarily the content requires a modicum of knowledge/developing an understanding of programming, which may not be possible for technically disinclined students and proper comprehension shall require more number of days, which given the current schedule is not possible. Hence, it should not be conducted. The elective on Entrepreneurship should be replaced by Health Care Entrepreneurship. Additional Electives which could be offered and including which shall also meet the recommendations of the conference at Harvard mentioned at Para 2.7 are : -

2.24.1 Health Care Entrepreneurship [17]   - Modifies current Elective of Entrepreneurship

2.24.2 Health Care Quality and Reliability [18] - Presently module is only for Hospital

2.24.3 Innovation in Healthcare [19]

2.24.4 Project Management for Health Care Professionals [20]

2.24.5 Transforming Health Care Delivery [21]

2.24.6 Change Management in Dynamic Health Care Systems [22]

2.24.7 Managing Health Care Organizations [23]

2.25   The topics to be covered, under the new modules which have been recommended to be offered shall be covered subsequently.

CHAPTER 3

OVERLAPPING TOPICS ACROSS MODULES

3.1   The syllabus of PGDHM at IIHMR, New Delhi mentioned at Para 2.1 and 2.2 can actually be grouped under the heads of health, finance, managerial functions and so on. In order to ascertain which topics, if any, in the various modules are overlapping, it would only be prudent that the core curriculum is well categorized for some modules can be classified under more than one category. For e.g. health insurance can be categorized under both health and finance.

3.2   **Categorization of Modules**. The various modules can be classified into categories as under: -

Table 3.1: Categorization of Modules at IIHMR, New Delhi

Ser No	Category	First Year	Second Year (Health Stream)
3.2.1	**Leadership**		
3.2.1.1		Organizational Behavior	Strategic Management
3.2.1.2		Communication Planning and Management	**-**
3.2.2	**Managerial**		
3.2.2.1		Principles of Management	Logistics and Supply Chain Management
3.2.2.2		Human Resource Management	**-**
3.2.2.3		Marketing Management	**-**
3.2.2.4		Health Information Management	**-**
3.2.3	**Financial**		
3.2.3.1		Essentials of Health Economics	Health Insurance and Managed Care
3.2.3.2		Financial Management and Accounting	**-**

Ser No	Category	First Year	Second Year (Health Stream)
3.2.4	**Public Health**		
3.2.4.1		Health and Development	National Health Programs
3.2.4.2		Health Policy and Health Care Delivery System	Global Health
3.2.4.3		Essentials of Hospital Services	Disaster Management
3.2.4.4		-	Population Program Management
3.2.4.5		-	Health Management Information System
3.2.4.6		-	Quality Management and Patient Safety in Hospitals
3.2.4.7		-	Legal Framework in Health Care
3.2.5	**Analytical Studies**		
3.2.5.1		Essentials of Epidemiology	Applied Epidemiology
3.2.5.2		Research Methodology	Health Survey and Research Methods
3.2.5.3		Biostatistics	Program Planning, Implementation, Monitoring and Evaluation
3.2.5.4		Demography and Population Science	Data Management and Analysis
3.2.5.5			Operations Research

3.3   The above modules are conducted for a number of days which can be a week or two weeks. Module-wise syllabus (less assignments, case studies and group activities though they are planned for every module) is given in the tables below: -

Table 3.2: Syllabus of Modules under Leadership Category

Ser No	Category	First Year	Second Year (Health Stream)
3.3.1	**Leadership**		
3.3.1.1		**Organizational Behavior (3)** • Introduction to OB • Changing Context	**Strategic Planning and Management in Health Care (3)** • Strategic Management Introduction

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Ser No	Category	First Year	Second Year (Health Stream)
		• Attitudes and Job Satisfaction • Personality • Work Motivation • Perception • Roles and Role Effectiveness • Transactional Analysis • Foundations of Group Behavior • Understanding Work Teams • Conflict management • Leadership styles and Theories • Communication at workplace • Organizational Culture and Climate • Learning Process	• Leadership Concepts and Skills • Mission and Vision • Environment Analysis • External Analysis • Internal Analysis • Business Level Strategy • Corporate Strategy • Blue Ocean Strategy • Strategic Evaluation and Control • Strategy Implementation • Value Chain Analysis
3.3.1.2		**Communication Planning and Management (3)** • What is Communication? • Shanon Weaver Model of communication • Health Belief Model (Berlo's Model) • Health Communication Model (Self Theory) • Understanding non-verbal communication • Behavioral change communication • Interpersonal communication • Intrapersonal communication • Types of Counselling • P Process • Johari Window • Media Advocacy • Memo Writing • E-Mail Writing • Public Speaking • Effective Listening	-

Table 3.3: Syllabus of Modules under Managerial Category

Ser No	Category	First Year	Second Year (Health Stream)
3.3.2	**Managerial**		
3.3.2.1		**Principles of Management (3)** • Introduction to Management • Evolution of Management • Planning • Organizing • Controlling • Human Resource Management • Supply Change Management • Types of Leadership • Motivation • Management by Objective • Movie – Evolution of Management Thought	**Logistics and Supply Chain Management (3)** • Materials Management • Policies and Procedures of Purchase of goods • Purchase • Materials Receipt Storage, Distribution, Handling & Preservation of Stores • Inventory Control • Codification and Standardization • Value Analysis • Hospital equipment Management • Global Tender Enquiry • Central Drugs Standard Control Organization • Foreign Purchase and Import Substitution • Quality Control • Legal and Ethical aspects of Management of Materials • Rational Use of Drugs and Evidence Based Medicine • Role of IT in Supply Chain Management • Transportation • Ware Housing
3.3.2.2		**Marketing Management (3)** • Understanding of Marketing Management, Concepts of Marketing • CRM - Role Play • Marketing Strategic Planning • Marketing Planning • MIS and Market Research	-

Ser No	Category	First Year	Second Year (Health Stream)
		• Consumer Market and Buying Decision Process • Business Markets • Competitive Strategies • Product • Price • Place • Promotion	
3.3.2.3		**Health Information Management (3)** • Introduction • Standards for HIE • Health Information Management • EHR / PHR / PHI • M Health, Tele-home care, IoT • Change Management and Capacity Building • Safety and Ethics related to Digital Health • Regulations and User Demand • Career Options	-
3.3.2.4		**Human Resource Management (3)** • Introduction to HRM • Human Resource Planning (HRP) • HRP activity • Job Analysis • Recruitment • Selection • Induction, Placement, Internal Mobility and Separations • Training and Development • Career and Succession Planning • Compensation Administration • Incentives and Employee Benefits • Employee Grievances and Discipline	-

Ser No	Category	First Year	Second Year (Health Stream)
		• Collective Bargaining • Employee empowerment and participation • Strategic HRM • Personnel records and administration • Work Life balance • New concepts in HRM	

Table 3.4: Syllabus of Modules under Financial Category

Ser No	Category	First Year	Second Year (Health Stream)
3.3.3	**Financial**		
3.3.3.1		**Essentials of Health Economics (3)** • Health Economics: An Introduction • The Production of Health • Overview of Medical Care sector • Demand for Health Care • Health Financing in India • National Health Insurance Reforms • Economic Evaluation of Public Health Interventions • Cost of Health Services: Concepts and Estimations • Costs vs. revenues: Break-even Analysis • Market Failure and Government Intervention	**Health Insurance and Managed Care (1.5)** • Introduction to Health Insurance • Social Health Insurance • Pricing in Hospitals and Insurance • Employee State Insurance Scheme in India • Health Insurance in India, including IRDA and Regulatory Framework • Community Health Insurance • Corporate Business and Insurance • RSBY and Ayushman Bharat National Health Protection Scheme (AB-NHPS) • Managed Healthcare • Advertising/ Promotion in Healthcare and Insurance • Public Relations in Healthcare and Insurance • Private Health Insurance in India

Ser No	Category	First Year	Second Year (Health Stream)
			• TPA • Sales/Marketing in Healthcare and Insurance • International Experiences in Healthcare and Insurance
3.3.3.2		**Financial Management and Accounting (3)** • Overview • Techniques of Capital Budgeting • Marginal Cost • Break Even and CVP Analysis • Working Capital Management • Standard Costing and Variance Analysis	-

Table 3.5: Syllabus of Modules under Public Health Category

Ser No	Category	First Year	Second Year (Health Stream)
3.3.4	**Public Health**		
3.3.4.1		**Health and Development (1.5)** • Introduction • Concepts of Health and Well Being • Health Indicators • Determinants of Health • Development and Health • Human Development Index • Concept of Disease • Levels of Prevention & Modes of Intervention • Health in International Development Agenda • MDGs to SDGs • Organization of Health Care Delivery in India	**National Health Programs (3)** • Health Care Systems Overview • Health Care Systems – Four Basic Models • Health systems in India • Health Planning • IDSP • Control, Elimination and Eradication • Indicators, Monitoring and Evaluation • Program Evaluation • The Project Life Cycle • NHP Implementation Problems and Challenges

Ser No	Category	First Year	Second Year (Health Stream)
			• 20 National health Programs
3.3.4.2		**Health Policy and Health Care Delivery System (3)** • Introduction • Definition of health system • Health system components and functions • Building blocks of health care system • Current status of health human resources and infrastructure and related issues • Health management information system and relevant issues • Evolution of health care delivery system in India – glimpse of health care in British India • Lessons learnt from health services in British India • Health care delivery system in post independent India – key features • Health care delivery system in rural India – SC, PHC, CHC, District hospitals – roles and responsibilities of health functionaries • Organizational set up of health care in India • Different stakeholders in provision of health care. • Financing for health and out of pocket expenditure • Concept of universal health coverage and related issues • Different committees on health	**Global Health (1.5)** • Introduction to Global Health • Health in International Development Agenda • Health in All Policies • MDGs to SDGs • Health Systems Framework • UN Agencies in India

Ser No	Category	First Year	Second Year (Health Stream)
		• National Health Policy-2017 • Nutrition Policy and National Population Policy • National Health Mission (NRHM/ NUHM) • NUHM and urban health in India • Challenges posed by urban health and special features of NHM • National Programs – Rationale and Overview • NVBDCP, NACO, RNTCP, NLEP • NPCDCS • Universal Health Coverage (UHC) – concepts and overview • Financing for UHC, National Health Protection Scheme • Health in All Policies (HiAP) – rationale and overview	
3.3.4.3		**Essentials of Hospital Services (1.5)** • Hospitals and Hospital as a System • Overview of Health Sector • Role of Hospital Administrator • Planning and Organization of Out Patient Services • Accident and Emergency Services • Progressive Patient Care • Planning and Organizing ICU • Planning and Organization of Hospital Laboratory Services • Planning and Organization of Hospital Imaging Services	**Disaster Management (1.5)** • Overview • Disaster Management in India • Planning during Disaster Response • Disease Management • Food and Nutrition • Water and Sanitation • Incident Command System and Communication • Mass Casualty Management • Disaster Management in Hospitals • Leadership for Disaster and Health

Ser No	Category	First Year	Second Year (Health Stream)
		• Planning and Organization of Medical Records Department • Hospital Monthly Statistical Bulletin • Inpatient Services • Nursing Care and Ward Management • Operation Theater	
3.3.4.4		-	**Population Program Management (1.5)** • Introduction • Population Policy • RMNCH+ Strategy • Evaluation of Family Planning Program • RMNCH+A Dashboard • Use of Large Scale Data in Management • Gender Issues and Health • Sex Ratio • Domestic Violence and Demographic Variation • Women's Empowerment • Aging and Public Health • HIV/AIDS and Demography • Urbanization Measures • Urbanization and Health
3.3.4.5		-	**Health Management Information System (3)** • Concepts in Information Management • Basics of Computer • Data and Database Management • HMIS – Organization and Structure • HMIS – Decision Making

Ser No	Category	First Year	Second Year (Health Stream)
			• Information Needs and Indicators • Data Collection and Generation • Data Transmission and Flow of Information • Data Processing • Data Quality • Applications and Use of HMIS • Evaluation of MIS • Overview of EMR, EHR & HIS
3.3.4.6		-	**Quality Management and Patient Safety in Hospitals(3)** • Introduction • Approach to Quality Management • Quality Improvement • Tools for Quality Improvement • Clinical Governance • NQAS • Never Events • Developing a Quality Culture • Patient Safety • NABH Standards • Accreditation National and International
3.3.4.7		-	**Legal Framework in Health Care (1.5)** • Legal Issues in Medical Care • Legal Issues in Hospitals and Management of Medico Legal Cases • Day to Day Problems in Dealing with Patients • Industrial and Food and Drug Acts Applicable to Hospitals

Ser No	Category	First Year	Second Year (Health Stream)
			• Classification of Offences • Consent • Confidentiality • Criminal Trials in India • Professional Ethics • Consumer Protection Act • RTI Act • Medical Termination of Pregnancy Act • Clinical establishment Act • Mental Health Care Act • Sexual Harassment of Women at Work Place • Violence Against Medical Profession

Table 3.6: Syllabus of Modules under Analytical Studies Category

Ser No	Category	First Year	Second Year (Health Stream)
3.3.5.1		**Essentials of Epidemiology (3)** • What is Epidemiology • Types of Epidemiology Studies • Cross Sectional Design • Cohort • Case Control • Introduction to Surveillance • Surveillance and IDSP • Evaluation of Surveillance • Clinical Epidemiology • Strobe • Outbreak Investigation	**Applied Epidemiology (3)** • Overview • Epidemiology Basics • Epidemiology Measurements- Case Studies and Discussion • Measurements: Morbidity and Mortality • Study Designs – Descriptive Study • Study Designs- Case Control Study • Study Designs- Cohort Study • Study Designs- Experimental Study

Ser No	Category	First Year	Second Year (Health Stream)
			• Estimation of Risk: Associations and Cause – Effect Relationships • Bias in Epidemiological Studies • Screening for Diseases – Case Study and Group Discussion • Validity and Reliability of Screening Tests • Evaluation of Screening Programs • Epidemiological Approach to Evaluation of Health Programs • Developing a Disease Surveillance Program • Epidemic Management
3.3.5.2		**Research Methodology (3)** • Foundations of Research • Problem Identification & Formulation of Research Question • The Review of Literature • Research Design and Types of Research • Methods of Research • Sampling and Sampling Design • Ethical issues in research • Methods of Data Collection • Data Analysis • Interpretation of Data and Report Writing	**Health Survey and Research Methods (3)** • Introduction to Health Research • Identifying Research Problem • Ethical Issues in the Research • Developing a Research Proposal • Overview of Research Design • Research Tools and Data Collection Methods • Sampling Methods • Designing Survey Tools • Bias and confounding • Introduction to Program Evaluation • Gender Health Research • Data Management • Analyze Information for Drawing Inferences • Report writing • Content, coverage and design of NHFS 4

Ser No	Category	First Year	Second Year (Health Stream)
3.3.5.3		**Biostatistics (3)** • Introduction to Statistics and Biostatistics • Data Sources • Types of Variable • Common Measurements: Rates, Ratio, Proportion, Percentage and Index • Presentation of data • Descriptive statistics • Concept, Purpose and Type of Sampling • Sample Size Determination • Correlation & Regression • Simple & Multiple Regression Analysis • Concept of Basic Probability • Probability Distribution • Confidence Interval • Testing of Hypothesis • Test of Significance: Chi Square & T Test	**Program Planning, Implementation, Monitoring and Evaluation (3)** • Concept of Planning • Concept of Program Planning and Health Planning Cycle • Situational Analysis- Concepts and Approaches • Health Problems and Prioritization • Problem Tree Analysis and Objective Tree Analysis • Stakeholder Analysis • Concept of Log Frame and Approach • Development of LF Matrix • Activity and Time Scheduling (Gantt Chart) • CPM and Activity Network • Monitoring and Evaluation • Budgeting • Budget Preparation
3.3.5.4		**Demography & Population Science (3)** • Intro Population Science and Demography including sources of demographic data • Demographic Transition (Population structure and composition, Age sex pyramid) • Population Characteristics (Age dependency and implications, Quality of data and data appraisal)	**Data Management and Analysis (1.5)** • Public Health Data • Public Health Data Sources • Introduction to Database • Data Coding, Editing and Transformation • Data Quality • Preparing Data for Analysis • Tabular Presentation • Graphic Presentation • Introduction to SPSS

Ser No	Category	First Year	Second Year (Health Stream)
		• Concept of fertility (Basic measures of fertility, Divorce and remarriage) • Mortality Definition (Sex and age patterns of mortality, basic measures of mortality) • Life Table techniques • Migration Type, Pattern, Consequences, Migration and health • Ratios, rates and Proportion • Population Growth rates	• Data Entry and Database Creation • Importing Database and Overview to Database Management Options • Descriptive Analysis • Cross Tab and Chi Square Test • T Test • Correlation Analysis • Simple Linear Regression • Analysis
3.3.5.5		-	**Operations Research (3)** • Introduction to Operations Research • Concepts and Definition of Operations Research • Linear Programming • Solution by Graphical Method • Special Cases and Limitations • Transportation Problems • Assignment Problems • Integer and Goal Programming • EOQ Models • Quantity Discount Models • ABC Analysis • PERT • CPM • Queueing Theory • Waiting Time

Results

3.4   From Tables 3.2 to 3.6 above it is discernible that the PGDHM Course at IIHMR, New

Delhi covers a total of 30 modules, of which 15 each are conducted in the first and second

years. In addition, there are electives and certain non-graded topics, whose syllabus have not been discussed above. These modules can be categorized, under the heads of those related to leadership, managerial, finance, public health and analytical. Considering that the scope of the paper is restricted to first year and second year health stream only, other modules concerning Hospital Management and Health IT Management have not been included. The topics that are covered in each module show that except for a very few modules such as Legal Framework in Health, Marketing Management, Human Resource Management and Supply Chain Management, there are topics within other modules that are overlapping in nature, either in whole or as part of a topic. The modules with overlapping topics are as under: -

Table 3.7: Overlapping Topics in Modules

Ser	Topic	Overlapping Module	Covered as
3.4.1	Leadership Related		
		Organizational Behavior (Ist Year)	Leadership Styles and Theories
		Strategic Planning (Ist Year)	Leadership Concepts and Skills
		Principles of Management (Ist Year)	Types of Leadership
		International Health (IInd Year)	Role of Leadership
		Disaster Management (IInd Year)	Leadership for Disaster
		Strategic Management (IInd Year)	Capacity Development for Leadership Skills
3.4.2	Communication		
3.4.2.1		Organizational Behavior (Ist Year)	Communication at Work Place (includes of topics mentioned in next row)
		Communication Planning and Management (Ist Year)	• What is Communication? • Understanding non-verbal communication • Interpersonal communication • E-Mail Writing • Effective Listening

Ser	Topic	Overlapping Module	Covered as
3.4.2.2		International Health (IInd Year)	Role of leadership (includes of enhancing listening skills)
		Strategic Management (IInd Year)	Capacity Development for Leadership Skills (includes of enhancing listening skills)
3.4.3	Research and Epidemiology		
3.4.3.1		Research Methodology (Ist Year)	Problem Identification & Formulation - Research Question
		Health Survey and Research Methods (IInd Year)	• Identifying Research Problem • Developing a Research Proposal
3.4.3.2		Research Methodology (Ist Year)	• Ethical issues in research
		Health Survey and Research Methods (IInd Year)	• Ethical issues in research
3.4.3.3		Applied Epidemiology (IInd Year)	• Study Design Descriptive Studies • Study Design Experimental Studies • Study Design Case Control • Study Design Cohort
		Epidemiology (Ist Year)	Various Study Designs
3.4.3.4		Research Methodology (Ist Year)	Interpretation of Data and Report Writing
		Health Survey and Research Methods (IInd Year)	• Analyze Information for Drawing Inferences • Report writing
3.4.4		Health Survey and Research Methods (IInd Year)	• Bias and confounding • Sensitivity, Validity and Reliability (as part of Research Design)
		Epidemiology	• Bias and confounding • Sensitivity, Validity and Reliability (as part of Research Design)
		Applied Epidemiology	• Bias in Epidemiology • Validity and Reliability of Screening Tests
3.4.5	Sampling		
		Biostatistics (Ist Year)	• Concept, Purpose and Type of Sampling • Sample Size Determination

Ser	Topic	Overlapping Module	Covered as
		Research Methodology (I^st Year)	Sampling and Sampling Design
		Health Survey and Research Methods (IInd Year)	Sampling Method
3.4.6	Data		
3.4.6.1		Biostatistics (I^st Year)	Data Sources
		Data Management and Analysis (IInd Year)	Public Health Data Sources
3.4.6.2		Biostatistics (I^st Year)	• Types of Variable • Rates, Ratio, Proportion, Percentage and Index
		Data Management and Analysis (IInd Year)*	Preparing Data for Analysis
		Health Survey and Research Methods (IInd Year)	Analysisng Data
		Demography (I^st Year)	Rates, Ratio, Proportion, Percentage and Index
3.4.6.3		Biostatistics (I^st Year)	• Correlation & Regression • Simple & Multiple Regression Analysis • Testing of Hypothesis • Test of Significance: Chi Square & T Test
		Data Management and Analysis (IInd Year)*	• Cross Tab and Chi Square Test • T Test • Correlation Analysis • Simple Linear • Regression Analysis
		Health Survey and Research Methods (IInd Year)	Analyzing Data
3.4.6.4		Data Management and Analysis (IInd Year)*	Data Quality
		Health Management Information System	Data Collection/Processing (Data Quality covered as a part of this topic)
3.4.6.5		Research Methodology (I^st Year)	Methods of Data Collection
		Health Survey and Research Methods (IInd Year)	Research Tools and Data Collection Methods

Ser	Topic	Overlapping Module	Covered as
3.4.7	Graphic Presentation Tabular Presentation	Biostatistics (Ist Year)	Descriptive Statistics (Types of Graph), Presentation of Data (Tabular Presentation)
		Data Management and Analysis (IInd Year)*	Graphic Presentation, Tabular Presentation
		Health Survey and Research Methods (IInd Year)	Analyzing Data
3.4.8	NHFS4	Demography (Ist Year)	Content, coverage and design of NHFS4
		Health Survey and Research Methods (IInd Year)	Content, coverage and design of NHFS4
		Population Program Management (IInd Year)	Use of Large Scale Data
3.4.9	Demographic Transition	Demography(Ist Year)	Demographic Transition - India
		Population Program Management (IInd Year)	Aging and Public Health
3.4.10	Health Program	National Health Programs (IInd Year)	• NRHM • NUHM • NVBDCP, NACO, RNTCP, NLEP • NPCDCS
		Health Policy and Health Care Delivery System (Ist Year)	• NRHM • NUHM • NVBDCP, NACO, RNTCP, NLEP • NPCDCS
		National Health Programs (IInd Year)	RMNCHA+
		Population Program Management (IInd Year)	• RMNCHA+ Strategy • NPHCE as part of Aging and Public Health • Evaluation of Family Planning Program (Only RCH and NPP 2000)
3.4.11	Health in All Policies	Health Policy and Health Care Delivery System (Ist Year)	Health in All Policies (HiAP) – Rationale and Overview
		International Health (IInd Year)	Health in All Policies
3.4.12	Health Management	Health Policy and Health Care Delivery System (Ist Year)	Health Management Information System and Relevant Issues

Ser	Topic	Overlapping Module	Covered as
	Information System	Health Management Information System (IInd Year)	Above topic covered in various parts in Health Management Information System
3.4.13	Financing for health and out of pocket expenditure	Health Policy and Health Care Delivery System (Ist Year)	Financing for health and out of pocket expenditure
		Essentials of Health Economics in India (Ist Year)	Health Financing in India
3.4.14	Disease Concept	Health and Development (Ist Year)	Concept of Disease
		Epidemiology (Ist Year)	Types of Epidemiological Study (Above topic covered as a part of this topic)
3.4.15	Health Care Delivery Organization	Health and Development (Ist Year)	Organization of Health Care Delivery in India
		Health Policy and Health Care Delivery System (Ist Year)	• Health care delivery system in rural India – SC, PHC, CHC, District hospitals – roles and responsibilities of health functionaries • Organizational set up of health care in India
		National Health Program (IInd Year)	Health System in India
		Essentials of Hospital and Hospital Services (Ist Year)	Overview of Health Sector
3.4.16	MDG and SDG	Health and Development (Ist Year)	MDGs to SDGs
		International Health (IInd Year)	MDGs to SDGs
3.4.17	Health Planning and Related Aspects	National Health Program (IInd Year)	Health Planning
		Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	• Concept of Planning • Concept of Program • Planning and Health Planning Cycle • Situational Analysis- Concepts and Approaches • Health Problems and Prioritization • Problem Tree Analysis and Objective Tree Analysis

Ser	Topic	Overlapping Module	Covered as
3.4.18	Monitoring and Evaluation	Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	Monitoring and Evaluation
		National Health Program (IInd Year)	• Indicators, Monitoring and Evaluation • Program Evaluation Monitoring and Evaluation
3.4.19	Disease Surveillance Program	Epidemiology (Ist Year)	Integrated Disease Surveillance Program and Surveillance
		Applied Epidemiology (IInd Year)	Developing a Disease Surveillance Program
		National Health Program (IInd Year)	Integrated Disease Surveillance Program
3.4.20	CPM	Operations Research (IInd Year)	CPM
		Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	CPM and Activity Network
3.4.21	Ayushman Bharat	Health Insurance and Managed Care	RSBY and Ayushman Bharat National Health Protection Scheme (AB-NHPS)
		National Health Program (IInd Year)	Ayushman Bharat
		Health Policy and Health Care Delivery System (Ist Year)	Financing for UHC, National Health Protection Scheme
3.4.22	Motivation	Principles of Management (Ist Year)	Motivation
		Organizational Behavior (IInd Year)	Work Motivation
3.4.23	Prevention & Intervention	Health and Development (1st Year)	Levels of Prevention & Modes of Intervention
		Essentials of Epidemiology (1st Year)	What is Epidemiology (includes of Levels of Prevention and Modes of Intervention as a sub part)
3.4.24	Universal Health Coverage	Health Policy and Health Care Delivery System (1st Year)#	Universal Health Coverage (UHC) – concepts and overview

Ser	Topic	Overlapping Module	Covered as
			Universal Health Coverage Concepts
			# Topics at Ser 3.4.24 are repeated within the module

Note : * Topics of Data Management and Analysis though similar to Biostatistics cannot be deleted since they are the computer based application of the topics covered in Biostatistics

Discussion

3.5   The curricula at IIHMR, New Delhi has a large number of topics in different modules over the first year and second year (Health Stream) which are overlapping. In some cases, the topics overlap, because the topic in the second year is related to the previous year's module (for e.g. Epidemiology in first year is related to Applied Epidemiology in second year health stream, or for instance Research Methodology in the first year is related to Health Survey Research Methods in the second year health stream. The topic is repeated probably to enable the students to recall and better comprehend the related topic. However, there are some topics within the first year and some within the second year health stream, where despite the modules being unrelated i.e. one module is not a precursor to the other, there is an overlap of topics. For e.g. Health Policy and Health Care Delivery System (Ist Year) and Essentials of Health Economics in India (Ist Year) are unrelated modules, yet there is an overlap of topics.

3.6   The overlap of topics should be seen from the perspective of their impact on the course duration. The PGDHM at IIHMR New Delhi has a two-year schedule from July to May of the next to next year. This affords a total of 730 days (considering PGDHM 18 being conducted

from 02 Jul 18 to 30 Jun 2020) for the course. The time which is available for imparting instructions either in class (whether theoretically or practically) or through visits is as under: -

Table 3.8 : PGDHM Course Class Based Duration for Education

Ser No	Event	Number of Days	Cumulative Reducing Balance (Days)
3.6.1	Total Duration	**730**	**-**
3.6.2	Non-working Saturday and Sunday	208	522 (Working Days)
3.6.3	Holidays 2018, 19 and 20 (2018 – From 02 Jul; 3 Days 2019 – 7 Days 2020 – Up till 31 Jan; 01 days)	11	511 (Working Days)
3.6.4	Diwali Break 2018, 19 and 20 (2018 – 5 days 2019 – 1 day but on Sunday 2020 – Not applicable)	05	506
3.6.5	Sports Week (over Two Years)	10 (Working Days)	496 (Working Days)
3.6.6	Alumni Conference (over Two Years)	0 Working Day, since held on Saturday	496 (Working Days)
3.6.7	Term and Supplementary Exams (1st Year)	30 Working Days excluding one holiday and including 07 days no work after Supplementary exams	466 (Working Days)
3.6.8	Term, Elective and Supplementary Exams (2nd Year)	28 Working days excluding one holiday	438 (Working Days)
3.6.9	Summer Internship (1st Year)	51 Working Days from 01 Apr to 05 Jun including 03 days no work after Summer Internship and before Supplementary exams	387 (Working Days)
3.6.10	Dissertation Internship (2nd Year)	80 Working Days excluding 5 days of	307 (Working Days)

Ser No	Event	Number of Days	Cumulative Reducing Balance (Days)
		elective and supplementary exams	
3.6.11	Scientific Paper	22 (Working Days)	**285**
3.6.12	Number of Working Days Available		**285 Working Days including for ungraded and elective modules**

Note.

• Ser 3.6.3 onwards is excluding Saturdays and Sundays

• Ten days between supplementary exams and commencement of summer internship is un-utilized. This can be used for mock interviews as recommended later in this paper.

3.7   From Table 3.8 above, it is revealed that there are in actual a total of 285 working days only, which are available in an actual course duration of 730 days. This may reduce/ increase by a few days, due to some additional holidays/ depending upon leap year or if the course is started/ finished on different days than that taken into consideration for the purpose of calculation at Table 3.8 above. Thus, in Table 4.1 the number of days works out to 290 but the classes are actually held for 285 days, due to holidays within the schedule. Besides, the days accounted in Table 3.8 as being available, the disruption during the placement interviews, although not reducing the number of working days, effects the comprehension of the topics covered by those students who are facing the placement interviews. When this is considered in light of the overlapping topics, it can be stated with conviction, that though the topics are all of significance they should not be repeated. Thus, the time duration of a module could be reduced or a new topic covered or more practice undertaken within the same duration

CHAPTER 4

ADDITION/DELETION OF TOPICS ACROSS MODULES AND THE SEQUENCE OF MODULES

4.1   The addition/ deletion of topics across the modules can be decided, based on the following :-

4.1.1   The contents of Table 3.7 in Chapter 3.

4.1.2   The discussion at Para 3.5 to 3.7 of Chapter 3.

4.1.3   The view of placement interviewers at Para 2.9 of Chapter 2.

4.1.4   The topical relevance.

4.1.5   The views of students as stakeholders in the process of learning, which assists them in their professional life thus enabling them to preform effectively. Their good performance shall build the reputation and brand value of the institute i.e. IIHMR, New Delhi, as their alma mater.

4.2   **Views of Students**.   The views of students regarding the syllabus at IIHMR, New Delhi based on inputs from them can be reduced to the following: -

4.2.1   Topics which are similar should follow each other.

4.2.2   Modules with topics from which placement interviewers usually frame questions such as biostatistics/epidemiology, should be covered in the latter part of the first year and the early part of the second year, so that the topics are relatively fresh. Thus, the students shall be able to pay attention to the modules that are underway,

during the placements and not waste time re-learning things from modules that have been conducted in the early part of the first year.

4.2.3   There should be special classes on facing interview panels and, if feasible, mock interviews should be included in the syllabus.

4.2.4   In order to break a monotonous routine, instead of conducting one module, two modules should be imparted simultaneously, so that one module is covered pre-lunch and the other module is covered post-lunch.

4.2.5   The syllabus of modules with 1.5 Credit Score should facilitate learning. At present the syllabus of some modules is vast and not conducive to learning.

4.2.6   Duration of modules of National Health Planning, Biostatistics, Research Methodology and Epidemiology was inadequate and it was not enough to instill confidence in the students, despite class practice.

4.2.7   The module's books should be available, at the beginning of the session. Additional study material/ reference material should be a part of the book itself. As far as possible, even case studies/presentation/paper writing topics should also be a part of the module. This will ensure that they are readily available at one place. The slides should be in consonance with the contents of the module book and should be reflective of its contents.

4.2.8   As far as possible, the lecturers should not be changed. If unavoidable, the slides should be as per the original lecturer.

4.2.9   Although several topical case studies, assignments, group activities and some field visits (not in all modules) were planned, not all were conducted. This was particularly true, in case of field studies, which should be conducted along with additional practice.

4.3   The views of the students, when considered in context of the views of employing organizations/agencies at Para 2.9, viz. lack of self-confidence and general awareness in the students about the health care sector. not being up to date with the latest developments, and also Table 3.7 show that there are a number of topics that should be added/ deleted.

4.4   The requirement projected by the students, also highlights the fact that better comprehension shall be facilitated, if the modules follow a sequence such that related topics are concomitantly covered. The present sequence of modules is as under: -

Table 4.1 : Existing Sequence of Conduct of Modules

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
4.4.1	Essentials of Computer Services *	Operations Research (3)	*Un-graded
4.4.2	Communication Lab*	National Health Programs (3) **^**	Un-graded * ^ Related Modules
4.4.3	Human Process *	Applied Epidemiology (3)%	Un-graded * % Related Modules
4.4.4	Health and Development (1.5)	Health Survey and Research Methods (3) **$**	$ Related Modules
4.4.5	Essentials of Hospital Services (1.5) **&**	Health Insurance and Managed Care (1.5) **	& Related Modules

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
			** Combined Module for all three streams
4.4.6	Health Policy and Health Care Delivery System (3)	Program Planning, Implementation, Monitoring and Evaluation (3) ^	^ Related Modules
4.4.7	Principles of Management (3)	Strategic Planning (3)	
4.4.8	Financial Management and Accounting (3)	Logistics and Supply Chain Management (3)	
4.4.9	Research Methodology (3) $	Quality Management and Patient Safety in Hospitals (3) & @	& Related Modules @ Combined Module for Health and Hospital Streams
4.4.10	Communication Planning and Management (3)	Global Health (1.5)	
4.4.11	Bio Statistics (3)#	Health Management Information System (3)	# Related Modules
4.4.12	Human Resource Management (3)	Population Program Management (1.5)	
4.4.13	Essentials of Epidemiology (3)%	Data Management and Analysis (1.5) # $$	# Related Modules $$ Combined Module for Health and Hospital Streams
4.4.14	Marketing Management (3)	Disaster Management (1.5) $%	$% Combined Module for Health and Hospital Streams
4.4.15	Essential of Health Economics (3)	Legal Framework in Health Care (1.5)	
4.4.16	Organizational Behavior (3)	-	
4.4.17	Demography and Population Sciences (3)#	-	# Related Modules
4.4.18	Health Information Management (3)	-	

Note.

- 8 (1.5 Credit) Modules x 5 Working Days Modules = 40 Days

- 22 (3 Credit) Modules x 10 Working Days Modules = 220 Days

- 03 Un-Graded Modules x 5 Working Days = 15 Working Days

- 03 Elective Modules x 5 Working Days = 15 Working Days

- Total 1st Year = 155 Working Days (including Un-Graded Modules); 42 Credits

- Total 2nd Year = 135 Working Days (including Elective Modules); 36 Credits

- Total = 290 Working Days (actually 285 days due to holidays) and 78 Credits less summer internship and dissertation internship

Results and Discussion

4.5   **Topics for Addition/ Deletion**.   The following aspects need to be kept in mind while deleting or adding topics: -

4.5.1   The *topic* that is *being deleted* from a particular module *should not affect the understanding*. *If* this is *so, all such topics should be re-capped within duration of not more than one period.*

4.5.2   Before deletion, *a topic should be reviewed to ensure that, its content not already covered in the topic of which it is a repetition, is included if relevant/applicable*.

4.6   The topics that can be deleted and those which can be added by shifting are given below: -

Table 4.2 : Topics for Deletion and Addition (Latter by Shifting)

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
4.6.1	**Leadership**		
	Organizational Behavior (I[st] Year)	Leadership Styles and Theories	Leadership Added to new Module by shifting
	Strategic Planning (IInd Year)	Leadership Concepts and Skills	
	Principles of Management (I[st] Year)	Types of Leadership	
	International Health (IInd Year)	Role of Leadership	
	Disaster Management (IInd Year)	Leadership for Disaster*	
	Strategic Management (IInd Year)	Capacity Development for Leadership Skills	* Covered in the other topics in this row
4.6.2	**Communication**		
4.6.2.1	Organizational Behavior (I[st] Year)	Communication at Work Place (includes of topics mentioned in next row)	Topics at Ser 4.6.2.1. and 4.6.2.2 be covered in Communication Planning and Management module only.
	Communication Planning and Management (I[st] Year)	• What is Communication? • Understanding non-verbal communication • Interpersonal communication • E-Mail Writing • Effective Listening	Topics at Ser 4.6.2.2 are recommended to be covered in Leadership Module. The portion of these topics related to communication should not be covered in these topics.
4.6.2.2	International Health (IInd Year)	Role of leadership (includes of enhancing listening skills)	
	Strategic Management (IInd Year)	Capacity Development for Leadership Skills (includes of enhancing listening skills)	
4.6.3	**Research and Epidemiology**		
4.6.3.1	Research Methodology (I[st] Year)	Problem Identification & Formulation - Research Question	Overlapping but different content
	Health Survey and Research Methods (IInd Year)	• Identifying Research Problem	

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
		• Developing a Research Proposal	
4.6.3.2	Research Methodology (Ist Year)	• Ethical issues in research • Methods of Data Collection	Cover in Research Methodology. Delete from Health Survey and Research Method.
	Health Survey and Research Methods (IInd Year)	• Ethical issues in research • Research Tools and Data Collection Methods	Data Collection Methods have different content
4.6.3.3	Research Methodology (Ist Year)	• Research Design and Types of Research	Cover under Epidemiology. Delete from the rest. In Research Methodology only cover How a Research is Designed?
	Applied Epidemiology (IInd Year)	• Study Design Descriptive Studies • Study Design Experimental Studies • Study Design Case Control • Study Design Cohort	
	Epidemiology (Ist Year)	• Types of Epidemiological Studies • Study Designs	
4.6.3.4	Research Methodology (Ist Year)	Interpretation of Data and Report Writing	Cover under Research Methodology. Delete from Health Survey and Research Methods
	Health Survey and Research Methods (IInd Year)	• Analyze Information for Drawing Inferences • Report writing	
4.6.3.5	Epidemiology	• Bias and confounding • Sensitivity, Validity and Reliability (as part of Research Design)	Cover these topics under Epidemiology and delete from the rest.
	Applied Epidemiology	• Bias in Epidemiology • Validity and Reliability of Screening Tests	

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
	Health Survey and Research Methods (IInd Year)	• Bias and confounding • Sensitivity, Validity and Reliability (as part of Research Design)	
4.6.4	**Sampling**		
	Biostatistics (Ist Year)	• Concept, Purpose and Type of Sampling • Sample Size Determination	Material on Concept, Purpose and Type of Sampling and Sample Size Determination should be covered under Biostatistics and only material not related to them be covered in the other modules
	Research Methodology (Ist Year)	Sampling and Sampling Design	
	Health Survey and Research Methods (IInd Year)	Sampling Method	
4.6.5	**Data**		
4.6.5.1	Biostatistics (Ist Year)	Data Sources	Cover under Biostatistics only * Delete Census, SRS and NSS script only
	Data Management and Analysis (IInd Year)	Public Health Data Sources	
	Population Program Management (IInd Year)	Use of Large Scale Data in Management*	
4.6.5.2	Biostatistics (Ist Year)	• Types of Variable • Rates, Ratio, Proportion, Percentage and Index	Cover under Biostatistics. & Cover only portion not covered in Biostatistics
	Health Survey and Research Methods (IInd Year)	Analyzing Data&	
	Data Management and Analysis (IInd Year)	Preparing Data for Analysis@	@ Only Types of Variables and Epidemiological Thinking for Analysis
4.6.5.3	Biostatistics (Ist Year)	• Correlation & Regression • Simple & Multiple Regression Analysis • Testing of Hypothesis • Test of Significance: Chi Square & T Test	Cover topic under Biostatistics
	Health Survey and Research Methods (IInd Year)	Analyzing Data	

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
4.6.5.4	Health Management Information System (IInd Year)	Data Collection and Processing	Cover topic under Health Management Information System except Validation Tests which shall be covered under Data Management and Analysis
	Data Management and Analysis (IInd Year)	Data Quality	
	Graphic Presentation & Tabular Presentation		
4.6.6	Biostatistics (Ist Year)	Descriptive Statistics (Types of Graph), Tabular Presentation	Cover topic under Biostatistics
	Health Survey and Research Methods (IInd Year)	Analyzing Data (Graphic presentation is a part of this topic)	
	Data Management and Analysis (IInd Year)	Graphic Presentation & Tabular Presentation	
	NHFS4		
4.6.7	Demography (Ist Year)	Content, coverage and design of NHFS4	Cover under Demography and delete but not from Population Program management since the context is different
	Health Survey and Research Methods (IInd Year)	Content, coverage and design of NHFS4	
	Population Program Management (IInd Year)	Use of Large Scale Data	
	Demographic Transition		
4.6.8	Demography(Ist Year)	Demographic Transition – India	Cover under Demography and delete from the other Module
	Population Program Management (IInd Year)	Aging and Public Health	
	Health Program		
4.6.9	National Health Programs (IInd Year)	• NRHM • NUHM • NVBDCP, NACO, RNTCP, NLEP • NPCDCS • NPHCE • RMNCHA+	Cover under National Health Programs and delete from the rest
	Health Policy and Health Care Delivery System (Ist Year)	• NRHM • NUHM and Urban Health • NVBDCP, NACO, RNTCP, NLEP	

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
	Population Program Management (IInd Year)	• NPCDCS • RMNCHA+ Strategy • NPHCE as part of Aging and Public Health • Evaluation of Family Planning Program #	#From Evaluation of Family Planning Program delete RCH and NPP 2000
Health in All Policies			
4.6.10	Health Policy and Health Care Delivery System (Ist Year)	Health in All Policies (HiAP) – Rationale and Overview	Cover under International Health
	International Health (IInd Year)	Health in All Policies	
Health Management Information System			
4.6.11	Health Policy and Health Care Delivery System (Ist Year)	Health Management Information System and Relevant Issues	Cover under Health Management Information System and delete from the other Module
	Health Management Information System (IInd Year)	Above topic covered in various parts in Health Management Information System	
Financing for Health and Out of Pocket Expenditure			
4.6.12	Essentials of Health Economics in India (Ist Year)	•Health Financing in India •National Health Insurance Reforms	Cover under Essentials of Health Economics and delete from the other Module
	Health Policy and Health Care Delivery System (Ist Year)	Financing for health and out of pocket expenditure	
Disease Concept			
4.6.13	Health and Development (Ist Year)	Concept of Disease	Concept of disease covered as a part of Epidemiology. No deletion since context is different
	Epidemiology (Ist Year)	Types of Epidemiological Study	
Health Care Delivery Organization			
4.6.14	Health and Development (Ist Year)	Organization of Health Care Delivery in India	Cover under Health Policy and Health Care Delivery System and delete from the other
	Health Policy and Health Care Delivery System (Ist Year)	• Health care delivery system in rural India – SC, PHC, CHC,	

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
		District hospitals – roles and responsibilities of health functionaries • Organizational set up of health care in India	
	National Health Program (IInd Year)	Health System in India	
	Essentials of Hospital and Hospital Services (Ist Year)	Overview of Health Sector	
MDG and SDG			
4.6.15	Health and Development (Ist Year)	MDGs to SDGs	Cover under Health and Development and delete from International Health
	International Health (IInd Year)	MDGs to SDGs	
Health Planning and Related Aspects			
4.6.16	National Health Program (IInd Year)	Health Planning	Cover under National Health Program delete from the other Module except the last three bullets as covered in greater detail
	Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	• Concept of Planning • Concept of Program • Planning and Health Planning Cycle • Situational Analysis- Concepts and Approaches • Health Problems and Prioritization • Problem Tree Analysis and Objective Tree Analysis	
Monitoring and Evaluation			
4.6.17	National Health Program (IInd Year)	• Indicators, Monitoring and Evaluation • Program Evaluation	Cover under National Health Program delete from the other Module
	Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	Monitoring and Evaluation	
Disease Surveillance Program			
4.6.18	Epidemiology (Ist Year)	Integrated Disease Surveillance Program and Surveillance	Cover under Epidemiology and delete from the rest

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
	Applied Epidemiology (IInd Year)	Developing a Disease Surveillance Program	
	National Health Program (IInd Year)	Integrated Disease Surveillance Program	
CPM			
4.6.19	Operations Research (IInd Year)	CPM	Cover under Operations Research and delete from the other Module
	Program Planning, Implementation, Monitoring and Evaluation (IInd Year)	CPM and Activity Network	
Ayushman Bharat			
4.6.20	Health Insurance and Managed Care (IInd Year)	RSBY and Ayushman Bharat National Health Protection Scheme (AB-NHPS)	Cover under Health Insurance and Managed Care and delete from the rest
	National Health Program (IInd Year)	Ayushman Bharat	
	Health Policy and Health Care Delivery System (Ist Year)	Financing for UHC, National Health Protection Scheme	
Motivation			
4.6.21	Organizational Behavior (IInd Year)	Work Motivation	Cover under Leadership (new module) and delete from the rest
	Principles of Management (Ist Year)	Motivation	
Topics of Module - Principles of Management (1st Year)			
4.6.22	Introduction to Management		Delete.
	Evolution of Management		Delete
	Planning		Delete. Cover under Strategic Management
	Organizing		Delete. Cover under Organizational Behavior
	Controlling		
	Human Resource Management		Delete since covered in a dedicated Module
	Supply Change Management		

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
	Types of Leadership Motivation		Delete. Cover under Leadership (new module)
	Management by Objective		Delete. Cover under Organizational Behavior
	Movie – Evolution of Management Thought		Delete
Topics of Module - Health Information Management (1ˢᵗ Year)		
4.6.23	Introduction Standards for HIE		Delete
	Health Information Management		Cover under Health Management Information System
	EHR / PHR / PHI		Cover under Health Management Information System
	M Health, Tele-home care, IoT		Cover under Emerging Trends in Health Care Sector
	Change Management and Capacity Building		Delete
	Safety and Ethics related to Digital Health		
	Regulations and User Demand		
	Career Options		
Progressive Patient Care		
4.6.24	Essentials of Hospital Services	Progressive Patient Care	Delete
<u>**Hospital Imaging Services**</u>		
4.6.25	Essentials of Hospital Services	Planning and Organization of Hospital Imaging Services	Reduce content to imaging devices in vogue
<u>**Conflict**</u>		
4.6.26	Organizational Behavior	Conflict and Conflict Redressal	Delete. Cover under Negotiation and Conflict Resolution (new module)

Ser	Module Topic to be Deleted From/Added to	Covered as/ Duplicated in	Topic to be Added to/Covered in Module/Remarks
	Rational Use of Drug		
4.6.27	Logistics and Supply Chain Management	Rational Use of Drugs and Evidence Based Medicine	Delete. Not Relevant to the Module
	Prevention and Intervention		
4.6.28	Health and Development (1st Year)	Levels of Prevention & Modes of Intervention	Cover under health and Development and delete from Essentials of Epidemiology
	Essentials of Epidemiology (1st Year)	What is Epidemiology (includes of Levels of Prevention and Modes of Intervention as a sub part)	
	Universal Health Coverage		
4.6.29	Health Policy and Health Care Delivery System (1st Year)	Universal Health Coverage (UHC) – concepts and overview	Topics are repeated within the module. Probably a typo error. Else should be covered only once
		Universal Health Coverage Concepts	
	Data Collection Methods		
4.6.30	Research Methodology (I st Year)	Methods of Data Collection	Cover under Research Methodology. Only that portion not covered in Research Methodology should be covered in Health Survey and Research Methods
	Health Survey and Research Methods (II nd Year)	Research Tools and Data Collection Methods	
	Topics of Module : Health Insurance and Managed Care		
4.6.31	Health Insurance and Managed Care	Advertising/ Promotion in Healthcare and Insurance	Delete since not core to understanding Health Insurance. Also, the number of topics are too many to cover within a one week module
		Public Relations in Healthcare and Insurance	
		Sales/Marketing in Healthcare and Insurance	
		International Experiences in Healthcare and Insurance	
	Criminal Trials		
4.6.32	Legal Framework in Health Care	Criminal Trials in India	Delete

Addition of New Topics and Reason for the Same

4.6   **Artificial Intelligence**.   Artificial Intelligence should be included as a topic as part of the modules on "Evolving Trends in the Health Care Sector". Addition of this topic is essential, considering that Artificial Intelligence is set to revolutionize the health care sector. While medical applications such as robotic surgery, diagnosis are already happening, another field of application is in virtual nursing and work flow and administrative tasks. It can be introduced as a topic so that students are aware of its significance for effective health care.

4.7   **Manpower Audit in Hospital**.   This topic should be added to Human Resource Management since manpower audit is an important function, which the Hospital Manager undertakes through periodic review of manpower to justify the employment of every employee of the hospital. I. This is a skill more essential for those who get employed as managers in the private sector for it shall help reduce avoidable manpower thus saving on funds.

4.8   **Communication Planning and Management**.   Two of the learning objectives of this module are "Develop a Health Communication Plan and Strategy and Develop Matrix of Targeted Behavior, Audience, Key Messages, Media Choice, Indicators of Change". These are however, not covered. These topics should be included for an important role of the health care manager is the ability to communicate with the population. These topics can be covered as under: -

4.8.1   **Planning Health Promotion Campaigns**

4.8.1.1   Knowledge gap hypothesis

4.8.1.2   Ethical implications of health campaigns

4.8.1.3   Defining the situation and potential benefits

4.8.1.4   Analyzing and segmenting the audience

4.8.1.5   Establishing campaign goals and objectives

4.8.1.6   Selecting channels of communication

4.8.1.7   Assignment – Team Project

4.8.2 **Designing and Implementing Health Campaigns**

4.8.2.1   Designing campaign messages

4.8.2.2   Piloting and implementing

4.8.2.3   Evaluating and maintaining a campaign

4.8.2.4   Assignment – Team Project

4.8.3 To the topic of Memo and E Mail writing add writing of Business Letters Minutes, Notices and Reports

4.9   **Laws of Contract and its Management**. An important task of the Manager is to ensure that the contract that is entered into with an employee or a supplying agency or a servicing agency and the management of the contract can withstand legal scrutiny, so that the establishment can stoutly and correctly defend itself against incorrect legal suits. This topic should be included as part of the module on "Legal Framework in Health Care".

4.10   The topics shall also be included on account of new modules of Leadership; Negotiations and Conflict Resolution; Restructuring of the module of Communication Planning and Management to Social and Behavioral Change Communication, and

communication Management and Emerging Trends in Health Care. Their syllabus is indicated in Chapter 5.

4.11 **Syllabus of Modules with 1.5 Credit Score**. The point raised by students with reference to the syllabus of Modules with 1.5 Credit Score is owing to the content versus the duration. Modules with a 1.5 Credit Score are covered over five working days or a total of 28 hours (5 hours and 30 minutes per day). Each day, four periods (two periods of 1 hour 30 minutes and another two of one hours and 15 minutes) are conducted. If one period, each day of 1 hour 15 minutes is for practical, the total time available for theory classes, are 21 hours and 45 minutes. Considering this, it is ascertained that the syllabus of all existing modules, which are of 1.5 Credit Score, can be conducted within the available time frame, since the syllabus has been pruned (as indicated in the preceding Chapters). The syllabus of Legal Framework in Health Care is however, vast. Although the syllabus has been covered within the time period of five days, nevertheless better comprehension would be enabled by making the module more precise, by taking the following recommended action: -

Table 4.3 : Syllabus of Module on Legal Framework in Health with Credit Score 1.5

Ser	Legal Framework in Health Care (1.5)	Remarks
4.11.1	• Legal Issues in Medical Care • Legal Issues in Hospitals and Management of Medico Legal Cases • Day to Day Problems in Dealing with Patients • Industrial and Food and Drug Acts Applicable to Hospitals • Classification of Offences • Consent • Confidentiality	✓ The topics should be reviewed for greater preciseness. For e.g. ethics, negligence, duties of doctors, Consumer Protection Act etc which are repeated under different topic heads should be covered only once. ✓ Duties of doctors, negligence of doctors can be conducted through a written or group assignment so as to

Ser	Legal Framework in Health Care (1.5)	Remarks
	• Criminal Trials in India • Professional Ethics • Consumer Protection Act • RTI Act • Medical Termination of Pregnancy Act • Clinical establishment Act • Mental Health Care Act • Sexual Harassment of Women at Work Place • Violence Against Medical Profession	reduce the content which is vast for a five working day schedule ✓ Criminal Trials in India should be deleted and sections of IPC and CrPC should be restricted to those applicable to medico legal cases/ medical profession only ✓ The topics of consent and confidentiality form a part of Ethics/Legal Issues in Medical care and should be covered as a sub topic there in, by reducing the content instead of being conducted as a separate topic each ✓ Mental Health Act should be covered in lesser details ✓ Violence against doctors should be covered as part of Day to Day Problem in Dealing with patients ✓ There are several Acts that are applicable. The ones that have been included are important. Those that have not been included should be added as a reading material within the module book so that it can also serve as a future reference for the students in their professional life

4.12   Owing to the deletion of modules, as indicated in Table 4.2, modules viz. Principles of Management and Health Information Management are no longer required to be conducted. Furthermore, Modules of Program Planning, Implementation, Monitoring and Evaluation; Applied Epidemiology; Data Management and Analysis; Health Survey and Research Methods and Demography and Population Studies have been so curtailed, due to the deletion of topics, that the number of topics to be covered have become lesser.

4.13   The addition/deletion of modules will result in the requirement of the duration of some modules to be reduced, while that of a few others are required to be increased so as to facilitate better comprehension (refer to view of employing organizations/agencies and views of students). This shall also result in a commensurate increase or decrease of the credit score. The modules, whose duration and credit score is required to be increased or decreased are given in the table below: -

Table 4.4 : Change in Module Duration and Credit Score

Ser	Increase/Decrease	Increase/Decrease in Credit Score	Duration
4.13.1	National Health Programs (3)	Increase to 4.5	15 Working Days
4.13.2	Health Policy and Health Care Delivery System (3)	Increase to 4.5	15 Working Days
4.13.3	Bio Statistics (3)	Increase to 4.5	15 Working Days
4.13.4	Essentials of Epidemiology (3)	Increase to 4.5	15 Working Days
4.13.5	Health Survey and Research Methods (3)	Decrease to 1.5 due to deletion of topics	5 Working Days
4.13.6	Program Planning, Implementation, Monitoring and Evaluation (3)	Decrease to 1.5 due to deletion of topics	5 Working Days
4.13.7	Applied Epidemiology (3)	Decrease to 1.5 due to deletion of topics	5 Working Days

Note.

If increasing the Credit Score is not as per AICTE guidelines, the Credit Score can remain the same while the module duration can be enhanced

Sequence of Modules

4.14   The 15 topics each to be covered in the first and second year (Health stream) should be sequenced in a manner that, as far as possible, the topics which are common to all are covered within the first year, with the least number of common topics being covered in the second year. The second year common topics should be covered in the early part of the second year, so that students of Health and Hospital Management, who attend placement interviews in the second year towards the middle of the training cycle are aware of the topics, which shall enable them to face the interview for both Health and Hospital related employment. This shall meet the point projected by students in their view at Para 4.2 above.

4.15   Another important facet is to determine, which module precedes the other. There are certain modules such as Strategic Management and Human Resource Management which can be covered in isolation, provided the leadership related topics have been covered. At the same time, there are other topics which ought to be conducted sequentially for better flow and making students erudite. For e.g. Communication, Negotiation and Conflict Management should be positioned consequent to module on Leadership for both of these, flow out of or as a result of a leader's role. In case of modules of Analytical Studies, Research Methodology, Health Survey and Research Methods and Program Planning, Implementation, Monitoring and Evaluation; Epidemiology and Applies Epidemiology, Biostatistics, Demography and Data Management and Analysis are closely interrelated or are offshoots. A major question begging response is with regards to the research and epidemiology related modules. The question is whether Research Methodology should be covered before Epidemiology or vice versa. In the current sequence of modules, Research Methodology precedes Epidemiology in the first year, where as in the second year (health stream) the order is reversed with Applied Epidemiology

preceding Health Survey and Research Methods. In the Indian institutes that have been compared at Table 2.2 Research precedes Epidemiology, where as in the international institutes compared, only one offers both Research Methodology and Epidemiology with Epidemiology preceding Research Methodology. When observed both academically and practically, Research Methodology lays out how to research a problem whereas, epidemiology specifies the tool with which to research a problem. Therefore, Epidemiology should be covered before Research. In as far as Applied Epidemiology and Health Survey and Research Methods are concerned, the same sequence holds good. Preferably these entwined modules, should be covered towards the end of the first year or at the very beginning of the second year. The sequence of modules can be as per one of the options proposed below: -

Table 4.5: Recommended Sequence of Modules

<u>**Option 1**</u>

Ser No	First Year Modules	Second Year (Health Stream) Modules	Remarks
	Student Induction (5 Working Days)	-	
4.15.1	Leadership and Innovative Thinking (3)	Global Health (1.5)	
4.15.2	Communication Planning and Management (3)	National Health Programs (4.5) ^	^Conduct for 15 Working Days
4.15.3	Negotiation and Conflict Resolution (1.5)	Program Planning, Implementation, Monitoring and Evaluation (1.5) @	@Combined class Health and Hospital Management
4.15.4	Health and Development (1.5)	Research Methodology (3) *@	*@Combined class Health, IT and Hospital Management
4.15.5	Essentials of Hospital Services (1.5)	Health Survey and Research Methods (1.5)	
	Mock Interviews (5 Working Days)	Emerging Trends/Current	

Ser No	First Year Modules	Second Year (Health Stream) Modules	Remarks
		Happening in the Health Sector (1.5)	
	-	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	
	45 Working Days 10.5 Credit Score	45 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.6	Health Policy and Health Care Delivery System (4.5)*	Operations Research (3)	***** Conduct for 15 Working Days
4.15.7	Financial Management and Accounting (3)	Strategic Planning (3)	
4.15.8	Human Resource Management (3)	Health Insurance and Managed Care (1.5) #@	#@Combined class Health, IT and Hospital Management
4.15.9	Essential of Health Economics (3)	Quality Management and Patient Safety in Hospitals (3) $#	$#Combined class Health and Hospital Management
4.15.10	Marketing Management (3)	Logistics and Supply Chain Management (3)	
4.15.11	-	Elective (5 Working days)	
	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	
	55 Working Days 16.5 Credit Score	50 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.12	Bio Statistics (4.5)#	Health Management Information System (3)	#Conduct for 15 Working Days
4.15.13	Demography and Population Sciences (1.5)	Population Program Management (1.5)$%	$%Combined class Health and

Ser No	First Year Modules	Second Year (Health Stream) Modules	Remarks
			Hospital Management
4.15.14	Data Management and Analysis (1.5)	Elective	
4.15.15	Essentials of Epidemiology (4.5)**%**	Elective	%Conduct for 15 Working Days
4.15.16	Applied Epidemiology (1.5)	Disaster Management (1.5) %&	%&Combined class Health and Hospital Management
4.15.17	Organizational Behavior (3)	Legal Framework in Health Care (1.5)	
	55 Working Days 16.5 Credit Score	35 Working Days 7.5 Credit Score	
	Term Exam	**Term Exam**	
	Mock interviews in the ten days between supplementary exams and commencement of summer internship	-	
Total	155 Working Days	130 Working Days	**285 Days**
	43.5 Credits	34.5 Credits	**78 Credit**

Option 2

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
	Student Induction (5 Working Days)	-	
4.15.1	Leadership and Innovative Thinking (3)	Global Health (1.5)	
4.15.2	Communication Planning and Management (3)	Health Survey and Research Methods (1.5)	
4.15.3	Negotiation and Conflict Resolution (1.5)	National Health Programs (4.5) ^	^Conduct for 15 Working Days
4.15.4	Health and Development (1.5)	Program Planning, Implementation, Monitoring and Evaluation (1.5)#@	#@Combined class Health and Hospital Management

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
4.15.5	Essentials of Hospital Services (1.5)	Essential of Health Economics (3) @	@ Combined class Health and Hospital Management
	Mock Interviews (5 Working Days)	Emerging Trends in Health Care Sector (1.5)	
	45 Working Days 10.5 Credit Score	45 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.6	Health Policy and Health Care Delivery System (4.5)*	Operations Research (3)	* Conduct for 15 Working Days
4.15.7	Financial Management and Accounting (3)	Strategic Planning (3) $	$Combined class Health and Hospital Management
4.15.8	Human Resource Management (3)	Health Insurance and Managed Care (1.5) &	&Combined class Health, IT and Hospital Management
4.15.9	Organizational Behavior (3)	Quality Management and Patient Safety in Hospitals (3) !	! Combined class Health and Hospital Management
4.15.10	Marketing Management (3)	Logistics and Supply Chain Management (3)	
4.15.11	-	Elective (5 Working days)	
4.15.12	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	
	55 Working Days 16.5 Credit Score	50 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.13	Bio Statistics (4.5)#	Health Management Information System (3)	#Conduct for 15 Working Days

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
4.15.14	Demography and Population Sciences (1.5)	Population Program Management (1.5)	
4.15.15	Data Management and Analysis (1.5)	Elective	
4.15.16	Essentials of Epidemiology (4.5)**%**	Elective	%Conduct for 15 Working Days
4.15.17	Applied Epidemiology (1.5)	Disaster Management (1.5) *@	*@Combined class Health and Hospital Management
4.15.18	Research Methodology (3)	Legal Framework in Health Care (1.5)	
	55 Working Days 16.5 Credit Score	35Working Days 7.5 Credit Score	
	Term Exam	**Term Exam**	
	Mock interviews in the ten days between supplementary exams and commencement of summer internship	-	
Total	155 Working Days	130 Working Days	**285 Days**
	43.5 Credits Score	34.5 Credits	**78 Credit**

Note.

Red Color indicates change from Option 1

Option 3

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
	Student Induction (5 Working Days)	-	
4.15.1	Leadership and Innovative Thinking (3)	Global Health (1.5)	
4.15.2	Communication Planning and Management (3)	Negotiation and Conflict Resolution (1.5)	

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
4.15.3	Health and Development (1.5)	National Health Programs (4.5) ^	^Conduct for 15 Working Days
4.15.4	Essentials of Hospital Services (1.5)	Program Planning, Implementation, Monitoring and Evaluation (1.5)@#	@#Combined class Health and Hospital Management
4.15.5	-	Essential of Health Economics (3) @	Combined class Health and Hospital Management
4.15.6	-	Emerging Trends in Health Care Sector (1.5)	
	Mock Interviews (5 Working Days)	Mock Interviews (5 Working Days)	
	40 Working Days 9 Credit Score	45 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.7	Health Policy and Health Care Delivery System (4.5)*	Operations Research (3)	* Conduct for 15 Working Days
4.15.8	Financial Management and Accounting (3)	Strategic Planning (3) $	$ Combined class Health and Hospital Management
4.15.9	Human Resource Management (3)	Health Insurance and Managed Care (1.5) &	& Combined class Health, IT and Hospital Management
4.15.10	Organizational Behavior (3)	Quality Management and Patient Safety in Hospitals (3) *@	*@Combined class Health and Hospital Management
4.15.11	Marketing Management (3)	Logistics and Supply Chain Management (3)	
4.15.12	-	Elective (5 Working days)	
	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	Mock Interviews an hour each every alternate week or as required after class for a minimum of five times)	

Ser	First Year Modules	Second Year Health Stream Modules	Remarks
	55 Working Days 16.5 Credit Score	50 Working Days 13.5 Credit Score	
	Term Exam	**Term Exam**	
4.15.13	Bio Statistics (4.5)#	Health Management Information System (3)	#Conduct for 15 Working Days
4.15.14	Demography and Population Sciences (1.5)	Population Program Management (1.5)	
4.15.15	Data Management and Analysis (1.5)	Elective	
4.15.16	Research Methodology (3)	Elective	%Conduct for 15 Working Days
4.15.17	Health Survey and Research Method (1.5)	Disaster Management (1.5) #$	#$Combined class Health and Hospital Management
4.15.18	Essentials of Epidemiology (4.5)**%**	Legal Framework in Health Care (1.5)	
4.15.19	Applied Epidemiology (1.5)	-	
	60 Working Days 18 Credit Score	35 Working Days 7.5 Credit Score	
	Term Exam	**Term Exam**	
	Mock interviews in the ten days between supplementary exams and commencement of summer internship		
Total	155 Working Days	130 Working Days	**285 Days***
	43.5 Credits	34.5 Credits	**78 Credit**

Note.

Red and Blue Color indicates change from Option 1 and or Option 2

4.16   Pedagogical tools form the basis of effective learning. Classroom training is an important pre-requisite to learning but if left unconnected from pedagogical tools, it fails to

impart real education. The experience gained from assignments, group activities, case studies (particularly of failures), paper writing, field visits and field work give real life experience that fosters better understanding than mere imparting of syllabus. Every module should therefore have a series of them (keeping in mind the module requirement) and these should be conducted to impart real life experience to the students.

CHAPTER 5

CONCLUSION: REVIEW AND RESTRUCTURING OF THE CURRICULA OF PGDHM AT IIHMR, NEW DELHI

5.1   The preceding chapters are a study of the curricula of PGDHM at IIHMR, New Delhi. They consider the first year syllabus and the second year syllabus (only of Health Management) with a view to validate the syllabus viability to the industry trend. This is done so that the students passing out from IIHMR, New Delhi, meet both the current and emerging requirements of the health care sectors.

5.2   While the current syllabus is up to the mark, when compared with various institutes in India such as Tata Institute of Social Sciences, ISB and IIM, Bangalore and some foreign universities such as Yale, Harvard and Johns Hopkins, there nevertheless are certain modules/topics which merit deletion and a few which should be added. Furthermore, when the views of the students and the industry, which employs them are taken into consideration, there is a pressing need to ensure that the requirements projected by them are met.

5.3   With the foregoing requirement, the review was done to suggest addition/deletion of modules; to identify topics that are overlapping across the various modules; suggest addition/deletion of topics; and recommend a sequence for conduct of modules.

5.4   **Modules Recommended to be Added/ Deleted**.   The PGDHM syllabus is covered over 730 days, but having provided for internships, exams, co-curricular activities and holidays, only 285 working days are available to cover the 78 Credit Score syllabus. Any

addition/deletion of modules or topics should not only ensure that the timeline is adhered to but also that doing so should not erode the comprehension of the module/topic. The modules that can be added/ deleted are as under: -

5.4.1 **Modules Recommended to be Added**.

5.4.1.1 **Leadership and Innovative Thinking**. This fresh module containing topics pertaining to leadership theory; professional and personal challenges to the leader; operational challenges and opportunities and the leader's role in governance and health care is recommended to be included to impart structured leadership training to the students. Leadership related topics in the various modules should be culled and then collated under this module. Topics related to innovative thinking to train the future leaders in making decisions based on the available team ability, time constraints and resource situation should be covered. This shall also bridge the gap of Situational Leadership in which the students were found to be week in by employing organizations/agencies. The topics to be covered within the module are mentioned in Table 5.2

5.4.1.2 **Negotiation and Conflict Resolution**. The importance of this module is in the fact that organizational conflict is a given and the manager ought to be able to handle it in a manner as to not adversely affect organizational functioning and patient care. The students should be imparted theoretical and practical knowledge of negotiation and conflict resolution with particular emphasis on analytical skills, negotiation techniques and conflict resolution so

that they can identify the causes of conflict, analyze disputes and use methods to prevent and resolve conflict. The topics to be covered within the module are mentioned in Table 5.2

5.4.1.3   **Emerging Trends/Current Happenings in the Health Sector**. Health care is continuously evolving to combat disease and ensure preventive health. Thus, it is essential that the students are equipped with the latest knowledge and information regarding the health care sector. While students should inculcate the habit of staying abreast through intense study of latest articles and research papers, a structured module shall bring all the students at par. This should also meet the requirement of employers who find the students lacking in this aspect. The course content shall be dynamic for changes are ever-occurring. However, some topics such as Artificial Intelligence and new technologies in hospital care should be included. The topics to be covered within the module are mentioned in Table 5.2

5.4.1.4   **Mock Interviews**.   A preponderance of students undertaking the course have usually not faced an interview, their first experience being when they face the placement interview. As such students are beset with trepidation and tentativeness, which, invariably effects their performance and selection prospects. It is thus essential that a class be taken on facing interview panels. Further, all the students should be made to undergo at least one mock interview in the early part of the first year. The weak students should undergo more such interviews through the first year once a week for an hour (for a minimum of five

hours between term exams and after the class duration) and also in the second year. The gap of ten days between supplementary exams and commencement of summer internship can also be used for mock interviews, thus ensuring that this time is utilized.

5.4.1.5   **<u>Student Induction</u>**. A graded Student Induction program should be the first activity to be undertaken, when the course commences and should be conducted for a period of not more than five days. Besides being an ice breaker, the induction program can help identify a student's communication and analytical abilities. Those with better abilities can be student mentors o their fellow classmates s also. For this purpose, students can be divided into batches. Each batch should have a Conducting Professor and an Observing Professor, with both scoring each student on a scale of ten. Depending upon the number of professors available, the batch can be a minimum of 10 students. In order to instill seriousness amongst students, they should be informed of the aim behind the exercise and that they shall be graded. Each student should have his/her roll number clearly mentioned, on a tag to enable the professor to identify the student. A batch should undergo two exercises. In the first exercise aimed at identifying the ability of the students to understand a topic, formulate their thoughts and express themselves, a student should be asked to pick out a topic from a common pool of hand written topics kept with the conducting professor, think for a minute and speak on the topic for two minutes. The conducting or Observing Professor, can ask a couple of questions, if required. The topic can be something as simple as 'Salt' or 'the National Flag'. Timings should be

strictly adhered to and a bell be used to indicate the time. In the second exercise aimed to identify the ability of a student to work in a team and to identify his/her state of tentativeness/inhibition, a team should be offered a topic to be picked by the team, from a batch of hand-written topics (five in number) kept with the professor. Each student should agree to the topic. If one out of ten does not agree, another topic can be picked till such time a consensus on the topic is reached. About 10 minutes should be given to arrive at a consensus. This process will identify individual student's ability to work as a team and will also help identify leaders and followers. Each student should be permitted to speak on the topic as part of a discussion for not more than three minutes. Those who are dominating the conversation should be asked to not speak any longer and others who have not spoken or have spoken less should be called out to speak. The Conducting and Observing Professors can then tally up the score given by them individually and independently to arrive at a common score for each student. Other activities that can be included are speaking about a changing/enabling/memorable personal experience, making a group presentation or two, team work based problem solving and submitting a written report or writing a letter on a health related topic. All of these should be graded. The grades should be shared with subsequent professors, so that they can follow up and continuously grade the weak students.

5.4.1.5   **Electives**.   A number of electives have been recommended to be added, in addition to the ones being offered to the students, bringing the total list to 10 electives. These have been indicated in Table 5.1 below.

5.4.2 **<u>Modules Recommended to be Deleted</u>**.

5.4.2.1   The non-graded induction courses of Essentials of Computers, Human Process Lab and Communication Lab can be done away with, for they mainly serve the purpose of breaking ice amongst the students, making them self-aware and imparting to them basic knowledge of computers.

5.4.2.2   Module of Principles of Management should be deleted since its topics related to Human resource, Strategic, Marketing and Logistic Management are covered as independent modules. The balance topics of this module should be shifted to other relevant modules.

5.4.2.3   In addition, the module of Health Information Management can also be deleted by assessment of relevance and shifting of topics to other modules.

5.4.2.4   The elective of Big Data Analysis whose duration of one week is too short for comprehension should be deleted. At the same time, the Elective of Entrepreneurship should be replaced by that of Health Care Entrepreneurship.

5.4.3 Once the modules have been added/deleted the PGDHM curricula shall be as under: -

Table 5.1: PGDHM Curricula after Addition/Deletion of Modules

Ser No	Category	First Year	Second Year (Health Stream)
5.5.1	**Leadership**		
5.5.1.1		Leadership and Innovative Thinking (3)	Strategic Management (3)
5.5.1.2		Negotiation and Conflict Resolution (1.5)	-
5.5.1.3		Communication Planning and Management (3)	-
5.5.1.4		Organizational Behavior (3)	-
5.5.2	**Managerial**		
5.5.2.1		Human Resource Management (3)	Logistics and Supply Chain Management (3)
5.5.2.2		Marketing Management (3)	-
5.5.3	**Financial**		
5.5.3.1		Essentials of Health Economics (3)	Health Insurance and Managed Care (1.5)
5.5.3.2		Financial Management and Accounting (3)	-
5.5.4	**Public Health**		
5.5.4.1		Health and Development (1.5)	Global Health (1.5)
5.5.4.2		Health Policy and Health Care Delivery System (4.5)	National Health Programs (4.5)
5.5.4.3		Essentials of Hospital Services (1.5)	Quality Management and Patient Safety in Hospitals (3)
5.5.4.4		-	Legal Framework in Health Care (3)
5.5.4.5		-	Health Management Information System (3)
5.5.4.6		-	Disaster Management (1.5)
5.5.4.7		-	Population Program Management (1.5)
5.5.5	**Analytical Studies**		
5.5.5.1		Essentials of Epidemiology (4.5)	Program Planning, Implementation,

Ser No	Category	First Year	Second Year (Health Stream)
			Monitoring and Evaluation (1.5)
5.5.5.2		Applied Epidemiology (1.5)	Research Methodology
5.5.5.3		Biostatistics (4.5)	Health Survey and Research Methods (1.5)
5.5.5.4		Demography and Population Science (1.5)	Operations Research (3)
5.5.5.5		Data Management and Analysis (3)	-
5.5.6	**Miscellaneous**		
5.5.6.1		-	Emerging Trends/Current Happenings in the Health Sector (1.5)
5.5.6.2		Mock Interviews	Mock Interviews
5.5.7	**Electives**		
5.5.7.1		-	Corporate Social Responsibility
5.5.7.2		-	Health Care Entrepreneurship
5.5.7.3		-	Business Ethics
5.5.7.4		-	Urban Health
5.5.7.5		-	Health Care Quality and Reliability
5.5.7.6		-	Innovation in Healthcare
5.5.7.7		-	Project Management for Health Care Professionals
5.5.7.8		-	Transforming Health care Delivery
5.5.7.9		-	Change Management in Dynamic Health Care Systems
5.5.7.10		-	Managing Health Care Organizations

5.6 **Overlapping Topics**. The PGDHM curricula has a number of modules which are related and therefore an overlap of topics exists. While the overlap is because they enable comprehension of the topic, the fact also is that the overlap is the consequence of related modules not being conducted in succession. The resultant time gap therefore necessitates that the topics are covered again. The overlapping topics

are, as identified at Table 3.7 and a number of them have been recommended to be deleted.

5.7   **<u>Restructuring of Modules</u>**.   In pursuance with the suggestions of experts in a meeting on 20 April, 2019 and the significance of knowhow of Social and Behavioral Change Communication for healthcare managers, a restructured module of Social and Behavioral Change and Communication Management should replace the existing module of Communication Planning and Management. The topics related to social change communication should be added to the existing module. A syllabus for the same is recommended in Table 5.2. In addition, while several topics related to Epidemiology and Applied Epidemiology; Biostatistics, Demography and Program Planning, Implementation, Monitoring and Evaluation; Research Methodology and Health Survey and Research have been recommended to be deleted, there is a need of restructuring the modules particularly that of Research Methodology and Health Survey and Research for greater accuracy. This has resulted in reformulating the list of topics as mentioned in Table 5.2

5.8   **<u>Addition/Deletion of Topics and Sequencing of Modules</u>**.   From Para 5.5, it follows that the topics which are overlapping should be taught only once and in the beginning itself, so that the modules that follow can refer to the topic having been already covered, and proceed forward. When the same topic is covered in various modules, but the subparts are different, then the different portion only should be covered in the module with the overlapping topic. As far as possible, however, even this should be avoided by re-preparing the topic, such that it covers all the requirements

of each of the module. Such topics that are overlapping should then be deleted from one or more module in which it is overlapping. This besides saving on time for addition of new modules or for conduct of practical, would also invariably result in fewer topics being covered in the module from which the topic is deleted to the extent, that a module in itself may require being deleted. Principles of Management is thus no longer needed to be conducted as a module, as already brought out at Para 5.4 above. Comprehension can also be ensured through conducting modules in a sequence such that related modules are conducted concomitantly. Also modules from which interview questions are usually likely for the students should be conducted towards the end of the first year and the beginning of the second year so as to ensure easier recall during interviews, more so when the students are during the period also undergoing second year modules/preparing to take their term tests and thus are unable to focus on the second year module or their test. The sequence of modules is given at Table 4.4. Three options are possible given the number of days available per year and the sequence that needs to be followed to ensure that related topics follow each other. Module wise topics consequent to deletion/addition of topics is given in the Table below: -

Table 5.2: Module Wise Topics to be Covered in First and Second Year (as per categorization and not sequence)

Ser No	Category	First Year	Second Year (Health Stream)
5.8.1	**Leadership**		
5.8.1.1		**Leadership and Innovative Thinking (3)** [6][24] • Leadership Styles and Theories • Leadership Concepts and Skills • Types of Leadership	**Strategic Planning and Management in Health Care (3)** • Strategic Management Introduction • Planning • Mission and Vision • Environment Analysis

Ser No	Category	First Year	Second Year (Health Stream)
		• Role of Leadership (excluding enhancing listening skills) • Ethical Leadership • Motivation Concepts and Application including Work Motivation • Capacity Development for Leadership Skills (excluding enhancing listening skills) • Situational Leadership • Personal Development and your Leadership Style • Stress and Stress Management • Participative Management and Delegation • Team Leadership/Group development • Effective Decision Making and its Framework • Problem Solving, its Identification and Structuring • Investigating Ideas and Solution	• External Analysis • Internal Analysis • Business Level Strategy • Corporate Strategy • Blue Ocean Strategy • Strategic Evaluation and Control • Strategy Implementation • Value Chain Analysis
5.8.1.2		**Negotiation and Conflict Resolution (1.5)** [25][26][27] • What is Negotiation? • Scope, Types, Styles, Tactics and Strategies of Negotiation • Distributive and Integrative Negotiation • Barriers to Effective Negotiation • Conflict and Conflict Resolution • Persuasion Principles, Strategies and Influencing Others	

Ser No	Category	First Year	Second Year (Health Stream)
		• Conciliation and Mediation • Arbitration and Dealing with a Difficult Person • Win-Win Negotiation • Ethics in Negotiation	
5.8.1.3		**Organizational Behavior (3)** • What is OB? • Organizing and Controlling • Diversity in Organizations • Attitudes and Job Satisfaction • Personality and Values • Perception and Individual decision making • Foundations of Group Behavior • Understanding Work Teams • Management by Objective • Foundations of Organization Structure • Performance Management • Organizational Culture and Climate • Organizational Change and Leading it • Organizational Behavior and Changing Context	
5.8.1.4		**Social and Behavioral Change Communication and Management (3)** • Communication, concepts and Types • Principles of good communication and barriers to communication • Inter and Intra personal communication • Effective Listening	

Ser No	Category	First Year	Second Year (Health Stream)
		• P Process • Consensus building • Media Advocacy • Social and cultural processes effecting health status and access to health services • Behavioral Change Communication and SBCC • Planning Health Promotion Campaigns • Designing and Implementing Health Campaigns • Types of Counselling • Johari Window • Memo Writing, E-Mail Writing, Business Letters Minutes, Notices and Report Writing	
5.8.2	**Managerial**		
5.8.2.1		**Marketing Management (3)** • Understanding of Marketing Management, Concepts of Marketing • Marketing Strategic Planning • Marketing Planning • MIS and Market Research • Consumer Market and Buying Decision Process • Business Markets • Competitive Strategies • Product • Price • Place • Promotion	**Logistics and Supply Chain Management (3)** • Materials Management • Policies and Procedures of Purchase of goods • Purchase • Materials Receipt Storage, Distribution, Handling & Preservation of Stores • Inventory Control • Codification and Standardization • Value Analysis • Hospital Equipment Management • Global Tender Enquiry • Central Drugs Standard Control Organization • Foreign Purchase and Import Substitution • Quality Control • Legal and Ethical aspects of Management of Materials

Ser No	Category	First Year	Second Year (Health Stream)
			• Role of IT in Supply Chain Management • Transportation • Ware Housing
5.8.2.2		**Human Resource Management (3)** • Introduction to HRM • Human Resource Planning (HRP) • HRP activity • Manpower Audit in Hospital • Job Analysis • Recruitment • Selection • Induction, Placement, Internal Mobility and Separations • Training and Development • Career and Succession Planning • Compensation Administration • Incentives and Employee Benefits • Employee Grievances and Discipline • Collective Bargaining • Employee empowerment and participation • Strategic HRM • Personnel Records and Administration • Work Life balance • New Concepts in HRM	
5.8.3	**Financial**		
5.8.3.1		**Essentials of Health Economics (3)** • Health Economics: An Introduction • The Production of Health • Demand for Health Care • Economic Evaluation of Public Health Interventions	**Health Insurance and Managed Care (1.5)** • Introduction to Health Insurance • Social Health Insurance • Pricing in Hospitals and Insurance • Employee State Insurance Scheme in India

Ser No	Category	First Year	Second Year (Health Stream)
		• Cost of Health Services: Concepts and Estimations • Costs vs. revenues: Break-even Analysis • Market Failure and Government Intervention	• Health Insurance in India, including IRDA and Regulatory Framework • Community Health Insurance • Corporate Business and Insurance • RSBY and Ayushman Bharat National Health Protection Scheme (AB-NHPS) • Managed Healthcare • Private Health Insurance in India • TPA
5.8.3.2		**Financial Management and Accounting (3)** • Overview • Techniques of Capital Budgeting • Marginal Cost • Break Even and CVP Analysis • Working Capital Management • Standard Costing and Variance Analysis	
5.8.4	**Public Health**		
5.8.4.1		**Health and Development (1.5)** • Introduction • Concepts of Health and Well Being • Concept of Disease • Health Indicators • Determinants of Health • Development and Health • Human Development Index • Levels of Prevention & Modes of Intervention • Health in International Development Agenda • MDGs to SDGs	**National Health Programs (4.5)** • Health Care Systems – Four Basic Models • Health Planning • Control, Elimination and Eradication • Indicators, Monitoring and Evaluation • Program Evaluation • The Project Life Cycle • NHP Implementation Problems and Challenges • 20 National health Programs excluding Ayushman Bharat

Ser No	Category	First Year	Second Year (Health Stream)
5.8.4.2		**Health Policy and Health Care Delivery System (4.5)** • Introduction • Definition of health system • Health system components and functions • Building blocks of health care system • Current status of health human resources and infrastructure and related issues • Committees on Health Care in India • Health care delivery system in post independent India – key features • Health care delivery system in rural India – SC, PHC, CHC, District hospitals – roles and responsibilities of health functionaries • Organizational set up of health care in India • Different stakeholders in provision of health care. • Concept of universal health coverage and related issues • National Health Policy-2017 • Nutrition Policy and National Population Policy • Challenges posed by urban health and special features of NHM • National Programs – Rationale and Overview	**Global Health (1.5)** • Introduction to Global Health • Health in International Development Agenda • Health Systems Framework • UN Agencies in India • Review HIAP & Social Development of Health
5.8.4.3		**Essentials of Hospital Services (1.5)** • Hospitals and Hospital as a System	**Quality Management and Patient Safety in Hospitals (3)** • Introduction

Ser No	Category	First Year	Second Year (Health Stream)
		• Role of Hospital Administrator • Planning and Organization of Out Patient Services • Accident and Emergency Services • Planning and Organizing ICU • Planning and Organization of Hospital Laboratory Services • Planning and Organization of Hospital Imaging Services (reduce to in vogue technology) • Planning and Organization of Medical Records Department • Hospital Monthly Statistical Bulletin • Inpatient Services • Nursing Care and Ward Management • Operation Theater	• Approach to Quality Management • Quality Improvement • Tools for Quality Improvement • Clinical Governance • NQAS • Never Events • Developing a Quality Culture • Patient Safety • NABH Standards • Accreditation National and International
5.8.4.4			**Legal Framework in Health Care (1.5)** • Legal Issues in Medical Care • Legal Issues in Hospitals and Management of Medico Legal Cases • Day to Day Problems in Dealing with Patients • Industrial and Food and Drug Acts Applicable to Hospitals • Classification of Offences • Professional Ethics • Consumer Protection Act • RTI Act • Medical Termination of Pregnancy Act • Clinical establishment Act • Mental Health Care Act

Ser No	Category	First Year	Second Year (Health Stream)
			• Sexual Harassment of Women at Work Place • Violence Against Medical Profession • Laws of Contract and its Management
5.8.4.5			• **Health Management Information System (3)** • Concepts in Information Management • Basics of Computer • Data and Database Management • HMIS – Organization and Structure • HMIS – Decision Making • Health Information Management • Information Needs and Indicators • Data Collection and Generation • Data Transmission and Flow of Information • Data Processing • Data Quality • Applications and Use of HMIS • Evaluation of MIS • Overview of EMR, EHR/, PHR/PHI & HIS
5.8.4.6			**Disaster Management (1.5)** • Overview • Disaster Management in India • Planning during Disaster Response • Disease Management • Food and Nutrition • Water and Sanitation • Incident Command System and Communications • Mass Casualty Management • Disaster Management in Hospitals • Disease Management

Ser No	Category	First Year	Second Year (Health Stream)
5.8.4.7			**Population Program Management (1.5)** • Introduction • Population Policy • Evaluation of Family Planning Program (Less RCH and NPP 2000) • RMNCH+A Dashboard • Use of Large Scale data in Management (Delete Census, SRS and NSS script only) • Gender Issues and Health • Sex Ratio • Domestic Violence and Demographic Variation • Women's Empowerment • HIV/AIDS and Demography • Urbanization Measures • Urbanization and Health
5.8.5	**Analytical Studies**		
5.8.5.1		**Essentials of Epidemiology (4.5)** • What is Epidemiology (less Levels and Modes of Prevention) • Types of Epidemiology Studies (including Bias and Confounding, Sensitivity, Validity and Reliability) • Various Study Designs • Introduction to Surveillance • Surveillance and IDSP • Evaluation of Surveillance • Clinical Epidemiology • Strobe • Outbreak Investigation	**Applied Epidemiology (1.5)** • Overview • Epidemiology Basics • Epidemiology Measurements- Case Studies and Discussion • Measurements: Morbidity and Mortality • Estimation of Risk: Associations and Cause - Effect Relationships • Evaluation of Screening Programs • Epidemiological Approach to Evaluation of Health Programs • Epidemic Management
5.8.5.2		**Research Methodology (4.5)**	**Health Survey and Research Methods (1.5)** • Research Goals in Health Survey Research

Ser No	Category	First Year	Second Year (Health Stream)
		• Research, its meaning, objectives, types and approaches • Health System Research • Research process and criteria for good research • Identification of research problem and Formulating Research Question • Research Design Meaning, Need, Concepts, Different Research Design and Identifying Appropriate Research Design for a Range of Health Questions and Features of Good Design • Review of Literature • Developing a Research Proposal • Sampling Design and Determination of Sample Size • Ethical issues in Research • Methods of Data Collection and research tools • Report Writing	• Overview of Study Design • Types of survey • Designing Survey Tools • Obtaining Subjects for Health Research • Measuring Concepts and Health Survey • Data Analysis (only portion not covered in Biostatistics) • Interpreting Results of Health Survey • Reporting Results
5.8.5.3		**Biostatistics (4.5)** • Introduction to Statistics and Biostatistics • Data Sources • Types of Variable • Common Measurements: Rates, Ratio, Proportion, Percentage and Index • Presentation of data • Descriptive statistics • Concept, Purpose and Type of Sampling • Sample Size Determination • Correlation & Regression	**Program Planning, Implementation, Monitoring and Evaluation (1.5)** • Situational Analysis- Concepts and Approaches • Health Problems and Prioritization • Problem Tree Analysis and Objective Tree Analysis • Stakeholder Analysis • Concept of Log Frame and Approach • Development of LF Matrix

Ser No	Category	First Year	Second Year (Health Stream)
		• Simple & Multiple Regression Analysis • Concept of Basic Probability • Probability Distribution • Confidence Interval • Testing of Hypothesis • Test of Significance: Chi Square & T Test	• Activity and Time Scheduling (Gantt Chart) • Budgeting • Budget Preparation
5.8.5.4		**Demography & Population Science (3)** • Intro Population Science and Demography including sources of demographic data • Demographic Transition (Population structure and composition, Age sex pyramid) • Population Characteristics (Age dependency and implications, Quality of data and data appraisal) • Concept of fertility (Basic measures of fertility, Divorce and remarriage) • Mortality Definition (Sex and age patterns of mortality, basic measures of mortality) • Life Table techniques • Migration Type, Pattern, Consequences, Migration and health • Ratios, rates and Proportion • Population Growth rates	**Operations Research (3)** • Introduction to Operations Research • Concepts and Definition of Operations Research • Linear Programming • Solution by Graphical Method • Special Cases and Limitations • Transportation Problems • Assignment Problems • Integer and Goal Programming • EOQ Models • Quantity Discount Models • ABC Analysis • PERT • CPM • Queueing Theory • Waiting Time
5.8.5.5			**Data Management and Analysis (1.5)** • Introduction to Database • Data Coding, Editing and Transformation • Validation Tests • Introduction to SPSS • Data Entry and Database Creation

Ser No	Category	First Year	Second Year (Health Stream)
			• Importing Database and Overview to Database Management Options • Descriptive Analysis • Cross Tab and Chi Square Test • T Test • Correlation Analysis • Simple Linear Regression Analysis
5.8.6	**Miscellaneous**		
5.8.6.1			**Emerging/Current Trends in Health Sector (1.5)** [6][28] • Virtual Reality • Augmented reality • SMART Technology in Hospitals • AI and its Role in Health Care • Challenges in Clinical Decision Support • Data Mining and Big Data Analytics in Health Care • Patient Personalization and Personalized Medicine • mHealth, Tele Health and IoT • Wearable Technology Transforming Health Care

5.9   An additional aspect that needs to be looked into is continuity. While IIHMR, New Delhi undertakes education in the health sector, it is primarily a research institute and the professors who are basically experts in their domain, are mainly involved in research/meeting contractual obligations. This implies that a professor who usually conducts a module may not do so and the module is instead, covered by another professor or a guest lecturer. To ensure that there is no change in the content being imparted it should be ensured that every module's slides should be kept in a central repository along with the soft copy of the module booklet both of which should have been vetted and approved by an earmarked committee. This would

ensure that a guest lecturer or a replacement lecturer from within IIHMR has the study content which has been already vetted and approved, readily available and can go through it before conducting the class. The chance can be also obviated through earmarking two professors per module to conduct the module, at the beginning of a batch itself which can be managed easily. A related aspect which requires ensuring is that the module book should be available to the student in the first period on the first day of the module and the slide content should be in synchrony to the module content, thus ensuring that the book enables reference, during the conduct of the module and can also be used for future reference in one's career. Also, the material for additional study/ reference material, and the case studies should be a part of the module itself, so that it is available along with the module content at one place, besides which this shall also ensure economy through central and bulk printing.

<u>Core Competency</u>

5.10   The changes recommended above should lead to a core competency which is a mix of both business and health related competency. At the end of having undertaken PGD in Health Management the students should graduate from IIHMR, New Delhi with the competency to perform/conduct the following: -

5.10.1 **<u>Leadership Competencies</u>**.

5.10.1.1   Through negotiation and advocacy, influence management decision making, health policy and health policy decision.

5.10.1.2   Be a good verbal and written communicator with good presentation skills

5.10.1.3   Manage operations to ensure organizational performance in a health organization.

5.10.1.4   Understand the nuances of marketing management and be able to apply them to public health programs and health service organizations

5.10.1.5   Ensure smooth organizational functioning through effective Human Resource Management while at the same time be able to ensure one's own professional growth and development.

5.10.1.6   Comprehend economic and financial reports/statements, analyze them and enable public health management decision making based on such analysis.

5.10.1.7   Ensure cost effectiveness in operations through economic analysis.

5.10.1.8   Be able to ensure logistic effectiveness in the delivery of health care.

5.10.1.9   Understand the importance of data, how to obtain, analyze and utilize it.

5.10.2 **Healthcare Competencies**

5.10.2.1   Comprehend Public Health, its determinants, how they influence health and how these can be improved to ensure prevention and promotion of health.

5.10.2.2   Have effective understanding of health systems, public policy, and environmental health.

5.10.2.3   Apply epidemiological methods to public health practice and situations, use data collection methods relevant to a health issue, analyze the data using biostatistics and computer-based software and interpret the results for application to public health practice, research or policy.

5.10.2.4   Be able to define a research problem, identify the hypothesis, conduct the research, analyze and review the results, generate a conclusion and present it.

5.10.2.5   Be able to review and evaluate interventions, programs, outcomes, public health reports and research articles.

5.10.2.6   Have an understanding of legal aspects related to public health and ethical practices as well as how to ensure adherence to legal aspects and ethical practice of health care.

5.10.2.7   Have an understanding of disaster and be able to manage the medical requirements to alleviate the sufferings of those effected.

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ISB : ADVANCED MANAGEMENT PROGRAM FOR HEALTHCARE

Participants of the AMPH will undergo 15 credits of taught courses, and 1 credit of Action Learning Project. The courses are designed to offer a comprehensive learning of management principles in a healthcare delivery setting. An indicative list of courses is as follows:

Foundational

Economics of Health Markets

Financial Statement Analysis of Healthcare Organizations

Cost Accounting of Healthcare Services

Financial Management of Healthcare Organizations

Process Excellence in Healthcare Organizations

People Management in Healthcare Organizations

Personal Leadership and Effectiveness

Management of Organizations

Responsible Leadership

Marketing Management of Healthcare Services

Strategic Thinking in Healthcare Organizations

Industry Core and Advanced

Healthcare Information Technology

Legal Aspects of Healthcare Management

Designing and Managing Effective Healthcare Delivery Systems

Designing a Patient-Centric Organization

Business Model Innovation and Entrepreneurial Mind-Set

Economics and Management of Biopharma and Medical Devises Industry

Indian Health System webinar series

Action Learning Project

Action Learning Project (ALP) is an important pedagogical tool that is designed to give

participants a chance to deploy their classroom learning in solving an ongoing business

challenge. It is a group exercise guided by a faculty mentor. Participants typically choose a

live project from the organization where they are currently employed.

Reference - https://www.isb.edu/hmp/programme-overview

IIM, BANGALORE : GENERAL MANAGEMENT PROGRAM FOR HEALTHCARE EXECUTIVES

Functional Knowledge

Strategic frameworks
Operations management
Quality and accreditation
Financial accounting
Economics and policy
Commercial knowledge
Services marketing
Information systems
Human relations
Leading teams and organisations

Business Environment

Existing healthcare models
Hospital planning and organisation
Healthcare facility and hospital design
Pharmaceutical sector and IP rights
Insurance sector and TPA
Electronic medical records
Disease mapping
Rural and public health scenario
Regulatory issues and ethics

Focus on Entrepreneurship

Building business models
Financing ventures
Healthcare Informatics and e-health
Homecare services
Wellness
Innovations in public health
Telemedicine
Medical devices

Individual Competencies

Data visualisation
Predictive analytics
Communication skills
Negotiation and Conflict Management

Reference - https://www.iimb.ac.in/eep/product/213/General-Management-Programme-for-Healthcare-Executives- GMHE?management=GeneralManagement&addurl= GMHE&Ref =GAds

Ministry of Health and Family Welfare

2017-18

सत्यमेव जयते

Model Curriculum Handbook

MASTERS IN

PUBLIC HEALTH

This course will be an attempt to prepare competent cadre of professionals, who have a basic understanding of the various aspects of public health and are able to successfully apply this knowledge towards meeting public health challenges in Indian context.

MASTERS IN PUBLIC HEALTH

A. CORE MODULES (COMPULSORY)

1. **Principles and practices of public health:**
   - Public Health- what it is; causation, prevention, social determinants of health, health systems and health policy
   - Health equity
   - Environments and health
   - Public Health action

2. **Health system and policy in developing countries:**
   - Basic theoretical approaches and concepts used in policy analysis
   - Understanding of global and national health policies, including current trends
   - Analyse the political system within which policies are made
   - Contextual factors that influence to policy change
   - Changing global health policy environment

3. **Health management: Management principles and practices:**
   - Basic knowledge of health care systems and the environment in which health care managers and providers function
   - Health Programmes: planning, implementation, Monitoring and Evaluation
   - Components of strategic management
   - Project management
   - Behavioural aspects of governmental, faith based and other non – governmental organizations
   - Introduction to logistics management
   - Introduction to human resource management
   - Quality: define quality, its importance in public health, measures to manage and improve equality
   - Introduction to Operational Research
   - Risk management
   - Effective management of Health Management Information Systems (HMIS) and its application
   - Public Health Leadership

4. **Basic Epidemiology including communicable and non-communicable diseases:**
    - History of Epidemiology
    - Measurements in Epidemiology
    - Incidence and prevalence
    - Causation and association
    - Measures of association
    - Outline of study designs (including cross sectional study design, case control study design, cohort study design and randomised control trials)
    - Introduction to confounding and bias
    - Screening tests- validity and reliability methods
    - Disease surveillance
    - Outbreak investigation
    - Communicable and non-communicable diseases

5. **Basic Biostatistics:**
    - Types of variables
    - Scales of measurement
    - Measures of central tendency
    - Measures of dispersion
    - Types of distribution
    - Bayes theorem
    - Sample/sampling and population distribution
    - Central limit theorem
    - Type1 and type 2 error and power calculation
    - P-value and 95% confidence Interval
    - Parametric and non-parametric test
    - How to choose the statistical test
    - Correlation
    - Basics of regression
    - One statistical software (SPSS/Stata)

6. **Demography and population sciences:**
    - Factors affecting population
    - Measures of fertility and mortality
    - Standardisation methods
    - Population growth and projection
    - Demographic transition
    - Implication of rapid population growth
    - Demographic dividend or disaster
    - Life table
    - Urbanization

7. **Introduction to health economics:**
   - Key concepts of economics, micro and macro economics
   - Strategizing and prioritizing within scarce resources (decision making)
   - Determinants of demand, supply and costs of production
   - Concepts of efficiency, effectiveness, equity, elasticity of demand, costing, production, marginal cost analysis, and opportunity cost
   - Market model, market failure, and the roles and limitations of markets in health care
   - Universal health coverage and role of health care financing
   - Principles and application of economic evaluation in health care including Cost Benefit Analysis (CBA) and Cost Effective Analysis (CEA)

8. **Health promotion approaches and methods:**
   - Introduction to health promotion
   - Foundations for health promotion
   - Social determinants and health promotion
   - Communication strategies for health promotion
   - Overview of current national health policies, national health programs their health promotion strategies
   - Community need assessment for designing an effective health promotion activity
   - Evaluation of health promotion plans
   - Substance abuse epidemic in parts of India
   - Smokeless (chewable) and smoked tobacco addictions in parts of India
   - Drunken driving: social and personal responsibilities and control measures
   - Stigmatization of health conditions
   - Behavioural issues in children and teens: substance abuse, suicide patterns
   - TV and other media as influencers of healthy/non healthy lifestyle

9. **Introduction to Financial management and Budgeting**
   - Introduction to financial management
   - Tools of financial analysis and planning in health care
   - Cash flow, accounts and balancing budgets
   - Cost and dividends for health outcomes
   - Effectiveness and efficiency
   - Sustainability of Health Programs

10. **Social and behaviour change, effective communication in Healthcare:**
    - Introduction on sociological perspectives on health
    - Key concepts in sociology as applied to the study of health
    - Social and cultural processes impacting health status and access to health services

- Introduction to behaviour change theories and communication
- Health and human behaviour
- Medical anthropology
- Implementing and managing social and behaviour change communication in public health: Information Education and Communication (IEC), Inter Personal Communication (IPC), Behaviour Change Communication (BCC), Social Behaviour Change Communication (SBCC)
- Human behaviour and communication, its role in public health problems and solutions
- Public speaking
- Verbal vs. Non-verbal communication
- Various forms of written communication
- Evidence based advocacy
- Consensus building
- Using audio visual aid in communication
- Etiquettes and professionalism

11. Introduction to RMNCH+A:
- Introduction to the RMNCH+A services – historical context, evolution, coverage and innovations
- Various components of service delivery under RMNCH+A (including GoI programs)
- Maternal, New-born and Child Health (MNCH) services in the country
- Adolescent health
- Role of gender in public health programs
- Evolution of RCH services in the country – Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)
- Innovations in service delivery
- Framework for evaluation of services

12. Introduction to Design and Evaluation of Public Health Programs
- Concepts underlying the design of health programs
- Basic approaches to the design, analysis and interpretation of health programs
- Communicate in public health research
- Framework to evaluate the effectiveness of health programme implementation
- Case Study: how to integrate a package of care for a specific problem into a platform of healthcare delivery
- Process, outcome and impact evaluation

13. Principles of Research Methods:
- Objectives of research
- Research design

- Ethical issues in research
- Tools and Measurements in research
- Sample size and sampling
- Understanding and analysis of
  - Qualitative data and research
  - Quantitative data and research
  - Mixed methods
- Public health surveillance and research

14. Environment and Occupational health:
- Theories and history of environmental health
- Environmental health policy and legal mechanisms in a national and international context
- Ecosystems in various settings (linking the built environment, transport, housing and green space to human health)
- Environmental pollution, waste disposal and treatment
- Lifestyle and dietary effects on health, food safety and sanitation
- Occupational Health: Hazards at workplace and work safety; Prevention of occupational hazards; Laws related to occupational health; Various government and other schemes for working population in India
- Climate Change & Health
- Biomedical Waste Management
- Management of environmental hazards, natural disasters
- Central Pollution Control Board (CPCB) guidelines
- Environmental health impact assessment

15. Law and ethics in public health
- Public Health laws and ethics
- Human rights in public health
- Role of governments in managing health of people
- Public health regulations in Indian context
- Public health information and privacy
- Research ethics in public health
- Regulations during emergencies and outbreaks
- Addressing newer challenges: Bioterrorism, conflicts and emerging infectious diseases
- Public Health laws in global economy
- Global health hazards and security
- Different forms of power, influential to policy making
- Concept of governance and institutions
- Different theories useful in policy analysis
- Political nature of evidence for policy making in health
- Written and verbal competence in communicating evidence to inform policy

B. ELECTIVE MODULES

Stream B1: EPIDEMIOLOGY

    i.   Advanced Biostatistics:
- Principles of regression
- Methods of regression
- Linear regression
- Logistic regression
- Poisson regression
- Cox proportional hazards regression
- Regression diagnostics
- Introduction to multilevel modelling
- Introduction to data imputation
- Choosing the best models

    ii.   Advanced Epidemiology:
- Directed acyclic graphs and conceptual framework
- Confounding bias and methods to reduce confounding
- Selection bias
- Information bias
- Measures of validity and reliability
- Nested study designs
- Advanced designs in clinical trials
- Systematic reviews and meta-analysis overview
- Epidemiology and management of Vector Borne Diseases
- Health measures following disasters
- Various public data sources: CRS, SRS, Census, NFHS, DLHS, HMIS, MCTS, etc.

    iii.   Survey design and methods:
- Pre survey formative research
- Sampling and sample size calculations
- Ethical issues in surveys
- Tool development
- Conduct of surveys
- Quality control and assurance in surveys
- Survey data analysis
- Identify appropriate research designs for a range of questions in health
- Describe the steps involved in planning and conducting a research project
- Evaluate the strengths and weaknesses of various data collection methods

iv. **Communicable disease epidemiology:**
- Recognize the burden of communicable diseases (CD) affecting the population
- Examine factors contributing to the persistence of infectious diseases
- Understand reasons for emergence and re-emergence of infectious diseases
- Key concepts covered are:
  o Incubation periods
  o Epidemic patterns
  o Modes of transmission
  o Transmission dynamics
  o Measures of infectiousness
  o Secondary attack rates
- Analyze the transmission dynamics of diseases and design appropriate control measures
- Apply basic infectious diseases epidemiological skills to address major emerging and re-emerging communicable diseases
- Surveillance: Case in point: Integrated Disease Surveillance Program (IDSP)
- Epidemiology of common communicable diseases like TB, Malaria, Leprosy, Polio, STIs, AIDS, Meningococcal meningitis, Hepatitis B, and Measles (mathematical models of infection dynamics, outbreak investigation and surveillance, schedules, adverse reactions, contraindications, vaccine efficacy, impact assessment)
- Live outbreak investigation
- Adverse Event Following Immunization (AEFI)

investigation v. **Non-communicable diseases (NCD) epidemiology:**

- Describe and understand the epidemiology of NCDs
  o Cardiovascular diseases
  o Hypertension
  o Diabetes mellitus
  o Cancers
  o Mental health
  o Stroke
  o Burns/trauma/ accidents etc.
- Comprehend the upstream and downstream determinants of NCDs
- Understand the Individual approaches/or high-risk approaches and population based/ or public health approaches to prevent NCDs
- Recognize the risk factor approach to prevent non-communicable diseases
- Comprehend the Population based/public health approaches to prevention of common NCD risk factors (physical inactivity, tobacco and unhealthy diet)
- Familiarize with the current projects on targeting the prevention of NCDs, including, innovations in prevention

- How prevention of NCDs interlinks with Communicable diseases. How women and child health, health of the girl child links to prevention of NCDs
- Recognize Economic burden of NCDs and benefits of prevention
- Comprehend how sustainable development and prevention of NCDs go hand in hand
- Comprehend the power of policy and role of environment in the prevention of NCDs
- Population-based screening
- Surveillance of cancers including cancer registry

Stream B2: Health Programme, Policy and Planning

i. **Health policy, process and planning:**
- Policy making: key components
- Policy framework
- Stake holders in policy making
- Effects of different interest and advocacy groups in influencing health policy
- Translating research in policy making
- Effects of national and international affairs on health policy
- Introduction to different national population, disease control, tobacco control, nutrition, maternal and child health policies
- Short term versus long term policies
- Resources allocation to optimize health
- Using research and data to drive good policy making

ii. **Design and evaluation of public health programs (including current NHPs):**
- Concepts underlying the design of health programs;
- Basic approaches to the design in health programmes, with a focus on low resource settings
- analysis and interpretation of studies/programs;
- Communication in conducting public health research
- National health programmes in India (including goals, objectives, purposes, organization, man power, sources, activities, roles and responsibilities)

iii. **Translating research for Health Policy and Advocacy:**
- Different forms of power influential to policy making
- Concepts of Governance and Institutions
- Different theories useful in policy analysis
- Political nature of evidence for policy making in health
- Written and verbal competence in communicating evidence to inform policy
- Critical appraisal of issues in health policy and financing

iv.   **Current issues in health policy: National and Global perspective:**
- Theory explaining public health action, its evolution and application in health policy
- Methods of assessing the health impact of different types of policy; national and global perspective
- Assessing health impacts of different policies across sectors
- Impact of health threats and interventions to counter health threats including crisis management

v.   **Role of Non-governmental Organizations (NGOs) in health care:**
- Health service delivery and program Implementation
- Research and evidence generation
- Training and education
- Inter-sectoral coordination in health including Public Private Partnership
- Advocacy and planning in health care

Stream B3: HEALTH SYSTEM MANAGEMENT

i.   **Strategic management, Innovations and Entrepreneurship in healthcare**
- Strategy: various definitions
- Major concepts and frameworks in strategic management: SWOT, experience curve, portfolio theory, value chain
- Strategic thinking and decision making
- Strategic planning: Environmental, scenario, implementation and evaluation
- Sustainability
- Various sources for financing a new venture: finalize your target audience
- Preparing a business speech, elevator pitch
- Innovations in public health
- Health informatics, e-Health
- Telemedicine, m-Health
- Conflicts management and negotiations in business world
- Business modelling: preparing your own business model
- Peer review of individual business model

ii.   **Advanced Operations Research**
- History of operation research and seven stages of OR
- Safety, Acceptability, Feasibility and Effectiveness (SAFE) in designing Public Health Interventions
- Field interventions and field trials
- Stage 1: Formulate/define organizational problem
- Stage 2: Observe the system
- Stage 3: Create a mathematical model of the problem
- Stage 4: Model validation and application to the problem
- Stage 5: Identification of a suitable alternative

- Stage 6: Results discussion and conclusion
- Stage 7: Implementation and evaluation of the recommendation

iii. **Advanced Financial management and budgeting**
- Introduction to financial management
- Tools of financial analysis and planning in healthcare
- Cash flow, accounts and balancing budget
- Cost and dividend for health outcomes
- Effectiveness and efficiency
- Sustainability of health programs

iv. **Organizational management and services**
- Components of organization: Purpose, Coordination, Division of labour and Hierarchy
- Project management lifecycle
- Setting common goals and objectives
- Analytical thinking
- Risk identification and control
- Leadership
- Priority setting and resource allocation
- Why organizations fail? learning from case stories

v. **Effective communication in public health:**
- Public speaking
- Effective Communication: Verbal versus Non – verbal communication
- Various forms of written communication
- Evidence based advocacy
- Consensus building
- Using audio-visual aid in communication
- Etiquettes and professionalism

Stream B4: RMNCH+A

i. **Reproductive and Sexual Health**
- Fundamentals of reproductive biology
- Adolescent Sexual and Reproductive Health
- Understanding Reproductive Health Policy
- Family Welfare and Reproductive Health measures
- Reproductive Health programs in India

ii. **Maternal, Newborn and Child Health (MNCH):**
- Introduction to maternal, new-born and child health programs and their behavioral basis
- Historical developments in MCH in India
- Reproductive & Perinatal Epidemiology

- Prenatal and Infant Growth and Development
- Issues in the Reduction of Maternal and Neonatal Mortality
- Preventing peri-natal and infant mortality
- Infectious Disease and Child Survival
- Nutrition and Growth in Maternal and Child Health
- Legislations and programs in MCH

iii. Adolescent Health:
- Overview of population health approaches for adolescents
- Adolescent Health and Development
- The Social Context of Adolescent Health and Development
- International Adolescent Health
- Adolescent Health status in India
- Adolescent Health Development - policy and systems
- Health issues specific to adolescents: anemia, teenage pregnancy, menstrual hygiene, obesity, mental health promotion and illness prevention, substance use prevention, violence, media etc.

iv. Gender and Health:
- Define concepts - Gender, vulnerable populations, gender equality and equity and emerging issues
- Understand the difference between equity and equality
- Understand different forms of social exclusion
- Explain the difference between sex and gender and how these variables, combined with other forms of social exclusion impacts on health
- To increase understanding of the importance, benefits and urgency to identify and reduce barriers and address the needs of women and socially excluded groups, and promote their agency in the context of accessing health care and related information
- To increase understanding of the inter- sectionalism between gender and other types of social exclusion/inclusion and patients' experiences in accessing and utilising health services and the impacts on uptake and utilization of services
- To increase understanding of the realities of discrimination from the grass root perspective
- To identify good practices in Gender and Social Inclusion (GSI) within India
- To become familiar with toolkits for including GSI in public health research, programs, policies and advocacy

v. Public Health Nutrition
- Appreciate the basic concepts and principles of foods and nutrition relevant to human health
- Summarize population based dietary and nutritional recommendations
- Define the concept, purpose and scope of Public Health Nutrition
- Understand the definition, utility and applications of epidemiology in nutritional sciences
- Recognize the role of community nutrition in improving human health

- Utilize suitable data and assessment methodologies to conduct community needs assessment
- Recognize the pillars of a healthy community
- Identify the most relevant nutrition concerns in the community at present and enlist strategies for their prevention and management (Adolescent, Women, Maternal and child under-nutrition, nutrition transition, obesity and chronic diseases)
- Demonstrate an understanding of principles of nutrition education and enlist the steps of developing nutrition education programs
- Demonstrate an understanding of project planning and management in nutrition programmes
- Appreciate inter-sectoral nature of nutrition and food policy
- Enlist the features of various ongoing nutrition programs

MODULES TAUGHT IN THE PGDPHM AND FAMILY WELFARE PROGRAM SUPPORTED BY MOHFW, GOVERNMENT OF INDIA UNDER NRHM

Management	Public Health	Analytical Skills
- Project Management - Financial Management - Human Resource Management - Organizational Behavior - Logistics Planning and Drug Distribution/Inventory Management - Health Management Information Systems	- Introduction to Public Health Management - Health Systems and Health Sector Reforms - The National Rural Health Mission and National Health Programs - Urban Health - Management of MCH/RCH - Health Communication and Promotion - Behavioral and Social Sciences in Health - Communicable Diseases - Non-Communicable Diseases - Health Policies (including Health Policy Processes) and Health Care Planning - Quality, Equity and Access to Health Care - Occupational and Environmental Health - Disease Surveillance - Public Health Nutrition - Health Economics - Health Financing and Insurance	- Epidemiology (including Field Epidemiology) - Demography - Biostatistics - Research Methods - Operations Research