

Guidelines
for
Competency Based Training Programme
in
**DNB- SOCIAL & PREVENTIVE
MEDICINE**



NATIONAL BOARD OF EXAMINATIONS

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PROGRAMME GOAL

BROAD GOALS: To prepare a Planner, Manager, Solution -seeker, Researcher, Teacher and Philosopher in health issues (specifically preventive, promotive and rehabilitative health) of individual, family, community, nation and cross-nations.

The overall goal of training programme is to produce a competent public health specialist who can function as a leader of health team and is able to provide effective health care at the primary, secondary and tertiary levels

The goal of postgraduate medical education shall be to produce specialists of Community Medicine who shall have the following competencies:

- Recognize the health needs of the community and carry out professional obligations ethically and in keeping with objectives of the national health policy.
- Have necessary abilities for the practice of Community Medicine
- Be aware of the contemporary advances and developments in the discipline of Community Medicine.
- Have a spirit of scientific enquiry and is oriented to the principles of research methodology and epidemiology.
- Have the basic skills in training of the medical and paramedical professionals

PROGRAMME OBJECTIVES

The objectives of postgraduate degree training programme - in terms of knowledge and skills – are to enable a candidate to:

1. Lead team of health professionals for planning and managing community health problems effectively and proactively.
2. Study critically and manage existing health programmes of all levels (local state, national) and suggest alternatives for achieving desired goals.
3. Be proficient in human resource management along with materials (resources) and finance management for health schemes and health service implementation.
4. Have global perspective of health scenario and be capable of understanding cultural and societal specific health needs, its implications and its interventions.
5. Plan budget, execute and evaluate health problems of routine and emerging in nature.
6. Have strong analytical abilities, comprehension skills, creativity, lateral thinking and resourcefulness.
7. Administer functions of big hospitals (Size > 500 beds).
8. Function effectively as Industrial Health Officer.
9. Conduct and guide research in various disciplines of health sciences, health management, health systems research, and operational research.
10. Impart undergraduate curriculum of university in the subject in terms of knowledge and skills to medical, nursing and paramedical students.
11. Work with consultants / full time officer of national and international agencies (Govt. as well as Non Govt.) working in the field of health.
12. Identify and understand the changing health needs of ever-changing community and organize relevant effective interventions for amelioration of health problem.
13. Design need based teaching and training programmes / teaching materials for various categories of health professionals including its implementation and evaluation for the desired change in knowledge and skills.

14. Design need based health – teaching and training programmes / teaching materials for community at large for desired change in health practice.
15. Develop as a “Health – Philosopher.”

GENERAL OBJECTIVES: The general objectives of the training programme in Community Medicine will be to enable a candidate to be a:

Public Health specialist

1. Define and manage the health problems of the community, which he/she serves. He/she should be able to organize epidemiological studies to identify health problems.
2. Plan, implement and evaluate various health programs in his/her area, especially National Health, Family Welfare and disease control / eradication programmes.
3. Select, train supervise and manage various categories of health personnel working with him/her.
4. Organize health care services, routine and for special groups and during periods of special needs such as disasters/calamities and epidemics.
5. Should update himself / herself on latest advances / developments in the field of

Public Health Teacher

1. Plan and conduct an educational session/ programme. He/she will be able to draw up lesson plan with details of educational objective, content, process and essential inputs.
2. Assist in development of curriculum, teaching and learning activities and methods of evaluation
3. Assist in manpower planning and development. He/she should be able to participate in programmes for the selection, training and supervision of various cadres of health personnel

Research

1. Plan and execute a research study including clinical trails.
2. Use/Organize Biostatistical analysis using computers and softwares and prepare reports/papers.
3. Critically evaluate research activities
4. Make recommendations on policy and procedures

A candidate upon successfully qualifying should be competent in the following areas:-

1. Health policy, planning; leadership and management
2. Epidemiology and Biostatistics
3. Health Promotion and disease prevention
4. Documentation and dissemination
5. Behavioral Change Communication,
6. Research Methodology
7. Education technology
8. Public Health Management
9. Epidemiology
10. Health Team Leadership
11. Teaching and Training

Research Specific Learning Objectives:

In the area of

1. Public Health Management, he/she should be able to:-
 - a. Identify health problems of the community in the context of the sociocultural milieu
 - b. Prioritise health problems
 - c. Identify threats to the environment
 - d. Identify groups which require special attention (elderly, adolescents, gender the poor and other marginalized groups) including those facing occupational hazards
 - e. Set objectives, prepare action plan, implement programmes and monitor, supervise and evaluate them
 - f. Manage Health Information System and respond appropriately to the information gathered
 - g. Assess costs and carry out programme budgeting
 - h. Implement public health laws
 - i. Initiate, implement and supervise National Health Programmes
 - j. Establish Surveillance System and respond to public health threats efficiently and effectively
 - k. Anticipate, prepare for and respond to disasters

- l. Plan human resources development
 - m. Manage logistics and materials effectively
 - n. Monitor and assure quality in programme implementation
2. Epidemiology, he/she should be able to:-
- a. Conduct epidemiological investigation of communicable, non-communicable and other diseases of public health importance and suggest appropriate solution
 - b. Use effectively the tools of epidemiology for understanding disease causation and determinants of diseases
3. Health Team Leadership, he/she should be able to :-
- a. Interact, communicate educate effectively persons from diverse backgrounds, areas and preferences to promote healthy behavior through community participation
 - b. Explain scientific information to public, decision makers and opinion leaders.
 - c. Nurture team spirit and harmonize activities of various members
 - d. Facilitate inter- sectoral coordination
 - e. Promote and establish partnerships
4. Teaching and Training, he/she should be able to:-
- a. Assess the learning needs of any given group (students, staff or community)
 - b. Formulate learning objectives
 - c. Plan curriculum and prepare curriculum materials
 - d. Select and implement appropriate learning methods
 - e. Evaluate learning experiences
5. Research, he/she should be able to:-
- a. Critically evaluate data, identify gaps in knowledge and formulate research questions

- b. Design and implement Epidemiological and Health Systems Research studies
- c. Analyze data and present findings
- d. Effectively communicate findings and Public Health Information
- e. Apply ethical principles to the collection, maintenance, use and dissemination of data and information Post Graduate

Special Objectives

At the end of the program student will:

1. Know the structure and functioning of the health system at the National and International levels and its historical perspectives.
2. Know the principles of nutrition, maternal health and family welfare and put the same into practice.
3. Apply the principles of Epidemiology and Biostatistics to health practice including the design and implementation of health related research studies and clinical preventive medicine trails.
4. Know the principles of Communicable and Non-communicable diseases control and assist in the implementation of National Health programmes at a program level.
5. Identify the socio-cultural dimension in Health and disease and apply this knowledge in the design and implementation of an integrated Health and development program.
6. Apply the principals of environmental and occupational health in the design of health programmes aimed at improving health status.
7. Access specific health situations in a population, plan, organize, implement and evaluate programs aimed at improving health situations.
8. Identify the health needs of the special groups within populations especially the aged, the disabled and the worker and to respond to that need.
9. Know the principles of learning and apply this knowledge in facilitating the learning process in groups of people involved in health.
10. Relate his/her knowledge of curative medicine to the improvement of the health status of a given population.

11. Identify the role of the Government, Private and Voluntary sector in health and understand the principles of innovations in health practices and research

SPECIFIC LEARNING OBJECTIVES

1. Public Health Management, he/she should be able to:-
 - a. Identify health problems of the community in the context of the socio - economic - cultural milieu
 - b. Prioritize health problems
 - c. Identify threats to the environment
 - d. Identify groups which require special attention (elderly, adolescents, gender, the poor and other marginalized groups) including those facing occupational hazards
 - e. Set objectives; prepare action plan; implement programmes; and monitor, supervise and evaluate them
 - f. Manage Health Information System and respond appropriately to the information gathered
 - g. Assess costs, plan, implement and supervise budget and alternative health options
 - h. Understand and Implement public health laws
 - i. Initiate, implement and supervise National Health Programmes
 - j. Establish Surveillance System and respond to public health threats effectively and efficiently
 - k. Anticipate, prepare for and respond to disasters
 - l. Plan health manpower development, logistics and materials management.
 - m. Study quality assurance and medical audit (14) Understand basics of hospital management

2. Epidemiology, he/she should be able to:-
 - a. Conduct epidemiological investigation of communicable, non-communicable and other phenomena of public health importance and suggest appropriate solution.

- b. Use effectively the tools of epidemiology for understanding disease distribution and determinants of diseases. In the area of
3. Health Team Leadership, he/she should be able to:-
- a. Understand the structure and organizational behavior
 - b. Interact, communicate, educate effectively to persons from diverse backgrounds, ages and gender to promote healthy behaviour through community involvement.
 - c. Explain scientific information to decision makers and opinion leaders and general public.
 - d. Facilitate inter-sectoral coordination
 - e. Promote and establish partnerships - partnering with community, Panchayati Raj Institutions, public private partnerships, NGOs and corporate sector
4. Teaching and Training, he/she should be able to:-
- a. Assess the learning needs of any given group.
 - b. Formulate learning objectives.
 - c. Plan curriculum and prepare curriculum materials.
 - d. Select and implement appropriate learning methods.
 - e. Evaluate learning experiences.
5. Research, he/she should be able to:-
- a. Critically evaluate data, identify gaps in knowledge and formulate research questions
 - b. Design and implement Epidemiological and Health Systems research studies
 - c. Design and implement qualitative research methods, when appropriate
 - d. Analyze data and present findings
 - e. Effectively document and disseminate findings
 - f. Apply ethical principles to the collection, maintenance, use and dissemination of data and information

SCOPE OF TRAINING

The following skills and capacities required to achieve above objectives:

General public health Skills: The post graduate student should be able to:

- Elicit the clinic-psychosocial history to describe the agent, host and environmental factors that determine and influence health;
- Recognize and assist in management of common health problems of the community;
- Apply principles of epidemiology in carrying out epidemiological studies in the community;
- Work as a team member in rendering health care;
- Carry out health education effectively for the community.

Laboratory and diagnostic skills:

- Water testing
- Stool testing
- Identification of vectors and microbiological tests for proper diagnosis

Communication Skills: Able to communicate with the family, community, and government and non-government organizations; able to organize health education program in the community, generate community participation, etc.

Problem Solving skills: RCH, Communicable and Non-Communicable diseases (including social problems) at the family and community level.

Health care delivery skills: Skills required to deliver Reproductive and Child Health at the community level; a minimum of 5-10 families to followed for a year to study various family dynamics aiming at educating and improving the health of family members;

Epidemiological, Statistical and Analytical skills: Conduction of survey or study; analysis and interpretation of results

ELIGIBILITY CRITERIA FOR ADMISSIONS TO THE PROGRAMME

(A) DNB Social & Preventive Medicine Course:

1. Any medical graduate with **MBBS** qualification , who has qualified the **Entrance Examination** conducted by NBE and fulfill the eligibility criteria for admission to DNB Broad Specialty courses at various NBE accredited Medical Colleges/ institutions/Hospitals in India is eligible to participate in the Centralized counseling for allocation of DNB Social & Preventive Medicine seats purely on merit cum choice basis.
2. Admission to 3 years post MBBS DNB Social & Preventive Medicine course is only through **Entrance Examination** conducted by NBE and Centralized Merit Based Counseling conducted by National Board of Examination as per prescribed guidelines.

Duration of Course: 3 Years

Every candidate admitted to the training programme shall pursue a regular course of study (on whole time basis) in the concerned recognized institution under the guidance of recognized post graduate teacher for assigned period of the course.

TEACHING AND TRAINING ACTIVITIES

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Grand round presentation (by rotation departments and subspecialties)- once a week
5. Faculty lecture teaching- Once a month
6. Clinical Audit-Once a Month
7. A poster and have one oral presentation at least once during their training period in a recognized conference.

The rounds should include bedside sessions, file rounds & documentation of case history and examination, progress notes, round discussions, investigations and management plan) interesting and difficult case unit discussions.

The training program would focus on knowledge, skills and attitudes (behavior), all essential components of education. It is being divided into theoretical, clinical and practical in all aspects of the delivery of the rehabilitative care, including methodology of research and teaching.

Theoretical: The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent advances through discussions in journal clubs. These are considered necessary in view of an inadequate exposure to the subject in the undergraduate curriculum.

Symposia: Trainees would be required to present a minimum of 20 topics based on the curriculum in a period of three years to the combined class of teachers and students. A free discussion would be encouraged in these symposia. The topics of the symposia would be given to the trainees with the dates for presentation.

Clinical: The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management in rehabilitation practice.

Bedside: The trainee would work up cases, learn management of cases by discussion with faculty of the department.

Journal Clubs: This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

Research: The student would carry out the research project and write a thesis/ dissertation in accordance with NBE guidelines. He/ she would also be given exposure to partake in the research projects going on in the departments to learn their planning, methodology and execution so as to learn various aspects of research.

SYLLABUS

Students will be posted to learn organization and administration of hospital services and understand system used for collection, recording and reporting of hospital statistics, inventory control of medical stores, hospital laundry, hospital dietary, CSSD, ensuring quality of health care, clientele satisfaction, hospital infection control, medical audit.

SUBJECT SPECIFIC THEORETICAL COMPETENCIES:

History of Public Health and Preventive and Social Medicine

1. History of different systems of Medicine
2. Public health events - Sanitary awakening, germ theory of disease, rise of Public health in various countries
3. Primary Health

Core Concepts in Public Health

1. Definition of health; appreciation of health as a relative concept; determinants of health.
2. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease.
3. Understanding of various levels of prevention with appropriate examples.
4. Indices used in measurement of health.
5. Health situation in India: demography, mortality and morbidity profile and the existing health facilities in health services.
6. Difficulties in measurement of health.
7. National Health Policy

Community Medicine

1. Concept of Health & Disease
2. History of medicine, evolution of public health, alternative systems of medicine
Definition and concepts of public health
3. Definition of health, holistic concepts of health including concept of spiritual health, appreciation of health as a relative concept, determinants of health

- Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease Understanding the natural history of disease and application of interventions at various levels of prevention Health indicators
4. Health profile of India
 5. Concept of rehabilitation, its types and techniques
 6. Social and Behavioural Sciences
 7. Clinico- social, cultural and demographic evolution of the individual, family and community Humanities and Community Medicine Social organizations with special reference to family Religion, its evolution as a special instance of the evolution of social institutions
 8. Major tenets of the common religions in India & their influence on health & disease
 9. Assessment of barriers to good health and health seeking behavior
 10. Methodology in social research (Attitude surveys, Questionnaires, Interviews)
 11. Health economics
 12. Social security in India Culture and its impact on health Customs, taboos and mores Medical social worker
 13. Doctor patient relationship
 14. Social problems e.g. child abuse, juvenile delinquency, drug addiction, alcoholism, marital maladjustment, domestic violence, suicide and attempted suicide,
 15. Problems of the old, caste system
 16. Psychology and its concepts The Psycho analytic theory Human personality, its foundations, development and organization
 17. Development of child and its impact on its personality Psychological tests- personality tests, intelligence tests Group dynamics
 18. Hospital psychology

Epidemiology

1. Use of epidemiological tools to make a community diagnosis of the health situation in order to formulate appropriate intervention measures.
2. Epidemiology - definition, concept and role in health and disease.
3. Definition of the terms used in describing disease transmission and control.

4. Natural history of a disease and its application in planning intervention.
5. Modes of transmission and measures for prevention and control of communicable and non-communicable disease.
6. Principal sources of epidemiological data.
7. Definition, calculation and interpretation of the measures of frequency of diseases and mortality.
8. Need and uses of screening tests.
9. Accuracy and clinical value of diagnostic and screening tests (sensitivity, specificity, & predictive values).
10. Epidemiology of communicable and non-communicable diseases of public health importance and their control.
11. Epidemiological basis of national health programmes.
12. Awareness of programmes for control of non-communicable diseases.
13. Awareness of programmes for control of communicable diseases. (a) Planning and investigation of an epidemic of communicable diseases in a community setting. (b) Institution of control measures and evaluation of the effectiveness of these measures.
14. Various types of epidemiological study designs.
15. Planning an intervention programme with community participation based on the community diagnosis.
16. Applications of computers in epidemiology.
17. Critical evaluation of published research.

Epidemiology of Specific Diseases

1. Extent of the problem, epidemiology and natural history of the disease.
2. Relative public health importance of a particular disease in a given area.
3. Influence of social, cultural and ecological factors on the epidemiology of the disease.
4. Control of communicable and non-communicable disease by:
 - a. Diagnosing and treating a case and in doing so demonstrate skills in:
 - i. Clinical methods
 - ii. Use of essential laboratory techniques
 - iii. Selection of appropriate treatment regimes.
 - iv. Follow-up of cases.

- b. Principles of planning, implementing and evaluating control measures for the diseases at the community level bearing in mind the relative importance of the disease.
5. Institution of programmes for the education of individuals and communities.
6. Investigating a disease epidemic.
7. Knowledge of the National Health Programmes.
8. Level of awareness of causation and prevention of diseases amongst individuals and communities.

Entomology

1. Role of vectors in the causation of diseases.
2. Steps in management of a case of insecticide toxicity.
3. Identifying features of and mode of transmission of vector borne diseases.
4. Methods of vector control with advantages and limitations of each.
5. Mode of action, dose and application cycle of commonly used insecticides.

Principles and Practice of Information, Education and Communication.

1. Principles of IEC Health Education
 - a. Objectives of Health Education
 - b. Content of Health Education
2. Communication Skills, Principles of Communication
 - a. Communication barrier
 - b. Body Language and non-verbal communication
3. The use of Media for IEC
4. Practice (Methods) of IEC and its application in Community Health
5. Evaluation of impact of IEC program

Biostatistics

1. The scope and use of Biostatistics
2. Collection, classification and presentation of statistical data
3. Analysis and interpretation of data.
4. Obtaining information, computing indices (rates and ratio) and making comparisons.
5. Apply statistical methods in designing of studies

6. Choosing of appropriate sampling methods and sample size.
7. Applying suitable test of significance and Use of statistical tables.

Health Statistics

1. Introduction o Role of statistics in Public Health
2. Collection of data
3. Sampling in Public Health
4. Statistical classification of health data
5. Handling and processing of statistical information
6. Analysis of demographic data o Measurement of morbidity, mortality and fertility
7. Standardization of rates and standard indices
8. Life tables
9. Statistical techniques of evaluation in Public Health Descriptive Statistics
10. Introduction to biostatistics- aim and scope
11. Collection of data- basic ideas
12. Presentation of data- tabulation, diagram and graphs
13. Measures of central tendency and dispersion o Normal distribution
14. Elementary idea of skewness
15. Concepts of correlation and regression Statistical inferences o Elementary idea of probability
16. Sampling techniques
17. Test of Significance-Chi Square, t-test, z-test, ANOVA
18. Basic idea of testing of hypothesis
19. Advanced statistical techniques, multivariate regression analysis, statistical models, understanding of survival analysis
20. Use of Epi info, SPSS/ other computer software Special topics in Biostatistics
21. Clinical trials-Aim and scope, general principles, use of controls, , final presentation of results-discussion of some well known clinical trials
22. Prophylactic trials-Assessment by time trends and geographical comparison, controlled prophylactic trials, discussion of some well known clinical trails
23. Retrospective and prospective studies and follow up studies, discussion of important studies
24. Field studies, prevalence surveys, guiding principles for data collection

Health planning and Public Health Administration

- 1) Explain the terms: public health, public health administration, regionalisation, comprehensive health care, primary health care, delivery of health care, planning, management, evaluation, National Health Policy, Development of Health Services in India and various committee reports.
- 2) Components of health care delivery
 - a. Describe the salient features of the National Health Policy concerning :
 - provision of medical care;
 - primary health care and Health for All;
 - health manpower development;
 - planned development of health care facilities;
 - encouragement of indigenous systems of medicine.
 - b. Explain the process of health planning in India by demonstrating awareness of various important milestones in the history of health planning including various committees and their recommendations.
 - c. The health systems and health infrastructure at Centre, state district and block levels. The inter-relationship between community development block and primary health centre. The organisation, function and staffing pattern of community health centre, primary health centre, rural health centre and sub-centre etc.
 - d. The job descriptions of health supervisor (male and female); health workers; village health guide; anganwadi workers; traditional birth attendants.
 - e. The activities of the health team at the primary health centre, Community health centre, district hospital.
 - f. Organogram of the health care system –Public and private

Health Management

1. Familiarity with management techniques: define and explain principles of management;
 - Introduction to Management: Principles & Techniques
 - Financial Management in Healthcare
 - Human Resources in Health Organizations

- Health Management Information Systems
- Organizational Behaviors
- Management of district/state health systems
- Operations Research
- Resource Management
- Organizational Leadership

2. Components of health care delivery.

2. Appreciate the need for International Health Regulations and Disease surveillance.
3. Be aware of the constitutional provisions for health in India.
4. Enumerate the major divisions of responsibilities and functions (concerning health) of the union, local and the state governments
5. Organizations: Appreciate the role of national, international voluntary agencies in health care delivery like WHO, UNICEF, UNDP, World Bank, IMA, Indian Public Health Association, Indian Association of Preventive and Social medicine, etc. Organization structure of these organizations
6. Explain general principles of health economics and various techniques of health management e.g., cost-effectiveness, cost-benefit etc.

Nutrition

1. Nutritional problems of the country; Role of nutrition in Health and Disease.
2. Common sources of various nutrients and special nutritional requirement according to age, sex, activity, physiological conditions
3. Nutritional assessment of individual, families and the community by selecting and using appropriate methods such as : anthropometry, clinical, dietary, laboratory techniques
4. Compare recommended allowances of individual and families with actual intake.
5. Plan and recommend a suitable diet for the individuals and families bearing in mind local availability of foods, economic status etc.
6. Common nutritional disorders: protein energy malnutrition, Vitamin A deficiency, anemia, iodine deficiency disorders, fluorosis, food toxin diseases and their control and management.
7. National Nutritional Policy.

8. National programmes in nutrition and their evaluation
9. Food adulteration: prevention and control.
10. Applied Nutrition
11. Nutrients, , common sources and their requirement according to age, sex, activity and physiological conditions
12. Balanced diet, Prudent diet
13. Techniques of nutritional assessment of individual, family and the community
14. Plan and recommend a suitable diet for the individuals and families as per local availability of foods and economic status etc.
15. Common nutritional disorders, specific nutrient deficiency disorders, disorders related to toxins in food ; their control and management
16. Food fortification, additives and adulteration, food hygiene Social and cultural factors in nutrition and health Food and economics
17. Important National nutritional programmes
18. National Nutrition Policy
19. Nutritional surveillance, education and rehabilitation
20. Role of diet in specific diseases like coronary heart disease, diabetes, obesity etc.
21. Food and legislation
22. Future trends in nutrition

Environmental Sanitation

1. Awareness of relation of Environment to Health.
2. Awareness of the concept of safe and wholesome water.
3. Awareness of the requirements of sanitary sources of water.
4. Understanding the methods of purification of water on small scale with stress on chlorination of water
5. Various biological standards.
6. Concepts of safe disposal of human excreta.
7. Physical, chemical standards; tests for assessing quality of water.
8. Disposal of solid waste, liquid wastes both in the context of urban and rural conditions in the community.
9. Problems in the disposal of refuse, sullage and sewage.
10. Sources, health hazards and control of environmental pollution.

11. Influence of physical factors – like heat, humidity, cold, radiation and noise – on the health of the individual and community.
12. Standards of housing and the effect of poor housing on health.
13. Climate Change and Public Health

Tropical Medicine

Principles of tropical medicine, Infectious and non Infectious of tropical region, Disease Epidemiology; e.g., Small Pox, Chicken Pox, Measles, Mumps; Rubella, Diphtheria, Pertussis, Influenza, Tuberculosis, ARI etc.; Poliomyelitis, Hepatitis, Food Poisoning; Cholera, Enteric Fevers, Amoebiasis, Worm Infestations etc.; Malaria, Filariasis, Dengue and others; Brucellosis, Rickettsial Diseases, Parasitic infestations; Surface Infectious Diseases of Public Health Importance; Non-Infectious Diseases of Public Health Importance; Cardiovascular diseases, diabetes, blindness, accidents, cancers; Emerging and reemerging disease

Communicable diseases

- Intestinal infections: Poliomyelitis, viral hepatitis, diarrhea, cholera, helminthiasis, typhoid fever etc.
- Respiratory infections: Acute respiratory infections, measles, mumps, rubella, influenza, diphtheria, whooping cough, tuberculosis etc.
- Vector- borne infections: Malaria, filariasis, kala-azar, dengue, yellow fever etc.
- Surface infections: Sexually transmitted diseases, HIV & AIDS, tetanus, leprosy, scabies, pediculosis etc.
- Zoonosis: Rabies, Japanese encephalitis, plague, Kyasanur forest disease, leptospirosis, brucellosis, anthrax, other viral / bacterial / parasitic / rickettsial zoonoses etc.

Non-communicable and lifestyle diseases

Non-communicable and lifestyle diseases including obesity and cancers Coronary artery disease, hypertension, stroke, obesity, diabetes, rheumatic heart disease, blindness,

cancers, accidents etc. Above diseases to be studied in detail under the following subheads:

- Extent of problem, epidemiology and natural history of disease
- Public health importance of particular disease in local area
- Influence of social, cultural and ecological factors on the epidemiology of particular disease
- Diagnosing disease by clinical methods, using essential laboratory techniques at primary care level
- Treatment of a case, as per National Programme guidelines and also follow up of case
- National Health Programme for particular disease
- Understand the principles of control of an epidemic
- Training of health workers in disease surveillance, control, treatment and health education
- Management information system in a particular disease
- New/ emerging diseases and health related problems

Reproductive and Child Health

- Current status of reproductive and child health
- Screening of high risk groups and common health problems
- Local customs and practices during pregnancy, lactation, child rearing, child feeding practices including complementary feeding
- Breast feeding and its importance
- Indicators of RCH
- Causes of perinatal/infant/maternal mortality and measures for reduction of the same Essential obstetric care, emergency obstetric care
- Essential newborn care
- Reproductive child health (RCH) components, including child survival and safe motherhood, universal immunization programme, integrated child development services scheme (ICDS), integrated management of neonatal and childhood illness (IMNCI) and other existing programmes
- Organization, implementation and evaluation of reproductive and child health program components

- Various family planning methods, their advantages and shortcomings Medical termination of pregnancy and Act (MTP Act)
- Adolescent health Handicapped child Gender issues and women empowerment Organizations, technical and operational aspects of the National Family Welfare Programme

MATERNAL HEALTH, CHILD HEALTH AND FAMILY WELFARE (RCH)

1. Common Maternal and child health problems at an individual level
 - Antenatal Care
 - Risk Approach
 - Antenatal visits
 - Preventive services
 - Intranatal Care
 - Postnatal Care
 - Care of the mother
 - Child Health Problems
 - Low Birth Weight
 - Growth and Development
 - Childhood Infections
 - Care of the infant
2. Genetics and Health
 - Common genetic problems
 - Management of Genetic Problems
 - Preventive and Social Measures in Genetics
3. Structure of MCH and Family Welfare services in India
 - Problems of Maternal Health in India
 - Delivery of Maternal and Child Health Services
 - Trends in the MCH services
 - MCH related programmes in India eg. RCH,CSSM,ICDS
 - Family Planning
 - Methods of family planning

- Indicators of MCH care
4. Social Paediatrics
 - Juvenile Delinquency
 - Child Abuse
 - Child Labour
 - Street Children
 - Child Guidance Clinic
 - Child Marriage
 - Child Placement

HEALTH CARE OF THE AGED AND THE DISABLED

1. Community Geriatrics
 - Implications of demographic changes in Indian Population
 - Health Problems of the aged
 - Preventive Health Services for the aged
2. The Disabled and Rehabilitation Problem of disabled in the country
 - Types of disabilities and their management
 - Rehabilitation of the disabled
 - Community Based Rehabilitation
 - Health Care of Tribal people

Demography and Family Planning

1. Definition of demography and its relation to Community Health
2. Stages of the demographic cycle and their impact on population.
3. Definition, calculation and interpretation of demographic indices like birth rate, death rate, growth rate, fertility rates.
4. Reasons for rapid population growth in the world, especially in India.
5. Need for population control measures and the National Population Policy.
6. Identify and describe the different family planning methods and their advantages and shortcomings.
7. Principles of Counselling; Client satisfaction.
8. Medical Termination of Pregnancy Act.

9. Organisational, technical and operational aspects of the National Family Welfare Programme and participation in the implementation of the Programme. Target Free Approach.
10. Give guidelines for MTP and infertility services.
11. Recent advances in contraception.
12. National Population Policies.

Demography and Vital Statistics

- Concepts of demography, demographic cycle, vital statistics
- Definition, calculation and interpretation of various demographic indices o Declining sex ratio and its social implication
- Population explosion, population dynamics of India o Population control
- National population policy o Sources of vital statistics like census, SRS, NFHS, NSSO etc.

SOCIO- CULTURAL DIMENSION IN HEALTH

1. Principles of Sociology and the Behavioral Sciences
 - a. Concepts of Sociology and Behavioral Sciences
 - b. Influence of Social and Cultural Factors on Health and Disease
 - c. Social Structures and Social Organisation
2. Principles of Social Psychology
 - a. Principles of psychology
 - b. Principles of behavioral sciences
 - c. Principles of social anthropology
3. Application of Sociology in Health and Development
 - a. Social Problems in Health and Disease
 - b. Use of Sociology in addressing problems in Health and Disease
4. Epidemiology of Road Traffic Injuries, Fall Related injuries, Drowning, Fire Related Injuries, Natural and Man Made and prevention and control.

Sociology

1. Conduction of a socio-cultural evaluation of the individual in relation to social, economic and cultural aspects; educational and residential background; attitude to health, disease and to health services; the individual's family and community.
2. Concept of Family, Types of family, Functions of family
3. Assessment of barriers in health and identification of obstacles to good health, recovery from sickness and to leading a socially and economically productive life.
4. Development of a good doctor – patient relationship, public relations and community participation for health sectors.
5. Identification of social factors related to health and disease in the context of urban and rural societies.
6. Impact of urbanization on health and disease.

Education Technology

1. General principles of teaching/learning, methods of instructions, methods of evaluation
2. Various teaching aids (including a.v.aids) and skills to use them correctly.
3. Behavioral change communication strategy - Health education

Mental Health

1. Public health importance of mental health
2. Public health approach to mental health problems: types, diagnosis and management of mental health problems in the community.

COMMUNITY MENTAL HEALTH

1. Principles of Mental Health
 - a. Types
 - b. Causes and Warning signals of Mental Illness
 - c. Preventive aspects of mental Health and positive psychology
2. The Approach to Mental Health Problems in a Community Primary Health Care
 - a. Approach to mental health problems
 - b. Mental Health Services in the country
 - c. Mental health Act, Policy and other Recent advances

Newer vaccines

1. New screening/diagnostic methods applicable to public health problems
2. Role of Genetics in Community Health and Genetic Counseling at Primary Care Level.

School Health

1. Problems of school and adolescents; Objectives of the School Health Programme.
2. Activities of the Programmes like :
 - a. Carrying out periodic medical examination of the children and the teachers.
 - b. Immunisation of the children in the school.
 - c. Health Education
 - d. Mid-day meals.
3. Obtaining participation of the teachers in the school health programme including maintenance of records; defining healthful practices; early detection of abnormalities.
4. Organization, implementation, supervision and evaluation of School Health Programme. Adolescent Health: Needs, Adolescent Health Scenario, Newer Initiatives under RCHII for Adolescent Health.
5. Older persons: Health Problems, Services and Programs, National Policy on older persons
6. Disadvantaged and marginalized Groups: Health Problems, Services and Programs. Health of Person with Disability: Welfare and Rehabilitation scheme for hearing, locomotor, visual, mental disability.

Occupational Health

1. Management Occupational Health
2. Relate the history of symptoms with specific occupations including agriculture related occupation Asbestos and other fibers, coal workers lung diseases, silicosis, health significance of metal exposures,
3. Diseases associated with exposure to chemical substances, multiple chemical sensitivities,
4. Pulmonary responses to gases and particles, pesticides,

5. Illness due to thermal extremes,
6. Ionizing radiations, non-ionizing radiations,
7. Effects of physical environment- noise, vibration, work related musculo-skeletal disorders Employees State Insurance (ESI) scheme
8. Concepts of ergonomics
9. Diagnostic criteria of various occupation related diseases Industrial hygiene Surveillance, monitoring and screening in occupational health
10. Occupational problems of special working groups Occupational safety and health standards Legislations related to occupational health Information
11. Relate the history of symptoms with the specific occupation including agriculture.
12. Identification of the physical, chemical and biological hazards to which workers are exposed to while working in a specific occupational environment.
13. Diagnostic criteria of various occupational diseases.
14. Preventive measures against these diseases including accident prevention.
15. Various legislations in relation to occupational health.
16. Employees State Insurance Scheme.

Urban health

1. Common health problems (Medical, Social, Environmental, Economic, Psychological) of urban slum dwellers.
2. Organisation of health services for slum dwellers.
3. Organisation of health services in urban areas. .
4. Urban Health: Common Health Problems of urban slum dwellers, orphan, street children and homeless; Organization of health services, concept of clean city

Healthcare in India

- Health care delivery system in India
- Concepts of primary health care and comprehensive health care.
- Health profile of India
- Evolution of health care delivery system in India
- Health care delivery in India and infrastructure at primary, secondary and tertiary care level
- Job responsibilities of different categories of workers in health system

- Voluntary health agencies working in India Pattern of health care services in certain south Asian and western countries Health insurance
- Health planning , management and administration
- Concepts of planning, management, public health administration
- Components of planning a health activity
- Classification and understanding of various qualitative and quantitative health management techniques
- Over view of administration at village, block, district, state and center level in India Organizational concept Organizational behavior Time, material and personnel management Integrated disease surveillance project (IDSP)
- Health related Millennium Development Goals and Sustainable Development Goals
- Operational research
- National Health Policy and National Rural Health Mission
- Concepts of health economics in health planning and management
- Concepts, scope and methods of Health Audit
- Role of Planning Commission and five year plans in development of health sector in India Various health committees of Govt. of India and their important recommendations
- Public health administration of the future
- Research in administration, operational & action oriented research
- New concepts in public health administration
- Principles of hospital administration
- Medical audit, quality assurance, quality improvement and client satisfaction
- Alternative approaches to planning Importance of hospital records, their retrieval, International classification of diseases, medical certification of death
- Public Health Legislation Birth and death registration act, PFA act, MTP act, CPA, Child Labour act, PNMT act,
- Transplantation of human organ act in India etc
- Other public health legislations

ADVANCES AND TOPICS OF CURRENT INTEREST

1. Rational drug policy, Nutrition Policy, Health Policy, Population Policy
2. Computers in Public Health
3. Agricultural Medicine and Plantation Health
4. Introduction to Counseling and behavior change
5. Community Ophthalmology
6. Qualitative Research and Operational Research
7. Disaster Management and Public health emergencies
8. Nosocomial Infection and Hospital Infection Control
9. Newer technology uses, WhatsApp, Facebook, Tele-public health,

NATIONAL HEALTH PROGRAMMES

The origin, historical development, interventions, current state and critique of the different National Health Programmes like:

- National Family Welfare Programme (NFWP)
- National Tuberculosis Control Programme
- National Leprosy Eradication Programme
- National Diarrhoeal Diseases Control Programme
- National Malaria Eradication Programme
- National Filariasis Control Programme
- National Acute Respiratory Infections (ARI) Control Programme
- National AIDS Control Programme
- National Guinea Worm Eradication Programme
- National Kala Azar Control Programme
- National Japanese Encephalitis (JE) Control Programme
- National Iodine Deficiency Disorders (IDD) Programme
- National Programme for the Control of Blindness
- National Cancer Control Programme
- National Mental Health Programme
- National Diabetes Control Programme
- Child Survival and Safe Motherhood (CSSM)
- Reproductive Child Health (RCH)
- Universal Immunization Programme (UIP)

- National Water Supply and Sanitation Programme
- Minimum Needs Programme
- National Health Mission
- The implementation of NHPS at a programme level and in the community

International Health

- International organizations, conventions and treaties
- International Health Regulations (IHR)

Field posting and work

1. Posting at Urban and Rural Health Training Centres for a period of one year.
2. Posting in the hospital for exposure to clinical departments namely Pediatrics, Gynaecology and Obstetrics, Medicine and Surgery for one month each.
3. Wherever possible work attachment at District Health Office and Directorate of Health Services
4. Short duration posting in various camps, melas, public health emergencies, Investigation of epidemics, implementation of National Health Programmes
5. Visits to various institution of Public Health Importance and related development organizations.
6. Exposure to hospital and healthcare system administration at the district level or higher level wherever possible

Postings

The postgraduate students are to be posted in Urban Health Centre/ Rural Health Centre / other departments in the hospital:

- UHC : Minimum 1 month per year
- RHTC : Minimum 2 months per year
- Other Departments : 3 months in 3rd year (Extra Mural postings) (Internal Medicine with allied specialties, Pediatrics, Gynae/Obst/PPU including labour room duties, Microbiology, Pathology, Biochemistry, Psychiatry, Surgery, Dermatology including STD Clinic, Blood Bank, Casualty, CHC,

CDPO, MS/Hospital Administration, Dietary, Physiotherapy & Occupational therapy , Civil Surgeon Office).

During the posting at UHC & RHTC the residents will work directly under supervision of MOH cum Assistant Professor. PG student will be acquiring skills of Family Physician / Community Physician / hospital administration during their posting at respective centre. Posting at RHTC will be residential.

Other areas in which knowledge is to be acquired:

- Biostatistics, Research Methodology and Clinical Epidemiology
- Ethics
- Medico legal aspects relevant to the discipline
- Health Policy issues as may be applicable to the discipline

Competencies

General Skills

The postgraduate student should be able to:

- Elicit the clinico-social history to describe that agent, host and environmental factors that determine and influence health.
- Recognise and assist in management of common health problems of the community.
- Apply principles of epidemiology in carrying out epidemiological studies in the community.
- Work a team member in rendering health care. 5. Carry out health education effectively for the community.

Skills in Relation to Specific Topics

1. Communication The student should be able to communicate effectively with family members at home; patients at clinics or at homes; individuals, family or a group for health educational; peers at scientific forums.
2. Team activity Work as a member of the health team; in planning and carrying out fieldwork like school health.
3. Environmental sanitation; Collect water samples for microbiological evaluation; chlorination of water; estimate the chlorine demand of water; estimate the residual chlorine of water; insecticides: their proper storage and use in control of vectors
4. Communicable and Non-communicable diseases (including social problems)
 - a. Eliciting clinico-social history and examining the patient for diagnosis and treatment.
 - b. Collection of appropriate material for microbiological, pathological or biochemical tests.

- c. Fixing, staining, and examining smears – peripheral blood smear for malaria and filariasis, sputum for AFB; Hb estimation; urine and stool examination.
- d. Assessing the severity and/or classifying dehydration in diarrhoea, upper respiratory tract infection.
- e. Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies.
- f. Advice on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid, intestinal parasites.
- g. Use of proper screening methods in early diagnosis of common diseases.
- h. Take necessary steps in disease outbreak/epidemics/natural disasters – investigation of epidemic, food poisoning; notification; organizing medical care following disasters.

5. Reproductive and Child Health

- a. Antenatal – examination of the mother; application of the risk approach in antenatal care.
- b. Intranatal – conducting a normal delivery; early recognition of danger signals in intranatal period; referral of cases requiring special care.
- c. Postnatal – assessment of the mother and new born, advice about appropriate family planning method; promotion of breast-feeding; advice on weaning.
- d. Assessment of growth and development of the child – use of 'road to health' card; recording important anthropometric assessments of the child; giving immunisation to the child; identifying high-risk infant.

6. Statistics

- a. Choose proper sample, sampling method and sample size.
- b. Apply appropriate tests of significance to make a correct inference.

7. Nutrition
 - a. Conducting a diet survey.
 - b. Community survey and clinical diagnosis of nutritional deficiencies :
Vitamin A deficiency, iodine deficiency, malnutrition.
 - c. Making recommendations regarding diet.
8. Occupational Health
 - a. Inspection of work sites
 - b. Recommendation in improving work sites.
 - c. Medical examination of workers.
9. Health Care of the Community
 - a. Ensuring community participation in health care.
 - b. Arranging intersectoral coordination where necessary
 - c. Working in liaison with other agencies involved in health care in various National Health Programmes.
10. Health Management
 - a. Be an effective team leader.
 - b. Guide and train workers.
 - c. Supervision of workers and programmes.
11. Family Planning : Counselling on appropriate methods
12. Organize, Implement, Supervise & Evaluate National Programmes.
13. Managerial Skills
14. Teaching Skills

The following skills will be specifically acquired during the entire tenure:

- Skills related to Public Health Familiarization with organization & functioning of following establishments:
- Water supply system
- Sewage system o Slaughter house
- Catering establishment
- Food processing plant
- Milk plant o Solid waste disposal system

- State public health laboratory

Familiarization with techniques and ability to interpret data in relation to the following:

- Surveillance of drinking water quality
- Analysis of sewage
- Analysis of milk Assessment of pesticide & other toxins in the environment
Familiarization with food adulteration act
- Familiarization with Health Legislation in India

Skills as Community Physician

- Ability to identify local health needs of community.
- Ability to demonstrate leadership qualities & function as effective team leader.
- Ability to make community diagnosis including application of Rapid assessment techniques
- Ability to organize health camps.
- Ability to organize health surveys & ongoing comprehensive health delivery programme. Ability for effective liaison with PRIs & local opinion leaders, mustering of local resources, advocacy & mobilization of administration & political will for health care programmes.

Skills as Family Physician

- Diagnosis & management of common illness.
- Diagnosis & management of chronic diseases & disabilities including rehabilitation. Nutritional assessment & nutritional therapy.
- Family planning practices.
- Diagnosis & management of Pediatric, Geriatric, Gynecological illness with special emphasis on RCH & integrated management of childhood illness.
- Perform all immunization procedures.

- Ability to organize & conduct MCH services including antenatal clinic, intranatal & postnatal care, care of newborn, growth monitoring & care of toddler.
- Conduct / attend 20 normal deliveries & 5 abnormal deliveries.

Skills of Occupational Health

- Familiarisation with measurement of relative humidity, temperature, thermal comforts & ventilation, noise levels, air pollution, lead exposure estimation, light level estimation. Familiarisation with organization & functioning of ESI system.
- Conduct of pre-placement & periodic medical examination.
- Identification of specific health hazards in occupational environment.
- Skills of Communicable Disease Control

Other Areas

- Investigation of an outbreak.
- Investigation of episode of food poisoning.
- Diagnosis & management of zoonotic diseases.
- Familiarisation with organization & functioning of
 - Rabies clinic
 - Immunization clinic
 - STD clinic
 - Leprosy clinic
 - TB/DOTS Centre
 - National vector borne diseases control programme
 - IPPI & AFP surveillance
 - Case management of diarrhoea & preparation of ORS
 - Case management of ARI
 - Functioning of isolation / quarantine unit /APHO
- Family Planning skills

- Ability to propagate planned parenthood & small family norm as per national guidelines (GOI) by
 - Counselling, motivation & IEC.
 - Administer appropriate method of contraception by cafeteria approach.
 - Assess gaps / unmet needs in family planning services in community under care.
 - Ability to perform / assist Tubectomy by using conventional / laproscopic method (min 5) Ability to perform / assist vasectomy by using latest techniques (min 3).
- Ability to insert IUCDs (min 10).
- Ability to perform / assist in MTPs (min 5)
- Ability to perform / assist in menstrual regulation techniques (min 5).

Skills of Hospital Administration

Familiarisation with working of large multispeciality hospital with special reference to following departments:-

- Layout of OPDs o CSSD
- Laundry o Catering
- Biomedical waste management
- Other departments / labs / OTs
- Familiarisation with functioning of Medical Record Department
- Inventory control
- HR management
- Familiarisation with functioning of infection control committee
- Disinfection procedures with special reference to OTs & isolation wards.

Skills of Research Methodology

- including application of Statistical Methods Planning & execution of 1 short hospital based epidemiological (analytical) study other than thesis work.
- Planning & execution of 1 short field based / KAP study

- Critical appraisal of 10 published research papers / projects duly evaluated.
- Ability to apply biostatistical procedure including sampling & tests of significance.
- Ability to perform epidemiological, biostat & public health exercises duly evaluated (min 10 each).

Communication Skills

- Ability to utilize all known modes of IEC in order to :
- To generate desired level of awareness in the community on common health issues
- To render health education to specified groups / individuals on specific health issues.
- Mobilise community participation regarding health programmes in hand.
- Mobilise political & administrative will & demolish communication barrier regarding on going health programme .
- Prepare IEC material using local resources.

Skills related to Health Care Delivery to Community

- Familiarization with functioning & infrastructure of SC, SHC, PHC, CHC.
- Familiarization with Urban Health Care delivery system models. Planning & evaluation of health programme (min 2).
- Organization of health services for camps, fairs, prisons, orphanages, urban slums, migratory population & other special circumstances.
- Planning & organization of health aspects of disaster management.
- Planning & organization of school health Documentation & record keeping for delivery of comprehensive family health care (RHC & UHC).
- Familiarization with MIS in primary health care.

Skills related to Applied Microbiology, Pathology & Radiology

Microbiology

- Familiarization with organization & functioning of Microbiology lab, diagnostic equipment & bio safety procedures.
- Ability to perform staining procedures (10 each), JSB stain, Niesser stain, Gram's stain, Z-N staining, Leishman stain, other staining procedures.
- Ability to make thin & thick blood smear. o Ability to identify helminthic ova / larvae.
- Familiarization with procedures for-
 - o VDRL & other tests for STDs
 - o Weil-Felix test
 - o Widal test & other tests for enteric fever
 - o Examination of throat swab
 - o ELISA & other tests for HIV
 - o Other common tests for viral infection
- Blood culture & other culture procedures
- Collection, preservation & transportation of samples for microbiological examination.
- Bacteriological examination of water.

Pathology

- Familiarization with organization & functioning of Pathology lab including diagnostic equipments.
- Ability to perform the following tests-
 - o Routine Haemogram
 - o Routine urine examination
 - o Routine stool examination
 - o Familiarization with Histopathological procedures

- Familiarization with cytological procedures including FNAC & pap smear.
- Biochemistry
- Organization & functioning of Biochemistry lab & familiarization with diagnostic equipments.

Radiology

- Familiarization with protection against radiation exposure.
- Interpretation of skiagrams related to common diseases of chest and occupational exposures.

Other skills

- Computer Skills
- Knowledge & skill to use
 - Microsoft Word
 - Microsoft Excel
 - Spreadsheet
 - Calculations
 - Graphs
 - Microsoft PowerPoint
 - SPSS
 - Epi info
 - Internet surfing
 - Familiarization with relevant databases eg Popline, Medline, Pubmed, Cochrane review Pedagogical Skills
- Familiarization with pedagogical techniques in order to perform :
 - Curriculum development
 - Framing of lesson plan o Use of evaluation techniques
 - Microteaching, lectures, group discussion, workshops, seminars etc.
 - Public Health Administration Skills

- Familiarisation with the administrative set up & functioning of the health system in India (National, State & District levels).
- Familiarisation with methods of financial management, practice & procedure.
- Familiarisation with techniques of human resource management.
- Familiarisation with creating, implementation & monitoring of routine MIS of the health system.
- Ability to identify need for change & to make strategic & structural changes in clinic, community services, health system & health policies.
- Ability to play advocacy role in the District Planning Committees & Panchayat Samiti & Zila Parishad.
- Familiarisation with the administrative, executive & legislative setup of nation & state. Organization & Conduct of health camps.
- Evaluation of National Health Programmes.
- Familiarisation with legislation pertaining to health.
- Familiarisation with administrative setup, functions, powers & operations of :
 - Municipal Corporation
 - Pollution Control Board
 - Census
 - SRS
 - Registrar Births & Deaths
 - NSSO
 - ICMR
 - IMA
 - NGOs
 - Other bodies of significance to health
 - Social welfare agencies
 - International agencies
 - National Polio Surveillance Project
 - Other health agencies – Railways, Armed Forces etc.

Job Responsibilities

- Health education campaigns in community
- School health programme Organization of various health camps
- Organize Demonstrations / family study / problem- based -learning for undergraduate students
- Conduct of field visits
- Prepare settings for training under the supervision and guidance of teacher to impart skill based training to undergraduates in the community
- To become part of resident and internship training programme in the community setting
- Participation in national health programmes
- Function as MO in UHC, RHC
- Function as MO in UHC, RHC

THESIS PROTOCOL & THESIS

The candidates are required to submit a thesis at the end of three years of training as per the rules and regulations of NBE.

Guidelines for Submission of Thesis Protocol & Thesis by candidates

Research shall form an integral part of the education programme of all candidates registered for DNB degrees of NBE. The Basic aim of requiring the candidates to write a thesis protocol & thesis/dissertation is to familiarize him/her with research methodology. The members of the faculty guiding the thesis/dissertation work for the candidate shall ensure that the subject matter selected for the thesis/dissertation is **feasible, applied, economical and original**.

Guidelines for Thesis Protocol

The protocol for a research proposal (including thesis) is a study plan, designed to describe the background, research question, aim and objectives, and detailed methodology of the study. In other words, the protocol is the 'operating manual' to refer to while conducting a particular study.

The candidate should refer to the NBE Guidelines for preparation and submission of Thesis Protocol before the writing phase commences. The minimum writing requirements are that the language should be clear, concise, precise and consistent without excessive adjectives or adverbs and long sentences. There should not be any redundancy in the presentation.

The development or preparation of the Thesis Protocol by the candidate will help her/him in understanding the ongoing activities in the proposed area of research. Further it helps in creating practical exposure to research and hence it bridges the connectivity between clinical practice and biomedical research. Such research exposure will be helpful in improving problem solving capacity, getting updated with ongoing research and implementing these findings in clinical practice.

Research Ethics: Ethical conduct during the conduct and publication of research is an essential requirement for all candidates and guides, with the primary responsibility of ensuring such conduct being on the thesis guide. Issues like Plagiarism, not maintaining the confidentiality of data, or any other distortion of the research process will be viewed seriously. The readers may refer to standard documents for the purpose.

The NBE reserves the right to check the submitted protocol for plagiarism, and will reject those having substantial duplication with published literature.

PROTOCOL REQUIREMENTS

1. All of the following will have to be entered in the online template. The thesis protocol should be restricted to the following word limits.
 - Title : 120 characters (with spacing) page
 - Synopsis [structured] : 250-300
 - Introduction : 300-500
 - Review of literature : 800-1000
 - Aim and Objectives : Up to 200
 - Material and Methods : 1200-1600
 - 10-25 References [ICMJE style]
2. It is mandatory to have ethics committee approval before initiation of the research work. The researcher should submit an appropriate application to the ethics committee in the prescribed format of the ethics committee concerned.

Guidelines for Thesis

1. The proposed study must be approved by the institutional ethics committee and the protocol of thesis should have been approved by NBE.
2. The thesis should be restricted to the size of 80 pages (maximum). This includes the text, figures, references, annexures, and certificates etc. It should be printed on both sides of the paper; and every page has to be numbered. Do not leave any page blank. To achieve this, following points may be kept in view:
 - a. The thesis should be typed in 1.5 space using Times New Roman/Arial/ Garamond size 12 font, 1” margins should be left on all four sides. Major sections viz., Introduction, Review of Literature, Aim & Objectives, Material and Methods, Results, Discussion, References, and Appendices should start from a new page. Study proforma (Case record form), informed consent form, and patient information sheet may be printed in single space.
 - b. Only contemporary and relevant literature may be reviewed. Restrict the introduction to 2 pages, Review of literature to 10-12 pages, and Discussion to 8-10 pages.
 - c. The techniques may not be described in detail unless any modification/innovations of the standard techniques are used and reference(s) may be given.

- d. Illustrative material may be restricted. It should be printed on paper only. There is no need to paste photographs separately.
3. Since most of the difficulties faced by the residents relate to the work in clinical subject or clinically-oriented laboratory subjects, the following steps are suggested:
 - a. The number of cases should be such that adequate material, judged from the hospital attendance/records, will be available and the candidate will be able to collect case material within the period of data collection, i.e., around 6-12 months so that he/she is in a position to complete the work within the stipulated time.
 - b. The aim and objectives of the study should be well defined.
 - c. As far as possible, only clinical/laboratory data of investigations of patients or such other material easily accessible in the existing facilities should be used for the study.
 - d. Technical assistance, wherever necessary, may be provided by the department concerned. The resident of one specialty taking up some problem related to some other specialty should have some basic knowledge about the subject and he/she should be able to perform the investigations independently, wherever some specialized laboratory investigations are required a co-guide may be co-opted from the concerned investigative department, the quantum of laboratory work to be carried out by the candidate should be decided by the guide & co-guide by mutual consultation.
4. The clinical residents are not ordinarily expected to undertake experimental work or clinical work involving new techniques, not hitherto perfected OR the use of chemicals or radioisotopes not readily available. They should; however, be free to enlarge the scope of their studies or undertake experimental work on their own initiative but all such studies should be feasible within the existing facilities.
5. The DNB residents should be able to freely use the surgical pathology/autopsy data if it is restricted to diagnosis only, if however, detailed historic data are required the resident will have to study the cases himself with the help of the guide/co-guide. The same will apply in case of clinical data.
6. Statistical methods used for analysis should be described specifically for each objective, and name of the statistical program used mentioned.

General Layout of a DNB Thesis:

- **Title-** A good title should be brief, clear, and focus on the central theme of the topic; it should avoid abbreviations. The Title should effectively summarize the proposed research and should contain the PICO elements.
- **Introduction-** It should be focused on the research question and should be directly relevant to the objectives of your study.
- **Review of Literature** - The Review should include a description of the most relevant and recent studies published on the subject.
- **Aim and Objectives** - The 'Aim' refers to what would be broadly achieved by this study or how this study would address a bigger question / issue. The 'Objectives' of the research stem from the research question formulated and should at least include participants, intervention, evaluation, design.
- **Material and Methods-** This section should include the following 10 elements: Study setting (area), Study duration; Study design (descriptive, case-control, cohort, diagnostic accuracy, experimental (randomized/non-randomized)); Study sample (inclusion/exclusion criteria, method of selection), Intervention, if any, Data collection, Outcome measures (primary and secondary), Sample size, Data management and Statistical analysis, and Ethical issues (Ethical clearance, Informed consent, trial registration).
- **Results-** Results should be organized in readily identifiable sections having correct analysis of data and presented in appropriate charts, tables, graphs and diagram etc.
- **Discussion**—It should start by summarizing the results for primary and secondary objectives in text form (without giving data). This should be followed by a comparison of your results on the outcome variables (both primary and secondary) with those of earlier research studies.
- **Summary and Conclusion-** This should be a précis of the findings of the thesis, arranged in four paragraphs: (a) background and objectives; (b) methods; (c) results; and (d) conclusions. The conclusions should strictly pertain to the findings of the thesis and not outside its domain.
- **References-** Relevant References should be cited in the text of the protocol (in superscripts).
- **Appendices** -The tools used for data collection such as questionnaire, interview schedules, observation checklists, informed consent form (ICF), and participant information sheet (PIS) should be attached as appendices. Do not attach the master chart.

Thesis Protocol Submission to NBE

1. DNB candidates are required to submit their thesis protocol within 90 days of their joining DNB training.
2. Enclosures to be submitted along with protocol submission form:
 - a) Form for Thesis Protocol Submission properly filled.
 - b) Thesis Protocol duly signed.
 - c) Approval letter of institutional Ethical committee. (*Mandatory, non receivable of any one is liable for rejection*)

Thesis Submission to NBE

1. As per NBE norms, writing a thesis is essential for all DNB candidates towards partial fulfillment of eligibility for award of DNB degree.
2. DNB candidates are required to submit the thesis before the cut-off date which shall be 30th June of the same year for candidates appearing for their scheduled December final theory examination. Similarly, candidates who are appearing in their scheduled June DNB final examination shall be required to submit their thesis by 31st December of preceding year.
3. Candidates who fail to submit their thesis by the prescribed cutoff date shall NOT be allowed to appear in DNB final examination.
4. Fee to be submitted for assessment (In INR): 3500/-
5. Fee can be deposited ONLY through pay-in-slip/challan at any of the Indian bank branch across India. The challan can be downloaded from NBE website www.natboard.edu.in
6. Thesis should be bound and the front cover page should be printed in the standard format. A bound thesis should be accompanied with:
 - a. A Synopsis of thesis.
 - b. Form for submission of thesis, duly completed
 - c. NBE copy of challan (in original) towards payment of fee as may be applicable.
 - d. Soft copy of thesis in a CD duly labeled.
 - e. Copy of letter of registration with NBE.
7. A declaration of thesis work being bonafide in nature and done by the candidate himself/herself at the institute of DNB training need to be submitted bound with thesis. It must be signed by the candidate himself/herself, the thesis guide and head of the institution, failing which thesis shall not be considered.

***The detailed guidelines and forms for submission of Thesis
Protocol & Thesis are available at
www.natboard.edu.in/thesis.php.***

LOG BOOK

A candidate shall maintain a log book of operations (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

This log book shall be made available to the board of examiners for their perusal at the time of the final examination.

The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s)) The candidate will maintain the record of all academic activities undertaken by him/her in log book .

1. Personal profile of the candidate
2. Educational qualification/Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations
6. Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.
7. In the absence of production of log book, the result will not be declared.

Leave Rules

1. DNB Trainees are entitled to leave during the course of DNB training as per the Leave Rules prescribed by NBE.
2. A DNB candidate can avail a maximum of 20 days of leave in a year excluding regular duty off/ Gazetted holidays as per hospital/institute calendar/policy.
3. MATERNITYLEAVE:
 - a. A female candidate is permitted a maternity leave of 90 days once during the entire duration of DNB course.
 - b. The expected date of delivery (EDD) should fall within the duration of maternity leave.
 - c. Extension of maternity leave is permissible only for genuine medical reasons and after prior approval of NBE. The supporting medical documents have to be certified by the Head of the Institute/hospital where the candidate is undergoing DNB training. NBE reserves its rights to take a final decision in such matters.
 - d. The training of the candidate shall be extended accordingly in case of any extension of maternity leave being granted to the candidate.
 - e. Candidate shall be paid stipend during the period of maternity leave. No stipend shall be paid for the period of extension of leave.
4. Male DNB candidates are entitled for paternity leave of maximum of one week during the entire period of DNB training.
5. No kind of study leave is permissible to DNB candidates. However, candidates may be allowed an academic leave as under across the entire duration of training program to attend the conferences/CMEs/Academic programs/Examination purposes.

DNB COURSE	NO. OF ACADEMIC LEAVE
DNB 3 years Course (Broad & Super Specialty)	14 Days
DNB 2 years Course (Post Diploma)	10 Days
DNB Direct 6 years Course	28 days

6. Under normal circumstances leave of one year should not be carried forward to the next year. However, in exceptional cases such as prolonged illness the leave across the DNB training program may be clubbed together with prior approval of NBE.
7. Any other leave which is beyond the above stated leave is not permissible and shall lead to extension/cancellation of DNB course.
8. Any extension of DNB training for more than 2 months beyond the scheduled completion date of training is permissible only under extraordinary circumstances with prior approval of NBE. Such extension is neither automatic nor shall be granted as a matter of routine. NBE shall consider such requests on merit provided the seat is not carried over and compromise with training of existing trainees in the Department.
9. Unauthorized absence from DNB training for more than 7 days may lead to cancellation of registration and discontinuation of the DNB training and rejoining shall not be permitted.

10. Medical Leave

- a. Leave on medical grounds is permissible only for genuine medical reasons and NBE should be informed by the concerned institute/hospital about the same immediately after the candidate proceeds on leave on medical grounds.
- b. The supporting medical documents have to be certified by the Head of the Institute/hospital where the candidate is undergoing DNB training and have to be sent to NBE.
- c. The medical treatment should be taken from the institute/ hospital where the candidate is undergoing DNB training. Any deviation from this shall be supported with valid grounds and documentation.
- d. In case of medical treatment being sought from some other institute/hospital, the medical documents have to be certified by the Head of the institute/hospital where the candidate is undergoing DNB training.

- e. NBE reserves its rights to verify the authenticity of the documents furnished by the candidate and the institute/hospital regarding Medical illness of the candidate and to take a final decision in such matters.

11.

- a. Total leave period which can be availed by DNB candidates is $120+28 = 148$ days for 6 years course, $60+14=74$ days for 3 years course and $40+10 = 50$ days for 2 years course. This includes all kinds of eligible leave including academic leave. Maternity / Paternity leave can be availed separately by eligible candidates. Any kind of leave including medical leave exceeding the aforementioned limit shall lead to extension of DNB training. It is clarified that prior approval of NBE is necessary for availing any such leave.
- b. The eligibility for DNB Final Examination shall be determined strictly in accordance with the criteria prescribed in the respective information bulletin.

EXAMINATION

FORMATIVE ASSESSMENT

Formative assessment includes various formal and informal assessment procedures by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/ faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative" as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process.

Formative assessment is essentially positive in intent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount in formative assessment and should take precedence over concerns for reliability. The assessment scheme consists of Three Parts which has to be essentially completed by the candidates.

The scheme includes:-

Part I:- Conduction of theory examination

Part-II :- Feedback session on the theory performance

Part-III :- Work place based clinical assessment

Scheme of Formative assessment

PART – I	CONDUCT OF THEORY EXAMINATION	Candidate has to appear for Theory Exam and it will be held for One day.
PART – II	FEEDBACK SESSION ON THE THEORY PERFORMANCE	Candidate has to appear for his/her Theory Exam Assessment Workshop.
PART – III	WORK PLACE BASED CLINICAL ASSESSMENT	After Theory Examination, Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student

1. Personal attributes:

- **Behavior and Emotional Stability:** Dependable, disciplined, dedicated, stable in emergency situations, shows positive approach.
- **Motivation and Initiative:** Takes on responsibility, innovative, enterprising, does not shirk duties or leave any work pending.

- **Honesty and Integrity:** Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
- **Interpersonal Skills and Leadership Quality:** Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.

2. Clinical Work:

- **Availability:** Punctual, available continuously on duty, responds promptly on calls and takes proper permission for leave.
- **Diligence:** Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management.
- **Academic ability:** Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- **Clinical Performance:** Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

3. Academic Activity: Performance during presentation at Journal club/ Seminar/ Case discussion/Stat meeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

FINAL EXAMINATION

The summative assessment of competence will be done in the form of DNB Final Examination leading to the award of the degree of Diplomate of National Board in Social & Preventive Medicine. The DNB final is a two-stage examination comprising the theory and practical part. An eligible candidate who has qualified the theory exam is permitted to appear in the practical examination.

Theory Examination

1. The theory examination comprises of **Four** papers, maximum marks 100 each.
2. There are 10 short notes of 10 marks each, in each of the papers. The number of short notes and their respective marks weightage may vary in some subjects/some papers.
3. Maximum time permitted is 3 hours.
4. Candidate must score at least 50% in the aggregate of **Four** papers to qualify the theory examination.

5. Candidates who have qualified the theory examination are permitted to take up the practical examination.
6. The paper wise distribution of the Theory Examination shall be as follows:

PAPER 1: History evolution, and concepts of public health, epidemiology, biostatistics, social medicine, Basic sciences applied to the specialty, Research methodology

PAPER 2: Communicable diseases, Environmental & Occupational Health, Reproductive & Child health, Geriatrics, Behavioral factors affecting Health

PAPER 3: Non Communicable and Chronic Disabling Conditions, mental health, nutrition, Demography, Public Health methods, Health Informatics & Communication

PAPER 4: Health care planning, organization & health system, management and evaluation, Disaster and epidemic Management, Investigations, Public Health Legislations, Recent advances

a) Practical Examination:

1. Maximum Marks: 300.
2. Comprises of Clinical Examination and Viva.
3. Candidate must obtain a minimum of 50% marks in the Clinical Examination (including Viva) to qualify for the Practical Examination.
4. There are a maximum of three attempts that can be availed by a candidate for Practical Examination.
5. First attempt is the practical examination following immediately after the declaration of theory results.
6. Second and Third attempt in practical examination shall be permitted out of the next three sessions of practical examinations placed alongwith the next three successive theory examination sessions; after payment of full examination fees as may be prescribed by NBE.
7. Absentation from Practical Examination is counted as an attempt.
8. Appearance in first practical examination is compulsory;
9. Requests for Change in center of examination are not entertained, as the same is not permissible.
10. Candidates are required not to canvass with NBE for above.

Declaration of DNB Final Results

1. DNB final is a qualifying examination.
2. Results of DNB final examinations (theory & practical) are declared as PASS/FAIL.
3. DNB degree is awarded to a DNB trainee in the convocation of NBE.

RECOMMENDED TEXT BOOKS AND JOURNALS

Core books

- Maxcy-Rosenau-last Public Health & Preventive Medicine : Wallace RB
- Text book of Community Medicine : Sunder Lal, Adarsh & Pankaj
- Park's Text book of Preventive & Social Medicine
- National Health Programmes of India: National Policies and legislation related to health. J.Kishore
- Epidemiology in Medical Practice : Barker DJP
- Biostatistics : A foundation for Analysis in the Health Sciences: Daniel WW

Reference Books

- Oxford Text book of Public Health: Detels R, McEwen J, Beaglehold R
- Control of Communicable Diseases in Man: Benenson AS
- Manson's Tropical Diseases: Cook G, Zumla A
- Hunter's Diseases of Occupations: Baxter PJ, Admas PH
- Hunters Tropical Medicine and emerging infectious diseases: Strickland GT
- A Dictionary of Public Health. J Kishore
- Clinical Epidemiology- the Essentials : Fletcher
- Epidemiology and Management for Health Care for all: Sathe PV, Sathe AP
- Training modules of various national & international institutes and national health programmes
- Maxy Roseman John M.Last, Maxcy-Roseman Public Helath and Preventive Medicine, Appleton-Centrury-Crofts, Newyork
- Hobson W, The Theory and Practice of Public Health, Oxford Med. Publication
- Barker D J P, Practical Epidemiology, Churchill Livingstone
- Park J E & K Park, Text Book of P & S.M., M/s Banarsidasm Bhanot, Jabalpur

- Mahajan B K and M/C.Gupta, Text Book of P & S.M., Jaypee Publications
- Bradford Hill, Principles of Medical Statistics, The Lancet Ltd. No.7 Adam Street, Adelphine, London, 1967
- Mac, Mahon & Pugh, Epidemiology-Principles and Methods, Little Brown and Co.Boston, U.S.A.
- Hunter's Diseases of Occupations, Edited by P.A.B.Raffle, P.H.Adams, P.J.Baxter and W.R.Lee Edward Arnold Publishers (1994), Great Britain.
- Text book of PSM : A P Kulkarni and Dr. Baride
- Text Book of Infection Diseases : Christae
- Statistics : K.Vishvesh Rao
- Medical Entomology : A. K.Hati
- Oxford Text Book of by Public Health : Holland & Detel Journals
- Kirkwood B R, Essential of Medical Statistics for Medical students, 1 st Ed.Oxford: Blackwell Scientific Publications 1988.
- Mahajan B K, Methods in Bio statistics for medical students, 5 th Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989
- Raveendran B Gitanjali, A Practical Approach to PG dissertation, New Delhi, J P Publication, 1998
- Practical & Viva in Community Medicine. J Kishore 2017
- Multiple Choice Questions in Preventive & Social Medicine : GPI Singh & Sarit Sharma
- Preventive Paediatrics : O.P.Gha
- An introduction to sociology: Bhusan and Sachdeva
- Hunter (Donald), Diseases of the Occupations, 6 th edition, Hodder and stooughton (1978)
- Government of India, Ministry of HRD, Occupational Health : issues of women in the unrecognized sector, New Delhi (1988)
- Plunkett (E.R), Handbook of Industrial Toxicology, 3 rd Edition, Arnold Publishers, USA (1987)
- Patric Kinnerly (1979), The Hazards of Work, How to fight them, Pluto Press U.K.

- WHO (1986) Geneva, Early detection of Occupational Disease
- Hunter's Diseases of Occupations, Edited by P.A.B. Raffle, P.H.Adams, P.J.Baxter and W.R.Lee Edward Arnold Publishers (1994), Great Britain
- Carl Zenz (1994), Occupational Medicine, 3rd Edition Mosby, U.S.A.
- ILO Publications Geneva, Encycloperia of Occupational Health and Safety, (1983) 3rd Edition Vol.122.

COMMITTEE REPORTS AND POLICY DOCUMENTS – MEDICAL EDUCATION AND HEALTH POLICY:

- Bhore Committee Report (1946) Health Survey and Development Committee, Govt.of India, Delhi.
- Mudaliar Committee Report (1961) Health Survey and Planning Committee, Govt. of India, Delhi
- Shrivastav Report (1974), Health Services and Medical Education – A programme for immediate action, Group on Medical Education and Support Manpower, Ministry of Health and Family Welfare, Govt.of India, New Delhi.
- ICSSR/JCMR (1981), Health for All- An alternative strategy – Report of a Joint study group of ICSSR/ICMR, Indian Institute of Education, Pune.
- National Health Policy, (1982) Ministry of Health and Family Welfare, Government of India, New Delhi.
- Compendium of Recommendations of various committees on Health and Development (1943-1975), Central Bureau of Health Intelligence (1985) Directorate General of Health Services, Ministry of Health and Family Planning, New Delhi.
- Bajaj, J.S. etal (1990) Draft National Education Policy for Health Sciences, I.J.M.E. Vol.29, No.1 & 2 (Jan-August 1990)
- Epidemiology and Health Management: By Dr.P.V.Sathe

Journals

- Indian journal of community medicine
- Indian journal of preventive and social medicine
- American journal of epidemiology
- British journal of epidemiology
- Lancet
- Health and populations- perspectives and issues
- NTI Bulletin Journal of communicable diseases (NICD)
- WHO Bulletin WHO technical reports series
- Emerging infectious diseases CD alerts (NICD)
- Nutrition news (National institute of nutrition)
- The Journal of Family Welfare
- International family planning perspectives
- Indian Journal of Public Health
- Indian Journal of Youth and Adolescent Health
- Social Medicine
- IAPSM Punjab Bulletin
- Indian Journal of Community Health
- Journal of Communicable Diseases
- Indian Journal of Medical and Child Health
- Indian Journal of Occupational Health and Industrial Medicine
- Indian Journal of Medical Research
- National Medical Journal of India
- Indian Journal of Malariology
- Indian Journal of Medical Education
- Journal of Indian Medical Association
- Journals of Medicine, Paediatrics, OBG, Skin & STD, Leprosy, Tuberculosis & Chest Diseases (For Reference)

International Journals

- WHO Publications – All
- Journal of Epidemiology & Community Health
- Tropical Diseases Bulletin
- Vaccine
- American Journal of Public Health
- Lancet
- New England Journal of Medicine
- International Journal of Preventive, Curative and Community Medicine,
- Epidemiology International
- International Journal of Healthcare Education and Medical Informatics

Useful Websites

- a) www.icmr.nic.in
- b) www.mohfw.nic.in
- c) www.nacoonline.org
- d) www.npsindia.org
- e) www.tbcindia.org
- f) www.iapsm.org.in
- g) www.iphaonline.org
- h) www.who.int
- i) www.whoindia.org
- j) www.cdc.gov
- k) www.unicef.org
