



MD COMMUNITY MEDICINE AND FAMILY MEDICINE CURRICULUM

AIIMS KALYANI



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ACADEMIC SECTION
AIIMS Kalyani

**All India Institute of Medical Sciences, Kalyani
MD Community Medicine**

1. Preamble:

After being awarded MD in Community Medicine, the candidate must be capable of providing excellent services in medical education, research, training, and highest standard of care to community by developing strategies for improving health and wellbeing of population through health promotion, disease prevention and health protection.

2. Aims:

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

- Community physician
- Family Physician
- Medical expert
- Epidemiologist
- Health Planner, Organizer and Administrator
- Medical teacher
- Researcher

3. Objectives:

At the end of the postgraduate training in Community Medicine, the student shall be able to gain:

I. General skills:

1. Provide leadership for comprehensive health care at primary, secondary and tertiary levels.
2. Recognise and apply his clinical skills in management of common health problems of the community at the individual and family levels.
3. Elicit the clinico-social history to describe that agent, host and environmental factors that

determine and influence health.

4. Demonstrate sufficient understanding of the basic sciences relevant to Community Medicine.
5. Identify social, economic, environmental, biological and emotional determinants of health in a given case and take them into account while planning promotive, preventive, therapeutic and rehabilitative measures/strategies.
6. Organize and provide health care services to control communicable and non-communicable diseases.
7. Diagnose and manage majority of the health conditions in the community on the basis of clinical assessment and conduct appropriate investigations.
8. Demonstrate the skills in documentation of individual / community case details as well as morbidity and mortality data relevant to the assigned situation.
9. Carry out health education effectively for the community. Demonstrate empathy and humane approach towards clientele.
10. Play the assigned role in the implementation of National Health Programmes, effectively and responsibly.
11. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or field situation.
12. Develop skills as a self-directed learner, recognize continuing educational needs and select & use appropriate learning resources.
13. Demonstrate competence in basic concepts of research methodology and epidemiology and be able to critically analyze relevant published research literature.
14. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
15. Function as an effective leader of a health team engaged in health care, research and training.

II: Skills in relation to specific topics

1. 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.

2. 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; slit skin smears for leprosy; Hb estimation; urine and stool examination.
- (d) Assessing the severity and/or classifying dehydration in diarrhoea, upper respiratory tract infection, dog bite, leprosy.
- (e) Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies, upper respiratory tract infections, diarrhoea and dehydration.
- (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; organising medical care following disasters.
- (i) Diagnosis and management of zoonotic diseases.
- (j) Case management of ARI
- (k) Functioning of isolation/quarantine unit

3. 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.

4. Statistics

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

5. 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.

6. Occupational Health

- (a) Inspection of work sites
- (b) Recommendation in improving work sites.
- (c) Medical examination of workers.

7. 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.

8. Health Management

- (a) Be an effective team leader.
- (b) Guide and train workers.
- (c) Supervision of workers and programmes.

9. Family Planning: Counselling on appropriate methods.

- (a) Organize, Implement, Supervise & Evaluate Family Welfare Programme in an area.
- (b) Ability to assist Tubectomy by using conventional /laparoscopic method
- (c) Ability to perform/assist vasectomy by using latest techniques
- (d) Ability to insert IUCDs
- (e) Ability to perform/assist in MTPs

III. Other Skills (Public Health Lab)

SKILL

Cognitive

HDI Calculation

Developing an epidemiological triangle of diseases

Level of prevention and mode of intervention chart making

Basic measurement in epidemiology i.e, incidence, prevalence, CDR, ASDR, PMR, CFR,

SMR, RR, OR, AR, ARR, SAR

Distribution of vaccines and accessories in cold chain system

Making epidemiological case sheet

Knowledge about MCP card and its components

Calculating a validity and reliability of an instrument

Knowledge about vaccine vials, dose, viability, indication etc

Different drugs of national health programmes

Knowledge about contraceptives kits

Vector and disease agents identification

Slide identification

Knowledge of Syndromic approach of STD

School health programme kit demonstration

Psychomotor

PAPS smear screening

Monitoring blood pressure

Height/ length/ circumference measurement

Preparation of ORS/ HAF (Home available fluid)

Monitoring growth of child

Assess, classify and manage sick children (IMNCI)

Assessment of Iodine content in salt

Demonstration of healthy food intake to adult

Demonstration of hand hygiene steps

Interpretation of Air quality index (AQI)

Segregation of biomedical wastes

Demonstration of triage as a team medical team member at emergency situation

Diagnosing case of occupational diseases

Assessment of health condition and data interpretation for specific occupational employment

Assessment and calculation of logistic procurement in material management in a primary

health centre/ district hospital/ tertiary care hospital

Communication

Myths and fact counseling of TB, leprosy, AIDS, Malaria etc
 Counselling mother about breastfeeding, child care in health and disease
 Counselling of parents and children with thalassemia / pre-marital counseling
 Demonstration of a health talk at a village about specific disease prevention for group discussion, panel discussion, role playing

Team/ Leadership

Demonstration of a weekly VHSND meeting at an Anganwadi centre
 A discussion for weekly meeting as a BMOH with ASHA, ANM, LHV, MHW

4. Post graduate curriculum for MD Community Medicine and Family Medicine

Semester	Topic	Duration	Activities
	Orientation course	1 week	Visit to all Sub centres & PHC in rural and urban service area.
1st Year 1st Semester First 3 months	Teaching & Learning sessions (Afternoon)	2 hours per lecture class Thursday 2-5 PM 1hr SDL	In various topics related to public health. See Public health skill lab and Topics in Public Health
	Selection of Dissertation topic & Submission of Synopsis	3 months thesis work Monday 2 PM -5 PM	
	Language/Computer Skills Class	Saturday	MS Word, Excel, Powerpoint
	Journal club presentation	3 hours per paper presentation Friday 2-5 pm	3 National and International PubMed indexed journal
1st Year 1st Semester Next 3 months	Research methodology course Class/ workshop on Biostatistics	1 month	SPSS Epi info Atlas Ti
1st Year	Public Health Skill Lab Clinical posting	2 months 15 days per	Obstetrics & Gynaecology

2nd Semester 6 months	9:00 AM-1:00 PM	department = 4 months Tuesday 3:00 AM- 5:00 PM Practical UG class	Paediatrics General Medicine (OPD & IPD) Surgery and Emergency Medicine Microbiology & Pathology CMFM: Immunization Clinic, DMC, DOTS Dermatology and Venereology , Suraksha Clinic Psychiatry/ De-addiction Services UHTC
Family care programme		1 month	
Community diagnosis and Community Needs Assessment		1 month	Residential posting at RHTC
Educational visit to place of public health importance	3 hours per visit 1hr per month after synopsis presentation		Biomedical Waste Management plant Water treatment plant Model BPHC ICDS Centre Water Treatment Plant Food Processing Plant Milk & Meat Plant Solid Waste Disposal System NFL, FSSAI Factory In various topics related to public health. See Public health skill lab and Topics in Public Health
Teaching & Learning sessions	2 hours per lecture class Thursday 2-5 PM 1hr SDL		
Conducting health awareness camp	2 hours per camp		Orphanage Old age home NGO's
Event management	3 hours per health days		Organizing important health days at different place
Thesis work up presentation	Every 3 months in 1 st year & then biannually Monday 2-5 pm		Introduction, Objective Review of Literature Methodology Results Discussion, Conclusion
Journal club presentation	3 hours per paper		3 National and International

		presentation Friday 2-5 pm	PubMed indexed journal
	CME, conference, workshop, webinar, seminar attend	3 years Wednesdays 2-5 pm	At least 2 National conference
2nd Year 3rd Semester First 3 months	District Residential Posting Program monitoring and evaluation	3 months	General clinic duty RMNCH-A ,IMNCI NTEP NVDCP NPCDCS IDSP (including HMIS) Managerial roles for public health programme under DHO/ CMOH Nutritional Programmes NACP, NBCP Miscellaneous (NLEP, Public Health Laboratory) Posting in Urban/Rural field practice area
2nd Year 3rd Semester Next 3 months	Thesis Data Collection Hospital Administration	2 months (morning) 1 month (Competencies to be mastered in mornings)	Students will be posted to learn organization and administration of hospital services and understand system used for collection, recording and reporting of hospital statistics (CDAC, inventory control of medical stores, hospital laundry, hospital dietary, CSSD, hospital infection control, procurement and purchase.
	Teaching & Learning sessions	2 hours per lecture class Thursday 2-5 PM 1hr SDL	In various topics related to public health. See Public health skill lab and Topics in Public Health
	Seminar Presentation Workshop	3 hours per session Wednesdays 2-5 pm	Long- 3 Short- 3
	Clinico-social case presentation Short study Family adoption	1 hour per session 12 months	3 4 At least 10 families

2nd year 4th Semester	OPD duty Teaching & Learning sessions	6 months 6 months 2 hours per lecture class Thursday 2-5 PM 1hr SDL	RHTC UHTC In various topics related to public health.
3rd year	Pedagogy	2 months	Teaching of undergraduate students, Curriculum development o Framing of lesson plan o Use of evaluation techniques o Microteaching, lectures, group discussion, workshops, seminars etc
	Qualitative Inquiry Health Promotion Submission of Dissertation	2 months 3 days	
	Teaching & Learning sessions	2 hours per lecture class Thursday 2-5 PM 1hr SDL	To be submitted to the department, Guide, Co-guide, Library, Administrative Office, Self copy In various topics related to public health.
	Public Health Updates	Continuous	Magazine Presentation Publication
	Research publishing Study Exam	2 years	Minimum 4 paper in PubMed indexed journal

5. Topics in Public Health (Syllabus):

I. Historical perspective

- History of preventive medicine, evolution of public health, alternative systems of Medicine
- History of public health in India and global scenario.
- Definition and concepts of public health

II. Concept of Health & Disease

- Definition of health, holistic concepts of health including concept of spiritual health, appreciation of health as a relative concept, determinants of health
- Epidemiological triad in health and disease and the multi factorial causation
- Natural history of disease and application of interventions at various levels of prevention

- Health profile of India
- Concept of Health for All
- Primary Health care: Concept, Principles, Elements and Models
- Quality of Life

III. Social and Behavioural Sciences

- Medical humanities
- Clinico-social, cultural and demographic transition
- Health seeking behaviour
- Concepts of sociology
- Gender related issues
- Hospital sociology
- Social problems
- Social psychology and its concepts

IV. Epidemiology & Research Methodology

- Standardization of rates and standard indices of morbidity and mortality
- Use of basic epidemiological tools to make a community diagnosis of health situation, in order to formulate appropriate intervention measures
- Cause and effect relationship: concept of association, causation, chance and biases
- Risk reduction
- Descriptive epidemiology
- Formulation of hypothesis and types of hypothesis
- Analytical epidemiology
- Cause and effect relationship: the concept of association, causation, correlation
- Concepts of confounding, bias and interaction
- Experimental epidemiology (randomized and non-randomized controlled trials)
- Qualitative and Quantitative research
- Testing of hypothesis
- Errors in testing of hypothesis
- Use of constructs/scales and their validity in research
- Ethics in research

V. Applications in Epidemiology

- Steps of Outbreak Investigations
- Modes of transmission and general principles of prevention and control of communicable, non-communicable diseases and other health conditions of public health importance
- Disease surveillance
- Epidemiological intelligence and forecasting
- Sources of epidemiological data and interpretation of morbidity and mortality rates
- Geographical information system (GIS) and remote sensing
- Clinical epidemiology

- Application of softwares in epidemiology
- Diagnostic studies and its applications
- Rapid assessment techniques
- Systematic review
- Operational Research

VI. Screening

- Screening : definition, types, uses and principles
- Screening test : selection criteria, validity including likelihood ratios and ROC curve, predictive accuracy
- Screening programmes and their evaluation

VII. Biostatistics

- Elementary Biostatistics
- Advanced Biostatistics
 - Advanced statistical techniques, multivariate regression analysis, statistical models.
 - Survival Analysis and Life tables and its uses
 - Meta analysis
 - Application of statistical software such as Epi info, SPSS etc.

VIII. Demography and family planning

- Concepts of demographic principles
- Demographic indicators
- Demographic trends
- Population dynamics of India
- National population policy
- National family welfare programme
- Sources of vital statistics like census, SRS, NFHS, NSSO etc.
- Importance of hospital records, their retrieval, International classification of diseases, medical certification of death

IX. Epidemiology of communicable and non-communicable diseases

- Gastro Intestinal infections
- Respiratory infections
- Vector- borne infections and medical entomology
- Surface infections
- Sexually transmitted diseases
- Zoonoses
- Emerging and re-emerging infectious diseases
- Hospital acquired infections

X. Non-communicable and lifestyle diseases

Above diseases to be studied in detail under the following subheads:

- A. Extent of problem, epidemiology and natural history of disease

- B. Public health importance of particular disease in local area
- C. Influence of social, cultural and ecological factors on the epidemiology of particular disease
- D. Diagnosing disease by clinical methods, using essential laboratory techniques at primary care level
- E. Treatment of a case, as per National Programme guidelines and also follow up of case
- F. National Health Programme for particular disease
- G. Understand the principles of control of an epidemic
- H. Training of health workers in disease surveillance, control, treatment and health education
- I. Management information system in a particular disease

XI. Emergency medicine

- First aid
- Injury: prevention and control
- Trauma and triage
- Snake and insect bite
- Drowning
- Fire injuries
- Electrocution

XII. Public Health Nutrition

- Field based dietary guidelines
- Nutritional risk assessment
- Nutritional assessment of individual, family and the community
- Common nutritional disorders, specific nutrient deficiency disorders, disorders related to toxins in food ; their control and management
- Food fortification, additives and adulteration, food hygiene
- Important National nutritional programmes
- National Nutrition Policy
- Nutritional surveillance, education and rehabilitation
- Role of diet in specific diseases like coronary heart disease, diabetes, obesity etc.
- Food and legislation
- Public private partnership in nutrition
- Future trends in nutrition
- NRC based diets/Community based SAM management diet
- Dietary counselling strategy

XIII. Family Medicine

- Ambulatory Obstetrics
- Emergency Obstetric Care
- Common Paediatric Problems

- Paediatric Emergencies
- Neonatology
- Surgery (Wound repair)???? Primary
- Trauma Care
- Orthopaedics
- Rheumatology
- Infectious Diseases
- Poisoning
- ENT
- Eye
- Respiratory Problems
- Palliative Care
- Endocrine Problems
- Psychiatric Care

XIV. Geriatrics and gerontology

- National Program of Health Care for the Elderly (NPHCE)
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XV. Environmental health, Hazards related to climate, altitude and depth

- Biomedical Waste & its disposal

XVI. Disaster Management

- Principles of disaster preparedness and application of these in disaster Management
- Biomedical warfare

XVII. Occupational Health

XVIII. Communication in Health

- Principles & methods of health promotion and education
- Ethics in Medical education and health care
- Organizing health promotion and education activities at individual, family and community settings
- Pedagogical methods: introduction, elements and techniques
- Group dynamics
- Gather approach
- BCC models

XIX. Mental Health

- Importance of mental health care in primary care settings
- Common psychiatric/ neurotic/ other mental health disorders, mental retardation
- Comprehensive mental health care at primary care settings

- Psychotherapy, its place in mental health
- Psychology and field research
- Child psychology
- Geriatric mental health

XX. Genetics

- Genetic epidemiology
- Human Genetics, Genetic and chromosomal disorders in man
- Genetic counselling
- Genetics and public health
- Population genetics
- Genetic engineering and related health issues
- Gene therapy
- Human genome project
- Molecular Genetics in Public health

XXI. Health planning, management and administration

- Planning Commission and five year plans in India
- Health committees in India
- Health planning in relational to international and national goals
- Concepts of planning, management, public health administration
- Components of planning a health activity
- Classification and understanding of various qualitative and quantitative health management techniques (SWOT analysis, PLA techniques)
- Over view of administration at village, block, district, state and centre level in India
- Organizational behaviour
- Time, material and personnel management
- Leadership
- Role in disease surveillance
- Concepts of health economics in health planning and management
- Research in administration, operational & action oriented research
- Principles of hospital administration
- Medical audit, quality assurance, quality improvement and client satisfaction
- Alternative approaches to planning
- Health system in India
- National Health Mission
- National health organisations

XXII. Public Health Legislation

- Ethics in medical education and health care
- International Health Regulations,

- National laws like PCPNDT, CPA, Pollution Control
- Birth and death registration act,

XXIII. International Health / Global Health

- International Health Organisations
- Travel medicine
- Medical tourism

XXIV. Health Economics

- Macro and Micro economics
- Demand and supply
- Health financing
- Financial sustainability
- Concept of Social Health Insurance
- Community based Insurance in India
- Costing and budgeting,

6. *Books recommended:*

1. Maxcy-Rosenau-Last Public Health & Preventive Medicine : Wallace RB
2. Epidemiology: Leon Gordis
3. Biostatistics : A foundation for Analysis in the Health Sciences: Daniel WW
4. National Health Programmes of India: Kishore J
5. Oxford Text book of Public Health: Detels R, McEwen J, Beaglehold R
6. Control of Communicable Diseases in Man: Benenson AS
7. Hunter's Diseases of Occupations: Baxter PJ, Admas PH
8. Hunters Tropical Medicine and emerging infectious diseases: Strickland GT
9. Clinical Epidemiology- the Essentials : Fletcher
10. Management for Health Care for all: Gupta and AK Sood

7. *Journals recommended:*

1. International Journal of Epidemiology
2. American journal of epidemiology
3. British journal of epidemiology
4. BMC Public Health
5. WHO South East Asia Journal of Public Health
6. Lancet
7. Indian Journal of Public Health
8. Indian Journal of Community Medicine
9. Health and population Perspectives and Issues
10. Journal of communicable diseases
11. WHO Bulletin
12. WHO technical reports series