

# Ramaiah University of Applied Sciences

New BEL Road, MSR Nagar, Bangalore – 560054



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

## PO, PSO, PEO & CO

**Programme: Master in Public Health (MPH)**

**Programme Code: 097**

**Programme Outcome (PO)**

**Programme Specific Outcome (PSO)**

**Program Educational Objectives (PEO)**

**Course Outcomes (CO)**

  
Registrar  
M.S. Ramaiah University of Applied Sciences  
Bangalore - 560 054

  
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# Faculty of Life and Allied Health Sciences (FLAHS)

Programme Name: Master in Public Health (MPH)

## Programme Outcomes (POs)

- PO-1. Public health knowledge:** Apply the knowledge of art, science, public health fundamentals, and a public health specialization to the solution of complex community problems.
- PO-2. Problem analysis:** Identify, formulate, review research literature, and analyse complex public health problems reaching substantiated conclusions using first principles of public health, natural sciences, and medical sciences.
- PO-3. Design/development of solutions:** Design solutions for complex public health problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and the cultural, societal, and environmental considerations.
- PO-4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of interventions, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO-5. Modern tool usage:** Create, select and apply appropriate techniques, resources, and modern medical engineering and tools including prediction and modelling to complex public health activities with an understanding of the limitations.
- PO-6. Public health and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional public health practice.
- PO-7. Environment and sustainability:** Understand the impact of professional public health solutions in societal, occupational and environmental contexts, and demonstrate the knowledge of and need for sustainable development.
- PO-8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the public health practice.
- PO-9. Individual and teamwork:** Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
- PO-10. Communication:** Communicate effectively on complex public health activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO-11. Project management and finance:** Demonstrate knowledge and understanding of public health and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO-12. Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of scientific change.

  
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## Programme Specific Outcomes (PSOs)

At the end of the MPH Programme, the post-graduate will be able to:

- PSO-1. Apply the knowledge of epidemiology, biostatistics and behavioral science in public health to develop innovative and safe solutions to challenges
- PSO-2. Adapt to technological advancement in diagnostics, planning and implementation by upgrading to the latest design processes in public health
- PSO-3. Demonstrate the leadership qualities and strive for the betterment of organization, environment and society
- PSO-4. Demonstrate an understanding of the importance of life-long learning through professional development, practical training and specialized certifications.

## Programme Education Objectives

- PEO-1. Provide students with a strong foundation in public health principles, concepts and research, to enable them to devise and deliver effective solutions to challenging public health problems
- PEO-2. Impart technical skills required to develop innovative solutions as per behavioral, technological and structural requirements in public healthcare
- PEO-3. Impart the required managerial and entrepreneurial skills to enable students to contribute to the public healthcare industry as specialist
- PEO-4. Instill human values, social, interpersonal and leadership skills required for professional success in evolving as global professionals.

## Course Outcomes (COs)

Course Title & Code: Principles and Practice of Public Health (PHC501A)

Upon completion of this course students will be able to:

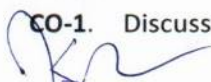
- CO-1. Explain the need for and importance of public health
- CO-2. Explain the core functions of public health
- CO-3. Discuss the concepts of health, illness, and disease
- CO-4. Discuss the concepts of prevention and control measures in public health
- CO-5. Analyze the resources required to practice and develop interventions in the field of public Health keeping ethical aspects involved in the practice.
- CO-6. Apply measures of health and assess healthcare needs in a community

## Course Outcomes (COs)

Course Title & Code: Public Health Systems & Health Policy (PHC502A)

Upon completion of this course students will be able to:

- CO-1. Discuss the basics of health systems and organization of public health system in India.

  
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- CO-2. Discuss the role of healthcare institutions in improving community health.
- CO-3. Critically review the national health programmes and schemes in India
- CO-4. Analyze the role of international public health organizations in guiding and improving health at the population level.
- CO-5. Discuss and generate ideas to improve existing public health system in India.
- CO-6. Explain the need for policies in public health.
- CO-7. Discuss the process, development and implementation of a health policy
- CO-8. Analyze policy issues pertaining to public health with a special focus on India
- CO-9. Conduct a comparative analysis on various international health policies and critically review a health policy

### Course Outcomes (COs)

**Course Title & Code: Epidemiology (PHC503A)**

**Upon completion of this course students will be able to:**

- CO-1. Explain the principles and concepts of epidemiology
- CO-2. Describe the epidemiology of major communicable and non-communicable diseases
- CO-3. Discuss the types of epidemiological designs
- CO-4. Choosing appropriate tools and techniques of epidemiology for identifying and addressing public health problems
- CO-5. Design an epidemiological study for a given scenario
- CO-6. Develop a plan for investigation and preventive of a communicable and non-communicable disease.

### Course Outcomes (COs)

**Course Title & Code: Healthcare Management and Leadership (PHC504B)**

**Upon completion of this course students will be able to:**

- CO-1. Discuss the dynamics of a health care organizations, processes, functions, culture, climate and organization behavior as a whole.
- CO-2. Sensitize with the emerging issues and challenges of leading teams and healthcare organizations in the contemporary context.
- CO-3. Explain important management functions such as planning and organizing relevant to health organizations and programs.
- CO-4. Apply the management concepts and demonstrate leadership skills to manage health programs.
- CO-5. Identify personal leadership styles and evaluate individual competencies and gaps

### Course Outcomes (COs)

**Course Title & Code: Biostatistics (PHC505A)**

**Upon completion of this course students will be able to:**

- CO-1. Explain concepts of descriptive and inferential statistics, probability, random variation, and

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commonly used probability distributions.

- CO-2. Apply concepts and methods from biostatistics and epidemiology disciplines jointly
- CO-3. Apply and interpret common univariate, bivariate and multivariate statistical analyses for inferences.
- CO-4. Apply assumptions and limitations of common statistical tests and choose appropriate tests for analysis
- CO-5. Use appropriate statistical packages for data analysis and management.

## Course Outcomes (COs)

**Course Title & Code: Public Health Priorities in India-I (Communicable disease and MNCH) (PHC506A)**

**Upon completion of this course students will be able to:**

- CO-1. Discuss the public health priorities in relation to communicable diseases and MNCH in India
- CO-2. Explain the inequities that exist in communicable diseases and MNCH in India
- CO-3. Compare the role of public sector and private sector to address the challenges
- CO-4. Analyze data repositories to develop priority setting for addressing public health concerns

## Course Outcomes (COs)

**Course Title & Code: Public Health Priorities in India-II (NCDs and Nutrition) (PHC507A)**

**Upon completion of this course students will be able to:**

- CO-1. Describe the public health priorities in relation to NCDs and malnutrition in Indian context, risk factors and determinants
- CO-2. Explain the upstream and downstream determinants of NCDs and the role of nutrition in the development and prevention of diseases and health conditions
- CO-3. Compare the discrepancies between nutrition research and nutritional information conveyed to the public
- CO-4. Demonstrate various methodological strategies, data analyses, policies, program planning and evaluation theories and techniques, typically used in public health nutrition initiatives
- CO-5. Evaluate public health interventions, programs, and policies related to NCDs from a variety of vantage points recognizing the array of influences on diet, nutrition, and health, such as environmental, socioeconomic, stage in life cycle, psychological, and cultural factors
- CO-6. Design innovative health solutions to an identified public health priority

## Course Outcomes (COs)

**Course Title & Code: Research Methodology in Public Health (PHC508A)**

**Upon completion of this course students will be able to:**

- CO-1. Explain the principles, process and paradigm of research methodologies.
- CO-2. Discuss the steps for conducting systematic review of research literature
- CO-3. Apply principles and practice of ethics and evidence-based public health
- CO-4. Demonstrate skills and techniques for effective scientific communication



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- CO-5. Demonstrate appropriate application of research methods, techniques and technologies for conducting research of public health importance.

### Course Outcomes (COs)

Course Title & Code: Health Behavior and Health Promotion (PHC509A)

Upon completion of this course students will be able to:

- CO-1. Explain the role of behaviour and social sciences to understand and intervene upon current public health problems in community settings
- CO-2. Identify ethically appropriate, evidence/theory-based models or options for addressing a specific health behaviour in a specific population.
- CO-3. Apply social and behavioural science theories, concepts to identify causes of health-related behaviours
- CO-4. Communicate social and behavioural science concepts with other practitioners and lay audiences.
- CO-5. Design evidence based health interventions adopting principles of health promotion for improving human health.

### Course Outcomes (COs)

Course Title & Code: Ethics in Public Health (PHC510A)

Upon completion of this course students will be able to:

- CO-1. Identify critical ethical issues in the practice of public health (including research) in developing countries
- CO-2. Apply selected conceptual resources to elucidate key ethical concepts while operating public health practice
- CO-3. Critically appraise the ethical responsibilities of actors with decision-making authority over the practice of public health in developing countries
- CO-4. Analyze the key ethical concepts to apply to developing-country contexts

### Course Outcomes (COs)

Course Title & Code: Qualitative research methods (PHE501A)

Upon completion of this course students will be able to:

- CO-1. Describe the basics of qualitative research
- CO-2. Explain different methods of qualitative research including overview of phenomenology and ethnography approaches
- CO-3. Apply techniques of data analysis and interpretation
- CO-4. Develop skills to write a report based on the qualitative data analysis

  
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## Course Outcomes (COs)

Course Title & Code: Global Health (PHC601A)

Upon completion of this course students will be able to:

- CO-1. Explain major issues in population and global health
- CO-2. Explain the approaches to population health interventions around the world
- CO-3. Explain the health intervention perspective on the economic, social, political, cultural, and ethical considerations that bear on these issues
- CO-4. Critically analyze the policies that affect health and development
- CO-5. Discuss and generate ideas that improve lives and health of people worldwide

## Course Outcomes (COs)

Course Title & Code: Technology in Public Health (PHC602A)

Upon completion of this course students will be able to:

- CO-1. Explain the concepts of health technology and informatics and related tools of public health importance.
- CO-2. Explain the role of technology in assessment of unmet health needs in the community.
- CO-3. Explain the role of technology in planning and monitoring interventions for improving health outcomes.
- CO-4. Demonstrate the ability to manage health data and information effectively and generate valuable insights to facilitate health decision making using health analytics.

## Course Outcomes (COs)

Course Title & Code: Programme Planning and Evaluation (PHC603A)

Upon completion of this course students will be able to

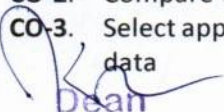
- CO-1. Describe and apply key approaches and methods for conducting a systematic health needs assessment.
- CO-2. Discuss the key concepts of health programme planning, design, implementation, monitoring and evaluation
- CO-3. Devise an appropriate plan for monitoring and evaluating health programmes.

## Course Outcomes (COs)

Course Title & Code: Demography and Population Sciences (PHC604A)

Upon completion of this course students will be able to:

- CO-1. Define the concepts in demography
- CO-2. Compare the demographic data and vital statistics of different countries.
- CO-3. Select appropriate methods for data collection, analysis and interpretation of demographic data

  
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- CO-4. Discuss the determinants and calculation of various measures of fertility, mortality, migration, urbanization and population projection
- CO-5. Critically analyze the challenges related to demography

## Course Outcomes (COs)

Course Title & Code: Project Work (PHP605A)

Upon completion of this course students will be able to:

- CO-1. Work in a team and undertake a project in the area of community-based or health-facility survey
- CO-2. Apply the principles and practice of public health in executing the project
- CO-3. Apply appropriate research methodology and techniques while formulating a project
- CO-4. Develop and implement the principles of planning and undertake a project while working in a group
- CO-5. Develop a report which describes the project and the work undertaken, followed by preparation of a presentation and documentation of the work

## Course Outcomes (COs)

Course Title & Code: Implementation Science (Health Programme Design, Planning, Implementation, Monitoring & Evaluation) (PHE601A)

Upon completion of this course students will be able to:

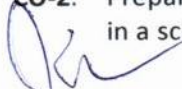
- CO-1. Discuss implementation science as a field of practice and research, and its potential impact for producing improved health outcomes.
- CO-2. Appraise the strengths and limitations of methods of program design including participatory and co-design for implementation, and experimental and quasi-experimental trial designs when evaluating real-world strategies.
- CO-3. Identify and use appropriate methods for evaluating implementation of evidence-based intervention in diverse settings and populations.
- CO-4. Describe and develop research frameworks, study designs and measures appropriate for implementation science.
- CO-5. Apply the development of research frameworks, study designs and measures appropriate for implementation science in National Health Program implementation.

## Course Outcomes (COs)

Course Title & Code: Dissertation (PHP606A)

Upon completion of this course students will be able to:

- CO-1. Review scholarly literature collected from various sources critically for the dissertation project purpose and formulate a research problem of public health importance.
- CO-2. Prepare and present a research proposal (as per the prescribed format of the Department) in a scholarly seminar within the Department/Faculty.

  
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## Course Outcomes (COs)

**Course Title & Code: Evidence Synthesis (Systematic Review and Meta- Analysis) (PHE602A)**

**Upon completion of this course students will be able to:**

- CO-1. Explain the principles and methods of research synthesis and steps in conducting systematic reviews and meta-analysis
- CO-2. Explain the common sources of bias and errors in research reviews and strategies for minimizing bias
- CO-3. Discuss problem formulation, developing review questions in the Indian and global context and the uses and misuses of research synthesis to inform policy, practice and further research
- CO-4. Discuss the reporting standards and guidelines for systematic reviews as well as registering titles and protocols, and conducting reviews for publication

## Course Outcomes (COs)

**Course Title & Code: Dissertation (PHP607A)**

**Upon completion of this course students will be able to:**

- CO-1. Conduct a primary research to answers the research questions and attain the research objectives posed in the proposal.
- CO-2. Propose new ideas, methodologies or procedures for further improvement of the research undertaken.
- CO-3. Defend the research findings in a public seminar before the scholarly audience
- CO-4. Write a thesis and prepare a manuscript for publication in a journal or present the research findings in an academic or industry conference.

## Course Outcomes (COs)

**Course Title & Code: Internship (PHI608A)**

**Upon completion of this course students will be able to:**

- CO-1. Identify, assess and present the organization structure, various departments of the organization, their activities and responsibilities to meet the organization objectives
- CO-2. Analyze the roles and responsibilities of various professionals in the organization
- CO-3. Analyze the field/public health sector environment and activities in relation to the organization and evaluate the significance of their activities.
- CO-4. Undertake projects and field work of relevance to public health assigned by the organization.
- CO-5. Prepare a report of their learning/experience at the organization in the prescribed format.

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