

MPH Program General Competencies

Biostatistics

Excellence

1. Describe the roles biostatistics serves in the discipline of public health.
2. Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
3. Describe basic concepts of probability, random variation, and commonly used statistical probability distributions.
4. Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.

Discovery

1. Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
2. Apply descriptive techniques commonly used to summarize public health data.
3. Apply common statistical methods for inference.
4. Apply statistical techniques in the analysis of secondary data.

Respect

1. Apply ethical principles to the collection, maintenance, use, and dissemination of data and information.

Responsibility

1. Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.
2. Partner with communities to attach meaning to collected data.

Epidemiology

Excellence

1. Explain the importance of epidemiology for informing scientific, ethical, economic, and political discussion of health issues.
2. Describe a public health problem in terms of magnitude, person, time, and place.
3. Apply the basic terminology and definitions of epidemiology.
4. Understand the elements of survey design.

Discovery

1. Calculate basic epidemiology measures.
2. Identify key sources of data for epidemiologic purposes.
3. Evaluate the integrity and comparability of data and identify gaps in data sources.
4. Determine appropriate uses and limitations of both quantitative and qualitative data.
5. Select and define variables relevant to defined public health problems.
6. Make relevant inferences from quantitative and qualitative data.

Respect

1. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data.
2. Apply the principles of community-based participatory research to improve health in diverse populations.

Responsibility

1. Communicate epidemiologic information to lay and professional audiences.
2. Identify the implications and limitations of public health screening programs.
3. Obtain and interpret information regarding risks and benefits to the community.
4. Recognize how the data illuminates ethical, political, scientific, economic, and overall public health issues.

Health Policy and Management

Excellence

1. Understand the emerging thinking regarding systems within the field of public health.
2. Identify the main components and issues of the organization, financing, and delivery of health services and public health systems in the U.S.
3. Discuss the policy process for improving the health status of populations.
4. Identify unintended consequences produced by changes made to a public health system.
5. Understand the historical development, structure, and interaction of public health and health care systems.
6. Understand the social determinants of health status.

Discovery

1. Analyze interrelations among the determinants that influence the quality of life and health of people in their communities.
2. Analyze the effects of political, social, and economic policies on public health systems at the local, state, national, and international levels.
3. Use information technology to access, evaluate, and interpret data and influence public health policy.

Respect

1. Describe the roles of history, power, privilege, culture, and structural inequality in producing health disparities.
2. Explain how professional ethics and practices relate to equity and accountability in diverse community settings.
3. Develop and adapt approaches to problems that take into account cultural differences.

Responsibility

1. Apply quality and performance improvement concepts to address organizational performance issues.
2. Develop and present a budget.
3. Identify internal and external issues that may impact delivery of essential public health services (i.e., strategic planning).
4. Solicit input from individuals and organizations.

Social and Behavioral Science in Public Health

Excellence

1. Describe the role of social and community factors in both the onset and solution of public health problems.
2. Identify the causes of social and behavioral factors that affect health of individuals and populations.
3. Identify basic theories, concepts, and models from a range of social and behavioral disciplines that are used in public health research and practice.
4. Describe the merits of social and behavioral science interventions and policies.
5. Describe public health interventions at the primary, secondary, and tertiary level.

Discovery

1. Apply qualitative and quantitative approaches in the development of evidence-based public health interventions.

Respect

1. Apply ethical principles to public health program planning, implementation, and evaluation.
2. Differentiate between linguistic competence, cultural competency, and health literacy in public health practice.
3. Understand the dynamic forces contributing to cultural diversity.

Responsibility

1. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.
2. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.

Environmental Health

Excellence

1. Specify approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and safety.
2. Understand the global context of environmental public health threats and interventions.
3. Describe the direct and indirect human, ecological, and safety effects of major environmental and occupational agents.
4. Specify current environmental risk assessment methods.
5. Describe genetic, physiologic, and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.
6. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.
7. Describe federal and state regulatory programs, guidelines, and authorities that control environmental health issues.
8. Specify the role of the immune system in population health.
9. Explain the biological and molecular basis of public health.
10. Explain the role of biology in the ecologic model of population-based health.
11. Explain how genetics and genomics affect disease processes and public health policy and practice.
12. Understand the impact of climate change on health programs and status.

Discovery

1. Develop a testable model of environmental insult.
2. Outline a health impact assessment of a public policy proposal or infrastructure development proposal.

Respect

1. Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.
2. Discuss the process through which environmental interventions take into account the balance of individual and community risks, rights, and benefits.

Responsibility

1. Demonstrate written and oral communication skills related to the environment within a public health context.
2. Apply biological principles to the development and implementation of disease prevention, control, and management programs.
3. Apply evidence-based biological and molecular concepts to inform public health laws, policies, and regulations.
4. Integrate general biological and molecular concepts into public health.

Communication

Excellence

1. Describe how societal, organizational, and individual factors influence health and are influenced by public health communications.
2. Discuss the influences of social, organizational, and individual factors on the use of information technology by end users.
3. Describe how the public health information infrastructure is used to collect, process, maintain, and disseminate data.

Discovery

1. Collaborate with communication and informatics specialists in the process of design, implementation, and evaluation of public health programs.

Respect

1. Apply legal and ethical principles to the use of information technology and resources in public health settings.
2. Demonstrate written and oral communication skills that express sensitivity to diverse socioeconomic, cultural, and demographic subgroups.

Responsibility

1. Apply theory and strategy-based communication principles across different settings and audiences.
2. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.
3. Use the media, advanced technologies, and community networks to communicate information.
4. Use informatics and communication methods to advocate clearly and effectively for community public health programs and policies.

MPH Program Emphasis Area Competencies

Health Promotion and Policy

1. Identify individual, organizational, and community concerns, resources, and needs for community-based interventions.
2. Describe steps and procedures for the planning, implementation, and evaluation of public health programs, policies, and interventions.
3. Understand the legal and ethical dilemmas posed by public health policy implementation.
4. State policy options and write clear and concise policy statements.
5. Identify, interpret, and understand the process for implementing public health laws, regulations, and policies related to specific programs.
6. Demonstrate the skills necessary to build partnerships and work as an effective member of a diverse and/or interdisciplinary team.
7. Be prepared to be a key participant in the development and implementation of emergency response plans.

Veterinary Public Health

1. Understand the key role that veterinarians play in the physical, mental, and social well-being of humans.
2. Define and understand the term “zoonosis.”
3. Define the key concepts in zoonotic disease diagnosis, control, and prevention.
4. Evaluate a surveillance system for important zoonosis.
5. Clearly identify veterinarians’ legal responsibilities in reporting zoonotic disease outbreaks and their interaction with the broader U.S. public health system.
6. Define bioterrorism.
7. Describe a veterinarian’s role in mitigation, disaster preparedness, response, and recovery as it relates to a bioterrorism event and be prepared to be a key participant in the development and implementation of an emergency response plan.
8. Describe a veterinarian’s role in food safety.