

## **MPH Core Competencies**

Graduates of the MPH degree program are expected to be grounded in the following core public health competencies:

### **Evidence-based Approaches to Public Health**

1. Apply epidemiological methods to settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

### **Public Health & Health Care Systems**

5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels

### **Planning & Management to Promote Health**

7. Assess population needs, assets and capacities that affect communities' health
8. Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs
9. Design a population-based policy, program, project or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs

### **Policy in Public Health**

12. Discuss the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity

### **Leadership**

16. Apply leadership and/or management principles to address a relevant issue
17. Apply negotiation and mediation skills to address organizational or community challenges

## **Communication**

18. Select communication strategies for different audiences and sectors
19. Communicate audience-appropriate public health content (i.e., non-academic, non-peer audience), both in writing and through oral presentation
20. Describe the importance of cultural competence in communicating public health content

## **Interprofessional Practice**

21. Integrate perspectives from other sectors and/or professions to promote and advance population health

## **Systems Thinking**

22. Apply systems thinking tools to visually represent a public health issue in a format other than a standard narrative

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## **Program Concentration Competencies**

Each concentration offers a unique curriculum of courses designed to assure that students gain the skills necessary to become competent practitioners.

### **Biostatistics Competencies\***

1. Apply standard probability distributions to public health outcomes
2. Apply and interpret common statistical descriptive and inferential methods, including confidence intervals and hypothesis tests in one-sample, two-sample, and multivariable regression settings
3. Build and interpret appropriate multivariate regression models to analyze public health data
4. Develop practical skills in using statistical software packages for data management and analysis of public health data
5. Develop written reports based on statistical analyses

### **Environmental Health Competencies\***

1. Examine the direct and indirect human and ecological health effects of major environmental agents
2. Develop a quantitative risk assessment framework for environmental hazards
3. Apply knowledge of environmental legislation to case studies to determine jurisdiction and approach
4. Apply approaches for assessing environmental exposures, including exposure assessment design and methods
5. Demonstrate cultural sensitivity and appropriate communication when engaged in public health practice and research

**Epidemiology Competencies\***

1. Assess potential confounders in epidemiology studies
2. Evaluate interaction, effect modification and mediation in epidemiology studies
3. Evaluate the multifactorial etiology and pathophysiology of chronic diseases
4. Apply criteria for identification, prevention and control of infectious agents
5. Manage, analyze and interpret large-scale epidemiologic data

**Population Health Management\***

1. Integrate systems thinking theory to incorporate multiple stakeholders at state and local levels to address a public health issue
2. Create an evaluation plan for a public health initiative
3. Apply principles and theory of budget preparation, managerial accounting and financial management to organizations in the health sector
4. Develop a survey instrument that validly examines public health research questions and produces data that addresses health implications and their relationship to policy and contexts
5. Conduct an economic analysis of a major health policy issue

**Social and Behavioral Sciences\***

1. Evaluate public health social and behavioral science research so that research decisions, strengths and limitations are addressed
2. Integrate social and behavioral science theories and concepts in the development of interventions/solutions to public health problems
3. Design and conduct a community needs assessment
4. Design, implement and evaluate a public health intervention
5. Design and develop effective communication products that convey health information to diverse audiences that increase recipients' knowledge and positively impact attitudes, beliefs and behaviors

\*Public Health Practice students identify concentration competencies for the two concentration areas in which they took coursework.

## **FOUNDATIONAL KNOWLEDGE**

1. Explain public health history, philosophy and values
2. Identify the core functions of public health and the 10 Essential Services
3. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health
4. List major causes and trends of morbidity and mortality in the U.S. or other community relevant to the school or program
5. Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
6. Explain the critical importance of evidence in advancing public health knowledge
7. Explain effects of environmental factors on a population's health
8. Explain biological and genetic factors that affect a population's health
9. Explain behavioral and psychological factors that affect a population's health
10. Explain the social, political and economic determinants of health and how they contribute to population health and health inequities
11. Explain how globalization affects global burdens of disease
12. Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health)