

MPH Concentration Competencies and Assessment Methods

EPIDEMIOLOGY

Domain 1: General Knowledge
Describes major national and international public health problems
Describes risk factors for well established health problems and the evidence in support of these factors
Understands basic research designs used in health issues
Understands how epidemiologic evidence informs public health practice and policy.
Domain 2: Problem Identification / Planning
Defines a research or health problem by identifying gaps in the knowledge of a health issue
Identifies steps needed to accurately assess and understand the health status of populations
Identifies determinants of health and illness, factors contributing to health promotion and disease prevention, and factors influencing the use of health services
Domain 3: Information Skills
Retrieves and organizes literature from valid sources of the evidence base
Judges, critiques, and interprets research findings
Domain 4: Communication
Organizes and delivers oral presentations of research findings or health issues in varying professional formats
Organizes and writes a manuscript suitable for publication in peer-reviewed publications
Interprets and presents accurate and effective demographic, statistical, and scientific information for professional and lay audiences, adapting and translating public health concepts to individuals and communities
Teaches epidemiological and/or biostatistical concepts in seminar and discussion groups
Domain 5: Epidemiologic Consultation
Advises other public health or clinical professionals on epidemiologic methods and findings
Conducts peer-review activities including manuscript review and proposal evaluation
Domain 6: Professional Conduct
Interacts competently, respectfully, and professionally with persons from diverse backgrounds
Recognizes and responds appropriately to ethical issues in the conduct of scientific research
Domain 7: Proposal Preparation
Writes scientific or program proposals, develops specific aims and appropriate background and describes methods in needed detail
Develops and presents a budget
Identifies appropriate collaborators and support personnel to accomplish proposal goals
Identifies internal and external sources of funding

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Domain 8: Study Design
Formulates an appropriate research question
Identifies an appropriate population and sampling strategy for testing hypotheses
Selects an appropriate study design for testing hypotheses in specific populations
Selects and defines measures and variables relevant to defined health problems
Develops and assesses validity and reliability of data collection instruments (e.g. questionnaires, physical examination, lab assays, etc.)
Identifies potential sources of bias and implements strategies to control bias
Performs power calculation to identify adequate sample size
Identifies steps needed to prepare an acceptable application to an Institutional Review Board
Domain 9: Study Conduct
Develops strategies for monitoring study progress and preparing status reports
Identifies strategies for recruitment and retention of study participants and how these strategies can be adapted to account for cultural differences
Identifies issues related to successful administration of various survey instruments
Domain 10: Data Management & Quality Assurance
Develops and maintains an electronic database
Develops and implements a plan for monitoring data as it is collected, and implements appropriate corrective actions to ensure data quality
Domain 11: Data Analysis
Determines appropriate uses and limitations of data
Conducts descriptive analyses and tests hypotheses for basic statistical inference
Recognizes potential sources of bias and applies appropriate analytic techniques to assess and adjust for these biases
Calculates and interprets fundamental measures of association (OR, RR, AR, etc.)
Conducts appropriate stratified and multivariate statistical analyses
Demonstrates a broad familiarity with a variety of analytic statistical software packages
Identifies issues needing consultation with a biostatistician
Domain 12: Data Interpretation
Evaluates the integrity, comparability of data, and limitations of data
Makes relevant inferences from data analyses
Understands and applies the principles of causality
Identifies areas of further research

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EPIDEMIOLOGY COMPETENCIES	Exam	Paper	Oral Presentation	Observe/Discussion	Class Project	Homework Exercise	Internship	Other
Domain 1: General Knowledge	573A 573B 573C 660	660 670		660 596D Seminar	573C	573A 573B 573C	909	
Domain 2: Problem Identification	660	670			573C 670		909	
Domain 3: Information Skills	573A 573B	573C 660 670		573B 670		573A 573B 670	909	
Domain 4: Communication	573A	670	573C 670 596D Seminar	660		573A	909	
Domain 5: Epidemiologic Consultation			670	573A 573B 660 670	573C	573A		
Domain 6: Professional Conduct				573A 596D	573C 670 596D		909	
Domain 7: Proposal Preparation								670
Domain 8: Study Design	573A 573B 573C	573C	670		573C	573A 573B 670	909	
Domain 9: Study Conduct		670				670 596D	909	
Domain 10: Data Management and Quality Assurance					670	576B		
Domain 11: Data Analysis	573A 573B 573C 576B	573C			573C 576B 670	573A 573B	909	
Domain 12: Data Interpretation	573A 573B 573C 660	573C		573A 573B	573C	573A 573B 670	909	