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MPH Foundational Competencies

Competencies for all MPH Graduates of the ColoradoSPH	
Identifier	CEPH Foundational Competencies
Evidence-based Approaches to Public Health	
MPH 1	Apply epidemiological methods to the breadth of settings and situations in public health practice
MPH 2	Select quantitative and qualitative data collection methods appropriate for a given public health context
MPH 3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.
MPH 4	Interpret results of data analysis for public health research, policy or practice.
Public Health and Health Care Systems	
MPH 5	Compare the organization, structure, and function of health care, public health and regulatory systems across national and international settings.
MPH 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 societal levels.
Planning and Management to Promote Health	
MPH 7	Assess population needs, assets and capacities that affect communities' health
MPH 8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs.
MPH 9	Design a population-based policy, program, project or intervention
MPH 10	Explain basic principles and tools of budget and resource management
MPH 11	Select methods to evaluate public health programs
Policy in Public Health	
MPH 12	Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
MPH 13	Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
MPH 14	Advocate for political, social or economic policies and programs that will improve health in diverse populations
MPH 15	Evaluate policies for their impact on public health and health equity
Leadership	
MPH 16	Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making
MPH 17	Apply negotiation and mediation skills to address organizational or community challenges
Communication	
MPH 18	Select communication strategies for different audiences and sectors
MPH 19	Communicate audience-appropriate public health content, both in writing and through oral presentation
MPH 20	Describe the importance of cultural competence in communicating public health content

MPH Foundational Competencies

Interprofessional Practice	
MPH 21	Perform effectively on interprofessional teams
Systems Thinking	
MPH 22	Apply systems thinking tools to a public health issue

MPH CSU Concentration Competencies

Identifier	MPH Animals People and Environment Concentration (APE) Competencies
MPH-APE 1	Assess the public health threat of emerging issues to animal and human populations and identify intervention strategies.
MPH-APE 2	Analyze how social, political and cultural differences can impact public perceptions about how human, environment and animal interactions affect public health, social well-being and environmental health.
MPH-APE 3	Identify ways in which agricultural and human incursion positively and adversely impact environmental and ecological health, and develop methods of minimizing negative impacts.
MPH-APE 4	Develop strategies for optimal communication and collaboration between human, animal, and environmental health professionals.
MPH-APE 5	Incorporate the principles of safe and secure food systems into public health problem solving.

MPH CSU Concentration Competencies

Identifier	MPH Epidemiology Concentration (EPID) Competencies - CSU
MPH-EPID 1	Compare and prioritize public health issues within and across populations, using epidemiologic methods including measures of prevalence, incidence, morbidity, mortality, demographic characteristics and risk factors.
MPH-EPID 2	Critically review and evaluate public health and other scientific literature to identify threats to internal validity, strengths and weaknesses of individual studies, and assess for overall strength of evidence.
MPH-EPID 3	Synthesize evidence in a research area to identify gaps in evidence and to demonstrate relevance of current knowledge to the practice of public health.
MPH-EPID 4	Translate investigator ideas into answerable research questions.
MPH-EPID 5	Design studies to address public health topics, taking into account the strengths, limitations, and feasibility of study designs for addressing specific topics, as well as the practical aspects of their uses.
MPH-EPID 6	Describe best practices for design of data collection forms and protocols, instrument reliability and validity, data monitoring and quality assurance, and data archiving for analysis and use of data by other investigators.
MPH-EPID 7	Use computer software for data entry, database management, and summarizing, analyzing and displaying data.
MPH-EPID 8	Apply and interpret the concepts of effect modification, confounding, and bias in research design and analysis approaches.

MPH CSU Concentration Competencies

Identifier	MPH Global Health and Health Disparities Concentration (GHHD) Competencies
MPH-GHHD 1	Use a population pyramid to assess the role of demographic characteristics in shaping patterns of morbidity, mortality, and health service needs of a specified community, country, or region.
MPH-GHHD 2	Describe the roles and relationships of the entities (such as NGOs, national governmental agencies, and international organizations) influencing global health and health disparities.
MPH-GHHD 3	Propose strategies to engage marginalized and vulnerable populations in making decisions that affect their health and well-being.
MPH-GHHD 4	Conduct a situation analysis across a range of cultural, economic, and health contexts.
MPH-GHHD 5	Design context-specific health interventions based upon a situation analysis.

MPH CSU Concentration Competencies

Identifier	MPH Health Communication Concentration (HCOM) Competencies
MPH-HCOM 1	Apply theory and strategy-based communication principles across different settings for public health practice.
MPH-HCOM 2	Design a communication-based public health intervention applying best practices of message production and delivery for a target audience.
MPH-HCOM 3	Identify and analyze fundamental properties of the intended audience, including demographic, psychological, sociological and cultural elements, for a communication-based intervention at all levels from interpersonal to mass.
MPH-HCOM 4	Assess the critical relationship between formative and evaluative research in the ongoing delivery of a communication-based intervention.
MPH-HCOM 5	Develop a communication plan to reach relevant professional groups, the public, and policy-makers.

MPH CSU Concentration Competencies

Identifier	MPH Physical Activity and Healthy Lifestyles Concentration (PAHL) Competencies
MPH-PAHL 1	Use public health data to assess the healthy lifestyle needs of a population and prioritize community-based interventions aimed at promoting physical activity or other healthy lifestyle behaviors.
MPH-PAHL 2	Utilize field-specific assessment tools to measure physical activity and healthy lifestyle behaviors as well as their supports and barriers.
MPH-PAHL 3	Apply nationally-recognized, evidence-based physical activity promotion approaches to the implementation and evaluation of community health promotion programs.
MPH-PAHL 4	Identify and analyze historic and current trends, guidelines, recommendations, and research in the field of physical activity.
MPH-PAHL 5	Develop strategies to engage with external partners from a variety of disciplines, including transportation and city planning, to promote physical activity or healthy lifestyles.
MPH-PAHL 6	Describe the effects of physical activity on primary, secondary and tertiary prevention of various chronic diseases such as heart disease, stroke, diabetes mellitus, cancer, arthritis, asthma, osteoporosis or obesity.
MPH-PAHL 7	Incorporate a variety of approaches for physical activity or healthy lifestyle promotion programs that anticipate and respect diverse values, beliefs, and cultures in the community.

MPH CSU Concentration Competencies

Identifier	MPH Public Health Nutrition Concentration (PHN) Competencies
MPH-PHN 1	Apply biological principles for the development and implementation of public health nutrition programs targeted at disease prevention, control, or management.
MPH-PHN 2	Assess and integrate information based on nutrition needs, the study of the scientific literature, and epidemiologic data to develop short and long range nutritional priorities and programs that will have the greatest impact.
MPH-PHN 3	Incorporate principles of successful human behavior change in the development of effective nutrition interventions.
MPH-PHN 4	Identify interactions between vitamins, minerals, and other nutrients and their impact on health.
MPH-PHN 5	Monitor and evaluate the effectiveness of nutrition interventions, and modify interventional approaches as needed to improve nutritional outcomes.

MPH UNC Concentration Competencies

Identifier	MPH Community Health Education Concentration (CHE) Competencies
MPH-CHE 1	Identify, assess, analyze, interpret, and synthesize community health needs, assets, and resources (economic, social, cultural, demographic, political, environmental).
MPH-CHE 2	Examine the accessibility, availability, and delivery of community health resources and services from a health equity perspective and relate this to the impact on individual and community health.
MPH-CHE 3	Describe how cultural beliefs and practices both positively and negatively influence participation in community health initiatives, and use this information to design culturally-appropriate initiatives that will impact health.
MPH-CHE 4	Synthesize knowledge from the fields of community health education and public health to make relevant connections to civic engagement and to one's own participation in civic life.
MPH-CHE 5	Use principles of authentic community engagement to work collaboratively within a community.
MPH-CHE 6	Identify and apply social, behavioral, group, and communication theories, concepts and models to the design, implementation, and evaluation of community health initiatives.
MPH-CHE 7	Apply evidence-based principles and scientific knowledge base to plan the development of community health initiatives appropriately adapted to fit community health needs.
MPH-CHE 8	Identify and apply evidence-based principles and best practices to critical evaluation of community health initiatives.
MPH-CHE 9	Apply knowledge and principles of cultural competence and humility, civic learning, community assessment and community engagement to develop communication plans (including interpersonal) for local community groups/stakeholders.

MPH UNC Concentration Competencies

Identifier	MPH Healthy Aging Plus (HA) Competencies
MPH-HA 1	Discuss the unique developmental aspects of aging: cognitive, psychological, social, and emotional.
MPH-HA 2	Identify gerontological theory, frameworks and methods appropriate for investigation of health issues and aging.
MPH-HA 3	Develop a comprehensive health education program employing strategies and best practices tailored to older adults.
MPH-HA 4	Critically evaluate major US policies that impact health in older adults.
MPH-HA 5	Identify and critically assess the sufficiency of community-based resources for aging populations, including social systems, community services, and access to appropriate health care services.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Applied Biostatistics Concentration (BIOS) Competencies
MPH-BIOS 1	Translate a study's scientific question or aims into testable statistical hypotheses and propose and apply appropriate statistical methods to test those hypotheses.
MPH-BIOS 2	Fit and interpret models for continuous outcome data (normal linear model), categorical outcome data (logistic regression), and time-to-event data (Cox regression).
MPH-BIOS 3	Apply concepts of multiple regression, including confounding, statistical interactions, model selection, model fit, and regression diagnostics, in fitting and evaluating statistical models.
MPH-BIOS 4	Apply scientific and statistical principles of sampling, bias, confounding, and sample size estimation to design and interpret basic public health and biomedical studies.
MPH-BIOS 5	Use computer software for data management (data entry, access, and data manipulations), as well as for summarizing, analyzing and displaying research results
MPH-BIOS 6	Use the principles of hypothesis testing and estimation of population parameters to draw inferences from quantitative data and communicate orally and in writing those inferences and their statistical and scientific interpretation to non-statistical scientists.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Community and Behavioral Health Concentration (CBHS) Competencies
MPH-CBHS 1	Describe, select and apply appropriate theories, models, frameworks and evidence- based strategies for the development of health promotion, disease prevention, and disease management programs.
MPH-CBHS 2	Describe and apply systematic approaches and methods to assess the health-related needs of communities and populations, taking into account individual, interpersonal, community and societal factors.
MPH-CBHS 3	Utilize quantitative or qualitative data to identify disparities in health and inform the design and adaptation of culturally appropriate programs to promote health equity.
MPH-CBHS 4	Use systematic approaches to conceive, design, implement and evaluate health promotion and disease prevention programs/activities.
MPH-CBHS 5	Describe appropriate research designs and evaluation criteria to assess the effectiveness of public health programs.
MPH-CBHS 6	Critically assess and select appropriate quantitative and qualitative measurement methods for evaluating program reach, effectiveness, adoption, implementation, and sustainability.
MPH-CBHS 7	Effectively engage and collaborate with communities and stakeholders, in an equitable and ethical manner, including developing a work plan, communicating effectively and disseminating results.
MPH-CBHS 8	Analyze quantitative or qualitative data, using a social science perspective, to understand factors associated with health or health behavior.
MPH-CBHS 9	Interpret and report the results of quantitative or qualitative studies, taking a social science perspective on health.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Environmental and Occupational Health Concentration (EHOH) Competencies
MPH-EHOH 1	Specify appropriate monitoring and other field methods for addressing environmental and occupational health problems.
MPH-EHOH 2	Describe the dynamics of ecosystems and how they affect the movement of toxic agents in the environment and mediate related risks for human disease as well the quality of air, water, and soil.
MPH-EHOH 3	Describe the dynamics of ecosystems and how they affect the movement of toxic agents in the environment and mediate related risks for human disease as well the quality of air, water, and climate.
MPH-EHOH 4	Define the principles of sustainability and apply these principles in the development of solutions to environmental and occupational health problems.
MPH-EHOH 5	Apply basic skills in geographic information systems (GIS) technology in the evaluation of environmental health problems.
MPH-EHOH 6	Describe theoretical models and frameworks that inform the health, safety, and wellness of workers and related systems-level environmental and policy interventions designed to protect and promote worker health.
MPH-EHOH 7	Identify the uses of biomarkers in evaluating exposures, health effects and susceptibility to environmental and occupational disease.
MPH-EHOH 8	Explain the scientific characteristics, including exposure and mode of action, of major biological, chemical, physical hazards that result in human health risk.
MPH-EHOH 9	Describe the policy framework that shapes environmental health at the federal, state and local levels and the historic and current decision-making processes that inform this framework.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Epidemiology Concentration (EPID) Competencies
MPH-EPID 1	Compare and prioritize public health issues within and across populations, using epidemiologic methods including measures of prevalence, incidence, morbidity, mortality, demographic characteristics and risk factors.
MPH-EPID 2	Critically review and evaluate public health and other scientific literature to identify threats to internal validity, strengths and weaknesses of individual studies, and assess for overall strength of evidence.
MPH-EPID 3	Synthesize evidence in a research area to identify gaps in evidence and to demonstrate relevance of current knowledge to the practice of public health.
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MPH-EPID 5	Design studies to address public health topics, taking into account the strengths, limitations, and feasibility of study designs for addressing specific topics, as well as the practical aspects of their uses.
MPH-EPID 6	Describe best practices for design of data collection forms and protocols, instrument reliability and validity, data monitoring and quality assurance, and data archiving for analysis and use of data by other investigators.
MPH-EPID 7	Use computer software for data entry, database management, and summarizing, analyzing and displaying data.
MPH-EPID 8	Apply and interpret the concepts of effect modification, confounding, and bias in research design and analysis approaches.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Health Systems Management and Policy Concentration (HSMP) Competencies
Health Systems and Health Economics	
MPH-HSMP 1	Analyze the organization, financing and delivery of public and private health services in the U.S. and assess the effects of markets and political processes on these systems.
MPH-HSMP 2	Apply commonly used methods for evaluating health economic policy, including the use of cost-benefit and cost-effectiveness analysis
MPH-HSMP 3	Evaluate differences between models used for financing and delivering health care across countries.
Management and Leadership	
MPH-HSMP 4	Understand key tenets of effective organizational and financial management and evaluate the strengths and limitations of different management approaches for improving population health.
MPH-HSMP 5	Explain key elements of human resource management: defining roles and responsibilities; recruiting, motivating and retaining staffing; and assessing and applying measures for performance improvement.
MPH-HSMP 6	Apply common quality and performance improvement tools in public health and healthcare settings.
MPH-HSMP 7	Apply principles of budgeting and financial decision analysis in public health and healthcare settings.
MPH-HSMP 8	Examine attributes of strategic leadership, including the use of vision, mission, values, goals and objectives.
Policy	
MPH-HSMP 9	Differentiate key public health laws, regulations, and policies affecting health programs and the delivery of health services
MPH-HSMP 10	Investigate commonly used frameworks for systematically and critically evaluating the policy development and implementation process at the federal, state, and local levels and outside the U.S.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Health Services Research Concentration (HSR) Competencies
MPH-HSR 1	Analyze the organization, financing and delivery of public and private health services in the U.S. and assess the effects of markets and political processes on these systems.
MPH-HSR 2	Apply commonly used methods for evaluating health economic policy, including the use of cost-benefit and cost-effectiveness analysis.
MPH-HSR 3	Evaluate differences between models used for financing and delivering health care across countries.
MPH-HSR 4	Differentiate key public health laws, regulations, and policies affecting health programs and the delivery of health services.
MPH-HSR 5	Investigate commonly used frameworks for systematically and critically evaluating the policy development and implementation process at the federal, state, and local levels and outside the U.S.
MPH-HSR 6	Develop a plan for engaging stakeholders and building coalitions in the development or implementation of health policy.
MPH-HSR 7	Create theory-driven hypotheses that can be tested using quantitative data.
MPH-HSR 8	Specify and estimate empirical models to test hypotheses.
MPH-HSR 9	Understand and apply methods for causal inference and identify the assumptions that may or may not hold for a causal interpretation.
MPH-HSR 10	Choose and define the appropriate unit of analysis and approach to computing standard errors for conducting a hypothesis test.
MPH-HSR 11	Select the appropriate econometric/statistical specification and estimation technique, including using specification tests and theoretical justifications for distributional assumptions, the choice of link function, and estimation approach for a variety of outcomes.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Global Health Plus Concentration (GLH) Competencies
MPH-GLH 1	Describe contemporary and historic global health issues, programs, best practices, and players.
MPH-GLH 2	Critically analyze the political, economic, and ethical issues relevant to methods and contemporary issues in global health.
MPH-GLH 3	Recommend data collection methods in a global context, taking into account unique resource and cultural aspects of the geographic setting.
MPH-GLH 4	Apply concepts of global burden of disease, especially disability-adjusted life years, across national and international settings to address health challenges.
MPH-GLH 5	Describe the geographic differences and connections between regions around the world and how they affect health.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Leadership and Public Health Practice Concentration (LPHP) Competencies
MPH-LPHP 1	Interpret and develop an implementation plan for public health laws, regulations and policies
MPH-LPHP 2	Articulate a personal development plan, including an achievable mission, set of core values and vision and use these to guide personal and professional action.
MPH-LPHP 3	Identify issues, internal and external to an organization, that may impact delivery of essential public health services.
MPH-LPHP 4	Facilitate collaborative decision-making by listening to others in an unbiased manner, respecting points of view of others and promoting the expression of diverse opinions and perspectives.
MPH-LPHP 5	Create an emergency response plan, including implementation planning.
MPH-LPHP 6	Develop an implementation plan for a disease outbreak investigation.
MPH-LPHP 7	Develop mechanisms to monitor and evaluate programs for their effectiveness and quality.
MPH-LPHP 8	Apply the principles of program planning, development, implementation, budgeting, management and evaluation to organizational or community initiatives.

MPH CU Anschutz Concentration Competencies

Identifier	MPH Maternal and Child Health Concentration (MCH) Competencies
MPH-MCH 1	Describe maternal and child health problems in terms of time, magnitude, scope, location, co-occurrence and co-morbidity.
MPH-MCH 2	Assess demographic, health, familial, socio-cultural, environmental, and community factors and apply to the design of maternal and child health programs and services.
MPH-MCH 3	Select and interpret existing data sources including vital statistics, censuses, surveys and/or service utilization records to make meaningful inferences about the health of maternal and child health populations.
MPH-MCH 4	Interpret and appropriately use data to identify problems and assets and to plan, implement, and evaluate maternal and child health programs.
MPH-MCH 5	Select, use, and interpret maternal and child health performance measures to evaluate programs and service networks for their effectiveness and quality.
MPH-MCH 6	Describe significant past and current national maternal and child health practices, programs, and relevant legislation and apply to the development and delivery of maternal and child health services.
MPH-MCH 7	Apply lifecourse and other relevant theories to maternal and child health policy development and implementation.