Pitt Public Health Competency and Assessment Project 2012-2013
Final Report

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This document summarizes the process and results of the all-MPH competency review conducted between October 2012 and December 2013. However, the results summarized here include changes that were made subsequently, between the end of 2013 and the end of 2014.

Participants:
MPH program directors, core course instructors. Outside input from EPCC (including student representatives.

Process:

Prior to the start of this project, competencies were well established: ASPPH competencies for all MPH students and advanced competencies for each concentration. Early in 2012 we conducted a complete survey of the degree to which each ASPPH competency was being covered in each core course.

The goal of this project, starting late in 2012, was to establish assessment plans for each all-MPH competency. Advanced competencies were already being assessed as part of the Middle States process.

The committee started by reviewing all of the ASPPH competencies, evaluating them in light of more current information from employers and alumni. The conclusion was that the group still felt very positively about almost all of the competencies, and did not want to make any major changes. However, the committee quickly concluded that specifically and individually assessing all of the competencies was not feasible, nor would it be a positive contribution to student learning. The approach adopted was to reduce the competencies in each domain into a smaller set for assessment; this was not a process of dropping competencies, but of combining them into broader categories.

The remainder of the year was spent determining exactly what the assessments were or needed to be for each of the “reduced” competencies. In most cases the assessments were already embedded in the existing coursework and just needed to be identified. For some cross-cutting competencies we added specific assessments, particularly within the capstone course.
Competencies for all MPH students - DISCIPLINARY

BIOSTATISTICS

**Competency:** Define commonly used statistical terminology.

**Assessment:** Students taking the biostatistics core courses are required to demonstrate their knowledge of standard statistical terminology as part of course examinations. Relevant examination items are direct definitions of statistical terms and the correction of paragraphs where statistical terms are deliberately misused. Students will be judged “competent” if they score at least 80% on these examination items.

**Competency:** Demonstrate the ability correctly to select the most appropriate statistical procedures for given research hypotheses and types of data.

**Assessment:** As part of core course examinations, students are presented with research hypotheses and asked what procedures are appropriate and why. An example of such an examination item is asking students to 1) read a description of a research question calling for a comparison of two group medians or means, 2) name 4 procedures that could be used to address the research question, and 3) choose the most appropriate procedure on the basis of each procedure’s assumptions. Students will be judged “competent” if they score at least 80% on these examination items.

**Competency:** Demonstrate the ability to interpret the results of statistical analysis given the results of a statistical analysis.

**Assessment:** Core course examinations include questions requiring students to provide interpretations of statistical results in terms of the public health subject matter pertaining to the analysis described. Students will be judged “competent” if they score at least 80% on these examination items.
ENVIRONMENTAL HEALTH SCIENCES

**Competency:** Define environment, sources of unhealthy exposures to environmental hazards, populations most susceptible to environmental hazards, and sources, as well as reasons for disparity in environmental and occupational hazard exposure.

Source: ASPH EOH competencies #1,#2,#4, #5

**Assessment:** biweekly quizzes and group discussion boards that require reading current literature on environmental hazards and risk assessment in diverse global populations. Culminating group wiki building assignment that incorporates defines a major environmental or occupational health problem, identifies the hazard, defines the exposure, and proposes interventions for resolution.

**Competency:** Identify the major classes of environmental hazards, their mechanisms for injury and susceptibility, the issues related to measurement of their exposures, and the major components for environmental risk characterization and assessment.

Source: ASPH EOH competencies #2,#3,#4, #5

**Assessment:** biweekly quizzes and group discussion boards that require reading current literature on environmental hazards and risk assessment in diverse global populations. Culminating group wiki building assignment that incorporates defines a major environmental or occupational health problem, identifies the hazard, defines the exposure, and proposes interventions for resolution.

**Competency:** Explain the roles of responsible global and national government agencies and identify important laws that regulate and protect environmental quality and health, as well as explain the role of agencies and parties responsible for protecting and cleaning the environment.

Source: ASPH EOH competencies #6, #7

**Assessment:** biweekly quizzes and group discussion boards that require reading current literature on environmental hazards and risk assessment in diverse global populations. Culminating group wiki building assignment that incorporates defines a major environmental or occupational health problem, identifies the hazard, defines the exposure, and proposes interventions for resolution.

**Competency:** Identify approaches for preventing and remediating environmental hazards, protecting populations from environmental hazards, and working with stakeholders to resolve complex issues of environmental and occupational health promotion.

Source: ASPH EOH competencies #9,#10,#11

**Competency:** biweekly quizzes and group discussion boards that require reading current literature on environmental hazards and risk assessment in diverse global populations. Culminating group wiki building assignment that incorporates defines a major environmental or occupational health problem, identifies the hazard, defines the exposure, and proposes interventions for resolution.
EPIDEMIOLOGY

Competency: Describe a public health problem in terms of magnitude, person, place and time

Assessment: All students will be assessed based on questions related to this outcome that are embedded in exams in EPIDEM 2110 every year. These exam questions will be assessed with a scoring rubric (1=correct, 0=incorrect/incomplete).

Competency: Calculate basic epidemiology measures

Assessment: All students will be assessed based on questions related to this outcome that are embedded in exams in EPIDEM 2110 every year. These exam questions will be assessed with a scoring rubric (1=correct, 0=incorrect/incomplete).

Competency: Evaluate the strengths and limitations of epidemiologic reports (i.e. research reports)

Assessment: All students will be assessed based on a group project in EPIDEM 2110, where the group is required to critically review a research paper and submit a two page critique. The critique will be scored with a 4-point scoring rubric (4=excellent, 3=good, 2=meets expectations, 1=does not meet expectations).
HEALTH POLICY AND MANAGEMENT

**Competency:** Identify and evaluate the main components of the policymaking process that affect the financing and delivery of health services in the US.  
Source: ASPH HPM competencies #1, #4 and #8

**Assessment:** Exam questions and discussion board assignments that require application of policymaking concepts to solve systemic public health and healthcare delivery problems affecting the health of the US population.

**Competency:** Apply the principles of strategic planning, program development, and performance measurement to public health initiatives that utilize effective partnerships between organizations and communities. Source: ASPH HPM Competencies #5, #6 and #7

**Assessment:** Exam questions that require identification and assessment of program planning and implementation issues that affect the health of a target population. Participation in Discussion board assignments; Require application of program planning and performance measurement concepts.

**Competency:** Develop leadership skills and communicate relevant healthcare policies and management issues using appropriate channels and technologies.  
Source: ASPH HPM Competencies #9 and #10

**Assessment:** Discussion board assignments that require application of health policy and management issues to manage strategic partnerships intended to address health problems.
SOCIAL AND BEHAVIORAL SCIENCES

**Competency:** Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.

**Assessment:**

a) Adequate performance (9/10) on the weekly assignment addressing theories;

b) Correct answers to items 1, 13-17, 24-26 on the final exam.

**Competency:** Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.

**Assessment:**

a) Adequate performance (9/10) on the weekly assignment addressing intervention planning;

b) Correct answers to items 3, 5, 11-12, 21-24, 27 and 30 on the final exam.

**Competency:** Identify factors related to and resources and targets to address the health of individuals and populations at all levels of the social ecological framework.

**Assessment:**

a) Adequate performance (9/10) on the weekly assignments addressing the a) social ecological framework, b) upstream factors related to health and c) stakeholders and community resources;

b) Correct answers to items 4, 23, 27-29 on the final exam.
Competencies for all MPH students - CROSS-CUTTING

COMMUNICATION AND INFORMATICS

Competency: Demonstrate effective written, oral, and technology-based skills for communicating with different audiences in the context of professional public health activities.
Assessment: In Capstone, each group of students presents their Public Health Intervention to the class. Their classmates rate each presentation from 1 (poor) to 5 (clearly presented) and state why. We expect that all groups will receive a mean ≥4.0.

Competency: Use information technology to access, evaluate, and interpret public health data.
Assessment: In Capstone, each student derives a model of “determinants” that indicates the factors that influence a public health problem and also provides references for this model.

DIVERSITY AND CULTURE

Competency: Discuss the roles of cultural competence, linguistic competence, health literacy and a diverse workforce in public health.
Assessment: Three test items on the final exam in BCHS 2509

Competency: Use the basic concepts and skills of community-based participatory research that involve culturally appropriate community engagement and empowerment to develop public health programs and strategies that are responsive and acceptable to a wide range of communities.
Assessment: Program planning paper in BCHS 2509.

Competency: Identify and describe the historical underpinnings and structural inequality that lead to health disparities.
Assessment: Question on book and/or documentary report in PUBHLTH 2016; score of 4/5pts would be acceptable.

Competency: Provide examples of interventions that were made more effective by being adapted to culture-specific needs of a particular group.
Assessment: Question on book and/or documentary report in PUBHLTH 2016; score of 4/5pts would be acceptable.

LEADERSHIP

Competency: Describe the principles and terminology of leadership in public health.

Assessment: Leadership assignment in HPM 2001
**Competency:** Demonstrate team building, negotiation, conflict management and other leadership skills.

**Assessment:** Leadership assignment in HPM 2001

**PUBLIC HEALTH BIOLOGY**

**Competency:** Identify the key biological processes and recent scientific breakthroughs related to:

- a: infectious diseases; including pathogenesis, the immune response, the emergence of new infections, plus treatment and vaccination strategies and;

- b: genetic and chronic diseases; including Mendelian and complex diseases, cancer, and neuropsychiatric disorders.

**Assessment:** weekly review quizzes and formal examinations in Public Health Biology course, designed to evaluate knowledge and application of these principles.

**Competency:** Integrate this knowledge into the broader public health field, showing how biological factors integrate with other social and ecological factors to impact the health of the public, and communicating these relationships to a broad audience.

**Assessment:** End-of-semester project presentations in Public Health Biology course on disease-related topics, specifically designed to test the student’s ability to integrate biology and public health, and to communicate their findings to a non-specialist audience.

**PROFESSIONALISM**

**Competency:** Apply basic principles of ethical analysis to issues of public health practice and policy.

**Assessment:** In Capstone, each student writes an ethics paper on a public health questions and defends his/her arguments using ethical principles.

**Competency:** Promote high standards of personal and organizational integrity, compassion, honesty, and respect for all people.

**Assessment:** Practicum evaluation (departmental)

**Competency:** Value commitment to lifelong learning and professional service.

**Assessment:** Practicum evaluation (departmental)
PROGRAM PLANNING

Competency:
Identify steps in planning, implementing and evaluating public health programs and interventions.

Assessment:
Logic model assignment, Capstone
Budget assignment, Capstone
Items on BCHS 2509 exam: 3, 5

Competency:
Apply public health theories and planning models to program planning.

Assessment:
Items on BCHS 2509 exam: 3, 5, 25, 26

Competency:
Describe formative, process and outcome evaluations and how they can be used.

Assessment:
Items on BCHS 2509 exam: 11

SYSTEMS THINKING

Competency: Qualitatively describe a systems thinking approach to public health, including consideration of complex feedback loops and unintended consequences.

Assessment: HPM 2001 mid-term exam

Competency: Identify and describe the key terminology and concepts of one or more specific approaches to quantitative or systems modeling in public health.

Assessment: HPM 2001 mid-term exam