

## MPH - Mission and Goals

Department of Preventive Medicine and Biometrics  
University of Colorado at Denver and Health Sciences Center  
4200 East Ninth Avenue, B-119  
Denver, CO 80262

The Master of Science in Public Health (MPH) program offered by the Department of Preventive Medicine and Biometrics at the University of Colorado at Denver and Health Sciences Center (UCDHSC) is a generalist public health degree program.

The mission of the Department of Preventive Medicine and Biometrics is to increase an understanding of health and illness in populations through the application of sound research and quantitative methods to educational, health care delivery, and basic and clinical research aspects of medicine and public health. The mission of the Master of Science in Public Health program is to enhance the public health workforce by providing graduate training in the core content areas of public health (epidemiology, biostatistics, health services administration, environmental health and behavioral sciences) with emphasis on the development of analytic skills.

The MPH program received pre-accreditation in 1985, received full accreditation in 1988, and in 1992, received the maximum seven-year accreditation from the Council on Education for Public Health (CEPH). UCHSC's MPH program is one of only fourteen programs in schools of medicine that is accredited by CEPH.

Program requirements include coursework in the five basic public health content areas (epidemiology, biostatistics, health care systems, behavioral sciences, and environmental and occupational health) which provide an introduction to general public health practice.

The goals and objectives of the MPH program are as follows:

### Instructional

1. To provide access to coursework that provides maximal opportunity for students to pursue their individual interests as well as the breadth of public health.
  - **Objectives:** At least one elective in each of the five core content areas will be offered by the program each semester. Within the next three years, negotiate tuition flows to allow approval of courses offered by other schools and departments as electives for MPH students.
2. To provide opportunities for students to demonstrate required skills and knowledge as well as the ability to organize, synthesize and communicate orally and in writing.
  - **Objectives:** Continue to annually conduct a student survey regarding the degree to which the MPH program facilitates the acquisition of stated MPH competencies. Continue to require all graduating students to complete a survey regarding acquisition of stated MPH competencies. An average overall rating of 3.5 on a five point scale (from 1=no progress to 5=objective fully attained) is the standard for competency attainment. Annually review results from annual student

survey of acquired competencies as well as the competency survey administered in conjunction with the final defense of the student's research results (thesis or publishable paper) to determine whether gaps exist in acquiring these skills and knowledge. Make program changes as appropriate. Annually review course evaluations for all required MPH courses to identify strengths and weaknesses of these courses in aiding students to achieve these skills and knowledge. Annually report to the MPH Policy Committee on the results of reviews listed above, and determine actions needed, if any. At each meeting of the MPH Policy Committee, review issues arising regarding student status and progress, and establish corrective action as appropriate.

3. To provide a diverse range of opportunities to apply acquired skills and knowledge in public health.
  - **Objectives:** Review the MPH curriculum, every three years to ensure that coursework provides opportunities to apply skills and knowledge through the practicum, the culminating experience and through other mechanisms such as: small group assignments and presentations; leading class discussions; preparing and presenting abstracts; preparing and presenting platform presentations; constructive critiques of students letters of intent and research proposals; providing service to the public health community; and consulting with public health agencies. Annually review the annual student self report of competency attainment and evaluate the extent to which students report acquiring experiences to apply public health skills and knowledge. An average overall rating of 3.5 on the five point scale is the expected standard for competency attainment. Annually report to the MPH Policy Committee on the results of reviews listed above, and determine actions needed, if any.
4. To optimize the opportunities for students to become public health leaders.
  - **Objectives:** To each incoming MPH student, provide information on the Regional Institute for Environmental and Public Health Leadership (RIEHL). Continue to involve at least one student representative in the MPH Policy Committee and its policy development and implementation processes. Publicize opportunities for MPH students to submit abstracts for presentation at local, state, regional, national and international professional public health meetings through email and posted notices. Provide limited financial assistance, as the program budget allows, to support at least one MPH student per year to present at a local, state, regional, national or international professional public health meeting and/or support at least one MPH student to attend a leadership training seminar or program. Incorporate at least one hour of in class content and supplemental readings on leadership development into PRMD 6606 Community Health Practice.
5. To encourage the enrollment of students from other health professions programs (e.g. medicine, veterinary medicine and clinical sciences) in MPH courses, in order to broaden exposure of these students to public health and to enrich the educational experiences of MPH students, through interaction with students from other disciplines.
  - **Objectives:** Achieve a joint certificate program in health or environmental policy with the Graduate School of Public Affairs (GSPA). Achieve a dual degree program (MPH and MPA) with GSPA. Formalize the agreement in concept with the Health and Behavioral Sciences doctoral program to serve as their master's program for entrance requirements. Formalize the agreement in concept with the College of Veterinary Medicine at Colorado State University (CSU) to accept

veterinary students into the MPH program. Continue to work with the School of Medicine (SOM) curriculum committee to offer course content in health policy, economics, health systems and related areas in the Medicine and Society curricular thread throughout the four years of the curriculum. Proposed to the SOM Curriculum Committee that at least one lecture on each topic be provided in each of the four years of the medical student curriculum. Continue to enroll students from both tracks (Clinical Investigations and Health Services Research) of the Clinical Sciences doctoral program and the Clinical Sciences certificate programs into MPH courses that serve as core coursework for their degree or certificate programs.

All of these proposed goals are predicated on the Colorado School of Public Health opening as scheduled in Summer 2008.

6. To provide the academic component of Graduate Medical Education for select residencies and fellowships (e.g. General Preventive Medicine residency, Occupational and Environmental Health Residency and Primary Care Research Fellowship).
  - **Objectives:** For each application cycle provide guaranteed MPH program slots to acceptable applicants as follows: General Preventive Medicine Residency – 3 slots; Occupational and Environmental Health Residency – 2 slots; and Primary Care Research Fellows – 2 slots.
7. To provide continuing public health education.
  - **Objectives:** Market the Certificate in Public Health Sciences (CPHS) program to local and state health departments as a continuing education opportunity by expanding the MPH program presence at the annual Colorado Public Health Association (CPHA) meeting, by posting announcements at public health agencies, by sending email announcements to directors of local health departments and by forging a working relationship with the Colorado Department of Public Health and Environment's liaison for local public health departments and agencies. Collaborate with RIEHL on marketing their occasional seminars to public health audiences by sending email announcements to MPH and CPHS students and to alumni of both programs. Continue to encourage students, alumni and public health workers to participate in the Department's annual Epidemiologic Research Exchange, through email announcements, announcements in courses, posted notices and department newsletters. Assist the Department in advertising its monthly Grand Rounds and seminars to MPH alumni by distributing the lists of each to alumni by email at the beginning of each semester. Continue to offer MPH courses, including Epidemiology and Biostatistics, in late afternoons and early evenings to increase their convenience for the work force in obtaining continuing education.

## Research

1. To ensure that faculty members who teach MPH courses and serve on thesis/publishable paper committees are actively involved in applicable public health research.
  - **Objectives:** Use the Graduate School's faculty appointment process, which requires review and reappointment at least every three years, to ensure that faculty are actively involved in applicable research, which includes participation in research studies and publication of research papers.

2. To involve students in public health research projects on campus and with external organizations.
  - **Objectives:** Each semester, use email to poll faculty on potential research opportunities for MPH students. Continue to use student email system and student mailboxes to advise students of the multiple opportunities for public health research that regularly come into the MPH office. In addition to two seminars conducted annually on completion of the MPH thesis project, add a third seminar that will focus on student opportunities to do research with MPH and Departmental faculty.
3. To help students identify and pursue opportunities to present their research findings.
  - **Objectives:** Provide electronic and hard copy information all MPH students about abstract deadlines and meeting dates for the Department's Epidemiologic Research Exchange, Colorado Public Health Association, American Public Health Association, Society of Public Health Education, Academy Health and other appropriate opportunities. As the program budget permits, provide financial support for at least one student each year to travel to a professional meeting or conference.

### Service

1. To involve students in public health service activities at the program, campus, community, state and national levels.
  - **Objectives:** Using email and posted announcements, encourage students to become involved in public health service projects with faculty members, including, for example, serving on data committees for external organizations and participating on health coalitions such as tobacco cessation programs and health care for the poor, throughout the region. Meet annually prior to the beginning of the academic year, with the Rocky Mountain Prevention Research Center to identify service opportunities for MPH students. 50% of students will complete a service project as part of their required practicum (PRMD 6606). Continue to use email and posted announcements to provide information to students on external requests for service from organizations as the American Heart Association, local health care clinics, organizations that serve disadvantaged populations and other organizations. Assist students through email and posted announcements, and through technical support by faculty members, as they identify and propose service opportunities such as participation in national public health week, volunteering to help with disaster management, or international public health opportunities.
2. To respond as a faculty, and to involve students, to requests for assistance, insights and innovative solutions to public health problems from local and state agencies and other health related organizations as appropriate and as resources allow.
  - **Objectives:** Using email and posted announcements, offer students opportunities to assist community organizations that turn to Departmental/MPH faculty for assistance. Examples include helping a local hospital system find community partners for health promotion projects; serving as reviewers for abstracts for Colorado Public Health Association and Epidemiological Exchange meetings and working with the Healthy Aging Network on projects to improve physical activity

and nutrition among the state's population of seniors. For public health traineeship students, promote service opportunities for fulfillment of the field practicum requirement. This may include providing assistance to communities in such things as survey design and data collection, working on the Rocky Mountain Prevention Research Center's school environment project and developing research protocols for public health projects.

For general information or for information packets and application materials please contact [Robin.Ripley@UCHSC.edu](mailto:Robin.Ripley@UCHSC.edu) or via telephone at 303-315-8357.

## **Required MPH Courses**

The MPH program includes a core of required courses and a choice of electives that enable the student, in consultation with a faculty adviser, to plan an individual course of study that is responsive to the student's needs and interests. Completion of the degree program requires a core of 26 required courses and a choice of 12 hours of electives that enable the student, in consultation with a faculty adviser, to plan an individual course of study that is responsive to the student's needs and interests. Completion of the degree program requires 42 semester hours, including 4 hours towards a final research project in the form of either a thesis or publishable research paper. A maximum of 12 semester hours of previous graduate work in appropriate areas of study may be transferred with departmental approval.

The University of Colorado Graduate School grants the degree; thus students must meet all requirements of the Graduate School as specified in the University of Colorado catalogue.

### **BIOS 6601 Biostatistics**

Credits: 4 credit hours

This course is designed primarily to equip graduate students with a practical knowledge of the quantitative methods most frequently used in applied research. It deals with elementary probability and parametric methods for handling one and two-sample estimation and testing problems with continuous data. The course also includes an introduction to computer statistical packages.

### **BIOM 6680 SAS Programming for Data Management**

Credits: 2 credit hours

This course provides the necessary introduction and experience to prepare data for analysis. Specifically, this course will include: inputting data into statistical packages, manipulating data for various statistical analyses, recording and reformatting information and organizing information to system specific formats. This course will also emphasize report writing and some simple statistical analysis using popular statistical analysis system for medical research.

### **PRMD 6603 Health Care Systems**

Credits: 2 credit hours

This is the first of a two-quarter sequence designed to introduce students to the U.S. health care system from an organizational, political, social and service delivery perspective. Students are introduced to the basic components of the current health care system (personnel, organizations, facilities) and basic economic principles as they are applied to selected aspects of the health care system (financing, insurance, Medicare, Medicaid).



### **PRMD 6604 Health Care Economics**

Credits: 2 credit hours

Prerequisite: PRMD 6603

This course is a sequel to PRMD 6603 and focuses on health care financing and economic issues. A microeconomics framework, including issues of supply, demand, market structure, market failure, price and output are discussed as they apply to the health sector. Specialized markets, the role of the government in regulating and/or fostering competition, and the significance of health insurance in financing the U.S. health care system are addressed.

**OR**

### **PRMD 6605 Health Policy**

Credits: 2 credit hours

Prerequisite: PRMD 6603

The focus of this course will be the analysis of important US health policy issues of access, cost and quality. Analytic concepts, approaches and frameworks will be used to explore specific significant health policy issues.

### **PRMD 6606 Community Health Practice**

Credits: 3 credit hours

Prerequisite: PRMD 6603 and PRMD 6604 or PRMD 6605

This course is designed to present technical, policy and administrative issues within the context of operational activities of community and public health agencies. An introduction to basic management skills is included. Each student will participate in a community agency problem-solving or needs assessment activity. This course provides each student with a practicum experience in a community health agency in the Denver area.

### **PRMD 6610 Social and Community Factors in Health**

Credits: 3 credit hours

This course considers the social and community factors affecting health status, seeking and providing health care. Cross-cultural concepts of health and disease are reviewed. The measurement of selected social and psychological factors; including demographic, socioeconomic and life style indicators; and their use in epidemiological studies are emphasized.

### **PRMD 6614 Occupational and Environmental Health**

Credits: 3 credit hours

Prerequisite: PRMD 6630

Presents an overview of information needed to assess the relationship between the environment/workplace and health. Topics include facets of industrial hygiene, air and water pollution, radiation monitoring, toxicology studies, clinical occupational medicine, and biologic monitoring. The emphasis throughout is on the epidemiologic link between exposure and health with a discussion of study methods and interpretation specific to the areas.

### **PRMD 6626 Research Methods in Community Health**

Credits: 3 credit hours

Prerequisite: BIOS 6601; PRMD 6630

Research methods topics include clinical trials, medical care evaluation, and survey research. Lectures and discussions cover problem statement and hypothesis formulation, study design, data collection and analysis. Students will gain practical experience through analysis of large data sets available at state agencies.

### **PRMD 6630 Epidemiology**

Credits: 4 credit hours

Offers an introduction to the 1) approaches and methods used in describing the natural history of disease in the community and for locating clues to the causes of disease, and 2) analytic epidemiology (study design, bias, confounding and measures of excess risk) used in the study of disease etiology and the critical review of the medical literature. Lecture-discussions are supplemented with problem-solving exercises.

### **Final Research Project (a total of 4 credit hours in either PRMD 6950 Master's Thesis or PRMD 6651 Research Paper)**

Prerequisite: BIOS 6601, PRMD 6630; Corequisite: PRMD 6626

An independent research project is required of all students as a final demonstration of acquired skills and knowledge. Students have the opportunity to organize, synthesize, and communicate the results of the project both through an oral defense and in a written report. It is anticipated that all projects will involve the analysis of quantitative data. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.

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