

University At Albany
State University of New York
New York State Department of Health
School of Public Health

MASTER OF PUBLIC HEALTH PROGRAM

Introduction

The mission of public health is “to fulfill society’s interest in assuring conditions in which people can be healthy,” as defined by the Institute of Medicine’s Committee on the Future of Public Health (1). Practitioners of public health are concerned with primary and secondary determinants of disease, dysfunction and premature death, and planning and organization of health services, including health regulation. Public health is therefore not a single profession, but encompasses many specialties including epidemiology, biostatistics, behavioral sciences, environmental health, administration, medicine, engineering, and laboratory sciences. The aim of public health is to apply this scientific and technical knowledge to prevent disease and promote health by means of organized community effort. Schools of public health today must train students in these and other disciplines and must help them to understand how separate fields can be coordinated in the interest of health.

Public health is facing great challenges in this era of spiraling medical costs, an aging population, environmental concerns, old and new diseases such as cancer and AIDS, and a political environment dominated by “crisis, hot issues and the concerns of organized interest groups” (1). There is a great need for broadly educated public health practitioners who understand the political, ethical and economic, as well as medical, statistical, scientific issues involved in addressing these problems. The Master of Public Health (MPH) is a professional degree designed to prepare graduates to tackle real public health problems, as practitioners who can apply their breadth of understanding as well as some degree of expertise and experience in at least one specific area of public health. The MPH degree is often the terminal degree for the front-line public health worker.

According to the Institute of Medicine Report, state government bears the primary responsibility to see that the mission of public health is adequately addressed. The School of Public Health (SPH), because of its intimate relationship with the New York State Department of Health (DOH), is uniquely situated to provide the links between theory and practice called for in the Report. Many of the school’s faculty have professional responsibilities in the DOH, including basic and applied research, and students are trained there by dealing with real, ongoing public health programs.

(1) The Future of Public Health: Committee for the Study of The Future of Public Health, Institute of Medicine; National Academy Press, Washington, D.C.: 1988

General Program Overview:

The Master of Public Health (MPH) program is an interdepartmental program. Students are admitted to the program rather than to a department. A graduate with an MPH degree will have broad and general knowledge of the basic areas of public health:

1. Biological, physical and chemical factors that affect the health of communities;
2. Distribution of disease or conditions in populations, and factors that affect this distribution;
3. Concepts and method of relevant social behavioral sciences;
4. Collection, storage, retrieval, analysis and interpretation of health data; and
5. Planning, policy analysis and administration of health programs

Students take core courses that provide the breadth of knowledge necessary for an understanding of public health.

Graduates will be expected to have special proficiency in one of the following areas of concentration: Behavioral Sciences/Community Health, Biomedical Sciences, Biostatistics, Environmental Health, Epidemiology, and Health Administration. In addition to the core courses, students will complete required and elective courses in their selected area of concentration. Most students will have selected their area of concentration on admission, but will be expected to choose one by the end of their first semester.

The capstone experience of the program are provided by internship rotations through areas of public health as practiced in state or local government or other health related agencies. This requirement is modeled after medical education, in which course work is followed by rotations through various specialties, giving students the opportunity to observe and participate in the application of their theoretical knowledge in the real world. All students will be expected to do at least one internship, and will do two or three if they have not had previous experience relevant to public health.

Admission Requirements:

Applicants to the MPH program are expected to meet the following criteria for admission. These criteria are used as guideline and may be modified in certain instances by the members of MPH Admissions Committee.

1. **Basic admission criteria:** Must hold a bachelors degree from a college or university of recognized standing.
 - a. Grade point average of 3.00 or better.
 - b. One year of biology (either basic biology or physiology or microbiology)
 - c. A college level course in mathematics (algebra) or statistics.

- d. A semester of social sciences.
2. **Graduate Record Exam (GRE):** All applicants must submit GRE scores to be considered for admission. Scores on the Medical College Admissions Test (MCAT) or the Graduate Management Admission Test (GMAT) may be substituted for the GRE.
3. **Test of English as a Foreign Language (TOEFL):** Applicants whose native language is not English are required to submit a score on the TOEFL prior to being considered for admission. The minimal acceptable score is 600 on the paper-based test or 250 on the computer-based test.
4. **Letters of Recommendation:** All applicant must submit three (3) letters of recommendation prior to being considered for admission. At least one letter must be from a former university teacher.
5. **Statement:** All applicants must submit a statement explaining why they wish to pursue a career in public health, There is no limit to the length of the narrative statement. These statements are judged for grammar and spelling as well as for content. The admission committee evaluates not only the academic preparation of candidates, but the degree to which the candidate's goals are appropriate for the program.

Degree Requirements:

The program leading to the MPH degree require 45 to 51 credits, including 6-12 credits of internships, depending on the student's prior experience in public health or related fields. For students with a bachelor's degree and no graduate education or experience in the field, it is expected that at least two years of full time study will be needed to complete the program.

Applicants for admission to the MPH program who have an MD, DDS, DVM or PhD in a health-related field or who completed appropriate graduate courses elsewhere, may apply for advanced standing and could be allowed a maximum of 9 credits for courses applicable to MPH.

All graduates of the MPH program must have two distinct experiences working in public health. Accordingly, a student entering with no experience must do at least two different internship rotations. A student who has prior relevant experience may apply for a waiver of one internship, but must do at least one internship rotation different from his/her experience. No transfer credit or substitute will be allowed for the six credits of internship.

Program of Study and Internships

(51 credits minimum, or 45 credits with a 6 credit internship waiver)

A. **Core Curriculum** of 24 credits, minimum*

1. EPI 501 Principles and Methods of Epidemiology I (3);
2. STA 552 Principles of Statistical Inferences I (3);**
3. HPM 500 Health Care Organization, Delivery and Financing (3);
4. EPI 503 Principles of Public Health (3);
5. BMS 505 Biological Basis of Public Health (3);
6. EHT 590 Introduction to Environmental Health (3);
7. HPM 525 Social and Behavioral Aspect of Public Health (3);
8. One course that requires application of computers and/or statistics for analysis of data in area of concentration. Specific course(s) required for concentration are listed in B;

*Students are required to maintain a minimum grade point average of 3.0 in the eight core courses (Epi 501, Sta 552, Hpm 500, Epi 503, Eht 590, Hpm 525, and the course that fulfills the quantitative requirements)

**Students selecting Biostatistics concentration take Sta 554, Introduction to the Theory of Statistics I (3) instead of Sta 552

Note: STA 552 and STA 553 use the computer program SAS for many exercises. Students without programming knowledge will find it advantageous to take EPI 514 before or concurrently with STA 552.

B. Area of Concentration Specific Requirements, 15 credits

Behavioral Science/Community Health

Quantitative course: Sta 553 Principles of Statistical Inferences II (3)
Hpm521 Introduction to Family and Community Health (3);
Hpm 627 Public Health Education: Targeting Social, Organizational and Behavioral Factors to Promote Health (3); and
Choice of three electives as approved by advisor.

Biomedical Sciences:

Quantitative course: Epi 502 Principles and Methods of Epidemiology II (3),
or Sta 553 Principles of Statistical Inferences II (3)

BMS 601A Introduction to Biomedical Sciences (3);

BMS 601B Introduction to Biomedical Sciences (3), and

One Elective in BMS, and

Choice of two electives in any department as approved by advisor.

Biostatistics:

Quantitative course: Sta 555 Introduction to Theory of Statistics II (3)

Sta 558 Methods of Data Analysis I (3);

Epi 502 Principles and Methods of Epidemiology II (3), and

Choice of three electives including at least two from the Department of Biometry and Statistics
as approved by advisor.

Environmental Health:

Quantitative course: Sta 553 Principles of Statistical Inferences II (3), or
EPI 514 Computer Programming for Data Management (3)

EHT 530 Principles of Toxicology (3)

EHT elective chosen from the following list:

EHT 515 Environmental Physiology (3)

EHT 520 Principles of Environmental Chemistry (3)

EHT 605 Water Quality and Public Health (3)

EHT 665 Risk Assessment (3)

EHT 730 Hazardous Materials Management (3)

EPI 613 Occupational and Environmental Epidemiology (3), and

Choice of three electives as approved by advisor

Epidemiology:

Quantitative course: Sta 553 Principles of Statistical Inferences II (3)

Epi 502 Principles and Methods of Epidemiology II (3)

Epi 514 Computer Programming for Data Management, and

Two 600 level EPI courses, and

Choice of one elective in any department as approved by advisor.

Health Administration:

Quantitative course: STA 553 Principles of Statistical Inferences II (3), or
EPI 502 Principles and Methods of Epidemiology II (3)
HPM 501 Health Policy Analysis and Management (3)
HPM 641 Principles of Health Organization Management (3)
HPM 650 Strategy and Leadership Applications in Health Management (3), and
Choice of two electives in any department as approved by advisor

C. Internship and Seminar, 6-12 credits:

Students are expected to have completed a minimum of four core course or 3 core courses and Epi 514 prior to enrolling in their first internship. Students must complete at least 6 credits of internship in the area of concentration. At least 3 credits of internship must be in a different area. For an internship in a specific area of concentration, student should have taken the core course in that area.

SPH 690-695 Internship in Public Health (3,) and

SPH 680 Seminar for Public Health (0)

All MPH students must enroll in the SPH 680 Seminar series once for each semester they are enrolled in an internship. These seminars are for MPH students to report on their internship experiences. Students who enroll in an internship for the summer should enroll in SPH 680 during the spring or fall semester before or after the internship is completed.

Students should begin planning their internships when they enter the MPH program. A handbook of guidelines for MPH internship is available from the placement coordinator. Files of information have been established which describe organizations willing to work with interns. Students will be encouraged to use these files to familiarize themselves with the various organizations' primary focus and the internship opportunities which are available. After the students becomes familiar with internship options, and choices are narrowed to several places, the student should consult with the placement coordinator on how to register for an internship placement.

Part time study is permitted. Students must carry at least three credits per semester however, and be continuously registered.

Academic Advisement

Upon addition into the program, each student will be assigned a faculty advisor who will be knowledgeable in the student's area of concentration. The advisor will assist the student in making course selections and assure that he/she is following the appropriate program of study for the area of concentration. The faculty advisor will help the student choose internships, monitor the student's progress in the internships, and evaluate the student's written and oral reports.

CORE COURSES FOR MASTER OF PUBLIC HEALTH PROGRAM

EPI 501 Principles and Methods of Epidemiology I (3 credits)

Introduction to epidemiology for students majoring in any aspect of public health; covers the principles and methods of epidemiologic investigation including describing the patterns of illness in populations and research designs for investigating the etiology of disease. Introduces quantitative measures to determine risk, association and procedures for standardization of rates.

Prerequisite: None

Instructor: Dr. Strogatz and staff

Schedule: Fall Only

STA 552 Principles of Statistical Inference I (3 credits)

An introduction to descriptive statistics, measures of central tendency and variability, probability distributions, sampling estimation, confidence intervals and hypothesis testing. Computing will be introduced and used throughout the course. Sta 552 and Sta 553 will satisfy the core requirement in statistics for programs in the School of Public Health.

Prerequisite: None

Instructor: Staff

Schedule: Fall and Spring

EPI 503 (HPM 503) Principles of Public Health (3 credits)

This course introduces the students to the basic principles of public health and their application to the development of activities that benefit the health status of populations. The skills of epidemiology, biostatistics, health care planning and policy development, health care administration, and community organization are applied to the assessment of public health needs and the development of prevention and control initiatives.

Prerequisites: None

Instructor: Prof. Leavy and staff

Schedule: Fall and Spring

HPM 500 Health Care Organization, Delivery and Finance

This is an overview course focusing on the various components that make up the U. S. health care system. This course generally covers system evolution within a sociohistorical context, and major types of organizational and financial structures that define health care delivery. Given the rapid changes

occurring in health care, special emphasis is placed throughout the entire course on understanding managed care. That is, what managed care means for the development of new structures, public health, health care providers, patients, and the management of health services. In addition, emerging topics such as quality management, disease management, and employer purchasing cooperatives are introduced as examples of important changes that will shape how the system look in the future.

Prerequisite: Graduate Standing
Instructor: Dr. Hoff and staff
Schedule: Fall and Spring

BMS 505 Biological Basis of Public Health (3)

Introduction to field of biomedical sciences through discussion of disorders of public health relevance, including infectious and transmissible vectors, genetic disease and chronic disorders. Explanation of laboratory based procedures for detection, monitoring, and treating such diseases. Concepts of laboratory methods including quality control, normal ranges, universal precautions and data interpretation introduced.

Prerequisite: One year college science (biology, chemistry or other area), permission of instructor.
Instructor: Dr. Pass and staff
Schedule: Fall only

EHT 590 Introduction to Environmental Health (3 credits)

Basic concepts of the modes of transmission of environmental stressors from source or reservoir to host and methods of reducing their impact on human population; basic concepts, methods and premises of environmental risk management.

Prerequisite: College level biology course or permission of instructor.
Instructor: Dr. Carpenter and staff
Schedule: Fall and Spring

HPM 525 Social and Behavioral Aspects of Public Health

This course is designed to enable students to apply principles and concepts from social, behavioral and cultural perspective to public health. The intent of the course is to provide students with concepts and tools from social sciences in order to improve their ability to analyze, understand and solve public health problems. Students will: gain understanding of the significance of social, psychological, behavioral, and cultural factors in relation to health status and well-being; analyze public health problems in terms of social, psychological, cultural, economic and demographic factors that contribute to or protect from vulnerability to disease, disability and death; and gain knowledge necessary to apply social theory research and principles to the critical analysis of the appropriateness of psychological interventions.

Prerequisite: None

Instructor: Dr Gallant or Dr. McFall

Schedule: Fall and Spring

COURSES OFFERED BY MASTER OF PUBLIC HEALTH PROGRAM

SPH 680 Seminar for Public Health Internships (0)

For students who are satisfying the internship requirement for the MPH degree. Through a written paper and an oral presentation given at a seminar session, work experience is discussed and related to public health principles and practice. Must be taken each time student enrolls in an Internship, a minimum of two times. S/U graded.

Prerequisites: Enrollment in MPH or DrPH program. Satisfactory completion of four core courses or three core courses and EPI 514, which must include the core course in the area of concentration of the internship.

SPH 690 Internship in Biomedical Sciences (3, 6)

SPH 691 Internship in Environmental Health (3, 6)

SPH 692 Internship in Epidemiology (3, 6)

SPH 693 Internship in Biostatistics (3, 6)

SPH 694 Internship in Health Administration (3, 6)

SPH 695 Internship in Behavioral Sciences (3, 6)

Individual directed internship program with an appropriate institution concerned with biomedical science. Internship rotations may be full-time or part-time. Each credit represents a minimum of 80 hours of work with the host agency. A paper and an oral presentation are required. (Concurrent enrollment in SPH 680 is required.)

QUANTITATIVE COURSES (see specific requirements for area of concentration)

EPI 502 Principles and Methods of Epidemiology II (3)

Application of basic principles and methods (as covered in Epi 501 and Sta 552) in the design and conduct of epidemiologic studies. Topics include the development of research questions; overview of epidemiologic study designs; sampling, sample size, and selection bias; techniques for data collection, sources of secondary data, and the evaluation of measurement and information bias; confounding and effect modification; techniques for simple and stratified analyses; and an introduction to mathematical modeling in epidemiology.

Prerequisite(s): EPI 501, STA 552 or their equivalents.

Instructor: Dr. Strogatz and staff

STA 553 Principles of Statistical Inference II (3)

Continuation of STA 552. Topics will include correlation, regression, analysis of contingency tables and non-parametric statistics. Computing will be used throughout the course. STA 552 and STA 553 will satisfy the core requirement in statistics for programs in the School of Public Health.

Prerequisites: STA 552 or equivalent

Instructor: Biometry and Statistics Faculty

Note: The following course is highly recommended for all MPH students who are not already familiar with computer programming. SAS is used for many exercises in STA 552 and STA 553. However, this course does not satisfy the requirement for the quantitative course in all areas of concentration.

EPI 514 Computer Programming for Data Management and Analysis in Public Health (3 credits)

The course covers a major statistical computer program (e.g. SAS) used for the management, analysis and reporting of public health data. Topics include, how to access data stored in a variety of formats; techniques for identifying errors and outliers in data sets; combining data from multiple sources into a single data file; calculating statistical and epidemiologic measures; and report writing.

Prerequisites: None

Instructor: Prof. Zdeb

Schedule: Fall and Spring

Note: Information on required and elective courses in areas of concentration can be found on the Web pages of the corresponding departments, available through the School of Public Health home page: www.albany.edu/sph