

**Healthcare Epidemiology Program  
Department of Epidemiology**

**Program Learning Objectives**

**Introduction**

Healthcare epidemiology applies the perspective and methods of epidemiology to practical problems of healthcare organizations and delivery. It can be defined as *the study of healthcare variables, together with biological, social, behavioral, and environmental factors that influence the health outcomes of populations*. The Healthcare Epidemiology Program prepares graduate students (typically those intending to complete a Ph.D.) to integrate epidemiologic methods into the study of the impact of clinical, administrative, and policy aspects of healthcare delivery on health outcomes. *Within the broad label of healthcare epidemiology fall such areas as epidemiology-based health services research, clinical epidemiology, pharmacoepidemiology, and outcome research*. The key to healthcare epidemiology, like the rest of the field, is that the dependent variables of interest are health outcomes of populations.

**Learning Objectives**

Upon satisfactory completion of the Healthcare Epidemiology Program, the student will be able to:

- Discuss the interrelated nature of clinical, administrative, and policy processes and their impact on health outcomes of populations;
- Discuss the role of the population-based perspective in the delivery of healthcare services;
- Discuss the origins and development, including changing perspectives, of the discipline of healthcare epidemiology;
- Discuss and account for the relationship between traditional etiologic epidemiology and healthcare epidemiology;
- Effectively participate in interdisciplinary approaches to studying issues of the impact of the healthcare system;
- Evaluate the impact of healthcare programs (e.g. disease management programs) and specific interventions/treatments (e.g. pharmaceuticals or clinical procedures) on the health outcomes;
- Effectively communicate the results of research and evaluation efforts to the variety of stakeholders in the healthcare system (e.g. different types of healthcare professionals, researchers, policy makers, and the public);
- Consult with clinicians, administrators, and policy makers about the implementation of population-based programs designed to improve the delivery of healthcare services;
- Critically review the scientific literature relating to the epidemiology of healthcare delivery for both methodological quality and potential applicability;
- Design and conduct an epidemiological study related to the impact of healthcare, together with biological, social, behavioral, and/or environmental factors on the health outcomes of populations.

**Methods for Meeting Learning Objectives**

The broad nature of healthcare epidemiology means that there are many related classes taught on the UNC campus. However, there are two core courses in the Department of Epidemiology that focus on the integration of clinical, administrative, and policy processes in relation to their impact on health outcomes. Epidemiology 800, Medical Care Epidemiology, is a survey course of methods and issues related to the

overall epidemiologic study of healthcare delivery. Epidemiology 765, Methods and Issues of Pharmaco-epidemiology, provides an introduction to the application of epidemiological methods and reasoning to the study of the effects of drugs in populations. The skills taught in this course can also be applied to other healthcare interventions. These two core courses supplement the Department's core methodology course sequence by enhancing the student's ability to apply epidemiological methods and reasoning to practical problems of the system of healthcare delivery.

In addition to the core courses above, advisors in the healthcare epidemiology program work in conjunction with individual students to determine courses both in the Department of Epidemiology and on the rest of the UNC campus that will enhance skills necessary for working in specific areas of healthcare epidemiology. Examples of such courses include health economics, clinical trials, prevention methodology, and medical geography.

Healthcare epidemiology seminars and the healthcare epidemiology day provide excellent opportunities for achieving many of these objectives. Furthermore, faculty advisors in the program work with students to identify internship opportunities for gaining first-hand experience in health care delivery and its potential impact on health outcomes. Sites include managed care organizations, pharmaceutical companies, and governmental agencies.

### **Documentation of Achievement of Learning Objectives**

Evidence of individual student achievement of the learning objectives is documented at several points during the study of healthcare epidemiology. The ability to discuss and consider the relationship between clinical, administrative, and policy processes and health outcomes is demonstrated through learning products in core healthcare epidemiology and related courses (discussed above). The Interdepartmental Review provides an opportunity for the individual student, the student's advisor, and related healthcare epidemiology faculty to discuss progress toward meeting the school, departmental, and program learning objectives. The results of this review are included in the student's file. The completion of the departmental comprehensive exam demonstrates a basic understanding of core epidemiological research skills and issues. The defense of the dissertation proposal documents the ability to justify research concepts and methodology related to healthcare epidemiology and ensures that the dissertation falls within the framework of healthcare epidemiology. The successful completion and defense of the dissertation further demonstrates research skills and the ability to integrate core concepts of healthcare epidemiology into research endeavors. Publications, in peer-reviewed journals, arising from the dissertation provide further evidence, of an outcome nature, of achieving the learning objectives.