

HEALTHCARE EPIDEMIOLOGY AND INFECTION PREVENTION AND CONTROL, CERTIFICATE

Healthcare Epidemiology and Infection Prevention and Control

The Certificate in Healthcare Epidemiology and Infection Prevention Control is designed for junior and mid-level professionals with an interest in gaining exposure to the expertise and skills utilized by healthcare epidemiologists and infection preventionists.

Healthcare epidemiologists and infection preventionists aim to prevent and control healthcare-associated infections, antimicrobial-resistant and epidemiologically significant organisms, and other adverse outcomes in the healthcare setting by translating research into practice. A major component of the certificate program is the interaction with epidemiologists in healthcare settings.

OVERVIEW

The certificate is designed for master's and doctoral students at Johns Hopkins University and junior and mid-level professionals with an interest in gaining exposure to the expertise and skills utilized by healthcare epidemiologists and infection preventionists. Healthcare epidemiologists and infection preventionists aim to prevent and control healthcare-associated infections, antimicrobial-resistant and epidemiologically significant organisms, and other adverse outcomes in the healthcare setting by translating research into practice.

Their expertise and activities include epidemiologic and laboratory investigation, surveillance for infections and antimicrobial-resistant or significant organisms, policy development and implementation, education and information dissemination, implementation of interventions to prevent transmission or infectious complications, cost-benefit analyses of interventions, and patient-oriented research to inform and improve the science of healthcare epidemiology and infection control and to improve quality-of-care.

EDUCATIONAL OBJECTIVES

Upon completion of the certificate program, students will be able to:

1. Demonstrate use and mastery of specific methods relating to hospital epidemiology including surveillance (traditional and computerized), outbreak management, communicable diseases, antibiotic management and resistance, occupational health, quality and performance improvement, patient safety, and ethical considerations.
2. Utilize clinical research study designs as applied to healthcare epidemiology research including, outcomes measurement, risk factor assessment, semi-quantitative methods, survey methods, and qualitative research.
3. Discuss relevant thematic topics including isolation precautions and hand hygiene, infection control in special populations, healthcare system preparedness, and environmental aspects of infection control.
4. Work within groups to design studies, collect data, and effectively communicate results to clinicians and researchers from various disciplines through framing problems scientifically, determining

preferred research methods, designing appropriate data collection methods, performing statistical analyses, and interpreting findings.

Sponsoring Department

Epidemiology (<https://publichealth.jhu.edu/departments/epidemiology/>)

ADMISSIONS

Contact information and complete certificate admissions information are available on the certificate program (<https://publichealth.jhu.edu/academics/healthcare-epidemiology-and-infection-prevention-and-control-certificate-program/>) page on the BSPH website.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

The certificate requires a minimum of 18 term credits. All required and elective courses must be taken for a letter grade; a minimum grade of C is required in all certificate coursework, and students must maintain a 2.75 or better overall GPA for all certificate coursework. The certificate program length is flexible; however, the certificate must be completed within three years.

The student should review the section of the website that addresses completion (<https://publichealth.jhu.edu/academics/certificate-programs/requirements-for-successful-completion-of-a-certificate-program/>) before completing certificate program requirements. The student's transcript will not indicate that the certificate was earned until the Notification of Completion has been submitted, verified by the certificate program, and processed by the Registrar.

COURSE OF STUDY

Students should check the Bloomberg School of Public Health course directory (<https://publichealth.jhu.edu/courses/>) to confirm when courses are offered, and students should also check for prerequisites and whether instructor consent is required.

Code	Title	Credits
PH.550.860	Academic & Research Ethics at BSPH (All students are required to complete this onsite noncredit course in their first term of study)	

Required courses: Students must complete the following required courses (see footnote) ¹

Introductory Epidemiology Requirement: Students must complete either 340.601 or 340.721

PH.340.601	Principles of Epidemiology (typically offered onsite in Summer and Summer Institute)	5
PH.340.721	Epidemiologic Inference in Public Health I (typically offered onsite in 1st term, and online in 1st, 3rd, Summer and Summer Institute)	5

Students must complete the following required course:

PH.340.641	Healthcare Epidemiology (typically offered onsite in 2nd term)	4
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Required Core Courses: Students must complete at least two of the following core courses

PH.340.612	Epidemiologic Basis for Tuberculosis Control (typically offered onsite in 1st term, and online in 3rd and Summer Institute)	3
PH.340.627	Epidemiology of Infectious Diseases (typically offered onsite in 2nd term)	4

PH.340.653 Epidemiologic Inference in Outbreak Investigations 3
(typically offered onsite in 1st term)

Elective Courses: Students must complete the 18 credit requirement through the following elective courses

PH.182.625 Principles of Occupational and Environmental Hygiene (typically offered onsite in 2nd term) 4

PH.221.637 Health Information Systems (typically offered online in 2nd term) 3

PH.306.663 Legal and Ethical Issues in Health Services Management (typically offered onsite in 4th term, open to Health Policy and Management students only) 3

PH.309.730 Patient Safety and Medical Errors (typically offered onsite in 3rd term) 3

PH.317.600 Introduction to the Risk Sciences and Public Policy (typically offered onsite in 1st term and online in 3rd term) 4

PH.410.755 Designing Health Communication Programs for Social and Behavior Change (typically offered online in 3rd term) 4

PH.221.694 Applied Implementation Science for Health Systems Research 3

PH.220.623 Applying a Gender Lens to Advance Implementation Research 2

¹ **BSPH degree students** who earn at least a B grade in one introductory epidemiology and one introductory biostatistics course may use these credits to fulfill the introductory epidemiology requirement; however, they will only be allowed to apply six credits from these courses toward the certificate. They must complete the 4-credit Healthcare Epidemiology course and at least 8 credits of core and elective courses.

Non-degree students may waive the introductory epidemiology requirement by providing a transcript from another institution demonstrating successful completion of at least one graduate-level course in epidemiology and one in biostatistics. These students will still be required to complete the Healthcare Epidemiology course (4 credit units) and at least 14 credit units of core and elective courses.