

Epidemiology

Adopted 2019

Obtain, evaluate, and communicate information to understand and analyze the disease process. [SEPI1](#)

- a. Obtain, evaluate and communicate information about the history and uses of epidemiology. [SEPI1.A](#)
- b. Ask questions about diseases and pathogens that cause them. [SEPI1.B](#)
- c. Construct an explanation of the body's defense mechanisms and how illness results when the mechanisms fail to maintain homeostasis. [SEPI1.C](#)
- d. Construct an argument from evidence to explain how the rapid evolution of pathogens results in diseases that will continue to be a public health concern. [SEPI1.D](#)
- e. Develop and use models to explain the different modes of disease transmission and how timing of exposure during the disease process affects spread of disease. [SEPI1.E](#)

Obtain, evaluate, and communicate information to identify and formulate hypotheses about patterns of health and disease. [SEPI2](#)

- a. Analyze and interpret data focusing on the amount, distribution and patterns of disease within a population by person, place and time. [SEPI2.A](#)
- b. Use models that are based on empirical evidence to identify patterns of health and disease to characterize a public health problem. [SEPI2.B](#)
- c. Analyze and interpret data about the patterns of illness, including at least one chronic disease. [SEPI2.C](#)

Obtain, evaluate, and communicate information about the type and use of analytical epidemiology and study designs and associations. [SEPI3](#)

- a. Develop and use models to explain basic epidemiologic study designs (e.g., cross-sectional, case-control, cohort, and randomized controlled trial). [SEPI3.A](#)
- b. Plan and carryout investigations to determine if exposure and disease are associated and communicate the information, including the limits of the investigation. [SEPI3.B](#)
- c. Ask questions to assess ethical issues in epidemiology and human trials. [SEPI3.C](#)

Obtain, evaluate, and communicate information to analyze associations and

- a. Use mathematical models to predict and explain the relationship between variables and the presence, nature, and impact of any confounding factors. [SEPI4.A](#)

causations of health and disease. SEPI4

b. Analyze and interpret epidemiological data as well as evidence from other scientific disciplines to determine if exposure to a variable causes a disease. SEPI4.B

Obtain, evaluate, and communicate information about health-related messages in the media to make informed public health decisions and life goals. SEPI5

a. Construct an argument based on evidence to assess the impact of emergent technologies on health and disease. SEPI5.A

b. Construct an argument based on evidence to assess the strengths and limitations of epidemiological reports. SEPI5.B

c. Develop and use models to analyze strategies that promote a healthy lifestyle in relation to eating habits and exercise. SEPI5.C

d. Obtain, evaluate, and communicate information about various career paths in public health as well as the applications and benefits of public health for a healthy society. SEPI5.D