

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

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

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- a. Construct an argument based on evidence to assess the impact of emergent technologies on health and disease. SEPI5.A**
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- b. Construct an argument based on evidence to assess the strengths and limitations of epidemiological reports. SEPI5.B**
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- c. Develop and use models to analyze strategies that promote a healthy lifestyle in relation to eating habits and exercise. SEPI5.C**
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- 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**
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