

Epidemiology

New for 2020-2021

Competitor orientation deleted from ILC.
The time of the test has been reduced from 120 minutes to 90 minutes.

Event Summary

Epidemiology provides members with the opportunity to gain knowledge in regard to health and disease in populations. This competitive event consists of a written examination of concepts related to the study of epidemiology. Competitors are expected to recognize, identify, define, interpret and apply these concepts in a multiple choice test. This event aims to inspire members to be proactive future health professionals and improve their scientific literacy as well as provide insights into public health careers.

Dress Code Competitors shall wear proper business attire or official HOSA uniform. Bonus points will be awarded for [proper dress](#).

- General Rules**
1. Competitors in this event must be active members of HOSA and in good standing.
 2. Secondary and Postsecondary/Collegiate divisions are eligible to compete in this event.
 3. Competitors must be familiar with and adhere to the [“General Rules and Regulations of the HOSA Competitive Events Program \(GRR\).”](#)
 4. All competitors shall report to the site of the event at the time designated for each round of competition. At ILC, competitor’s [photo ID](#) must be presented prior to ALL competition rounds.

Official References

5. The test plan percentages as well as official references for the development of the test items is as follows. Content is posted as of September 1, 2020 :
 - **CDC website – 8%**
<https://www.cdc.gov/csels/dsepd/ss1978/index.html>
An Introduction to Epidemiology
Investigating an Outbreak
 - **CDC website – 8%**
Agency for Toxic Substances and Disease Registry: Environmental Health
<https://www.atsdr.cdc.gov/sites/brownfields/pdfs/epidemiology-508.pdf>
 - **Basic Epidemiology – World Health Organization – 10%**
http://apps.who.int/iris/bitstream/10665/43541/1/9241547073_eng.pdf
What is Epidemiology?
Measuring Health and Disease
Types of Studies

- ***Emerging and Re-emerging Infectious Diseases – 8%***
https://science.education.nih.gov/supplements/nih_diseases.pdf
 Understanding Emerging and Re-emerging Infectious Diseases
- ***Public Health Careers – 3%***
<http://www.publichealth.org/careers/>
- ***CDC: Disaster Epidemiology and Assessment – 7%***
<http://www.cdc.gov/nceh/hsb/disaster/epidemiology.htm>
 - CDC Activities
 - Mission, goals and objectives
 - Application and service in disaster settings: surveillance and rapid needs assessment
 - Applied research to prevent injuries, illnesses and deaths
 - Consultation and training
 - Field investigations
- ***Office of Assistant Secretary for Preparedness & Response – 6%***
<http://www.phe.gov/preparedness/Pages/default.aspx>
 - Under the preparation tab
 - Responders, Clinicians & Practitioners
 - International Preparedness & Response
 - Public Health Emergency Response
- ***CDC: Morbidity and Mortality Weekly Report – 50%***
<https://www.cdc.gov/mmwr/index.html>
 - Case studies, investigations, surveillance summaries and scientific information and recommendations

Written Test

6. **Test Instructions:** The written test will consist of 75 multiple choice items in a maximum of 90 minutes. Written case studies, investigations, surveillance summaries, and scientific information will be a part of the test and will include background information about selected public health situations with a series of multiple choice questions related to the data.
7. One essay question will be administered with the original test. In case of a tie, the essay question will be judged and used to break the tie.
8. At the International Leadership Conference, HOSA will provide basic handheld calculators (no graphing calculators) for addition, subtraction, division, multiplication and square root.
9. All competitors will receive two (2) 8.5x11" sheets of blank paper for use during the test.
10. **Time Remaining Announcements:** There will be a verbal announcement when there are 30 minutes, 15 minutes, 5 minutes, and 1 minute remaining to complete the test.

11. Sample Test Questions

1. What is the term for the proportion of a disease or other outcome in exposed individuals that can be credited to the exposure?
A. Attributable risk
B. Risk benefit
C. Cohort study
D. Odds advantage
WHO pp 35

2. In an epidemiology study, how is the specified population identified?
A. People affected by the condition/disease.
B. Conditions where large numbers of people were affected.
C. People exposed to a condition/disease.
D. People who died from a disease/condition.
CDC Intro 1-4

3. What is the likely cause of the re-emergence of some infectious diseases, such as the diphtheria outbreak in Russia in the 1990s?
A. Improper sanitation.
B. Lapses in vaccination programs.
C. Malnutrition which compromises the immune system.
D. Radiation from nuclear accidents.
NIH

Final Scoring

12. An essay tiebreaker will be administered with the original test. In case of a tie, this written response will be judged and used to break the tie.

Competitor Must Provide:

- #2 lead pencils with eraser
- [Photo ID](#)