

# Epidemiology

## ***New for 2019-2020***

Competitors are no longer required to show event guidelines at ILC. At ILC competitors will be provided with a basic handheld calculator and two sheets of blank paper. Time remaining announcements have been added to the test. Editorial updates and clarifications have been made to guidelines. Scholarship information has been added to the guidelines.

- Purpose** To encourage HOSA members to study the effects of health and disease in populations, to improve their scientific literacy, and to provide insights into public health careers.
- Description** This event shall be a written examination of concepts related to the study of epidemiology. Individual competitors shall be expected to recognize, identify, define, interpret and apply these concepts in a 75 item multiple choice test, from select websites.
- Dress Code** Competitors must be in official HOSA uniform or in proper business attire. Bonus points will be awarded for [proper dress](#).
- Rules and Procedures**
1. Competitors in this event must be active members of HOSA and in good standing in the category division in which they are registered to compete (Secondary or Postsecondary/Collegiate).
  2. Competitors must be familiar with and adhere to the [“General Rules and Regulations of the HOSA Competitive Events Program \(GRR\).”](#)
  3. The test will consist of (75) multiple-choice items.
  4. The official references for the development of all test items will be entirely web-based as posted as of September 1, 2019. The test plan separated by percentages is also listed below.
    - **CDC website – 10%**
    - <https://www.cdc.gov/csels/dsepd/ss1978/index.html>  
An Introduction to Epidemiology  
Investigating an Outbreak
    - **CDC website – 10%**
    - ***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](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 – 10%***  
[https://science.education.nih.gov/supplements/nih\\_diseases.pdf](https://science.education.nih.gov/supplements/nih_diseases.pdf)  
 Understanding Emerging and Re-emerging Infectious Diseases
- ***Public Health Careers – 5%***  
<http://www.publichealth.org/careers/>
- ***CDC: Disaster Epidemiology and Assessment – 10%***  
<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 – 10%***  
<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 – 35%***  
<https://www.cdc.gov/mmwr/index.html>
  - Case studies, investigations, surveillance summaries and scientific information and recommendations

5. 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 and with a series of multiple choice questions related to the data.
6. All competitors shall report to the site of the event at the time designated for the event orientation. The test will immediately follow the orientation. At ILC, [photo ID](#) must be presented prior to competing in each round. **No proxies will be allowed for the orientation.** Calculators may NOT be used.
7. At the International Leadership Conference, HOSA will provide basic handheld calculators (no graphing calculators) for addition, subtraction, division, multiplication and square root. Check with State Advisor to determine if a calculator will be used at the State level.
8. All competitors will receive two (2) 8.5x11” sheets of blank paper for use during the test.
9. [Test Instructions:](#) The competitors will be given instructions and will be notified to start the test. There will be a maximum of 2 hours to complete the test. Competitors should leave the testing site promptly after submitting all testing

materials and evaluations

*NOTE: States/regions may use a different process for testing, to include but not limited to pre-conference testing, online testing, and testing at a computer. Check with your Area/Region/State for the process you will be using.*

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. A written 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.
12. HOSA offers numerous scholarships every year to its members interested in pursuing a variety of health careers. As you consider participating in this competitive event, please keep in mind there may be a HOSA Scholarship offered that fits your interests! For more information on the HOSA Scholarship program, please visit <http://www.hosa.org/scholarships>.

**Competitor Must Provide:**

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

**FOR SPECIFICS ON EVENT MANAGEMENT SEE [MANAGING COMPETITIVE EVENTS](#)**

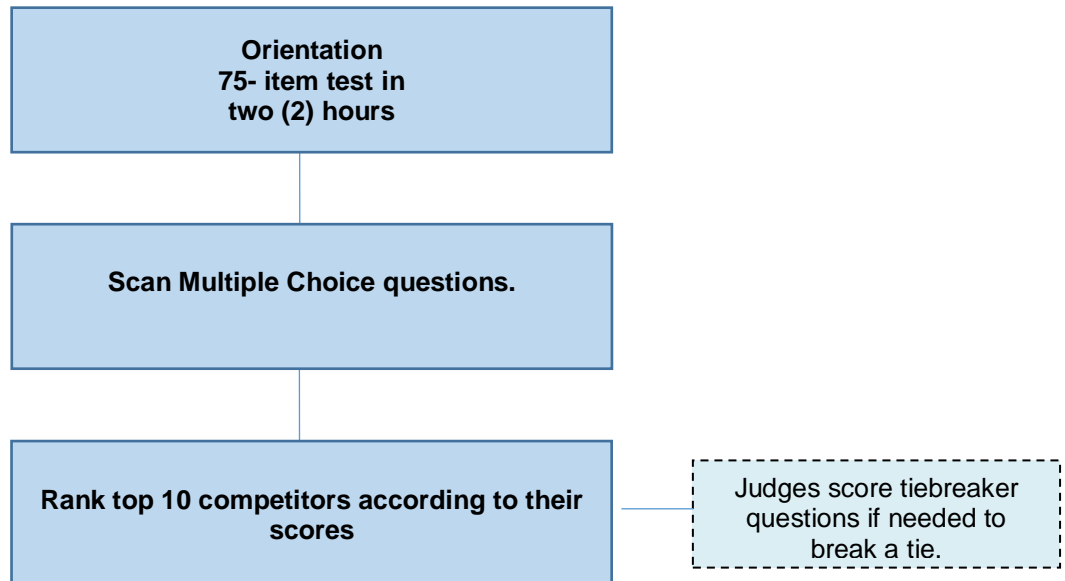
**Required Personnel:**

- One Event Manager
- One Judge Manager (JM) to provide quality assurance for the event by ensuring that the guidelines are followed and all event documents are complete.
- Proctors for Testing – Approximately one proctor for 20 competitors
- One judge who is considered by the HOSA Competitive Events committee to be an expert in the area being tested - to grade the essay questions in case of a tie
- One Section Leader (per section)
- Event Assistants per section as needed

**Facilities, Equipment and Materials:**

- One room to accommodate the total number of competitors (see [HOSA Room Set](#))
- List of competitors for check-in
- One pre-numbered test per competitor
- Blank paper (2 sheets per competitor)
- Calculators (1 per competitor)
- Scantron/answer forms- one copy per competitor
- Clock or timer
- Evaluation Forms – competitor, judge, and personnel
- #2 lead pencils with eraser to complete evaluations (event personnel)

## Event Flow Chart



## 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. cohort study
  - C. risk benefit
  - D. benefit group
2. In an epidemiology study, the specified population is based on those:
  - A. affected by the condition/disease.
  - B. conditions where large numbers were affected.
  - C. exposed to a condition/disease.
  - D. who died from a disease/condition.
3. The re-emergence of some infectious diseases, such as the diphtheria outbreak in Russia in the 1990s, is most likely caused by:
  - A. improper sanitation.
  - B. lapses in vaccination programs.
  - C. malnutrition which compromises the immune system.
  - D. radiation from nuclear accidents.