

Participant's Names: _____

Part 1: Epidemiological terminology

a. Define the following terms:

1. Fomite:

2. Vector:

3. Zoonosis:

4. Epidemic:

5. Outbreak:

6. Cluster:

7. Surveillance:

8. Etiology:

9. Pathogen:

10. Virus:

Part 2: Epidemiological concepts

a. List the ten steps of an outbreak:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

b. Illustrate and describe the chain of infection:

Participant's Names: _____

- c. List the components of the epidemiological triad:
 - 1.
 - 2.
 - 3.

- d. Describe the following types of biases:
 - 1. Selection bias
 - 2. Recall bias
 - 3. Information bias

- e. Explain what study the epidemiologists are utilizing:
 - 1. Epidemiologists identify a population that is exposed to a suspected carcinogen and a non-exposed population and track them to determine who develops leukemia.

 - 2. Switzerland is determine to have a higher breast cancer incidence and a higher consumption of dietary fat when compared with other countries.

 - 3. Epidemiologists are interested in the possible relationship involving increased serum cholesterol level (exposure) to electrocardiographic (ECG) evidence of CHD (the disease). They survey a population; for each participant they determine the serum cholesterol level and perform an ECG subsequently for evidence of CHD.

Part 3: Epidemiological application

- 1. Infectious disease are more likely to be distributed to others in a larger population: True False

- 2. List 5 types of bacteria and the disease they produce in humans in the table below.

Bacteria	Disease
1.	
2.	
3.	
4.	
5.	

- 3. Give two reasons why bacterial diseases tend to affect larger populations.

Participant's Names: _____

4. Pick one of the diseases you listed above and explains specifically how it affects larger populations and why.

Part 4: Multiple choice

1. In cohort studies of the role of a suspected factor in the etiology of a disease, it is essential that:
 - a. There be an equal number of persons in both study groups
 - b. At the beginning of the study, those with the disease and those without the disease have equal risks of having the factor
 - c. The study group with the factor and the study group without the factor be representative of the general population
 - d. The exposed and non-exposed groups under study be as similar as possible with regard to possible confounding factors
 - e. Both b and c
2. Which of the following is not an advantage of having a prospective cohort study
 - a. It usually costs less than a case control
 - b. Precise measurements of exposure is possible
 - c. Incidence rates can be calculated
 - d. Recall bias is minimized compared to a case control study
 - e. Many disease outcomes can be studied simultaneously
3. A major problem resulting from the lack of randomization in a cohort study is:
 - a. The possibility that a factor that led to the exposure, rather than the exposure itself might have caused the disease
 - b. The possibility that a greater proportion of the people in the study may have been exposed
 - c. The possibility that a smaller proportion of people in the study may have been exposed
 - d. That, without randomization, the study may take longer to carry out
 - e. Planned crossover is more likely
4. A case control study is characterized by all of the following except:
 - a. It is relatively inexpensive compared with most other epidemiologic study designs
 - b. Patients with the disease (cases) are compared with persons without the disease (controls)
 - c. Incidence rates may be computed directly

Participant's Names: _____

- d. Assessment of past exposure may be biased
- e. Definition of cases may be difficult
- 5. In a case-control study, which of the following is true?
 - a. The proportion of cases with the exposure is compared with the proportion of controls with the exposure
 - b. Disease rates are compared for people with the factor of interest and for the people without the factor of interest
 - c. The investigator may choose to have multiple comparison groups
 - d. Recall bias is a potential problem
 - e. a, c, and d
- 6. In which of the following types of study designs does a subject serve as his own control
 - a. Prospective cohort study
 - b. Retrospective cohort study
 - c. Case-control study
 - d. Case-crossover study
 - e. Case-cohort study
- 7. Ecological fallacy refers to:
 - a. Assessing exposure in large groups rather than in many groups
 - b. Assessing outcome in large groups rather than in small groups
 - c. Ascribing the characteristics of a group to every individual in that group
 - d. Examining correlations of exposure and outcomes rather than time periods
 - e. Failure to examine temporal relationships between exposures and outcomes

Part 5: Epi graph, statistics and advanced epidemiology

- a. Create an epidemic graph using the information in the following table. Label the axis and indicate the point of onset and outbreak.

Time	Number of cases
8/29/2014	2
8/30/2014	2
9/2/2014	12
9/5/2014	16
9/12/2014	18
9/13/2014	12
9/16/2014	6
10/24/2014	2
10/25/2014	0

Participant's Names: _____

b. Calculate odds ratio for this exposure using the following data (show your work).

	Case	Control
Exposed	12	15
Unexposed	13	10

c. In an outbreak or an epidemic, evidence is accumulated linking disease to a causative organism or substance. What is the name of the criteria used to prove that an organism causes a disease?

d. Fill in the missing parts of the table:

Food	Cases				Controls			
	Ate	Did not eat	Total	% Ate	Ate	Did not eat	Total	% Ate
Ham	29	17	46		17	12		58.62
Cake	27	19	46				29	44.83
Milk	2		46	4.35	2	27	29	
Rolls		25	46	45.65			29	55.17