

TEXAS A&M UNIVERSITY (TAMU) PHLT 305 EPIDEMIOLOGY IN PUBLIC HEALTH EXAM 1 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. Which are the two main types of prevalence?**
 - A. point prevalence & period prevalence
 - B. Incidence & prevalence
 - C. Mortality & morbidity
 - D. Attack rate & prevalence
- 2. Who proposed that diseases could be transmitted by seeds or spores?**
 - A. Sydenham
 - B. Ramazzini
 - C. Fracastoro
 - D. Hippocrates
- 3. Which term describes numbers that describe a population?**
 - A. Statistics
 - B. Parameter
 - C. Mean
 - D. Variance
- 4. Which statement best describes demographic transition?**
 - A. It describes the shift from high birth and death rates to lower birth and death rates.
 - B. It describes the spread of disease in populations.
 - C. It describes changes in religious beliefs about health.
 - D. It describes the progression from acute to chronic disease.
- 5. Which term describes the occurrence of death in a population?**
 - A. Morbidity
 - B. Outcomes
 - C. Exposure
 - D. Mortality

6. Which of the following is an example of an infectious disease epidemic listed in the material?
- A. Diabetes
 - B. Ebola, Zika, Salmonella
 - C. Heart disease
 - D. Diabetes, obesity, cancer
7. If r equals 0, what does that imply about the linear relationship?
- A. Perfect positive linear
 - B. No linear relationship
 - C. Perfect negative linear
 - D. Strong nonlinear
8. Chronic conditions show which type of curve?
- A. Normal distribution
 - B. Epidemic curve
 - C. Multimodal curve
 - D. Skewed curve
9. Which physician conducted the 12 sailors scurvy trial using lemons and oranges?
- A. John Snow
 - B. Percival Pott
 - C. James Lind
 - D. Robert Koch
10. Which type of chart shows the frequency of cases for categories of a discrete variable?
- A. Line graph
 - B. Bar chart
 - C. Pie chart
 - D. Scatter plot

Answers

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1. A
2. C
3. B
4. A
5. D
6. B
7. B
8. C
9. C
10. B

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Explanations

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1. Which are the two main types of prevalence?

A. point prevalence & period prevalence

B. Incidence & prevalence

C. Mortality & morbidity

D. Attack rate & prevalence

Prevalence measures how much of a population is affected by a condition at a given time or over a specific period, reflecting the overall burden rather than the speed of new cases. The two main types are point prevalence and period prevalence. Point prevalence looks at a single moment in time and asks what proportion of people are living with the condition then. Period prevalence spans a defined interval and includes everyone who has the condition at any time during that interval, capturing the total burden within that period. Point prevalence is calculated as the number of existing cases at a specific time divided by the population at that time. Period prevalence is the number of people with the condition at any time during the period divided by the average (or mid-interval) population. This distinction matters for understanding how many people are affected at a moment versus across a timeframe, which informs planning and resource allocation.

2. Who proposed that diseases could be transmitted by seeds or spores?

A. Sydenham

B. Ramazzini

C. Fracastoro

D. Hippocrates

The concept being tested is that diseases can spread through tiny particles or seeds that move from person to person and cause infection. This idea was proposed by Fracastoro, who in the 16th century described disease-causing "seeds" that could be transmitted through direct contact, through objects (fomites), or through the air. He framed disease as spreading by contagion via these minute particles, which is an early step toward the germ theory of disease. This contrasts with older views like Hippocrates' emphasis on unhealthy air or miasma, and with Ramazzini or Sydenham, whose work focused more on observation and epidemiology rather than the mechanism of transmission through seeds or spores.

3. Which term describes numbers that describe a population?

A. Statistics

B. Parameter

C. Mean

D. Variance

Describing a population with numbers involves parameters. A parameter is a numerical characteristic of the entire population, a fixed value that quantifies something about the whole group. When you take data from a subset and compute a number, that value is a statistic—an estimate of the population parameter. The mean and variance are specific summaries that describe center and spread, respectively; they can be population parameters (if describing the whole population) or sample statistics (if describing just a sample). So, the term for numbers that describe a population is parameter.

4. Which statement best describes demographic transition?

- A. It describes the shift from high birth and death rates to lower birth and death rates.**
- B. It describes the spread of disease in populations.
- C. It describes changes in religious beliefs about health.
- D. It describes the progression from acute to chronic disease.

Demographic transition tracks how birth and death rates change as societies develop. Over time, populations move from a stage with both high birth and high death rates to stages where death rates fall first, followed by a decline in birth rates, leading to lower, more stable population growth and an aging population. This shift captures the core pattern of demographic change, not how diseases spread, beliefs about health, or the move from acute to chronic disease. So the statement that describes the shift from high to low birth and death rates best matches the concept.

5. Which term describes the occurrence of death in a population?

- A. Morbidity
- B. Outcomes
- C. Exposure
- D. Mortality**

In epidemiology, the term describing death in a population is mortality. Mortality refers to the occurrence or burden of deaths and is often expressed as a mortality rate, such as deaths per 100,000 people per year, to standardize for population size and time. For example, if a city of 1,000,000 people experiences 10,000 deaths in a year, the mortality rate would be 1,000 deaths per 100,000 people per year. Morbidity, on the other hand, concerns disease occurrence or illness in a population. Exposure refers to a factor that might influence disease risk, not to death itself. Outcomes describe the results after exposure or disease, such as recovery or death, but the term that directly captures death itself in the population is mortality.

6. Which of the following is an example of an infectious disease epidemic listed in the material?

- A. Diabetes
- B. Ebola, Zika, Salmonella**
- C. Heart disease
- D. Diabetes, obesity, cancer

An epidemic means a rapid increase in the number of cases of a disease in a population over a short period, typically involving an infectious agent that can spread or contaminate. The set listed here—Ebola, Zika, Salmonella—are infectious diseases known for causing notable outbreaks, which is why they fit the concept of an infectious disease epidemic. In contrast, diabetes, heart disease, obesity, and cancer are chronic non-communicable conditions; they reflect long-term burden in a population rather than sudden outbreaks from an infectious source. So the example that matches an infectious disease epidemic is the one that includes Ebola, Zika, and Salmonella.

7. If r equals 0, what does that imply about the linear relationship?

- A. Perfect positive linear
- B. No linear relationship**
- C. Perfect negative linear
- D. Strong nonlinear

Correlation measures how strongly and in what direction two variables move together along a straight line. When r is zero, there is no linear association—the data don't line up in a clear positive or negative straight-line pattern. That doesn't mean there's no relationship at all; there could be a nonlinear (curved) relationship that a straight line wouldn't capture. A perfect positive linear relationship would have $r = +1$, and a perfect negative linear relationship would have $r = -1$. A strong nonlinear relationship isn't indicated by a nonzero linear correlation, since r specifically targets linear patterns.

8. Chronic conditions show which type of curve?

- A. Normal distribution
- B. Epidemic curve
- C. Multimodal curve**
- D. Skewed curve

Chronic conditions often develop over long periods and are influenced by different exposures that affect various birth cohorts at different times. Because of these varying risk factors and changes in screening or diagnosis, the pattern of new cases by time can show more than one peak. That makes the distribution multimodal, with multiple distinct humps reflecting separate waves or cohorts. A single normal distribution implies a symmetric, single peak pattern, which doesn't fit how chronic diseases rise and accumulate across populations over many years. An epidemic curve is used for short, acute outbreaks, not for long-term chronic patterns. A skewed curve shows a long tail in one direction but doesn't capture multiple peaks from cohort effects or shifting risk factors.

9. Which physician conducted the 12 sailors scurvy trial using lemons and oranges?

- A. John Snow
- B. Percival Pott
- C. James Lind**
- D. Robert Koch

James Lind conducted the 12-sailor scurvy trial using lemons and oranges. He designed an early, systematic clinical test to see which dietary remedies could prevent or treat scurvy, dividing twelve sailors into groups and giving each group a different regimen. The group that received citrus fruits showed clear and rapid improvement, establishing citrus as an effective antidote to scurvy and highlighting the value of comparing treatments under similar conditions. This work is a landmark in the history of clinical trials, demonstrating a structured approach to evaluating interventions, even though it wasn't randomized by modern standards. For context, the other names listed are known for different discoveries—John Snow for cholera transmission, Percival Pott for occupational disease in chimney sweeps, and Robert Koch for identifying the tuberculosis bacterium.

10. Which type of chart shows the frequency of cases for categories of a discrete variable?

- A. Line graph
- B. Bar chart**
- C. Pie chart
- D. Scatter plot

When you want to show how many cases fall into each distinct category of a discrete variable, a bar chart is the clearest choice. Each category gets its own bar, and the height corresponds to the frequency (count) in that category. This layout makes it easy to compare how common each category is at a glance, and it clearly communicates that the categories are separate and not a continuum. Line graphs connect data points across ordered values and are suited for continuous data or time trends, not discrete categories. Pie charts display parts of a whole as slices and emphasize proportions rather than absolute counts, which can obscure direct frequency comparisons. Scatter plots plot relationships between two numeric variables, not the distribution of a single categorical variable.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://tamu-phlt305exam1.examzify.com>

We wish you the very best on your exam journey. You've got this!

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