Advancing Infection Control Capacity & Education (ACE): COACHING TO CERTIFICATION

Session 20: Education and Research – Part 1

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Q1: Which of the following is an example of the criterion of "Strength of the Association" from Hill's criteria for causation?

a. In a study of the association between antibiotic exposure and development of *Clostridiodes difficile* infection, the odds ratio was 2.3.
b. In a study of the association between antibiotic exposure and development of *C. difficile* infection, the authors conclusions are consistent with those of three other studies.
c. In a study of the association between antibiotic exposure and development of *C. difficile* infection, antibiotic therapy began an average of 3 weeks before *C. difficile* infection developed.
d. In a study of the association between antibiotic exposure and development *of C. difficile* infection, prolonged antibiotic therapy was a greater risk factor for *C. difficile* infection than short-term antibiotic therapy.

Question 2 from Practice Test 1 in the CIC Certification Study Guide

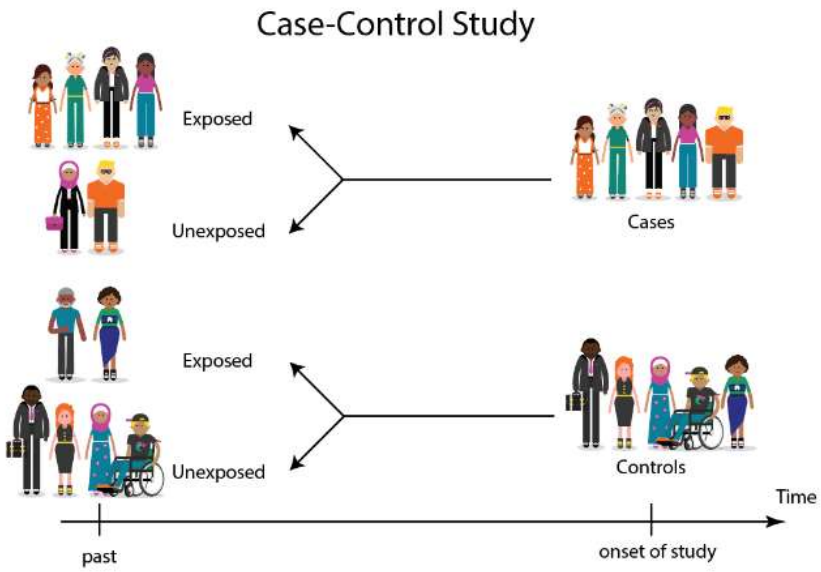
Q2: Which of the following is not an advantage of a case-control study?

a. It takes less time than a cohort study

b. It requires fewer subjects

c. The data are more accurate because it is prospective

d. It is generally considered less expensive



https://deakin.libguides.com/quantitative-study-designs/casecontrol

Question 37 from Practice Test 1 in the CIC Certification Study Guide

Q3: Case-control studies are useful for studying:

a. Rare outcomes or outcomes that develop over a long time after exposure

b. Individuals with and without exposure to a potential risk factor

c. Specific exposure incidents

d. The availability of a risk exposure

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Question 69 from Practice Test 2 in the CIC Certification Study Guide

Q4: An IP subscribes to several peer-reviewed journals. As she reviews published articles describing research findings, what question should she ask before incorporating the conclusions/findings of the article into the infection prevention program:

a. Was the appropriate study design used and are the conclusions reasonable?

b. Is the author well known and well published?

c. Does the article state how to contact the author(s) with questions?

d. Are the findings described in tables or graphs and easily understandable?

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Question 42 from Practice Test 1 in the CIC Certification Study Guide

Q5: Program evaluation is necessary to measure change and growth in the learner. The following program elements should be evaluated in order to demonstrate efficacy and impact.

1) Appropriateness of the program design
2) Adequacy of the teaching and instructional resources
3) Knowledge, skills and attitudes learned by the participants
4) Assessing the educational needs of the attendees

a. 1, 2, 3
b. 1, 3, 4
c. 2, 3, 4
d. 1, 2, 4

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Question 62 from Practice Test 1 in the CIC Certification Study Guide

Q6: In a published report on the risk of vancomycin-resistant enterococci (VRE) infection in intensive care units (ICUs) of a major teaching hospital, the authors report that the relative risk of infection is 1.9 for the Cardiac ICU (CICU) when compared to the Surgical ICU (SICU) and they conclude that a stay in the CICU is a risk factor for VRE infection. The authors have not controlled for age in their study despite the fact that their CICU patients average 20 years older than their SICU patients, and older age is a risk factor for VRE infection. The IP is concerned about the conclusions of this study because he suspects which of the following?

a. The study is affected by selection bias

b. The study is affected by standard error

c. The study is affected by confounding

d. The study is affected by causation

https://www.cdc.gov/hai/organisms/vre/vre.html

Question 68 from Practice Test 1 in the CIC Certification Study Guide

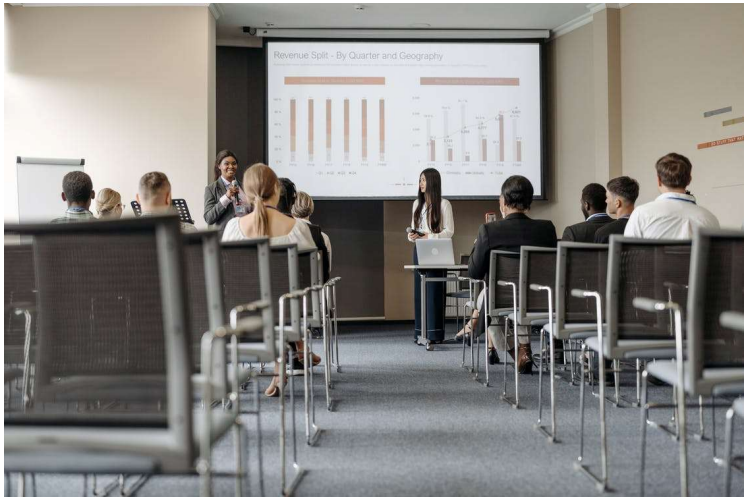
Q7: The Director of IP is developing an educational program to provide annual bloodborne pathogen training to healthcare personnel in her facility. There are approximately 7,500 employees who need annual training and her team of five IPs has to provide and document this training while still carrying out all other department duties. What is the best method of delivery for this training?

a. Web-based training sessions

b. Educational cart

c. Group lecture sessions

d. Role play training sessions



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Question 85 from Practice Test 1 in the CIC Certification Study Guide

Q8: Which method of face-to-face instruction is a useful option when large numbers of staff must be educated over a relatively short span of time?

a. Role play

b. Mentoring

c. Case studies

d. Train the trainer

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Question 96 from Practice Test 1 in the CIC Certification Study Guide

Q9: What is an advantage of experimental studies when identifying approaches to successfully interrupt the chain of infection?

a. Experimental studies can identify causative disease factors retrospectively

b. Experimental studies can establish association and causality if host factors such as disease susceptibility and other variables are strictly controlled

c. Experimental studies avoid the need to manipulate the independent variable and therefore ethical issues associated with exposure to disease

d. Experimental studies do not require randomization, which is difficult to achieve in the healthcare environment

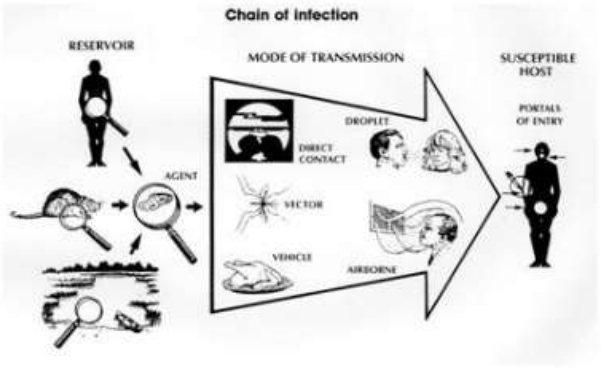

Image Description

Source: Centers for Disease Control and Prevention. Principles of epidemiology, 2nd ed. Atlanta: U.S. Department of Health and Human Services;1992.

Question 112 from Practice Test 1 in the CIC Certification Study Guide

Q10: Properly written instructional objectives include:

a. Statements that communicate the intent of the curriculum

b. Directions and plans for the educational session

c. Learner outcomes in measurable terms using action verbs

d. Measures of change and growth in the learner

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Question 120 from Practice Test 1 in the CIC Certification Study Guide

Q11: Which of the following could be a result of a descriptive study on *C. difficile* in the healthcare setting?

a. The average age of a patient with *C. difficile*

b. The association between proton pump inhibitors and *C. difficile*

c. The likelihood of having *C. difficile* and being placed on a specific unit

d. The lack of hand hygiene by staff resulting in *C. difficile* acquisition

https://www.cdc.gov/hai/organisms/cdiff/cdiff_infect.html

Question 135 from Practice Test 1 in the CIC Certification Study Guide

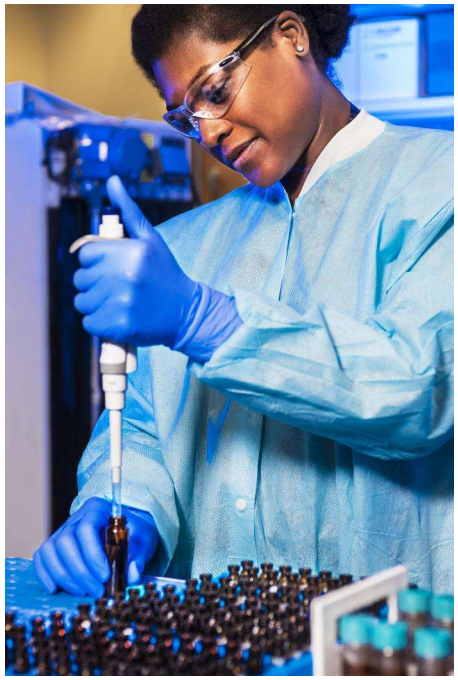
Q12: Which of the following scenarios is an example of the preparation phase of the transtheoretical model?

a. Auditing reveals that staff compliance with personal protective equipment (PPE) use has increased in the last month

b. Data is showing a 96 percent compliance rate for PPE use in the last 10 months

c. Staff are discussing strategies to increase PPE use at monthly staff meetings

d. Staff are questioning why they need to wear PPE when caring for patients in isolation



https://phil.cdc.gov/Details.aspx?pid=23266

Question 25 from Practice Test 2 in the CIC Certification Study Guide

Q13: The IP is planning an educational program for the nursing staff. The IP knows that in order to increase retention and motivate the nurses to change practice behaviors, she should do which of the following?

1) Assume a facilitator role
2) Utilize monologues to provide critical information
3) Incorporate an interactive approach
4) Use a computer-based learning module

a. 1,3

b. 1,4

c. 2,3

d. 1,2

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Question 27 from Practice Test 2 in the CIC Certification Study Guide

Q14: In a published study of the risk factors associated with an outbreak of *Serratia marcescens* in a neonatal ICU (NICU), the authors present the following table:

Given the list of risk factors below, which ones are statistically significant for *Serratia* infection in this outbreak?

1) Birth weight
2) Mechanical ventilation
3) Central venous catheter
4) Previous antibiotic use

a. 1,2

b. 1,3

c. 2,3

d. 3,4

Risk Factor	P-value	Odds Ratio (Confidence Interval)
Birth Weight <1000 g	0.07	1.93 (1.62-4.86)
Mechanical Ventilation	< 0.001	4.24 (2.76-6.33)
Central Venous Catheter	0.008	3.38 (1.97-9.74)
Previous Antibiotic Use	0.02	1.32 (0.079-5.97)

*p < 0.05 considered significant

Question 40 from Practice Test 2 in the CIC Certification Study Guide