

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

Session 16: Surveillance and Epidemiology – Part 1

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1



Q1: The IP lives in a community of 100,000 persons. There have been more than 1000 cases of hepatitis C with 200 resultant deaths in one year. The case fatality rate for this is:

- a. 10%
- b. 800 per 10,000
- c. 20%
- d. 200 per 100,000

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2

2



Q2: 75 patients were admitted to the Med/Surg ICU. 40 were on the surgical service and 35 are on the medical service. 15 patients developed HAI with MRSA. Nine of the patients with MRSA infection were surgical service. There were 230 patient days in the ICU for the surgical patients in January, and 325 days for the medical patients. What was the MRSA attack rate for the patients in medical services?

- a. 8%
- b. 2%
- c. 17%
- d. 5%

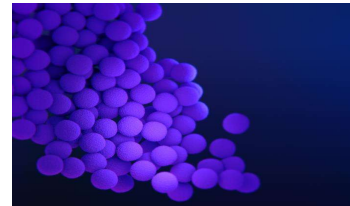


Photo Credit: [CDC/ Antibiotic Resistance Coordination and Strategy Unit](#)

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3

3



Q3: All 72 patients in a chronic hemodialysis center were tested for hepatitis C virus (HCV). Eight of the patients were identified as HCV positive. What is the prevalence?

- a. 0.9%
- b. 9%
- c. 1%
- d. 11%

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4

4



Q4: The incidence of VRE in the burn unit last quarter was 3.0, and the incidence of VRE in the bone marrow transplant unit last quarter was 1.0. What was the relative risk (RR) of new cases of VRE in the burn unit compared to the bone marrow transplant unit?

- a. RR = 3.0
- b. RR = 0.33
- c. RR = 4.0
- d. RR = 2.0



Q5: A p value expressed as $p < 0.01$ indicates:

- a. A possibility of these results occurring by chance alone is very small, so therefore, the result is not significant
- b. The possibility of these results occurring, by chance alone is less than one and 100 and, therefore, significant enough to prove causality
- c. The null hypothesis should be rejected, and the alternative hypothesis should be accepted
- d. The null hypothesis should be accepted



Q6: Which of the following statements about testing for statistical significance is true?

- a. A p value of 0.05 means that the probability that the observation occurred by chance alone is 1 in 20
- b. A p value of 0.05 increases the likelihood of making a type II error
- c. The size of the p value indicates the power of the results
- d. The research hypothesis is the basis of significance

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7

7



Q7: What is the probability of committing a type I error if the p value is 0.01?

- a. 1 in 10
- b. 1 in 100
- c. 1 in five
- d. 1 in 20

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8

8



Q8: As the sample size increases, what tends to happen to the 95% confidence interval?

- a. The margin of error increases
- b. They become more precise
- c. They become wider
- d. They become less precise

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9

9



Q9: If chance is a likely explanation for the difference between a sample statistic and the corresponding null hypothesis population value, then:

- a. The difference is not statistically significant
- b. The sample results are not compatible with the null hypothesis
- c. The difference is statistically significant
- d. The null hypothesis can be rejected

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10

10



Q10: Measures of central tendency are:

- a. Ratios and rates
- b. Proportions and standard deviation
- c. Mean and median
- d. Percentiles and measures of dispersion

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11

11



Q11: In a case control study, the association between obesity and *Clostridium difficile* was examined. The table below provides the results. Which of the following odd ratios is correct?

Body Mass index (BMI)	Cases	Control
BMI 30 or higher	55	30
BMI less than 25	45	70

- a. 0.35
- b. 2.85
- c. 1.83
- d. 0.55

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12

12