

Test Bank for Managerial Epidemiology - Cases and Concepts 4th Fleming

1. What does one call the distribution of health outcomes within a population, the determinants that influence distribution, and the policies and interventions that affect those determinants?

- a. epidemiology
- b. health services management
- *c. population health
- d. public health

2. Which of the following was NOT one of pillars of population health identified by Nash (2012)?

- *a. acute care management
- b. chronic care management
- c. public health
- d. health policy

3. What is defined as "preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations"?

- a. health determinant
- *b. health disparity
- c. health outcome
- d. quality of care metric

4. The population of Lexington, Kentucky, would be referred to as which of the following?

- a. fixed population
- *b. dynamic population
- c. fixed cohort
- d. dynamic cohort

6. According to Parrish (2010), poverty would be which kind of a factor affecting population health outcomes?

- *a. distal
- b. proximal
- c. associated
- d. physiologic

7. According to Porta (2014), what is a "collective or individual risk factor (or set of factors) that is causally related to a health condition, outcome, or other defined characteristic"?

- a. population health outcome
- b. health outcome
- c. health disparity

*d. health determinant

8. Which of the following are associated with age as a determinant?

- a. variation in lifestyle
- b. immunological status
- c. progressive diseases
- *d. all of these

9. The relationship between mortality and age is best characterized by which kind of curve?

- *a. J
- b. L
- c. backwards L
- d. U

10. Which of the following would NOT be associated with socioeconomic status?

- a. education
- *b. functional status
- c. occupation
- d. income

11. Fill in the blank: Education is _____ associated with mortality.

- a. directly
- b. exponentially
- *c. inversely
- d. not

12. Fill in the blank: Higher occupational status is associated with _____ mortality.

- *a. lower
- b. higher
- c. much greater
- d. no difference in

13. In the United States at least, higher income or wealth is associated with which of the following?

- *a. better health or increased longevity
- b. better health but decreased longevity
- c. worse health but increased longevity
- d. worse health and decreased longevity

14. Which of the following is typically based on some common trait such as language or place of origin?

- a. race
- *b. ethnicity
- c. both race and ethnicity
- d. neither race nor ethnicity

16. Hispanics tend to have which of the following?

- a. less disability and longer longevity
- b. less disability but shorter longevity
- *c. more disability but greater longevity
- d. more disability and shorter longevity

17. With regard to breast cancer, black women have which of the following?

- a. lower incidence and lower mortality
- *b. lower incidence but higher mortality
- c. higher incidence but lower mortality
- d. higher incidence and higher mortality

18. The "meanings and social arrangements that create different experiences [for men and women]" refers to which of the following?

- *a. gender
- b. sex
- c. both gender and sex
- d. neither gender nor sex

19. Compared to men, women have which of the following?

- a. lower incidence of chronic conditions and longer life
- b. lower incidence of chronic conditions but shorter life
- *c. higher incidence of chronic conditions but longer life
- d. higher incidence of chronic conditions and shorter life

20. Which of the following is NOT a factor in gender differences in disease and mortality?

- a. biological differences
- b. behavioral differences
- c. social structural differences
- *d. All of these actually are factors.

Mid Term Exam (Chapter 1-15)

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7. Airborne inhalation of infectious droplets is an example of which type of transmission?

- a. direct transmission
- *b. indirect transmission
- c. inanimate transmission
- d. vector-borne transmission

8. Which of the following is calculated for short-term outbreaks of disease?

- a. prevalence rate
- b. endemic rate
- *c. crude attack rate
- d. incidence density rate

9. The incubation period is the time interval between _____ and _____?

- a. exposure and diagnosis
- *b. exposure and symptoms
- c. symptoms and diagnosis
- d. symptoms and disability

10. What is the most common type of healthcare-associated infection?

- a. surgical site infection
- *b. urinary tract infection
- c. ventilator-associated infection
- d. vascular catheter-associated infection

11. Which of the following represents the average number of new infections caused by one infected individual in an entirely susceptible population?

- a. crude attack rate
- *b. basic reproductive number
- c. herd immunity ratio
- d. incidence rate

12. Along the spectrum of disease, what is the clinical horizon?

- a. the moment when the patient is exposed to a risk factor
- *b. the point at which signs and symptoms make a disease detectable
- c. the point at which the disease becomes detectable through technology such as imaging
- d. the point at which the disease is diagnosed

e. the moment in the progression of a disease before which treatment is more effective and after which major or severe consequences occur

13. With 100 new cases of disease in 2020 in a population of 2,000, and 400 existing cases at the end of 2019, and no deaths, what is the incidence rate per 100?

- a. 2.50
- b. 4.75
- c. 5.00
- *d. 6.25
- e. 10.00

14. In a cohort of 2,000 people, 1,000 were followed for 10 years, 500 for 7 years, and 400 for 5 years. After accumulating 500 person-years, 100 subjects became sick. How many person-years at risk?

- a. 10,500
- b. 15,500
- *c. 16,000
- d. 22,500
- e. 50,000

15. In a cohort of 2,000 people, 1,000 were followed for 10 years, 500 for 7 years, and 400 for 5 years. After accumulating 500 person-years, 100 subjects became sick. What is the incidence density per 1,000 person-years?

- a. 4.75
- b. 5.50
- c. 6.05
- *d. 6.25
- e. 16.75

16. Which of the following indicates the percent of people without the disease who can be ruled out as being disease-free?

- a. sensitivity
- *b. specificity
- c. validity
- d. positive predictive value
- e. negative predictive value

17. Suppose that 1,000 subjects with a 10% prevalence of disease take a test with a sensitivity of 90% and a specificity of 80%. What is the positive predictive value?

- a. 10.0%

- b. 12.5%
- c. 25.0%
- *d. 33.0%
- e. 90.0%

18. Suppose that 1,000 subjects with a 10% prevalence of disease take a test with a sensitivity of 90% and a specificity of 80%. You retest the positives with a second test with a sensitivity of 90% and a specificity of 85%. What is the net sensitivity?

- *a. 81%
- b. 85%
- c. 90%
- d. 95%
- e. 100%

19. Suppose that 1,000 subjects with a 10% prevalence of disease take a test with a sensitivity of 90% and a specificity of 80%. You retest the positives with a second test with a sensitivity of 90% and a specificity of 85%. What is the net specificity?

- a. 10%
- b. 80%
- c. 85%
- d. 95%
- *e. 97%

20. Assume that 0.6% (i.e., 0.006) of women younger than age 50 have breast cancer and that the prevalence of breast cancer among women with symptoms is 12%. Further assume that film mammography has a sensitivity of 60% and a specificity of 75%, and that MRI of the breast has a sensitivity of 90% and a specificity of 75%. Suppose you test again (stage 2) with the MRI only those women with symptoms who first tested positive with the film mammography (in other words, you "believe the negative"). What is the net sensitivity of this two-test sequence?

- *a. 54%
- b. 60%
- c. 70%
- d. 75%
- e. 90%

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- a. 75.0%
- b. 84.0%
- c. 88.2%
- *d. 93.8%
- e. 95.6%

22. Assume that 0.6% (i.e., 0.006) of women younger than age 50 have breast cancer and that the prevalence of breast cancer among women with symptoms is 12%. Further assume that film mammography has a sensitivity of 60% and a specificity of 75%, and that MRI of the breast has a sensitivity of 90% and a specificity of 75%. What is the net sensitivity of using both tests simultaneously?

- *a. 96%
- b. 90%
- c. 86%
- d. 75%
- e. 54%

23. According to Donabedian (1973), which of the following represents the amount of medical services that SHOULD be consumed?

- *a. need
- b. demand
- c. want
- d. utilization
- e. insurance coverage

24. What is the need in the population for services that are not currently being provided by the healthcare system called?

- a. basic need
- b. unrecognized need
- *c. unmet need
- d. underutilization need
- e. overmet need

25. Which needs assessment method uses existing datasets to make inferences about need in a population?

- a. community survey
- b. demographic analysis
- c. analysis of programmatic data
- *d. inferential indicators
- e. key informant survey

26. What is organizational planning to continue operations during a disaster or other unexpected future event, such as the COVID-19 pandemic?

- a. emergency planning
- b. tactical planning
- c. operational planning
- *d. contingency planning
- e. strategic planning

27. According to the Virginia Commonwealth University Medical Center case study, how many times more prevalent in 2017 were men aged 55-59 with no risk factors compared to those with all four risk factors?

- a. 5
- b. 7
- c. 15
- *d. 17
- e. 24

28. What is a major shortcoming of the needs-based methods of Lee and Jones (1933) and Donabedian (1973)?

- a. Insurance makes access to care too easy.
- b. Physicians prescribe needs based on historical data of actual use.
- c. Workforce needs are based on actual forecasting.
- *d. Workforce needs are based on a normative measure—that is, what should be provided.
- e. These models are based on what services are actually consumed rather than what should be consumed.

29. Suppose that you are asked to do a needs assessment for diabetes services in Lexington, Kentucky (population 300,000), where the prevalence of diabetes is presumed to be 9%. Assume that the two major risk factors for diabetes are hypertension and obesity, that 28% of the population in Lexington are obese, and that 32% of the population in Lexington are hypertensive. Assume that there are two main interventions for obesity, pharmacologic (appropriate for only 18% of obese) and nonpharmacologic (appropriate for 88% of obese). Further assume that there are two main interventions for hypertension, pharmacologic (appropriate for 75% of hypertensives) and nonpharmacologic (appropriate for 95% of hypertensives). Assume that 100% of diabetics will require regular HbA1C testing, 85% will require pharmaceuticals (including insulin), 100% will require 6 regular physician visits per year, and 12% will need to be hospitalized. How many of the population of Lexington are obese?

- a. 7,200
- b. 8,400
- c. 72,000
- *d. 84,000
- e. 96,000

30. Suppose that you are asked to do a needs assessment for diabetes services in Lexington, Kentucky (population 300,000), where the prevalence of diabetes is presumed to be 9%. Assume that the two major risk factors for diabetes are hypertension and obesity, that 28% of the population in Lexington are obese, and that 32% of the population in Lexington are hypertensive. Assume that there are two main interventions for obesity, pharmacologic (appropriate for only 18% of obese) and nonpharmacologic (appropriate for 88% of obese). Further assume that there are two main interventions for hypertension, pharmacologic (appropriate for 75% of hypertensives) and nonpharmacologic (appropriate for 95% of hypertensives). Assume that 100% of diabetics will require regular HbA1C testing, 85% will require pharmaceuticals (including insulin), 100% will require 6 regular physician visits per year, and 12% will need to be hospitalized. There are 100,000 residents who receive medicine for hypertension. How many residents of unmet or overmet need for hypertensive medication are there in this area?

- a. 42, 750 unmet
- b. 48, 595 unmet
- c. 27,575 overmet
- *d. 28,000 overmet
- e. 96,000 overmet

31. Which federal program rewards acute care hospitals with incentive payments for the quality of care they provide to Medicare patients?

- a. CMS Managed Care Partnership Program
- *b. Hospital Value-Based Purchasing Program
- c. Medical Prospective Payment System
- d. Medical Ambulatory Care Sensitive Conditions Program

32. Which of the following is NOT an AHRQ patient safety quality indicator?

- a. birth trauma rate injury to neonate
- *b. heart failure mortality rate
- c. pressure ulcer rate
- d. postoperative sepsis rate

33. Quality standards that relate to the relatively stable characteristics of the providers of care, the settings in which they practice, and the resources that they use are called which one of the following?

- *a. input standards
- b. output standards
- c. turnover standards
- d. process standards

34. What is an illness that exists before, or arises after, the hospital stay and is not related to the stay?

- *a. comorbidity
- b. underlying illness
- c. primary diagnosis
- d. complication

35. Which of the following would be considered an extrinsic risk of hospitalization?

- a. patient age
- b. patient immunodeficiency
- c. comorbidities
- *d. ventilators

36. Because duration of stay in the hospital is a risk, how could we control for that in our calculations?

- a. by using admissions in the denominator for rates
- b. by using discharges in the denominator for rates
- *c. by using patient days in the denominator for rates
- d. by using average length of stay in the denominator for rates

37. What is an ambulatory care-sensitive condition?

- a. a serious medical condition
- b. a condition that needs to be treated in the hospital
- c. a condition that cannot be treated in the hospital
- *d. a condition that ought to be treated outside the hospital

38. Which of the following is NOT expressed as a rate per 1,000 live births?

- a. infant mortality rate
- b. neonatal mortality rate
- c. maternal mortality rate
- d. maternal mortality rate
- *e. All of the above actually are expressed as a rate per 1,000 live births.

39. When age-specific death rates from the two population groups to be compared are each applied to a third reference group, this is called which of the following?

- *a. direct standardization
- b. indirect standardization
- c. reference standardization
- d. sequential standardization

e. simultaneous standardization

40. Why might surgeons want to avoid treating high-risk patients if such patients are included on report cards?

- a. They may be concerned with incremental costs.
- b. They may do so if their patients have lower-than-expected mortality rates.
- *c. They may assume that the measure does not reflect the risk of surgery.
- d. They may assume that the measure overestimates the risk of surgery.
- e. They have no reason to avoid high-risk patients.

41. Which of the following is NOT included in the Hospital Compare model for the risk-adjusted mortality measure for coronary artery bypass graft surgery?

- a. age
- b. cardiogenic shock
- c. comorbid conditions
- *d. ejection fraction
- e. gender

42. Suppose you are studying a population of 2,500,000 people, 500,000 of whom are aged 65 or older. Among the total population there are 2,500 live births, 70,000 deaths in all age groups from all causes, 50,000 deaths for those aged 65 or older, 20,000 deaths from heart disease, 80 deaths among infants less than 28 days, 95 deaths among infants (< 1 year, including those < 28 days), and 25 deaths among pregnant mothers. If 55,000 people get influenza in 2016, 60,000 people had influenza at some point in time during 2016, and 600 people died from influenza in 2016, what is the infant mortality rate (per 1,000 live births)?

- a. 25
- b. 32
- *c. 38
- d. 3,600
- e. 3,800

43. Assume a population of 320 million people in the United States (US), 48 million of whom are aged 65 or older. Looking at three cities in Kentucky, assume that mortality rates for those younger than age 65 of 110 per 100,000 in Lexington, 120 per 100,000 in Louisville, and 125 per 100,000 in Bowling Green. Assume that mortality rates for those aged 65 or older are 1,675 per 100,000 in Lexington, 1,550 per 100,000 in Louisville, and 1,800 per 100,000 in Bowling Green. Use direct age adjustment, with US as the standard. What is the age-adjusted mortality rate for Lexington? (per 100,000, one decimal place)

- a. 325.80
- b. 342.15
- *c. 344.75
- d. 350.25
- e. 376.25

44. Assume that the mortality rates for the respective 0-14, 15-64, and 65+ age groups in Australia in 2011 are 18 per 100,000, 775 per 100,000 and 4,500 per 100,000, and that the populations in three cities for the three respective age categories are as follows: Brisbane (420,000; 1,400,000; 275,000), Sydney (700,000; 3,300,000; 750,000), and Melbourne (750,000; 2,750,000; 575,000). Use the indirect method of standardization to compare the three cities. If the actual number of deaths in Brisbane is 21,150, what is the standardized mortality ratio (SMR) for Brisbane?

- a. 89.6
- *b. 90.8
- c. 91.5
- d. 92.0
- e. 95.6

45. Which element is NOT part of the iron triangle?

- a. access
- b. cost
- *c. pricing
- d. quality

46. When HMOs or physicians are paid a fixed amount per member per month, this is referred to as which of the following?

- a. bundled payment
- *b. capitation
- c. diagnosis-related group
- d. fee-for-service

47. Which of the following is NOT one of the goals of for healthcare of the Institute of Medicine's *Crossing the Quality Chasm* (2001)?

- a. equitable
- *b. profitable
- c. safe
- d. timely

48. Which of the following refers to group of doctors, hospitals, and other healthcare providers who come together voluntarily to be jointly responsible for the patient care of a population?

- *a. accountable care organization (ACO)
- b. health maintenance organization (HMO)
- c. managed care organization (MCO)
- d. preferred provider organization (PPO)

49. A payment approach in which a group of providers (e.g., physicians, hospital, post-acute care) is paid to provide all the care required for a single, well-defined episode of care is called which of the following?

- a. patient-centered medical home
- b. accountable care organization
- c. managed care organization
- *d. bundled payment organization

50. Which of the following payment models is the one in which providers are paid per member, per month (PMPM), with a portion of PMPM put into a reserve pool, and then after patient outcomes are compared to benchmarks, a share of the pool is returned if the provider meets or exceeds the benchmarks?

- *a. full risk
- b. shared risk
- c. partial risk
- d. prospective risk