HS161 MIDTERM 3/24/04

Instructions. *Select the best response in each instance.* **For T/F questions, answer "a" for true and "b" for false.** *On Part A, please use a TE2000 scantron to record your answers. Use a blue book for Part B answers.*

Chap 1 (§1.1, §1.2, §1.3)

Match each term with its definition.

Terms:

1. morbidity
2. mortality
3. endemic
4. epidemic

Definitions:

  a. occurrence at an increased or excess level
  b. related to death
  c. related to disease or disability
  d. occurrence at a constant or expected level

List the causes of death in correct rank order.

Rank:

5. Highest
6. Second highest
7. Third highest
8. Lowest

Causes:

  a. Cancer
  b. Cardiovascular
  c. External cause
  d. Chronic obstructive pulmonary disease

9. T/F: Prostate cancer increased in the second half of the twentieth century. [Remember to answer "a" for true and "b" for false on all T/F questions.]

Match the uses of epidemiology with its description.

Uses:

10. historical study
11. evaluate health services
12. complete clinical picture
13. community diagnosis

Descriptions:

  a. appraise efficacy of interventions and treatments
  b. identify presence, nature, and incidence or prevalence of health problems
  c. track rise and fall of disease in the population for useful projections
  d. assess all types of cases and their proportion of occurrence

14. T/F: Definitions of health vary between cultures and individuals.

15. Select the best definition of "epidemiology."

  a. Organized community effort to prevent disease and promote health.
  b. The study of disease.
  c. The study of health.
  d. The study of disease and health-related conditions in populations.

16. Select the definition of *pandemic*.

  a. endemic in the population
  b. endemic on several continents
  c. epidemic in the population
  d. epidemic on several continents

Chap 2 (§2.1, §2.2)

Place in correct chronological order the events leading to a myocardial infarction.

Order:

17. first
18. second
19. third
20. fourth

Event:

    a.   death of heart muscle
    b.   dietary factors leading to atherosclerosis
    c.   genetic susceptibility
    d.   blood clot blocking coronary artery

21. This term is used to refer to the spectrum of an infectious disease.

    a.   latent period
    b.   incubation period
    c.   iceberg
    d.   gradient of infection

22. Why would your want to identify and treat HIV infections before symptoms arise?
    a.   delay onset of symptoms
    b.   cure infection
    c.   prevent transmission
    d.   "a" and "c"
    e.   "a," "b," and "c"

23. This is the term used to denote a health problem that is largely undetected on population basis.

    a.   iceberg phenomenon
    b.   spectrum of disease
    c.   primary prevention
    d.   initiation

24. This marks the *beginning* of the subclinical stage of disease.
    a.   exposure to the ultimate causal factor
    b.   first symptoms
    c.   diagnosis
    d.   resolution of symptoms

Match each term with its description.

Terms:

25. induction period
26. latent period
27. empirical induction period
28. causal action

Descriptions:

    a.   time between disease initiation and detection
    b.   biological effect of a pathogenic event
    c.   time between causal action and disease initiation
    d.   time between causal action and disease detection

29. This marks the *end* of the subclinical stage of disease.
    a.   exposure to the ultimate causal factor
    b.   first symptoms
    c.   diagnosis
    d.   resolution of symptoms

30. What does it mean when an epidemiologist says there is an *interdependence* between factors?

    a.   there is a spectrum of effects
    b.   factors work together to cause the disease
    c.   there is a long induction period
    d.   the disease often goes undetected

31. Is the laser treatment of diabetic retinopathy to prevent blindness a form of primary, secondary, or tertiary prevention in the treatment of diabetes?
    a.   primary
    b.   secondary
    c.   tertiary

Match the type of prevention with its goal.

Types of Prevention:

32. primary
33. secondary
34. tertiary

Goal:

    a. to prevent new occurrences
    b. to minimize progression of disease and its effects
    c. delay onset or reduce severity after emergence

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35. T/F: During the acute phases of HIV infection, a person may have no detectable antibody but may still be infectious.

36. Is treatment of symptom-free HIV+ people with anti-retroviral drugs a form of primary, secondary, or tertiary prevention?
    a. primary
    b. secondary
    c. tertiary

Match each term with its description.

Terms:

37. innate immunity
38. acquired immunity
39. immunocyte
40. humoral immunity

Descriptions:

    a. an immune cell
    b. immunity you are born with
    c. non-cellular components of acquired immunity
    d. immunity developed after birth

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41. T/F: Infectious diseases remain a leading cause of morbidity and mortality worldwide.

42. Select the disease with a known prion cause.
    a. AIDS
    b. typhus fever
    c. rocky mountain spotted fever
    d. mad cow disease

43. What type of transmission occurs when HIV is transmitted via a syringe?
    a. mechanical
    b. developmental
    c. propagative
    d. cyclopropagative

44. T/F: Fever and inflammation can help fend off infection.

45. Transfer of antibodies from mother to baby through colostrum is a form of:
    a. innate immunity
    b. therapeutic immunity
    c. actively acquired immunity
    d. passively acquired immunity

46. These are proteins on the surface of agents that elicit an immune response.
    a. pathogens
    b. immunocytes
    c. antigens
    d. antibodies

Match each term with its definition.

Terms:

47. infection
48. infectious disease
49. reservoir
50. contamination

Definitions:

    a.   habitat where agent multiplies
    b.   presence of living agent within the body
    c.   presence of living agent within body accompanied by symptoms
    d.   presence of living agent on exterior surface

51. Which of the following is an innate form of cellular immunity?
    a.   intact skin
    b.   stomach acidity
    c.   phagocytic cells
    d.   ear wax

52. Propagative transmission occurs when there is
    a.   no multiplication of the agent in the vector
    b.   multiplication of the agent in the vector
    c.   maturation of the agent in the vector
    d.   multiplication and maturation of the agent in the vector

53. Which of the following can *not* serve as a portal for infection?
    a.   skin
    b.   urogenital tract
    c.   respiratory tract
    d.   cardiovascular system

54. This type of immune cell up-regulates and down-regulates the immune response.
    a.   macrophage
    b.   bone marrow cell
    c.   B lymphocyte
    d.   T lymphocyte

Match the class of agent with its description.

Agents

55. virus
56. bacteria
57. fungi
58. helminth

Descriptions:

    a.   unicellular creatures capable of independent replication
    b.   sub-microscopic agents incapable of replication outside of the host
    c.   parasitic worms
    d.   parasitic lower plants lacking chlorophyll

59. Stomach acidity is a _____ barrier to infection.
    a.   physical
    b.   chemical
    c.   cellular
    d.   none of the above

60. Which of the following can serve as a portal of entry for HIV?
    a.   the skin
    b.   urogenital tract
    c.   gastrointestinal tract
    d.   all of the above

61. This type of vaccine contains antigens from an agent that can no longer replicate.
    a.   killed vaccine
    b.   modified live vaccine
    c.   toxoid
    d.   immunoglobin

Chap 5

62. How many major categories of disease are in ICD-9?
    a. 14
    b. 15
    c. 16
    d. 17

63. What types of criteria may be used to construct a case definition?
    a. clinical
    b. personal characteristics
    c. region and time of occurrence
    d. all of the above

64. Which factors are used in structuring ICD codes?
    a. similarities in cause
    b. similarities in pathogenesis
    c. similarities in anatomical location
    d. "a" and "c"
    e. "a," "b," and "c"

65. What organization created the ICD?
    a. FDA
    b. CDC
    c. WHO
    d. SJSU ✌

66. What does the CM stand for in the ICD-9-CM?
    a. Chronic Major
    b. Chronic Modification
    c. Clinical Major
    d. Clinical Modification

67. T/F: A person must have an AIDS indicator condition (e.g., Kaposi's Sarcoma) in order to qualify as an AIDS case under the current CDC AIDS surveillance case definition.

68. T/F: Studies of treatments and interventions need a uniform case definition to objectively study response to therapy.

69. T/F: Case definitions may evolve over time as we learn about the pathology of the disease.

70. What is the *most current* version of the ICD?
    a. 8
    b. 9
    c. 10
    d. 11

71. T/F: A change in the completeness of reporting can create an artifactual increase or decrease in the reported rate of a disease.

72. When you put an age restriction on a case definition, you are using this type of criteria:
    a. clinical
    b. "person"
    c. "place"
    d. "time"

Match the term with its brief description.

Terms:

73. case definition
74. "Chinese menu"
75. probable case
76. possible case
77. confirmed case

Descriptions:

a. a case with all clinical features plus supporting laboratory or pathological evidence
b. criteria by which to decide whether an individual should be classified as having a condition
c. a case with all of the typical clinical features but no supporting lab or path evidence
d. to combine criteria in an "either/or" fashion
e. a case with some but not all of the typical clinical features and no supporting lab or path evidence

Part B: Open-Ended Questions

Answer in your blue books, please. Remember to number each problem.

TEXARKANA CASE STUDY QUESTIONS

1. What is the difference between a *sensitive* case definition and a *specific* case definition? [4 pts]

2. Fill in the table below by calculating the rates and summing number of cases and population sizes when necessary. [10 pts]

   Formula: Rate (per 1000) = (no. of cases) ÷ (population size) × 1000

Vaccine status	Age group (yrs)	Cases	Population	Rate (per 1000)
Unvaccinated	1–9	42	2552	_____
	10–19	173	3342	_____
	1–19	_____	_____	_____
Vaccinated	1–9	3	3671	_____
	10–19	14	4345	_____
	1–19	_____	_____	_____

3. Compare the rates for 1–9 and 10–19 year-olds. [1 pt]

4. Compare the rates for the unvaccinated and vaccinated groups.[1 pt]

5. Using the above information, calculate vaccine effectiveness. The formula is $VE = \dfrac{R_1 - R_0}{R_1}$, where VE represent vaccine effectiveness, R_1 represent the rate of disease in the unvaccinated population, and R_0 represent the rate of disease in the vaccinated population. Show all work. [2 pts]

6. In your opinion, was the vaccine effective? Justify your response. [2 pts]