

CHAPTER 2

Health Care Services as a Health Determinant and Health Research Methods

Multiple Choice Questions

1. While the health care system is not the most important determinant of a population's health, _____.
 - a) it contributes substantially to everyone's life expectancy
 - b) it can make a decisive difference for individuals with a specific disease or injury
 - c) it is especially important for people with unhealthy lifestyles
 - d) it is relatively inexpensive, so is worth the social investment
2. A key difference between Canada (and other wealthy countries) and the United States is _____.
 - a) in Canada, no health care service is treated as a private good (market commodity)
 - b) in Canada, essential medical and hospital care is treated as a public good (shared asset)
 - c) in the United States, a seriously ill or injured person may have to make arrangements up-front for private payment in order to obtain essential health care
 - d) in Canada, doctors are employed by the provincial government
3. "Informal care" refers to _____.
 - a) the provision of health care by non-medical organizations
 - b) the same thing as "social care"
 - c) the provision of health care by family members
 - d) care provided incidentally alongside a non-health care service
4. In Canada, _____.
 - a) almost all necessary health care products and services are paid by government through Medicare
 - b) doctors are not permitted to decide if a service is medically necessary and thus eligible for public payment
 - c) the federal government operates a comprehensive health care insurance scheme
 - d) about 70 per cent of health care costs are covered by either provincial health care insurance or workers' compensation plans
5. The following statement is TRUE: _____.
 - a) Health care is uniformly safe and effective
 - b) Medical error is the third leading cause of death in Canada
 - c) The effects of prescription drugs are carefully monitored
 - d) Hospital treatments are informed by the best available scientific evidence
6. _____ is NOT a problem for achieving successful medical treatment.
 - a) Patient non-compliance

- b) Inaccurate diagnosis
 - c) Wrong treatment offered
 - d) Providers strictly adhering to clinical guidelines and safe-care protocols
7. “Cultural safety” refers to _____.
 a) ensuring services are appropriate for a population by considering culture, language, and history
 b) avoiding stigma when working with mental health issues
 c) improving the geographic distribution of health care services
 d) ensuring health care information is available in different languages so that all ethnic groups can assess it
8. Health services aimed at benefitting the population rather than specific individuals needing treatment or care are referred to as _____.
 a) primary care
 b) social care
 c) informal care
 d) public health
9. The primary aim of immunization programs is _____.
 a) to reduce the spread of communicable disease in a population
 b) to reduce the risk of infection for the immunized individual
 c) to contribute to the health of individuals
 d) to protect vulnerable groups
10. In most instances, screening and early detection do not provide the anticipated positive results. An important exception is _____.
 a) FIT testing for colon cancer
 b) screening mammography
 c) PSA testing for prostate cancer
 d) PAP smears
11. The two main classes of research studies are _____.
 a) cohort and case control
 b) observational and clinical trial
 c) cross-sectional and experimental
 d) observational and experimental
12. Cross-sectional studies have a serious weakness associated with _____.
 a) recall bias
 b) the temporal order of associated variables
 c) sample size
 d) randomization
13. A serious problem with all observational studies is _____.
 a) confounding

- b) temporal order of variables
 - c) recall biases
 - d) appropriate sample size
14. A large, well-conducted study showed that 12 hours of regular moderate intensity exercise per week is associated with a 20 per cent reduction in coronary heart disease. We can correctly infer that _____.
- a) an individual who exercises at least 12 hours per week will reduce his/her risk of coronary heart disease by 20 per cent
 - b) if 10 heart attacks normally occur per year in a population of 10,000 people, only 8 would occur in a similar sized population that exercised at least 12 hours per week
 - c) inactivity causes heart attack
 - d) the more exercise, the greater cardiac health
15. The following statement about research methods is TRUE: _____.
- a) a cohort study is subject to more recall bias than a case-control study
 - b) case-control studies are more powerful than cohort studies because they use a longitudinal study design
 - c) cohort studies have more explanatory power than case-control studies because cohort studies contain information of the temporal order of variables
 - d) case-control studies are more powerful than cohort studies because the population is better defined
16. Odds ratios derived from case-control studies and relative risks derived from cohort studies are measures of _____.
- a) causation
 - b) strength of association between variables
 - c) prevalence
 - d) statistical significance
17. An experimental study attempts to discern _____.
- a) meaningful differences between comparable control and experimental populations
 - b) the precise impact of an experimental intervention on a control group
 - c) the relevance of the measures used by the researcher
 - d) whether the findings are generalizable to different populations
18. Randomization of a sufficiently large study population into an experimental population (group) and a control population (group) is necessary to ensure _____.
- a) generalizability of study findings
 - b) validity of the study findings
 - c) the differences arising during the study arise from the intervention as opposed to population characteristics
 - d) real world, clinical significance
19. Studies of the impact of diet on health produce confusing and contradictory results. This is because _____.

- a) most studies are observational and suffer from confounding and recall biases
- b) the food industry pays for many of the studies and the results are thus compromised
- c) experimental studies of diet are relatively easy to conduct but are generally thought to be too expensive
- d) people's diets tend to be very stable over time

20. One of the biggest problems with the reliability of health research study findings is _____.

- a) few studies are replicated
- b) there is insufficient interest in conducting health related research
- c) governments and funding agencies spend far too little money on health research
- d) experimental studies tend to have excessively large sample sizes

True or False Questions

1. The health care system is relevant to all health needs of Canadians.
2. Prophylactic drug therapies (such as statins) always reduce a patient's risk of disease (such as heart attack).
3. Confusing modifying risk to changing a clinically relevant outcome is a major problem in clinical medicine.
4. Screening and early detection programs typically yield mixed results.
5. "Herd immunity" works because the probability of a susceptible person encountering a contagious one goes down as the proportion of people immune to the infection goes up.
6. The health care system isn't about health, but rather disease management.
7. Informants in research studies can be relied upon to give accurate information on such matters as their diet, drinking behaviour, and so on.
8. Confounding is a problem in cross-sectional studies, but not in more sophisticated observational studies such as longitudinal cohort studies.
9. The results of an experimental study can only be properly applied to a population that is like the study's population in every relevant respect.
10. A proxy measure is something that is thought to be closely enough related to the outcome of interest to be used in its stead.

Short Answer Questions

1. What are the major features of preventive medicine? Briefly describe each.
2. Why might cancer screening and early treatment not yield improved health outcomes?
3. What are the main features of observational and experimental studies?
4. What are the main strengths and weaknesses of cross-sectional, case-control, and cohort studies?
5. What is “confounding”?

Essay Questions

1. Describe three public health measures. Explain why they are considered “public health” in terms of their aims.
2. Cohort studies can discover many interesting associations between variables and health outcomes, whereas experimental studies confirm or disprove a hypothesis regarding probable causality between a variable and a health outcome. Discuss.
3. Why are we confronted by so many contradictory research findings regarding diet, nutrition, and health?

Answer Key

Multiple Choice Questions

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|--------------------------|--------------------------|
| 1. b (p. 49) | 11. d (p. 63) |
| 2. b (p. 59) | 12. b (pp. 63–66) |
| 3. c (p. 48) | 13. a (p. 64) |
| 4. d (p. 59) | 14. b (p. 68) |
| 5. b (p. 50) | 15. c (pp. 66–68) |
| 6. d (p. 50) | 16. b (p. 66) |
| 7. a (p. 56) | 17. a (pp. 68–70) |
| 8. d (p. 61) | 18. c (pp. 68–70) |
| 9. a (pp. 61–62) | 19. a (pp. 63–66) |
| 10. d (pp. 53–54) | 20. a (pp. 69–71) |

True or False Questions

- | | |
|-------------------------|----------------------|
| 1. F (pp. 47–49) | 6. T (p. 49) |
| 2. F (pp. 50–51) | 7. F (p. 67) |
| 3. T (p. 52) | 8. F (p. 64) |
| 4. T (pp. 53–54) | 9. T (p. 69) |
| 5. T (p. 62) | 10. T (p. 69) |

Short Answer Questions

- The major features of preventive medicine:
 - Aims at identifying and modifying risks
 - Deploys screening and then some intervention intended to alter the probability of a bad health outcome (pp. 50–51)
- Cancer screening and early treatment may not yield improved health outcomes for the following reasons:
 - False as well as true positive results arise from screening tests
 - Promotes unnecessary and potentially harmful treatment (pp. 53–54)
- The main features of observational and experimental studies:
 - Observational studies do not interfere with the study setting, merely collect data on what exists.
 - Experimental studies manipulate events in order to test a hypothesis. (p. 63)
- The main strengths and weaknesses of cross-sectional, case-control, and cohort studies:
 - Cross-sectional studies are simple and relatively inexpensive, but do not allow determination of temporal order of variables and are subject to confounding.

- Case-control studies are technically quite simple and allow the calculation of the strength of association between an exposure and an outcome (OR), but are subject to participant recall bias.
 - Cohort studies are a powerful means to examine the associations among multiple variables over time with a health outcome, but are expensive, complex and time consuming. (pp. 63–68)
5. What is “confounding”?
- Confounding is mistaking a variable that is closely associated with an outcome to be the variable potentially causing that outcome. (p. 64)

Essay Questions

1. Answers will describe three measures aimed at an entire population such as immunization campaigns, providing clean water, inspecting the food supply, etc. note that the target is a population and not an individual, and point out that they are undertaken for the good of the whole community (pp. 61–63).
2. The answer will show that the student understands that only an experimental study design can address the question of causality, but does so at the cost of the result applying only to populations that closely match those of the study (pp. 67–68).
3. Answers will describe the limitations of cross-sectional studies (confounding, bias) and the fact that experimental studies of diet and nutrition are not feasible (pp. 63–68).