Clinical Epidemiology

Lab 1

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Practice

- **Questions 1-7:**

For each numbered situation below, select the most appropriate measure from the following lettered options. Each lettered option can be used once, more than once, or not at all.

Practice

- A. Prevalence
- B. Risk
- C. Incidence rate
- D. Case fatality
- E. Median survival

Practice

1. **Which is the best measure to estimate the rapidity with which new cases of asthma develop among school-aged children?**

2. Which is the best measure to estimate the proportion of nursing home residents that is clinically depressed?

3. Which is the best measure to estimate the typical longevity after diagnosis of patients who have experienced a stroke?

Practice

- **4.Which is the best measure to estimate the likelihood that women who start postmenopausal hormone replacement therapy will develop breast cancer within 10 years?**

- **5.Which is the best measure to estimate the likelihood of death within 30 days for persons who have experienced an episode of major head trauma?**

- **6. Which is the best measure to estimate the proportion of persons aged 65 years that has cataracts?**

- **7. Which is the best measure to estimate the likelihood that employees at a manufacturing plant will experience an episode of lower back pain within a 1-year period of time?**

- **Questions 8-9: A study about risk of myocardial infarction among cigarette smokers was conducted between 1994 and 1999. The results of observations on six patients are depicted schematically in Figure 2-8.**

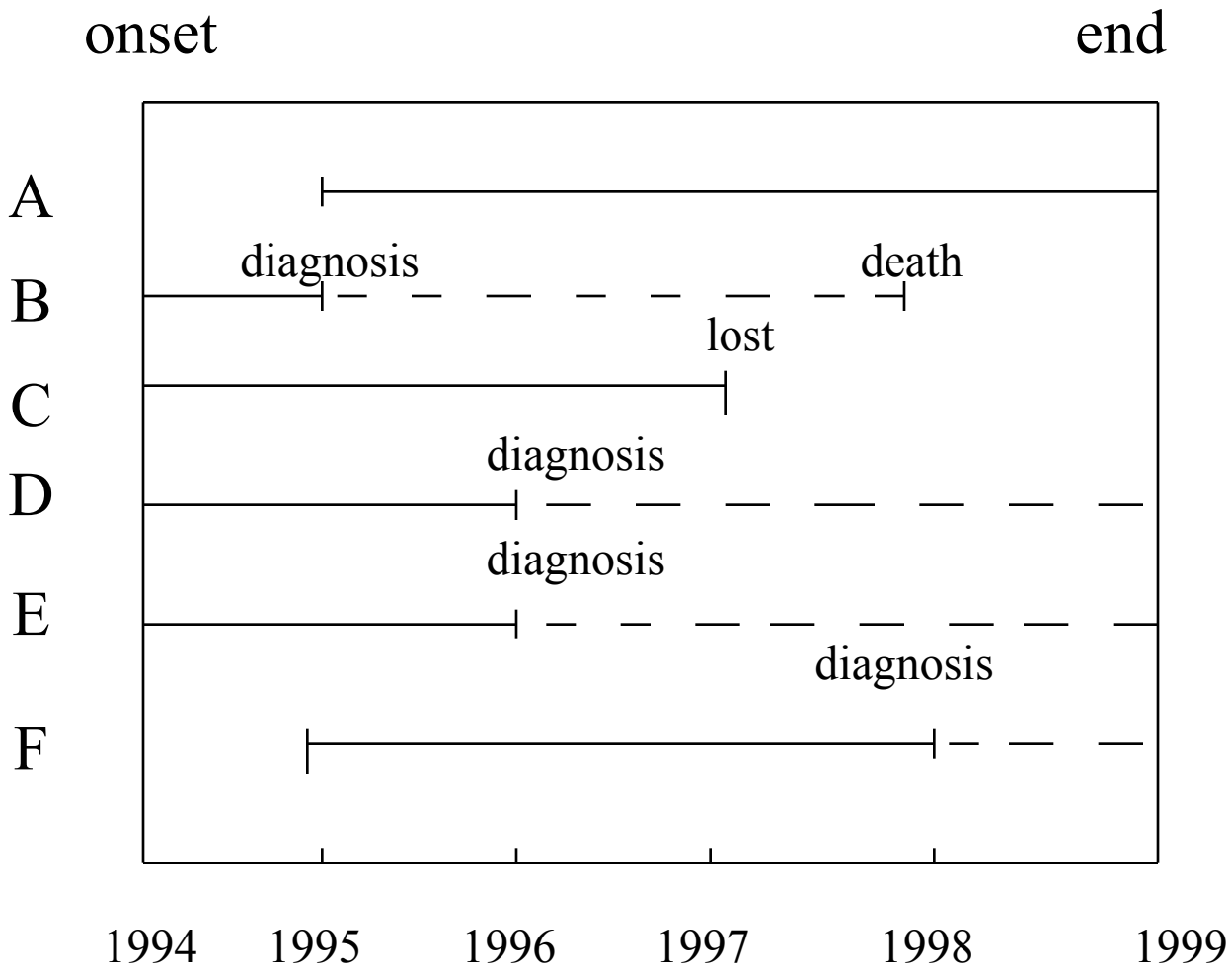

onset
end
A
B
C
D
E
F
diagnosis
death
lost
diagnosis
diagnosis
diagnosis
1994
1995
1996
1997
1998
1999

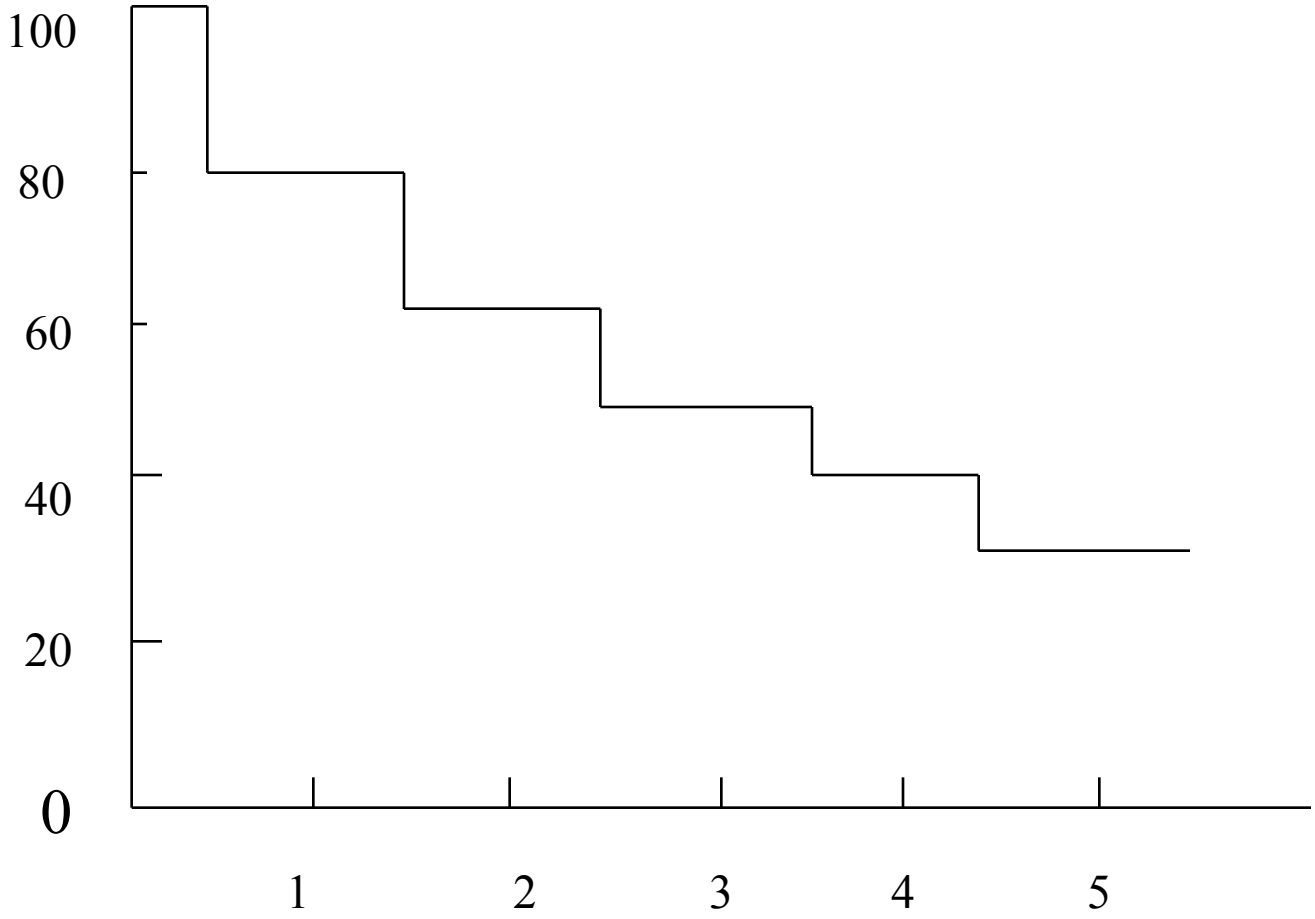
Fig2 -8

- 8. The prevalence of myocardial infarction in 1995 was
- A. 1/6=0.17 B. 1/5 = 0.20
- C. 2/6=0.33 D. 2/5 = 0.40
- E. 3/5 = 0.60

- 9. Among these patients, the risk of developing a myocardial infarction by the end of the second year of follow-up is
- A. 1/6 = 0.17
- B. 1/5 = 0.20
- C. 2/6=0.33
- D. 2/5 = 0.40
- E. 3/5 = 0.60

- Questions 10-11: A survival curve for patients with multiple myoloma is shown in Figure 2-9.

Figure 2-9 Survival year since diagnosed with multiple myoloma



- 10. From this curve, the median survival is estimated to be between
- A. 0 and 1 year
- B. 1 and 2 years
- C. 2 and 3 years
- D. 3 and 4 years
- E. 4 and 5 years

- 11. From this curve, the 5-year survival is estimated to be closest to
- A. 30%
- B. 40%
- C. 50%
- D. 60%
- E. 70%

- 12. Estimate the prevalence of diabetes mellitus for a screened workforce of 10,000 employees among whom 1000 workers are detected with diabetes mellitus during the initial screening, and 45 new diagnoses are detected at a subsequent annual screen 1 year later.

- 13. Estimate the incidence rate (per person-year) of new case development in the population described in question 12, assuming no entries from or losses of patients and no deaths from other causes.

- **14. Estimate the 5-year cumulative risk of developing diabetes mellitus in the population described in question 12, assuming no entries from or losses of patients and no deaths from other causes.**

- **15. A Diabetes survey was conducted in 1999 in a certain town with the population of 9,000 people in the early of year and 10,000 people at the end of this year. There are 800 people with diabetes in the early of this year and 200 diabetic patients were newly diagnosed within this year. 35 people died in diabetes in the year.**

- **1) The cumulative incidence of diabetes in the town in 1999.**
- **2) The mortality rate of diabetes in the town in 1999.**
- **3) The case fatality of diabetes in the town in 1999.**
- **4) The prevalence of diabetes in the town during 1999.**

16. Cancer registries report 40 new cases of bladder cancer per 100,000 men per year. Cases were from a complete count of all patients who developed bladder cancer in several regions of the United States, and the number of men at risk was estimated from the census data in those regions. Which rate is this an example of?

A. Point prevalence

B. Period prevalence

C. Incidence density

D. Cumulative incidence

E. Complication rate

- **17.Sixty percent of adults in the U.S. population have a serum cholesterol>200mg/dL (5.2mmol/L). Which rate is this an example?**

A. Point prevalence

B. Complication rate

C. Incidence density

D. Cumulative incidence

E. Period prevalence

- **18. The incidence of rheumatoid arthritis is about 40/100,000/year and the prevalence is about 1/100 persons. On average, how many years does the disease persist?**

  A. 10
  B. 25
  C. 33
  D. 40
  E. 50

- **19. Which of the following would not increase the observed incidence of disease?**

A. More aggressive efforts to detect the disease

B. A true increase in incidence

C. A more sensitive way of detecting the disease

D. A lowering of the threshold for diagnosis of disease

E. Studying a larger sample of the population

- **20. Last year, 800,000 Americans died of heart disease or stroke. Which of the following best describes this statistic?**

A. Incidence density

B. Point prevalence

C. Cumulative incidence

D. Period prevalence

E. None of the above