

Prevalence and Incidence Questions

1. According to data from Statistic Canada, there were 2,273,800 people older than 17 with asthma in Canada in 2019. Assuming that this information is correct and that the population of Canada older than 17 in that year was 30,378,269 at mid-2019, what is the prevalence of asthma in Canada?
2. A study seeking to determine the frequency of delirium (a confusion state due to metabolic dysfunction in the brain) in psychiatric units identified a sample of $n = 401$. From this sample, 9 cases of delirium were identified. What is the prevalence of delirium in psychiatric units?
3. List one advantage and one disadvantage of reporting prevalence as a count (e.g., 2500 people in the city have diabetes) as opposed to a proportion (e.g., 7% of people in the city have diabetes).
4. Dr. Frederick Banting of the University of Toronto received the Nobel Prize in 1923 for his discovery of insulin to treat diabetes. Did this accomplishment make insulin-dependent diabetes mellitus more or less common?
5. Assume that 1 in 5 people experience a mildly stressful life event each month. Suppose that a certain epidemiologist dislikes the use of months as time units in incidence-rate calculations. This epidemiologist calculates the annual incidence rate as follow: Annual incidence rate = $0.02 \text{ per month} \times 12 \text{ months/year}$. Unfortunately, the result of this multiplication is greater than 1, which this epidemiologist regards as being impossible, claiming that incidence cannot exceed 1. What if anything is wrong with this calculation?