Descriptive Studies

The war on cancer continued

1. What are the respective advantages and disadvantages of mortality data and incidence data for comparing the burden of cancer in a population over time?

   The question highlights several issues that were addressed in the homework assignment. Mortality data are more readily available and are less subject to changes in screening practices. Incidence data are available for only a small, non-random portion of the population and are too few to investigate trends in subgroups. On the other hand, mortality data combine the effects of incidence and survival trends. Just by looking at mortality data, it is hard to tell how much of the trends is due to changing incidence and how much to changing survival. Incidence data enable the investigator to examine disease occurrence and potential for prevention directly, without confounding by changing survival rates. Having both kinds of data is, of course, ideal.

2. Do you think that the "war" metaphor is appropriate for public health initiatives? What are some of its advantages and disadvantages?

   As you would expect, there is no one "right" or "wrong" answer (or there are many "right" and "wrong" answers). But it is important that we consider how the public health community interacts with different entities in society, such as the medical establishment, policy makers, and the public itself.

3. Has the War on Cancer been lost? Should resources be shifted from research on cures (treatments) to research on prevention? Why?

   Perhaps not lost, but certainly not won. On the other hand, people affected by cancer (their own or a loved one's) are generally much more interested in and grateful for new treatments than people who have not been affected by cancer are grateful for preventive measures. This is the paradox of public health and a major challenge to shifting the allocation of resources towards prevention.

Multiple sclerosis

from the article by Bronnum-Hansen et al

Some background: Multiple sclerosis (MS) is both an episodic and progressive form of neurologic degeneration. Patients generally have acute episodes of neurologic dysfunction and then return to near normal, but generally not completely normal function. Thus, over a long period of time, there is progressively worsening function. Because "episodic" is part of the definition, a diagnosis can generally not be made after the first episode. Often years may elapse between the onset of disease and its official diagnosis. Until recently (with the introduction of Betaseron and other drugs) there were few treatment options available that showed any evidence of slowing the progression of neurological dysfunction. Please review the article abstract before continuing.

1. What does Table 2 tell you about the natural history of MS?

    MS is, for the most part, a chronic disease with a prolonged natural history, so a lengthy follow-up period is needed to detect meaningful differences in mortality.

2. What are some possible explanations for the results seen in Figure 2? What kind of effect does this figure attempt to show?

    The figure shows a cohort effect, which might result from decreasing aggressiveness of the disease, improvements in the treatment of conditions that result from MS, and improvements in palliative care of patients with late stage disease.

3. Write the general equation these researchers used to calculate the "excess death rate"; then fill in the missing cells in the table.

    Formula: (no. of observed deaths-no. of expected deaths) / person-years x 1000

    Cells: 7.2, 9.4, 11.5, 8.6