Figure 9.16. OBSERVATIONAL PLANS: Survival Times of U.S. AIDS Cases

EM9014: Toronto Star, February 3, 1990, page J2

AIDS UPDATE Drug is prolonging the lives of patients, new U.S. studies say

CHICAGO (Reuter) – The life expectancies of AIDS patients have been extended in the past few years, probably because of the increased use of the drug AZT, according to two recent U.S. studies.

A study of 4,323 AIDS patients in San Francisco also found that men survived significantly longer than women, and that patients infected through blood transfusions died much more quickly than those infected in other ways.

Although there is no cure for the acquired immune deficiency syndrome, which strips the body's immune system of its ability to fight disease, the studies found that patients who contracted the most common AIDS-related infection, a type of pneumonia known as PCP, had a slightly better chance of surviving at least one year in 1987 than they did three to five years earlier.

The two studies, one by the San Francisco public health department and the other based on nearly 37,000 AIDS cases reported to the federal Centers for Disease Control, were published in the *Journal of the American Medical Association*.

"The data in these reports appear to confirm what clinicians, investigators and patients have known for several years: Life after AIDS is improving and death is no longer as swift or as certain as in the early years of the epidemic," wrote Richard Chaisson, of Johns Hopkins School of Medicine, in the accompanying editorial.

Both studies pointed to the introduction and treatment with the drug azidothymidine (AZT) as a possible reason behind the improved life expectancies for AIDS victims.

In the national survey by Jeffrey Harris, an economist at Massachusetts Institute of Technology, AIDS patients who had contracted the PCP strain of pneumonia in 1986 and 1987 had a 48.4 per cent one-year survival rate against the 39.1 per cent survival rate for patients who contracted the pneumonia in 1984.

The San Francisco study, conducted by George Lemp of the city's health department, found that 18 percent of the AIDS patients in that city who developed pneumonia survived at least one year in 1987. Five years earlier, only 10 per cent survived a full year.

Number of Cases*

(as of Jan. 29)		
LIVING	**DEAD**	**TOTAL**
	Canada	
1,390	2,098	3,488
	Ontario	
458	975	1,433
	Toronto	
207	556	763
	U.S.	
		117,781
	World	
		203,354

*Since first case in 1979

REFERENCE: J.E. Harris: Improved Short-term Survival of AIDS Patients Initially Diagnosed with *Pneumocystis carinii* Pneumonia. *JAMA* **263**(#3): 397-401 (1990). [DC Library call number: PER R15.A48]

See also the editorial *Living with AIDS* on pages 434-436 of the same issue of this journal.

1. The article reprinted above describes two *retrospective* investigations of U.S. AIDS cases. Explain briefly why the term 'retrospective' can be used to describe the two studies.
   - Do you infer from the article that the Plans for the investigations were experimental or observational? Explain briefly.

2. In the *second* paragraph, the article mentions the quicker death of people who become infected through blood transfusions. What is a possible confounding factor that might be responsible for this finding? Explain briefly.

3. At three places in the article (in the *third*, *seventh* and *last* paragraphs), survival rates of AIDS cases in 1987 are compared with *earlier* rates. Briefly suggest reason(s) why two *1990* studies are dealing with such relatively 'old' data.

4. The *sixth* paragraph of the article indicates that both studies inferred a *causal* relationship between the increased survival rates of AIDS cases in 1987 and the earlier introduction and use of the drug AZT. Comment briefly on the propriety of a *causal* inference in the investigationss as they are described in the article.

5. In the second-last and the last paragraphs, the article quotes one-year survival rates, based on CDC data, of 48.4 and 39.1 per cent from the MIT investigation, and rates of 18 and 10 per cent from the San Francisco data. Comment briefly on these rates with particular reference to:
   - the magnitudes of the *improvement* found in each case in the more recent time period;
   - the *relative* magnitudes of the rates obtained in the two investigations.

(*continued overleaf*)

The following article describes economic implications of a medical advance.

EM9034: The Globe and Mail, November 2, 1990, page A3

AZT move presents problems

Cost of AIDS drug worries provinces

BY MICHELLE LALONDE
Special to The Globe and Mail

MONTREAL – A new federal policy permitting the commercial sale of a drug known as AZT has left provincial governments grappling with the question of who will pay for the expensive AIDS treatment.

"We've had hospitals calling us for stock, but we are telling them to wait a few weeks to find out whether their provincial government is going to cover the cost," said Malcolm Fletcher, medical director of the Canadian arm of Burroughs Wellcome Inc., the pharmaceutical company that manufactures the drug under the brand name Retrovir.

Theoretically, any doctor or pharmacy could now order the drug directly from the company, but until the reimbursement question is resolved, few will do so, meaning that people with AIDS can only get the drug if they are participating in a medical research program.

AZT has been provided free to individuals with acquired immune deficiency syndrome since it was approved for experimental use in Canada in November of 1986. The cost of drug, at least $3,100 a patient annually, has been covered by provincial governments and provided through hospital open study programs. Ontario, for instance, spends $5.5-million a year on AZT.

Advocacy groups for people with ADS are concerned that the new status of AZT will give governments an excuse to stop or restrict financing for the drug.

Since the Canadian health protection branch approved AZT for commercial sale Oct. 17, very little has changed with regard to its distribution.

In British Columbia, the drug will be covered by a provincial drug plan that requires an individual or family to pay the first $325 a year in drug costs. After this initial payment, the province will cover 80 per cent of the cost of drugs. The average AZT user would pay at least $880 a year, plus the local retail markup.

The Nova Scotia government, on the other hand, is committed to maintaining its policy of providing AZT at no charge to patients, at a current cost to the province of about $500,000 a year.

John Samson, a spokesman for the N.S. Ministry of Health and Fitness, said the ministry is now working out how to deal with an expected increase in demand as doctors begin to prescribe AZT for the treatment of earlier stages of AIDS.

Quebec officials have given no clear guarantee that the province will continue to pay for treatment.

In Ontario, the newly elected New Democratic Party government has yet to establish an AZT policy. Provincial policy has been to provide AZT free to people with AIDS once the disease has progressed to a certain stage.

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