HETEROSEXUAL AIDS: WHAT TO WATCH FOR

By Prof. Jeffrey E. Harris

So far, the widely-anticipated explosion in heterosexual AIDS has not occurred. Neither, however, has the bomb been defused. The key issue in the coming years will be: What signs of an impending blast should we watch for?

Heterosexual AIDS Cases

By June 13, 1988, the Centers for Disease Control (CDC) had reported 64,896 AIDS victims. Of these cases, 1,598 adults used no intravenous drugs and had exclusively heterosexual contacts with AIDS victims or with persons at a high risk for AIDS. To this official total one needs to add about 500 cases that have already been diagnosed by physicians but still not registered with the CDC.

That makes about 2,100 heterosexual AIDS victims since the start of the epidemic in this country, around 12 years ago. While this statistic doesn't seem very ominous, the current tally of heterosexual AIDS cases is not as important as its rate of increase.

Of the estimated 2,100 cases so far, about 1,100 have occurred within the last 12 months. This means that it is now taking less than one year (about 11 months) for the number of heterosexual cases to double. Such a doubling time is much shorter than for all AIDS cases, and approximates the doubling time for AIDS among gay men in the early 1980s. At the current doubling rate, we would have 85,000 heterosexual AIDS victims in five years.

Accordingly, the first key indicator to watch is the doubling time of heterosexual AIDS cases. If there is really no impending epidemic of heterosexual AIDS, then this doubling time should soon start to rise.

HIV Infection Rates

HIV, the human immunodeficiency virus that causes AIDS, takes years to incubate. The great majority of heterosexuals infected after 1985 are still in their early stages of progression toward AIDS. But people infected before 1985 probably make up one-half of the current tally of 2,100 heterosexual AIDS victims.

This means that the current incidence of heterosexual AIDS is at best an imperfect indicator of the recent spread of HIV among heterosexuals. To get a better handle on the future of AIDS, we need to survey current HIV infections in the general population.

Such surveys rely upon blood tests for the presence of antibodies to HIV. While these blood tests do have some technical drawbacks, the real problem with surveys for HIV antibodies is that we don't always know who is being surveyed.

My best estimate is that by the end of 1987, there were 47,000 HIV-infected people who were exclusively heterosexual and did not use intravenous drugs. That comes to 1

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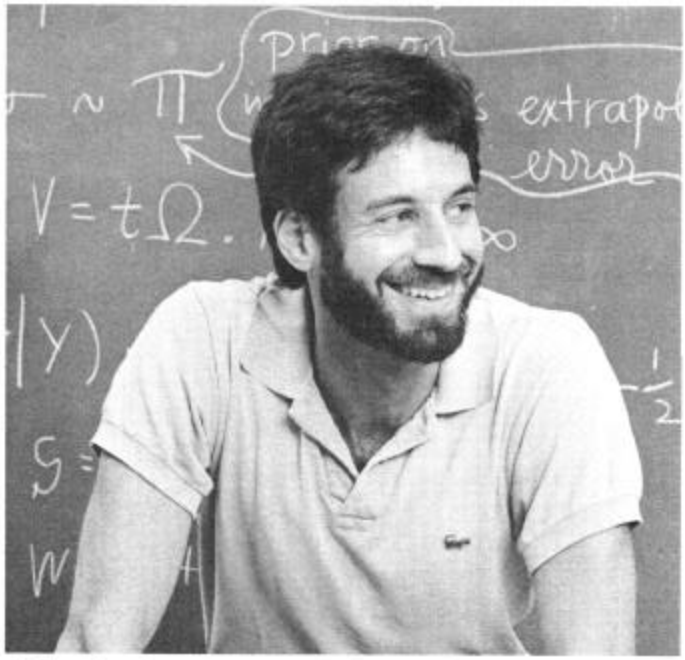

Jeffrey Harris, an Associate Professor of Economics at M.I.T., practices part-time internal medicine at the Massachusetts General Hospital. He has served on the Committee for a National Strategy on AIDS, convened in 1986 by the National Academy of Sciences and the Institute of Medicine. He is currently on the Scientific Advisory Board of the American Foundation for AIDS Research.

in 2,500 Americans between 15 and 44 years—the most sexually active age range. This rate is about the same as that found among first-time blood donors, but falls far below that found in other populations. Thus, the infection rate is about 1 in 700 among applicants for military service; 1 in 500 for childbearing women in Massachusetts; and 1 in 300 for Job Corps entrants, who are mostly disadvantaged teenagers.

Such a wide disparity in infection rates could be easily produced by small variations in the number of high-risk people who are surveyed. This is because the HIV infection rates are now very significant among high-risk people.

For example, for every 10,000 military applicants tested, there are about 14 HIV-positive individuals. My estimate of the heterosexual infection rate, by contrast, would predict only 4 positive applicants. Where might the remaining 10 come from? At least 25 percent of intravenous drug-users are now infected. So, in order to get 10 more positives, all we would need are 40 drug- using applicants out of 10,000.

As might be expected, recent attempts to track changes in the infection rate among blood donors, military applicants and other groups have yielded very unstable results. Any genuine trend in heterosexual infection rates is easily masked by small changes in the number of high-risk persons in the sample.

Monitoring HIV infection rates in the general population may be superior to just watching heterosexual AIDS cases. However, without some method of identifying high-risk persons, such surveys may turn out to be quite uninformative.

Tertiary Transmission

In the United States, the AIDS virus has spread primarily among gay/bisexual men and intravenous drug users. So far, the heterosexual victims of AIDS are "secondary cases." That is, they were the heterosexual partners of the primarily infected, high-risk people. If there is going to be a massive new wave of heterosexual AIDS in this country, then the virus will have to start spreading to the partners of the partners. The question is: How can we tell whether such "tertiary transmission" is taking place?

One approach has been to measure HIV infection rates among the most sexually active heterosexuals, particularly those attending venereal disease clinics. As in the general population surveys, these rates have varied greatly—from zero up to 1 in 20. Likewise, it is difficult to tell exactly who is being tested in these clinics. But in surveys where attendees were rigorously interviewed face-to-face, the infection rate among exclusively heterosexual persons with no history of intravenous drug abuse has been at most 1 in 100.

An HIV infection rate of 1 in 100 would be 25 times that estimated for the general population. But this does not by itself mean that HIV is spreading into a sentinel population of promiscuous heterosexuals. In the careful interviews, virtually all HIV-positive heterosexuals admit to sexual contacts with drug users or bisexual men.

The key indicator to watch is the number of tertiary heterosexual infections that have been credibly identified in venereal disease clinic populations. Right now less than 1 in 50 infected heterosexuals is a tertiary case. A small increase in this fraction would mean real trouble.

Even without a new explosion, we are bound to see more and more heterosexual AIDS victims. As the number of infected intravenous drug users grows, so will the infection rates in their partners.

But will the partners of the partners contract HIV? If it is going to happen at all, my hunch is that we'll know within the next two years. In the meantime, the potential for a megaton epidemic remains. ■

CASES OF AIDS WITH PROJECTIONS THROUGH 1991

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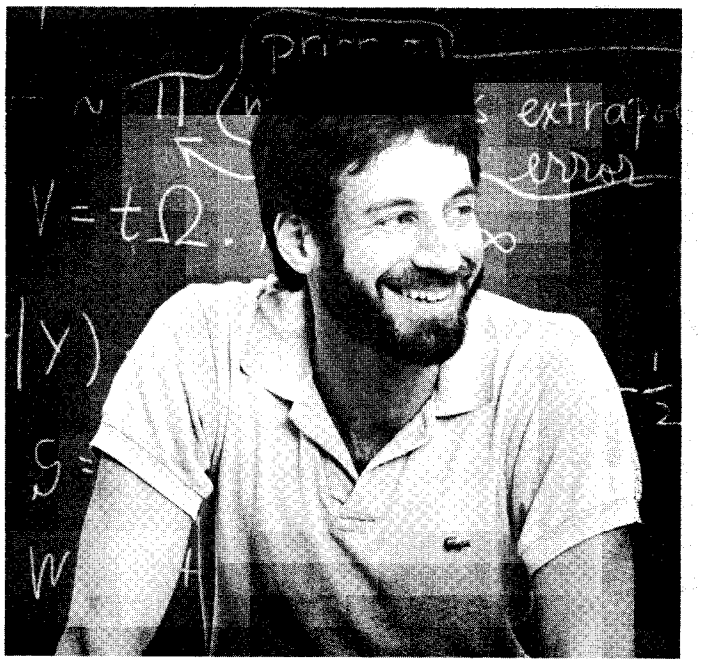

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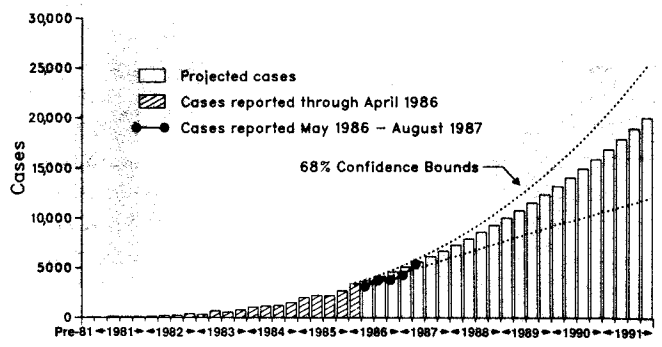

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