

SCIENCE IN THE SOCIETY: HOW DO WE USE WHAT WE KNOW?

(Adapted from a handout of the same title, by Jim des Lauriers, 1998)

THE EXAMPLE

Consider the AIDS epidemic as an example of an infectious disease that we have spent large sums of money to understand in the hope that we might control or prevent it.

THE PROBLEM

- There are over 34 million cases of AIDS worldwide
- About 1 million persons in the USA are living with HIV/AIDS.
- In the USA 56,000 new infections annually.
- It is estimated that 1 in 5 (20%) of infected persons are unaware that they have HIV, and may be unknowingly transmitting the virus to others.

THE EVIDENCE

1. Presently available treatments can delay death but they are complex and very expensive therapies, and difficult for most of the world's HIV+ people to acquire and manage. Research for better therapies is ongoing, for a vaccine, and for a cure.
2. Prevention programs may support the therapies and so reduce the number of new cases.
 - a. Vaccines are not yet available.
 - b. Behavior modification of people who are at risk of infection
 - i. Programs that advocate abstinence only—Infection rates are the same (often higher) as the control group's
 - ii. A program of small group discussions targeted at high risk populations which explicitly describes safe sex practices—Infection rates are lower than the control group's
 - iii. Saturation advertising about the safety and effectiveness of condom use—Infection rates are lower than the control group's
 - iv. Needle exchange programs for intravenous drug users and their sexual partners—Infection rates are lower than the control group's

THE SOCIAL IMPACTS

1. The federal government has supported abstinence-only sex education programs for over a decade.
2. Twenty-one states offer abstinence-only sex education programs to their middle school and high school students and 18 states strongly emphasize abstinence as a method to prevent unwanted pregnancies and STDs.
3. The federal government acknowledges the effectiveness of needle exchange programs. There was no federal funding for any such program until 2009; that funding was withdrawn by Congress in 2011. About 38 states have their own programs.
4. The major television networks all banned condom advertising until 2005.
5. In most other western industrialized nations the reverse of items 1,2 and 3 are true. They have far lower rates of HIV infection, unintended pregnancies and sexually transmitted diseases than does the USA.

THE MONETARY COSTS

1. Needle exchange programs cost a city an average of \$160,000 (about \$20 per user) per year
2. Treating a single AIDS patient costs \$120,000 per year
3. Lifetime treatment of HIV/AIDS--\$355,000

Sources:

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4. UNAIDS. 2012. Together We Will End AIDS. Report for the International AIDS Conference in Washington D.C., 22-27 July. <http://www.unaids.org/en/resources/campaigns/togetherwewillendaids/index.html> (Accessed 22 July 2012)