Secondary HIV Prevention
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Most HIV prevention efforts throughout the world have focused on primary HIV prevention, or preventing infection among susceptible individuals in the general population or in groups considered to be at risk. Little attention, however, has been devoted to secondary HIV prevention, which addresses preventing transmission from infected people to their uninfected contacts. The lack of research and interventions on helping individuals already infected with HIV to avoid risky behavior was noted at a recent National Institutes of Health Consensus Conference, which included a recommendation that HIV prevention programs be developed for seropositive people.1

The imbalance of primary and secondary prevention efforts with respect to HIV is revealed most starkly when compared to how other epidemic diseases have been controlled. A public health strategy focused on preventing transmission of disease by infected individuals freed the world from smallpox and dramatically reduced the incidence of syphilis. A balance between secondary and primary prevention has made great progress towards eliminating another health scourge, a parasitic infection called dracunculiasis, or Guinea worm disease. Ten years ago, Guinea worm disease severely impaired health and socioeconomic development in India, Pakistan, Yemen, and 16 African countries. By the end of 1995, the World Health Organization estimated a 97 percent reduction in cases globally over the past decade, and the disease was reported eradicated from Pakistan. This remarkable public health success was achieved through balanced, dual efforts to detect new cases and prevent transmission by educating those infected not to enter or contaminate water sources, a secondary prevention intervention, as well as to prevent exposure by educating people to filter or boil all drinking water, that is, a primary prevention intervention.

There are several hypotheses explaining why secondary HIV prevention has escaped the interest or attention of HIV researchers, clinicians, and policy makers. The simplest theory is that the epidemiological concept of secondary prevention has never been made sufficiently clear, compelling, or perhaps palatable, nor has it been translated from its application in other infectious diseases to the context of HIV. Perhaps another factor is confusion about definitions: the term "secondary prevention" has been used in some HIV literature reports to refer to preventing disease progression from asymptomatic HIV infection to AIDS. The purpose of this article is to clarify the concept of secondary HIV prevention to mean preventing HIV transmission by infected individuals, as distinguished from primary prevention—preventing HIV exposure among uninfected individuals. We will then briefly review what has been done and could be done to further the secondary prevention of HIV.

Epidemiological Distinctions
The case of measles is a useful example to look at the ways in which epidemiologists conceive of infection and prevention. When children with measles return home, they bring the microbe with them. Each child then becomes an "index" or "primary" case in the context of viral transmission to other children in his or her "at risk" households. To measure such transmission, epidemiologists derive a "secondary attack rate," or the result of dividing the number of cases in the home

The term "attack rate," different from "secondary attack rate," refers to the number of new infections in a population divided by the total number of people at risk in the population.
Editorial: A Rose is a Rose?

Robert Marks, Editor

As an editor, I take the opportunity to listen to language in a way that most readers do not. This month, I was the one who got a lesson in precision and ambiguity.

For years, the term “secondary prevention” has been used within the HIV community to mean two things. One definition encompasses interventions that target seropositives and focus on preventing transmission to seronegatives. People who apply this definition use the term “primary prevention” for strategies that target only seronegatives, which focus on preventing transmission to themselves.

The Centers for Disease Control and Prevention (CDC), however, calls both of these kinds of intervention “primary prevention” and reserves the term secondary prevention solely for approaches designed to impede the progression of HIV disease in a seropositive person. One set of definitions distinguishes among the target populations of prevention interventions, while the other set distinguishes among the goals of the interventions.

In this month’s articles, both definitions are applied as authors use the term differently. But while Lydia Temoshok and Ralph Feinbich may not use the same terms or definitions as Walt Senterfitt does, they do make the same point. Whether we call it primary or secondary, it is clear that we need to develop interventions that speak to seropositives, enlisting their aid in preventing transmission to seronegatives.

It is important to note two things in this context. First, with either set of terms, neither secondary prevention nor primary prevention aimed at seropositives is an alternative to primary prevention aimed at seronegatives; they work in concert. Unfortunately, prevention interventions caused by the index case by the number of other children in the home. The intent of this calculation is to measure microbe transmission that occurs when an infected person comes in close contact with susceptible individuals.

Immunization campaigns in a school or community setting to prevent cases of measles in the first place represent primary prevention. Conversely, any program to prevent further infection within the household by keeping the index case apart from other siblings until they can be immunized would be defined as an act of secondary prevention intending to avoid secondary transmission.

The concept of secondary prevention applied to HIV is similar to that of measles. New cases, however, are difficult to determine unless people are periodically tested for HIV infection. When a known HIV index case brings the virus home, epidemiologists can measure transmission from the infected person to susceptible people if there is an exchange of body fluids such as semen, vaginal secretions, or blood. Measuring the secondary attack rate is easier if the infected individual has a monogamous sexual relationship, rather than a number of casual sexual partners.

Studies of the secondary attack rate for HIV disease have been conducted in heterosexual contexts in both the developed and developing world, as well as in homosexual settings. These studies have found that for serodiscordant partners in declared primary relationships, knowledge that one partner was infected led to reduced rates of unprotected sex and HIV transmission.

Knowledge of serostatus alone does not always appear to result in positive behavior change. Preliminary results from an anonymous survey of 1,035 seropositive U.S. military personnel indicated that a clear majority continued to practice risky vaginal or anal sex (80 percent without consistent condom use) with susceptible partners in all types of relationships during the preceding six months. All respondents were aware they were infected, had been counseled about safer sex, and knew that there were severe consequences, including court martial, for disobeying the military’s safer sex orders. Clearly, existing counseling efforts were not sufficient.

References
Virtually all HIV prevention efforts have functioned as if safer sex guidelines applied to every individual and all populations.


contexts, such as serodiscordant couples, casual partnerships, militaries, prisons, and needle-sharing partnerships. The institutional level necessitates enacting evidence-based public policy changes that support the various components and steps necessary for secondary prevention programs to be effective in real-world settings. Evaluation is a key tool, needed first to provide critical information about the extent and nature of the secondary transmission problems to be addressed, and then to provide feedback about the efficacy of secondary prevention strategies, a step often skipped by resource-strapped HIV counseling programs.

What describes a secondary prevention approach specific to HIV-infected individuals? Counselors, particularly those in HIV testing and counseling settings, might begin by emphasizing the responsibility of HIV-infected persons to help break the chain of transmission. It is important for risk reduction counselors to help their seropositive clients clarify attitudes, emotions, behavior, and values that promote or undermine sexual responsibility. This may include delving into “self-deluding” beliefs, for example, “Now that I’m on combination therapy, I’m not infectious,” or “If my partner isn’t infected after all this time, he or she must be immune,” both of which lead to the erroneous conclusion, “So, I don’t have to worry about safer sex anymore.”

The “one size fits all” approach of conventional counseling may be less effective in changing long-held patterns of behavior than a “custom-tailored” approach that is based on an assessment of each individual’s transmission risk profile. This approach entails inquiring about each current sexual partner and the specifics of drug use behavior. The mere fact of asking shows that the counselor cares about the possibility of another person getting infected, and this caring can be transmitted to clients. Step by step, the counselor can discuss and plan with each client the most effective ways to notify each partner (including future partners), deal with their reactions, and prepare for and engage in safer sex. Because incorrectly used condoms may break or slip off during sex (especially during anal sex), the counselor might also explore with the client satisfying forms of nonpenetrative sex as “truly safer” alternatives within serodiscordant relationships. Counseling should also consider risk context, such as whether the individual decides to go to bars to meet people, whether he or she travels on vacation to places where casual sex is likely to occur, whether a problem with alcohol or drug use tends to undermine good intentions as well as the ability to practice safer sex. Secondary prevention aimed at vertical transmission should seek to help seropositive women confront the reality of their infection, make informed choices about pregnancy, and learn about HIV treatment regimens that can greatly decrease the risk of mother-to-child transmission. In the context of HIV-related medical care, providers should consider every prescription to provide an opportunity to discuss transmission risk and adherence, and to reinforce the fact that successful treatment does not mean an individual is no longer infectious.

Conclusion
The confluence of recent biomedical advances in HIV testing and treatment offers the opportunity for setting up truly biopsychosocial diagnosis, treatment, and prevention services that engage people with HIV disease in life-long health care partnerships. Incorporating secondary prevention into comprehensive programs creates shifts in attitudes and behaviors that not only benefit the individual and his or her close relationships, but also help reduce the size of the epidemic.

References


Clearinghouse: Secondary Prevention
New antiviral drug combinations allow much longer and fuller freedom from symptoms for most people with HIV disease, especially those who discover their infection early. Many people with HIV disease who were quite ill have become vigorous again. With dying less of a threat, needs for sex, intimacy, and love may be heightened. We are as yet uncertain what degree of reduced infectiousness the new therapies confer among people for whom treatment works. Meanwhile, many seropositives and seronegatives are playing and loving less safely. Motivating and supporting seropositives to care for and protect themselves, their partners, and their community while leading full and satisfying lives is likely to be one of the most efficient means of primary prevention—which simply refers to preventing new HIV infections, however that is achieved.

In 1997, a group of advocates and researchers began to network in Los Angeles and did not find even one prevention program in the city directed at HIV-positive people. In response, they began to organize. The earliest result of their actions was a commitment by the Los Angeles City Council of $180,000 for a pilot project targeting prevention needs of HIV-positive city residents.

Chat Line and Groups Program

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See also references cited in articles in this issue.