The Role of STD Detection and Treatment in HIV Prevention – CDC – Centers for Disease Control and Prevention

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Testing and treatment of sexually transmitted diseases (STDs) can be an effective tool in preventing the spread of HIV, the virus that causes Aids. Consequently, HIV programs and STD testing and treatment programs should develop strong linkages. This is especially important for programs targeting sexually active young women, who represent one of the fastest growing populations with Aids.

What is the link between HIV and other STDs?

In the United States, the spread of HIV infection among women through sexual transmission has followed in the footsteps of other STD epidemics. For example, the geographic distribution of heterosexual HIV transmission in the South closely parallels that of syphilis. Most of the health districts with the highest rates of syphilis and gonorrhea are concentrated in the South, where HIV prevalence among child-hearing women also is high.

Individuals who are infected with STDs are at least two to five times more likely than uninfected indivuduals to acquire HIV if exposed to the virus through sexual contact. In addition, if an HIV-infected individual also is infected with another STD, that person is substantially more likely than other HIV-infected persons to transmit HIV through sexual contact (Wasserheit, 1992).

How do STDs facilitate HIV infection?

There is substantial biological evidence demonstrating that the presence of other STDs increases the likelihood of both transmitting and acquiring HIV.

- *Increased susceptibility*. STDs probably increase susceptibility to HIV infection by two mechanisms. Genital ulcers (e.g. syphilis, herpes, or chancroid) result in breaks in the genital tract lining or skin. These breaks create a "portal of entry" for HIV. Nonulcerative STDs (e.g., chlamydia, gonorrhea, and trichomoniasis) increase the concentration of cells in genital secretions that can serve as targets for HIV (e.g., CD4+ cells).
- *Increased infectiousness*. Studies have shown that when HIV-infected individuals are also infected with other STDs, they are more likely to have HIV in their genital secretions. For example, men who are infected with both gonorrhea and HIV are more than twice as likely to shed HIV in their genital secretions than are those who are infected only with HIV. Moreover, the median concentration of HIV in semen is as much as 10 times higher in men who are infected with both gonorrhea and HIV than in men infected only with HIV.

How can STD treatment slow the spread of HIV infection?

New evidence from intervention studies indicates that detecting and treating STDs can substantially reduce HIV transmission at the individual and community levels.

- *STD treatment reduces an individual's ability to transmit HIV*. Studies have shown that treating STDs in HIV-infected individuals decreases both the amount of HIV they shed and how often they shed the virus.
- *STD treatment reduces the spread of HIV infection in communities*. Two community-level randomized trials have examined the role of STD treatment in HIV transmission. Together, their results have begun to clarify conditions under which STD treatment is likely to be most successful in reducing HIV transmission. First, *continuous* interventions to improve access to effective STD treatment services are likely to be more effective in reducing HIV transmission than *intermittent* interventions through strategies such as periodic mass treatment. Second, STD treatment is likely to be most effective in reducing HIV transmission where STD rates are high and the heterosexual HIV epidemic is young. Third, treatment of symptomatic STDs may be particularly important. The first trial, conducted in a rural area of Tanzania, demonstrated a decrease of about 40% in new heterosexually transmitted HIV infections in communities with continuous access to improved treatment of symptomatic

STDs, as compared to communities with minimal STD services, where incidence remained about the same (Grosskurth et al., 1995). However, in the second trial conducted in Uganda, a reduction in HIV transmission was not demonstrated when the STD control approach was community-wide mass treatment administered to everyone every 10 months in the absence of ongoing access to improved STD services (Wawer, 1998).

What does this mean for HIV prevention programs?

Strong STD prevention, testing and treatment can play a vital role in comprehensive programs to prevent sexual transmission of HIV. Furthermore, STD trends can offer important insights into where the HIV epidemic may grow, making STD surveillance data helpful in forecasting where HIV rates are likely to increase. Better linkages are needed between HIV and STD prevention efforts nationwide in order to control both epidemics.

In the context of persistently high prevalence of STDs in many parts of the United States and with emerging evidence that the U.S. HIV epidemic increasingly is affecting population groups with the highest rates of curable STDs. CDC's Advisory Committee on HIV and STD Prevention (ACHSP) has recommended the following:

- Early detection and treatment of curable STDs should become a major, explicit component of comprehensive HIV prevention programs at national, state, and local levels.
- In areas where STDs that facilitate HIV transmission are prevalent, screening and treatment programs should be expanded.
- HIV and STD prevention programs in the United States, along with private and public sector partners, should take joint responsibility for implementing this strategy.

The ACHSP also notes that early detection and treatment of STDs should be only one component of a comprehensive HIV prevention program, which also must include range of social, behavioral, and biomedical interventions.

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