Enhancing HIV/AIDS and STD Prevention through Program Integration

JACK JOURDEN, MPH[a]
PAUL ETKIND, DRPH, MPH[b]

In November 2002, U.S. Department of Health and Human Services (DHHS) Secretary Tommy G. Thompson announced the creation of a unified prevention and treatment HIV/AIDS and STD advisory committee.[1] This announcement capped several years of discussions of a national recognition to accomplish two goals. The first was to enhance communication and collaboration between the HIV/AIDS prevention efforts through the Centers for Disease Control and Prevention (CDC) and the various HIV/AIDS care and treatment related efforts through the Health Resources and Services Administration's (HRSA) Ryan White Care Act. The second was to integrate programmatic prevention efforts between HIV/AIDS and STD programs within the CDC. These steps were aligned with several national initiatives begun more than five years ago to integrate HIV/AIDS and STD programs. This article provides a brief history of the programmatic split between these prevention efforts as well as an overview of at least three national organizations' attempts to call attention to the need for enhanced program consolidation. Finally, it provides a rationale for the need to integrate HIV/AIDS and STD programs based on a joint effort by state public health leaders in 2002.

HISTORY OF STD AND HIV/AIDS CONTROL EFFORTS

A national public health response to sexually transmitted diseases was first formulated in 1918 when Congress passed the Chamberlain-Kahn Act, which created the Venereal Disease Division of the United States Public Health Service. The United States had entered World War I to discover—in the course of drafting men into the armed forces—that approximately 10% of draftees were infected with syphilis.[2] Thus, syphilis prevention became an issue of national security because it was a barrier to building the armed forces. The medical model consisting of screening and treatment with heavy metal mercurials and arsenicals, which had been first developed in 1911, was applied on a large scale for the first time. By the mid-1920s, federal funding for syphilis control was

[a]Office of Infectious Disease and Reproductive Health, Washington State Department of Health, Olympia, WA

[b]Bureau of Communicable Disease Control, Massachusetts Department of Public Health, Jamaica Plain, MA

Address correspondence to: Jack Jourden, Office of Infectious Disease and Reproductive Health, Washington State Department of Health, 7211 Cleanwater Ln. #14, PO Box 47844, Olympia, WA 98504-7844; tel: 360-236-3466; fax 360-586-5440; e-mail <jack.jourden@doh.wa.gov>.

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virtually eliminated as the sense of urgency about syphilis and other venereal diseases diminished. A sustained federal response was resumed following a national meeting held in Chicago in December 1936 to develop plans to eliminate syphilis in the United States. This meeting was attended by more than 1,000 medical and public health experts and civic leaders, who agreed on a medical model of screening and sulfonamide treatment as the most appropriate approach to the disease.[3] This model became the approach toward venereal disease (later called sexually transmitted disease, or STD) control for the next 50 years.

When the HIV/AIDS epidemic was first recognized in the early 1980s, epidemiological evidence suggested that the causative agent was most likely transmitted through blood and direct sexual contact. However, there was no ability to test for either the virus or an antibody to the virus. Even after the causative agent was discovered and an antibody test was developed, there were no initial treatment options available. Thus, education and behavior change became the primary public health response. In addition, the frustration experienced by the gay community over the slow pace of governmental response to this health crisis galvanized that community to develop definitive modes and standards for education and counseling.[4,5] What emerged was a behavioral prevention model that was psychosocial in approach and delivered by both public health and community-based organizations. This response to the AIDS epidemic contrasted significantly with the "screen and treat" medical model employed for STD control, which relied primarily on antibiotics as a clinical endpoint, although there was a body of antiviral research to address the growing prevalence of genital herpes.

At the national level, and in most states, medical investigators and epidemiologists investigating and tracking the HIV phenomenon were, for the most part, trained in the control of sexually transmitted and blood-borne diseases. Early funding and expertise for the investigation of AIDS often came from existing STD programs, or STD programs were awarded emergency funds to deal with the burgeoning epidemic. By the late 1980s and early 1990s, many state and local public health organizations had distinct STD and HIV/AIDS sections. By 1995, the CDC had reorganized to include HIV, STD, and TB into one center to improve coordination of prevention efforts. However, funding streams remained categorical.

Elsewhere with the increased efforts to provide HIV testing, especially within community-based settings, prevention approaches were frequently established in stand-alone sites with little to no STD prevention efforts or referrals for STD testing incorporated into these services.

The advent of Health Resources and Services Agency (HRSA) funding to states in 1992 further exacerbated the organizational and programmatic divisions between HIV/AIDS and STD public health response. By 1995, HRSA allocated $632.9 million for AIDS care programs, while $590 million for HIV prevention and $105 million for STD prevention efforts were allocated through the CDC.[6] It was becoming clear that separate funding for HIV care through HRSA and HIV prevention through the CDC was leading to nonparallel efforts, and that the control of STDs did not include HIV. While some states never allowed HIV/AIDS and STD programs to organizationally detach, federal prevention funds were awarded categorically for each of these programs. This often led to separate and distinct prevention and assessment efforts for HIV and STD by states and cities, a practice that continues today.

CURRENT INTEGRATION EFFORTS

In September 1998, the Association of State and Territorial Health Officers (ASTHO) issued a report entitled "The Integration of HIV/AIDS, STD, and TB Prevention and Control Programs."[7] Supported by the CDC and the Public Health Foundation, this effort included a panel of experts representing local, state, and national perspectives to "review and develop a process that effectively integrates the delivery of public health services, including prevention and control services related to infectious diseases and public health services in general. . . ." The committee developed a total of 19 recommendations under the headings of service delivery, funding, and performance measures. The report concluded with several observations:

- Some states have achieved various levels of integration while others were still in the process of integrating these three programs.
- Federal leadership in the areas of design, demonstration, implementation, and funding is critical to successful program integration.
- Stakeholders should be involved in the development of common goals and objectives to achieve the most effective delivery of public health services.

Recommendations from this report provided a basis for considering the integration of these three important public health prevention efforts, although the rationale for including all three together was incomplete. While it is realistic to integrate HIV prevention with prevention efforts for both TB and STDs, it is

unlikely that TB and STD programs would join together programmatically without HIV as the co-factor. But the work of the ASTHO group was seminal in the future consideration of integrating HIV/AIDS and STD programs.

In 2001, a subcommittee comprised of representatives from two national organizations, the National Alliance of State and Territorial AIDS Directors (NASTAD) and the National Coalition of STD Directors (NCSD), undertook an effort to develop a rationale for integrating STD and HIV/AIDS programs.[8] (These organizations are made up of the directors, administrators, and managers of the public health HIV/AIDS and STD prevention and control programs in the United States and its territories.) One of the goals of this joint work group was to promote and implement prevention policies and strategies for individuals testing positive for HIV and other STDs. A major incentive was a national increase in the incidence of co-infection of STD and HIV, particularly among men who have sex with men, in many urban areas across the United States. In spring 2002, a consensus document was presented to each of these organizations at their annual meetings. The document stated at the outset: "The lack of integration between STD and HIV prevention services is one of the barriers to more effective programs." It acknowledged the historical and cultural reasons for the different approaches and separate funding streams, and recognized that the constraints arising from these factors should be understood if successful integration is to occur.

As the NASTAD/NCSD consensus document indicated, a number of realities argue for greater integration:

- *Similar behaviors.* The same sexual and drug-using behaviors that promote STD risk also promote the risk of transmitting HIV. Likewise, protective behaviors apply to both.
- *Similar populations.* HIV and the "other STDs" have a disproportionate impact on similar populations.[9,10] The greatest impact is on those populations marginalized due to socioeconomic factors and education, as well as women and racial and sexual minorities. Those groups, for whatever reason or combination of reasons, suffer the greatest impact from these diseases.[11–13] In recent years, a number of syphilis outbreaks have occurred among men who have sex with men (MSM). Of those MSM with syphilis whose HIV status was known, between 25% and 70% were also infected with HIV.[14–17] Indeed, recent studies have shown that approximately one out of eight women and one out of four men with syphilis were also infected with HIV.[18]
- *Synergy.* There is an "epidemiologic synergy" between STDs and HIV infection.[19] Prevention of one will serve to prevent the other, and the increased prevalence of one will serve to increase the prevalence of the other. Recent studies have demonstrated that being infected with an STD may increase the risk of infection with HIV between two and five times, depending upon the specific STD.[20] By identifying individuals in clinics who are infected with HIV and other STDs, and then treating their STD, it may be possible to reduce the acquisition of HIV infections by as much as 27%.[21]
- *Treatment issues.* New, highly effective treatment has lessened individuals' concern about becoming infected with HIV through high-risk sexual practices, particularly unprotected sex. Behavioral interventions for HIV prevention should be enhanced and supported, and STD screening and treatment should be considered as a mechanism to prevent and treat HIV infection. In addition, similar concerns exist regarding resistance to the drugs used to treat STDs and HIV infection.[22–25]
- *Testing issues.* New test systems that no longer require invasive collection of clinical specimens have been developed for both STDs and HIV infection.[26,27] Therefore, patients with infections or concerns about infections can be tested outside of clinical settings. This has implications for screening and outreach activities in many populations.[28,29]
- *Maximizing efficiencies.* Given these commonalities, health agencies at all governmental levels should explore opportunities to maximize resources, efficiencies, and organizational synergies. This may include cross-training of STD/HIV staff members, for example, in partner assistance and other services; augmented counseling and testing; and integrated surveillance and assessment.

CONSIDERATIONS FOR PROGRAM INTEGRATION

Although HIV infection is a sexually transmitted infection and shares many common features with other STDs, there are differences between viral STDs, such as HIV/AIDS, and bacterial STDs. Any approach to integration requires caution and careful consideration of these differences, which include:

- Although progress has been made, AIDS is still a fatal disease while other STDs are generally not fatal.

- Individuals with HIV infection still suffer discrimination and stigma on a scale and extent not experienced among those infected with other STDs.[30]
- Concerns about confidentiality have led to both anonymous and confidential HIV testing, as well as testing in non-medical settings. Although this is similar to methods used in early campaigns against syphilis,[31] traditional STD control became primarily a medical service and most testing is confidential (i.e., with a name) and is conducted almost entirely in clinical settings.
- There is a lack of national consensus about HIV surveillance and name-based reporting strategies for HIV infection. Name-based reporting, identification of partners, and partner assistance are long-accepted public health practices in STD control.
- The threat of HIV infection has prompted some communities across the country to organize and advocate for HIV prevention and treatment in ways that have not been done in STD prevention since the 1930s and 1940s.[31–34] Community members and advocacy groups have challenged health departments, and as a result, have been included in HIV planning and outreach efforts, primarily in the context of the CDC's community-planning efforts.
- Although many of the populations at risk for HIV and STD overlap, they are not always the same and interventions need to address specific subpopulations at risk.
- Categorical funding has encouraged separate organizations for HIV/AIDS and STD programs within state and local health departments. Competition for funding between programs may create barriers to STD/HIV integration and can lead to unnecessary duplication of efforts and higher overall costs.

Efficiencies in the public sector are being forced due to current economic conditions in the United States. In 2002, 37 states were forced to cut nearly $12.8 billion from their already enacted fiscal budgets.[35] This trend is likely to continue into the near future, forcing many states and local jurisdictions to maximize efficiencies in all sectors of government. This trend may lead some jurisdictions to integrate various programs organizationally and/or programmatically.

With advances in the treatment of HIV/AIDS, there is now a focus on clinical, behavioral, and other approaches to primary and secondary prevention of HIV, including prevention and treatment of other STDs. As the complementary strengths of the two models have begun to be recognized, public health leaders are challenged to integrate HIV/AIDS and STD efforts in the face of different organizational and professional cultures as well as different approaches to prevention. A number of factors should be considered when planning integration strategies. These include disease surveillance, partner notification services, health education, clinical services, and community partnerships.

Disease surveillance

Surveillance is the backbone of all public health activities. Properly conducted surveillance provides accurate assessment of the extent of a problem or condition in a particular community; guides intervention strategies; suggests community input; and allows for evaluation of interventions. STD and HIV/AIDS programs should develop integrated surveillance systems with similar data-collection tools, using compatible software, and engaging in similar analytic approaches for tracking and evaluation. They can coordinate efforts toward compatible data sets that allow for comparisons. This use of comparative case data has been shown to be a valid approach to target prevention efforts.[36] Disease control efforts would be well served by joint experience and expertise in behavioral surveillance. Surveillance systems should be raised to a higher level of utility and sophistication by including not only the traditional case-based approach but also adding venue-based and population-based surveillance.

Partner notification services

The concept of partner notification services was first suggested as early as 1910, and various jurisdictions incorporated it into their public health programs.[37,38] Partner services finally became a standard part of STD prevention programs as a result of the findings of the 1938 Staten Island Project.[39] The concept has been subjected to various waves of evaluation, as reflected in the different names by which it has been known. Originally known as contact tracing, it has also been called partner notification and partner referral, and is currently called (in many places) partner services. Regardless of the name, the core training in locating and informing potentially exposed partners has remained fairly standard. Partner services are integral to STD programs, yet they have been viewed with concern and controversy by some HIV programs due to perceived threats to confidentiality and the potential for invasion of privacy. While partner assistance and referral service strategies should be evaluated and improved for both STD and HIV purposes, they should

be considered viable strategies for identifying new infections and informing exposed partners.

Health education

Education has been a primary methodology for HIV prevention programs. HIV prevention education is notable for its creative approaches to facilitating risk reduction. This was also true of prevention education in the early days of venereal disease control. However, once it became easy to treat and cure bacterial STDs with antibiotics after World War II, less time and resources were directed toward patient education and behavior change. As a result, STD educational efforts, materials, and targeting venues got less attention. With the recent increases in antibiotic resistance around the world, as well as the emergence of incurable viral STDs, there is a renewed emphasis on STD prevention education and behavior change. Both HIV and STDs should be included in prevention education presentations, whether the setting is in schools, among the general public, or in less formal community locations.

Clinical services

Clinical care has been the basis for STD prevention and control, as the medical model was built around these services. In public health settings, the STD clinic was the focal point for prevention as well as for treatment. Behavioral interventions were not a routine part of this approach, although as herpes simplex virus (HSV) was increasingly recognized and routinely diagnosed in these settings in the late 1970s and early 1980s, behavioral approaches became more common. In the early days of the HIV epidemic, prevention efforts were focused on behavior change, but these efforts were not often incorporated into clinical settings as practitioners struggled with the complications of the various manifestations of HIV infection. With the advance of medical interventions in the mid-1990s, particularly highly active antiretroviral therapies (HAART) that extended life and hope, practitioners began to adopt the medical model as a tool for HIV care. Although community and public health prevention efforts continued to emphasize behavioral interventions, those approaches rarely resonated within the clinical community. It has become recognized that, for both HIV infection and STDs, there are opportunities within the clinical setting to provide common prevention messages, behavioral approaches for risk reduction, and models of care such as prevention case management. As dually diagnosed cases of HIV infection and STD become more common, it becomes increasingly imperative to employ opportunities to address behaviors in the clinical setting.[40] It also becomes important to clinically assess for co-factors such as substance use and include co-factors in care and/or referral plans.

Community partnerships

HIV prevention developed out of a community-based tradition. In contrast, despite its early roots within communities, STD prevention and control developed as a medical service. As such, it has not dealt with and included at-risk communities in prevention planning and programs to the extent that HIV programs have. In addition, the living legacy of the Tuskegee Project continues to create a level of suspicion among higher-risk communities, particularly African Americans.[41] STD programs must cultivate communities as allies, advocates, and owners of the problem of STD if they are to move to the next level of prevention and community involvement. It has certainly helped that substantial amounts of federal HIV prevention dollars have been earmarked to support community-based organizations and initiatives. This kind of funding has been largely absent from federal STD allocations. Although money is powerful in creating the linkages, it is not necessarily the only way to do this. Community partnership strategies within HIV prevention programs—such as community advisory boards and community prevention planning groups—should integrate STD issues and concerns.

STRATEGIES AND SUCCESSES

Many states and local health jurisdictions have already integrated HIV and STD prevention efforts. As a result, they have benefited from:

- Increased flexibility in offering STD screening alongside HIV testing and treatment and vice versa;
- Increased ability to develop media and other interventions that address the same behaviors placing people at risk for STDs and HIV;
- More efficient data collection, standardization and integration of data, and use of data to allow improved prediction of transmission and outbreaks;
- Better cross training and utilization of staff and administrative time.[7]

Numerous structural changes are necessary to accomplish this level of integration. These changes should occur at public health policy and service levels. If integration is to be achieved nationwide, structural changes will be needed at all levels of government as well. At the federal level, integration can be fostered

in numerous ways. Federal agencies, particularly those within DHHS (including the Office of the Secretary, the CDC, HRSA, the Substance Abuse and Mental Health Services Administration [SAMHSA], and the National Institutes of Health [NIH]), should better articulate their goals and coordinate their efforts related to funding for HIV prevention; STD prevention and treatment; HIV prevention, care, and treatment; substance abuse prevention and treatment; and research in all of these areas. Specifically, these agencies should work in conjunction with state and/or local health departments to:

- Support efforts for coordinated funding streams to address behavioral, cultural, geographic, structural, and environmental factors that affect transmission of STDs, HIV, hepatitis, and TB, where appropriate.
- Support jurisdictions through specific requests for proposals to conduct innovative STD/HIV/substance abuse integration efforts and establish a set of "best practices" based on the success of those efforts.
- Combine STD and HIV strategic prevention plans into one document. At the least, make sure they have similar formats and support the same goals with coordinated strategies.
- Encourage STD/HIV case registries to be matched, so that the characteristics of those at highest risk of infection are highlighted and these factors incorporated into complementary HIV and STD prevention plans. These results should be provided to communities as part of their planning processes.
- Support integrated HIV and STD surveillance activities to include case-based, venue-based, and population-based registries, as well as to include disease, behavioral, and social factors.
- Establish and support states' abilities to reimburse health care providers for specified prevention services.
- Provide technical assistance and financial support for cross-training among HIV/AIDS and STD programs and community-based organizations to increase mutual understanding of perspectives, prevention strategies, and skills.
- Eliminate unnecessary restrictions for specific HIV and STD prevention activities, such as concurrent testing.
- Increase funding for both STD and HIV prevention in order to realize maximum cost-savings to the health care system as a whole, and to implement many of the recommendations included in this article.
- Evaluate and disseminate examples of structures, policies, and actions within state and local health departments and community-based organizations that successfully facilitate integration as a "best practices" approach.
- Support the development of behavioral surveillance, valid surveys, and other measures to address both HIV and STD issues (e.g., behavioral and environmental factors).

WHERE TO FROM HERE?

Determining the most effective models for STD/HIV program integration is best left to state and local jurisdictions. STD and HIV programs have grown and developed into a variety of organizational forms with different competencies that reflect their varied political and historical settings. State and local health departments can develop models of integration that work for them and for people in their jurisdictions. The great variety of ways that HIV and STD programs are organized within state and local health departments, as well as state statutory requirements and funding related to these programs, make state and local decision-making a necessary part of leadership in integration. Familiarity is a major issue when implementing such a course of action. The professional cultures and histories of individual programs are likely to be different given their formative histories. It is important that the respective staffs of these programs have ample time and numerous opportunities to become familiar with one another and recognize each other's style differences. Leadership should recognize these differences and foster these relationships. Joint projects should be encouraged as often as possible, such as overlapping HIV and STD conferences; joint prevention guidelines; meetings between state and local STD and HIV/AIDS programs; STD representation on HIV planning groups; and identification of other opportunities for improved coordination and integration. It is also important to recognize that the complexities inherent in integration require more educated and highly trained staff members. This underscores the importance of providing funding for salaries high enough to attract and retain personnel with a substantial breadth and depth of training.

Florida provides an example of an attempt at integration simply by *fiat*. The state's STD, TB, and HIV programs were organizationally unified without any prior planning or consideration of the differences in history and cultures.[42] Within three years, the three

programs were separated again because work was suffering due to the emphasis on HIV-related issues at the expense of time spent on STD and TB issues. Overall efforts were not as efficient due to the lack of coordination. In addition, the Florida experience highlighted another area of concern when proposing integration: the very powerful political demands and considerations relating to HIV/AIDS programs compared to STD (or TB) programs. There must be a commitment that attention to STD issues will not be sacrificed to attention demanded for HIV issues.

IN SUMMARY

Overlaps in populations being served and prevention tools being used, as well as compelling economic issues, argue forcefully for integrating STD and HIV prevention programs. Integration can extend along a spectrum of models, from separate programs that communicate, cooperate, and collaborate with each other to programs organized into one structural entity.[43] Local considerations should be the determining factors in developing the integration strategies.

NCSD and NASTAD speak with one voice when they urge that HIV/AIDS and STD programs on a national, state, and local basis should explore options for working more closely together in planning, training, testing, outreach, surveillance, evaluation, and administration. STD programs should incorporate the behavioral approaches that HIV prevention programs have utilized in their approach to risk reduction, while HIV programs should incorporate the clinical approach of screening, partner services, and treatment that STD programs have so successfully developed. Patient-centered HIV counseling and testing centers should take advantage of rapid STD testing in high prevalence areas or populations. The CDC should model HIV/AIDS and STD program integration through staffing assignments, by unifying funding streams rather than using categorical funding that targets "one or the other," and by modeling provider messages that emphasize the importance of prevention for their patients with HIV or high-risk groups with newly diagnosed STDs. At the same time, national public health leadership, such as the Association of State and Territorial Health Officers (ASTHO) and the Institute of Medicine (IOM), should continue to promote the practical and cost-beneficial integration of HIV and STD programs, especially because of the economic and budgetary challenges at state and local levels. If these goals can be accomplished, we can look forward to a reinvigoration and new coherence of STD and HIV prevention activities that more effectively address the challenges of prevention and treatment, and serve as a model for the rest of the world.

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