Public Health Approaches to North Carolina's STD Epidemic

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The National Vision

The Institute of Medicine's Committee on Prevention and Control of Sexually Transmitted Diseases in their 1997 report The Hidden Epidemic, *Confronting Sexually Transmitted Diseases*, concluded that an effective national system of STD Prevention did not exist.[1] As they discussed gaps, new approaches and collaborations, they developed the following vision statement to guide their work:

"An effective system of services and information that supports individuals, families, and communities in preventing STDs, including HIV infection, and ensures comprehensive, high-quality STD related health services for all persons."[1]

This vision recognizes that successful STD prevention systems must insure individual and community participation, and coordination of related programs. While identifying and commiting adequate local and statewide resources and support to implement STD programs are critical, successful STD programs are built upon collaborations which involve a wide variety of stakeholders.

Components of North Carolina's STD and HIV programs are frequently cited as national models. North Carolina's STD and HIV programs are a mix of traditional and community-based approaches. This mix, combined with strong program-to-program collaborations and strategies, have strengthened our collective ability to prevent the spread of STDs, including HIV/AIDS, despite our serious funding challenges.

Traditional Collaborations That Work: Local Health Departments And Disease Intervention Specialists (DIS)

Communicable disease programs, like STD programs, are primarily designed to protect the public health by identifying and treating infected individuals and by notifying and (when appropriate) treating exposed partners, households, networks, or all the above. The confidential nature of this work is protected by law. North Carolina confidentiality provisions are specific and are designed to both prevent the inappropriate release of medical information pertaining to infected and exposed individuals and to protect the public health by allowing for the release of information under specific circumstances. There is a delicate balance between protecting the rights of individuals and protecting the public health.

Traditional "shoe leather" epidemiology starts with timely disease reporting by diagnosing physicians and/or laboratories. North Carolina has a strong public health system and an even stronger commitment to supporting local public health authorities. North Carolina public health law and rules provide local health departments with clear authority and responsibilities pertaining to the reporting and investigation of communicable diseases. North Carolina is fortunate to have a local health department presence in all 100 counties. This presence helps insure that North Carolina public health laws are followed by individuals infected with and /or exposed to a communicable

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disease (through enforcement of control measures) and in conjunction with physicians, hospitals, labs and community providers through whom diagnosis and treatment of people with STDs are available. Local health departments also provide confidential medical and counseling services that include STD and HIV disease diagnosis, treatment, referral, partner notification, community outreach and health education.

For STDs like syphilis and HIV/AIDS, local health departments often use Disease Intervention Specialists (DIS) to find persons who are infected and bring them to treatment, or find and notify partners that they may have unknowingly been exposed to a STD. Local health departments are often assisted in the performance of their investigation and control responsibilities by the state's HIV/STD Prevention and Care Branch Field Services staff. The state DISs are located regionally and are trained by the state and/or the Centers for Disease Control and Prevention (CDC) to work with local authorities, private providers, community-based organizations, and hospitals to insure that persons newly diagnosed with syphilis and/or HIV/AIDS understand their diagnosis, are referred to care, and are given appropriate counseling and control measures. These staff also provide confidential partner notification services and often draw blood samples in the field to assist the partner in determining their health status. In 2005, 15% of the named partners exposed to HIV and 20% of the named partners to syphilis-infected individuals who were notified by state DIS were newly infected with HIV or syphilis, respectively. Given the rurality of our state, a mobile DIS workforce is critical.

A Community-Based Collaboration Model that Works

"Cape Fear Regional Bureau For Community Action, Closing The Gap" Program
Jail-Based Strategic HIV/Syphilis Prevention and Support Project
Cumberland County North Carolina

Background and Morbidity

The Cape Fear Regional Bureau for Community Action was founded by Ashley Rozier II and is one of the oldest grassroots HIV/AIDS/Substance Abuse street outreach, community-based organizations (CBOs) in North Carolina. Since 1989, the Bureau has provided prevention counseling, testing and referral services for HIV/AIDS, STDs, substance abuse, hepatitis and many other chronic needs to African Americans, as well as high-risk minorities and the disenfranchised, in the Cumberland County Cape Fear Region. In the NC 2004 HIV/STD Epidemiologic Profile, Cumberland County ranked 6th among the state's 100 counties for cumulative reports of HIV disease (1983-2004) with 1,246 cases. In Cumberland County, African Americans represent only 39% of its population, but an alarming 75% of HIV cases. Additionally, African Americans represented 63% of chlamydia cases, 79% of gonorrhea cases, and 70% of early syphilis cases in 2004.

In January 2006, after collaboration with local and state partners, the Bureau, the Cumberland County Sheriff and the Cumberland County Health Director initiated the "Closing The Gap" program. This program offers traditional jail screening and a community outreach component. Bureau staff are trained to conduct HIV/syphilis counseling and testing and target incarcerated men and women. HIV/STD education and testing is offered on Friday, Saturday and Sunday evenings from 7:00 pm to 11:00 pm. HIV and syphilis blood specimens are processed through the Cumberland County Health Department and test results are provided to the client regardless of whether they are still incarcerated. Those inmates testing positive for HIV and/or syphilis are interviewed for partner notification purposes and are given relevant referrals. This program focuses on 1) early identification of HIV and syphilis, 2) linking clients to appropriate medical care and prevention services, including identification and enrollment of high-risk women in prenatal care programs, and 3) supporting positive clients in adhering to treatment regimens and in adopting and sustaining HIV risk reduction behavior.

Exceeding Their Goals

From January 1-June 15, 2006, the Bureau tested 821 inmates for HIV, of which three HIV-positive cases were identified. For the same time period, 824 inmates were tested for syphilis and six new cases were identified. Seventy-nine percent of those tested for HIV were post-test counseled. All positive HIV and syphilis clients were referred for medical care/treatment, partner notification services and case management services.

In addition to the work within the detention facility, the Bureau has an active outreach program that includes testing in Fayetteville at 110 1/2 Gillespie Street (main office), local bars/clubs, field/street outreach, and in Hoke County. From January 1-June 15, 2006, 137 persons were tested for HIV, of which three HIV-positive cases were identified. For the same time period, 132 persons were tested for syphilis and two new cases were identified. All positive HIV and syphilis clients were referred for medical care/treatment, partner notification services and case management services.

Two Program-To-Program Collaborations that Work

A. Hepatitis A and B Vaccination Program
State Immunization Branch and HIV/STD Prevention Care Branch

In 2002, hepatitis A rates increased dramatically in five North Carolina counties (Wake, Forsyth, Guilford, Mecklenburg, and Robeson). A 4.5 fold increase in the number of men self-reporting recent sexual contact with men was noted when compared to the average over the 1997 to 2001 time period. The increase was largely attributable to men who have sex with men (MSM) activity, especially in white males in the 25-44 age groups. In terms of hepatitis B, it is well-known that it is a sexually transmitted disease, 100 times more infectious than HIV. Unvaccinated adults who engage in unprotected sex with multiple partners are

especially vulnerable to this vaccine-preventable disease.

Based on data indicating high rates of hepatitis infection, a statewide strategy to prevent and control hepatitis A and B infection through vaccination was needed. CDC offered grant money to programs designed to increase vaccination rates in high-risk populations. After applying for and receiving funds from a CDC grant, the Immunization Branch made the decision to purchase, a combination hepatitis A and B vaccine, under the trade name Twinrix.® This vaccine is manufactured and distributed by GlaxoSmithKline Biologicals. Through a limited pilot project in 2003, adults at high risk for both hepatitis A and B, including those infected with hepatitis C, were targeted for vaccination.

The HIV/STD Branch staff in collaboration with the Women's and Children's Health Section (WCHS) Immunization Branch, announced the availability of state-supplied hepatitis A and B vaccine to all local health departments effective January 2, 2004. This project continues as an ongoing routine vaccination opportunity. Considered a standard of care, hepatitis A and B vaccine is available statewide to high-risk adults served in health department STD clinics. Since the beginning of the calendar year 2006, administration of hepatitis A and B vaccinations at local health departments has increased (see table below). Communicable disease nurses at the health departments have received correspondence, verbal encouragement to use the vaccine and consistent education about the importance of offering/administering the vaccine from both the hepatitis B and C coordinators. The nurses are strongly encouraged to offer the vaccine to all unvaccinated patients over 18 years of age who are seen in their STD clinic. Targeted risk factors include HIV positive status, HCV positive status,

IDU (Intravenous Drug Users), MSM, MSP (Multiple Sex Partners), and past incarceration. High vaccination coverage will reduce transmission of hepatitis A and B infection in the community by immunizing persons at highest risk for infection.

The Branch Quality Assurance, Training, and Development Team (QATD) regularly conducts site assessments at local health department HIV/STD clinics to assess the uptake of hepatitis A and B vaccinations at the sites. Future plans are to increase the focus on increasing initial acceptance and completion rates of vaccine.

Table 1.
Total Doses of Hepatitis A and B Vaccines Ordered by 93 Local and Regional Health Departments

2004	15,695	(includes pilot project period)
2005	13,685	
2006 January-June (actual)	8,395	
2006 Estimated total (projected)	16,790	
Using the above numbers and the assumption that all vaccine recipients have received or will receive the required 3-dose series,* it can be estimated that the following number of clients were/will be vaccinated:		
2004	5,230	
2005	4,529	
2006	5,600	(Estimated total for the year)

*NOTE: Many clients received at least one or two more doses of vaccine than estimated. All received the first dose of the vaccine, but the percentage of those returning for their 2nd and 3rd doses is usually around 25% and 5%, respectively.

B. Chlamydia and gonorrhea-screening programs targeting high-risk adolescents entering Assessment and Treatment Planning Centers

Background

Asymptomatic chlamydia and gonorrhea infections are common among both adolescent males and females and are especially high for those entering detention facilities. According to the CDC STD Surveillance 2002 Special Focus Profile "STDs in Persons Entering Corrections Facilities:"

- The positivity for chlamydia and gonorrhea among women was higher in juvenile facilities than in adult facilities. Among adolescent women entering juvenile detention facilities, the median positivity for chlamydia was 15% (range, 1.5% to 28.9%); positivity was greater than 10% in 17 (71%) of 24 facilities reporting data.
- The median positivity for gonorrhea among women entering juvenile facilities was 4.9% (range, 0.5% to 13.0%); positivity was greater than 4% in 11 (73%) of 15 juvenile facilities. The median positivity for chlamydial infection among men entering juvenile facilities in 30 counties was 6.6% (range, 0.9% to 13.0%).

To address this issue in North Carolina, the HIV/STD Prevention and Care Branch is working in partnership with the Department of Juvenile Justice and Delinquency Prevention (DJJDP) to implement an STD screening program targeting high-risk adolescents entering two state-level Assessment and Treatment Planning Centers. The program reaches adolescents entering one Youth Development Center for Females (approximately 100/year) and one Youth Development Center for Males (approximately 500/year). Center medical staff collect demographic information (age, race, gender) and urine samples for gonorrhea and chlamydia screening using an FDA-approved NAAT testing procedure.

Status

Testing was initiated in October, 2003 for males and females entering the two Youth Development Centers. As of June 31, 2006 the project has screened 1,257 (1,071 males and 186 females) between the ages of 13 and 17. Of those screened, 138 (103 males and 35 females) tested positive for chlamydia and 19 (eight males and 11 females) tested positive for gonorrhea. All of those who tested positive were treated in accordance with NC treatment recommendations and were counseled on risk reduction behaviors to

prevent future infections. This model program is a great example of the benefit of adding routine STD screening to programs serving at-risk adolescents. These young people can be treated quickly and the likelihood of complications such as epididymitis, infertility and pelvic inflammatory disease are greatly reduced.

As can be seen from the above examples, North Carolina relies on partnerships and collaborations to advance STD prevention work. Often the best examples of model STD practices are those that pull traditional providers and community-based partners together. The best example of this is North Carolina's Syphilis Elimination Project.

The Syphilis Elimination Project (NCSEP) began in 1998 with CDC funds given to the HIV/STD Prevention and Care Branch to reduce the levels of syphilis in North Carolina, which has had one of the highest primary and secondary syphilis rates in the United States. The NCSEP program is comprised of six counties: Durham, Forsyth, Guilford, Mecklenburg, Robeson and Wake. Through this program, each county hired a Syphilis Elimination Coordinator devoted to syphilis elimination activities, conducted an evaluation project and convened a community task force to develop a syphilis elimination plan unique to their county. Each county conducts syphilis outreach and education, screening of high-risk persons, jail screening programs, establishes and supports condom distribution centers, and conducts social marketing. A crucial element of syphilis elimination is the partnership formed between CDC, the state, county health departments and community-based organizations (CBOs). CDC in fact made collaboration with CBOs a requirement and thirty per cent of the CDC grant award was designated for use by community-based organizations.

North Carolina has made substantial progress toward controlling syphilis since the inception of the Syphilis Elimination Project (NCSEP) in 1998. Since that time infectious syphilis in North Carolina has declined by 62% and the state rate has dropped from 9.6 to 3.2 in 2005. In 1998 North Carolina led the nation in the number of counties reporting infectious syphilis cases, and was the only state in the nation with five of the twenty-eight counties reporting more than 50% of the nation's morbidity of infectious syphilis. In 2005, only one North Carolina County (Mecklenburg) remains on the National listing of the top counties with syphilis. The NCSEP program has been successful because of the partnership between community-based organizations, local healthcare providers and local/state health staff. This partnership supported the use of locally tailored, innovative strategies and "after hours" screening in non-traditional venues.

SYNERGY

Definition

(1) SYNERGISM; broadly: combined action or operation (2) a mutually advantageous conjunction or compatibility of distinct business participants or elements (as resources or efforts).[2]

North Carolina's approach to effective implementation of programs and activities designed to impact HIV/AIDS and other sexually transmitted diseases is one rooted in the synergistic character of our programs. Our activities are designed to draw upon the strength of other similar program activities, both at the local as well as at the state level. The Division of Public Health is a full partner with our local health departments as well as community-based organizations and providers. The HIV/STD Prevention and Care Branch recognized several years ago that in order to effectively address the burgeoning HIV and STD impact on communities in our state, it was necessary to form partnerships with key leaders and stakeholders in those communities and to provide resources as well as mentoring to improve delivery of services. Together we are stronger than we are alone. **NCMedJ**

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REFERENCES

1 Eng TR and Butler WT, eds. The Hidden Epidemic: Confronting Sexually Transmitted Diseases. Washington, DC: National Academy of Sciences, Institute of Medicine (US) Committee on Prevention and Control of Sexually Transmitted Diseases: 1997.

2 Merriam Webster Online Dictionary. Available at: www.m-w.com/dictionary/synergy. Accessed September, 2006.