

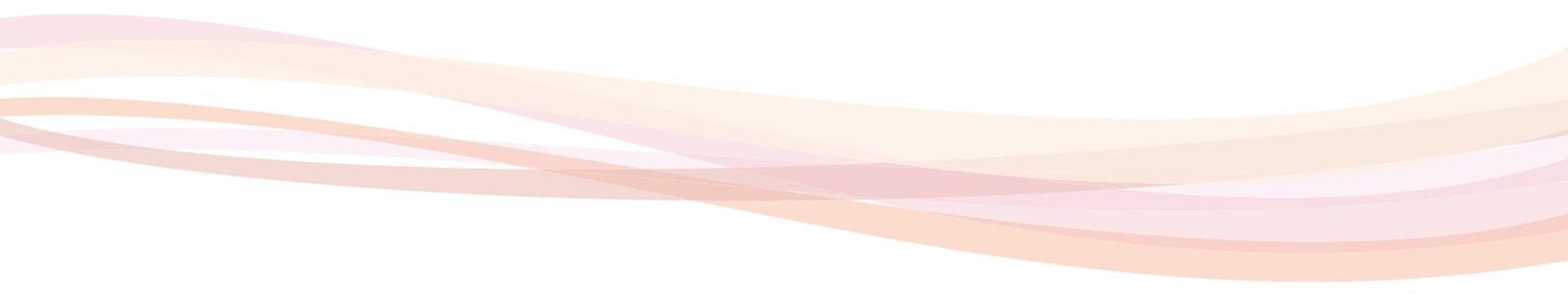
# National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Annual Report • Fiscal Year 2010



National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention





Fiscal Year 2010 was marked by some major achievements, changes, and exciting new directions for the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, which are presented in this fourth annual report for the center. One major event was the release of the first National HIV/AIDS Strategy (NHAS) by President Obama in July 2010. The new strategy is focused on three overarching goals: reducing the number of new HIV infections, increasing access to care for people living with HIV, and reducing HIV-related health disparities.



The NHAS was the result of extensive public input, including 14 HIV/AIDS community discussions held across the country, as well as an online suggestions process, various expert meetings and other inputs. Senior leaders at CDC were involved in a Federal interagency working group that reviewed recommendations from the public and worked with the Office of National AIDS Policy to develop the NHAS. NCHHSTP has a number of assigned activities under NHAS, including improving core surveillance and use of community viral load, enhancing prevention among most affected communities, integrating care and prevention, expanding HIV testing and linkage to care services, building capacity, developing evidence-based social marketing campaigns, and improving the quality and monitoring of all programs.

FY 2010 also marked the completion of another valuable roadmap for NCHHSTP—its strategic plan for 2010-2015. It sets out our vision and priority activities for NCHHSTP. The plan was the result of a collaborative effort by staff in the NCHHSTP Office of the Director, the center's divisions and branches, and other key partners within and outside of CDC.

Another key plan released in FY 2010 was the Institute of Medicine's report, *Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C*. The report provides a roadmap for national efforts to prevent the transmission of new infections and to mitigate the adverse health impact of chronic infections. NCHHSTP is working to address the report's recommendations.

An event of note during FY 2010 was a CDC reorganization that moved the Global AIDS Program to a new Center for Global Health. We are pleased to be a part of this enhanced focus on global health throughout our agency, and especially in the Center for Global Health. Even with the departure of GAP, NCHHSTP continues a range of international research activities and collaborations. We therefore remain committed to strong partnerships with our global health colleagues across the agency and federal government during this exciting time of change.

On the domestic front, the epidemics of HIV and other STDs, hepatitis, and TB are large and complex, but we have made progress in the last year, including the following:

- New diagnoses and rates of TB dropped dramatically in 2010, declining by more than 10% from the previous year.
- Expansion of hepatitis B vaccination programs brought continued declines in acute hepatitis B infections.
- Advances in checking for and tracking of hepatitis C infection continue.
- New efforts have started that focus on mobilizing communities to reduce HIV, STD, TB, and hepatitis health disparities and promote greater health equity.
- Large investments continue to be made to promote HIV testing, especially in areas with high rates of disease among African Americans.

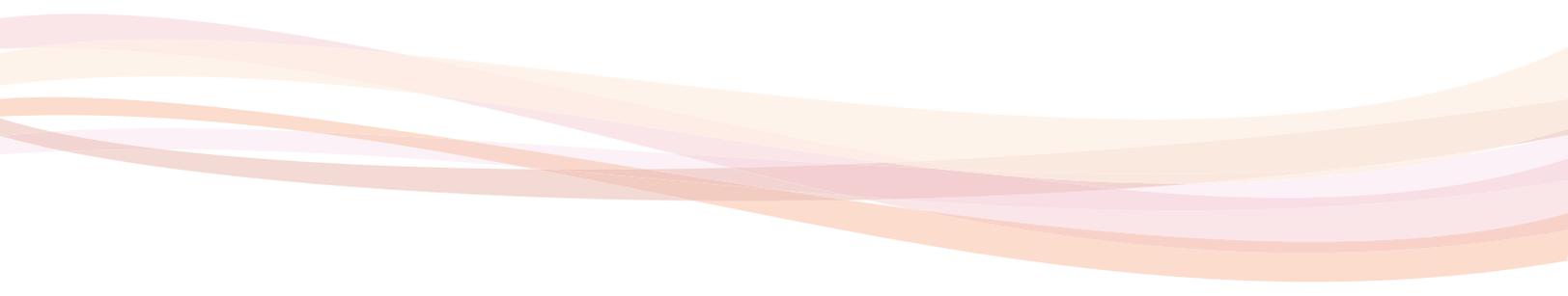
- New resources were directed to HIV prevention through funds from the Affordable Care Act's Prevention and Public Health Fund to expand HIV prevention efforts under NHAS, including \$11.6 million to support demonstration projects to identify and implement a combination approach to enhance HIV prevention in 12 hard-hit jurisdictions.
- The GYT: Get Yourself Tested campaign aimed at encouraging youth to be tested for STDs as well as HIV, continued for a second successful year.
- New prevention programs have been introduced and established programs and approaches refined, including collaborative programs that integrate services for more than one disease or risk, begin to address the social determinants of health, and put funding in areas where there is evidence of improved health.
- New communication technologies have promoted HIV and STD prevention.
- NCHHSTP worked on updating the Guidelines for the Treatment of Sexually Transmitted Diseases, which were released in December 2010.

This year's report also highlights NCHHSTP staff. Our Center attracts an exceptionally diverse set of public health and support professionals with a range of skills and experience that is perfect to develop and deliver evidence-based and high-impact prevention programs, research, and policies. Our expert staff, combined with our unique relationships with governmental, non-governmental and private sector partners, form a foundation that provides us the opportunity to champion public health and accelerate disease prevention and health protection activities.

We will work to meet the standards set by the administration that government should be transparent and accountable; participatory and committed to public engagement; and collaborative, acknowledging and acting on the fact that the whole is always greater than the sum of its parts. We are committed to communicating the right information, at the right time and in the right way, and to our science promoting the delivery and implementation of the most effective programs at home and around the world.

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## About NCHHSTP

The National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) is part of the Centers for Disease Control and Prevention (CDC)—an agency of the U.S. Department of Health and Human Services (HHS).

The National Center for HIV, STD, and TB Prevention (NCHSTP) was established in 1994 to bring most of CDC's HIV prevention activities together under a single organizational home that also includes sexually transmitted disease (STD) prevention and tuberculosis (TB) elimination programs. In 2000, the Global AIDS Program (GAP) was added to NCHSTP in response to the global HIV/AIDS epidemic. In 2006, CDC's Division of Viral Hepatitis was added to NCHSTP and the center was renamed the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. In FY 2010, GAP joined CDC's new Center for Global Health.

The diseases addressed by NCHHSTP share a number of commonalities. They have similar or overlapping at-risk populations—including racial and ethnic minorities, gay and other men who have sex with men, and injection drug users. These diseases also have important interactions. Those who are infected with certain STDs, such as syphilis or gonorrhea, are at greater risk for HIV infection. Likewise, those

who are infected with HIV are far more susceptible to TB disease because their immune systems are weakened. Similarly, approximately 33% of those infected with HIV are co-infected with hepatitis C, and 10% are co-infected with hepatitis B.

These diseases also share similar social determinants, including poor access to health care, stigma, discrimination, incarceration, homelessness, and poverty. In the area of prevention and control, effective, science-based interventions exist to reduce the burden of TB, viral hepatitis, most STDs, and HIV.

As a leader in preventing and controlling HIV infection, viral hepatitis, STDs, and TB, NCHHSTP applies well-integrated, multidisciplinary programs of research, surveillance, risk-factor and disease intervention, and evaluation. For example, NCHHSTP addresses domestic HIV/AIDS prevention through an array of public health activities including monitoring the disease's impact, facilitating and supporting partnerships, implementing prevention programs, conducting intervention research and program evaluation, delivering technical assistance to build the capacity of organizations to offer prevention services, and developing policy and communications to support HIV prevention.



## **NCHHSTP Strategic Plan: Key Priorities**

During FY 2010, NCHHSTP finalized a strategic plan to guide the center's programs and research from 2010–2015. The plan was the result of a collaborative effort by staff in the NCHHSTP Office of Director, the center's divisions and branches, and other key partners within and outside of CDC. It outlines key objectives and strategies for achieving mutual goals with NCHHSTP partners.

The plan outlines six key priorities to provide focus, direction, and a way to organize NCHHSTP's work, in addition to the center's core mission. They are shown below.

### **Prevention Through Health Care**

NCHHSTP will develop, implement, and evaluate policies and practices that leverage the health care system to improve health through prevention. Impending health reform presents an unprecedented opportunity for NCHHSTP to work across multiple levels (federal, state, local, and global), and within and across sectors (public, private, non-governmental, etc.) to advance strategic priorities for preventing and controlling HIV, viral hepatitis, STDs, and TB.

### **Program Collaboration and Service Integration**

NCHHSTP will support and promote a syndemic approach to prevention by promoting better collaboration between programs and supporting appropriate service integration at the point of access. NCHHSTP will look broadly across its programs, and work with our partners, to discover new and innovative ways to collaborate and use resources wisely and efficiently—taking advantage of multiple disciplines and shared knowledge and promoting holistic approaches to health protection.

### **Health Equity**

NCHHSTP will reduce health disparities in HIV/AIDS, viral hepatitis, STDs, and TB by promoting health equity. Many of the populations served by NCHHSTP suffer from the stigma attached to their diseases or from socioeconomic disparities. It is, therefore, imperative for the center to make research, policy, and programs in this area a top priority.

### **Global Health Protection and Systems Strengthening**

NCHHSTP will optimize global collaborations and interactions to enhance the overall effectiveness of its international program development and public health research. Though much of NCHHSTP's work is focused on important and urgent domestic issues, it cannot ignore the global interconnectedness of societies, population movement, and disease epidemiology. NCHHSTP plays an important role in protecting the health and well-being of Americans, at home and abroad, and it serves as an important international partner in efforts to protect and improve the health of all people.

### **Partnerships**

NCHHSTP will create and strengthen mutually beneficial, strategic relationships with other individuals, organizations, and networks that strengthen HIV/AIDS, viral hepatitis, STD, and TB prevention and control, producing solutions that no individual entity working independently can accomplish. The center cannot accomplish its mission without strong, established partnerships. NCHHSTP will lead collaborative efforts with partners to reduce the impact of these diseases at home and abroad.

### **Workforce Development and Capacity Building**

NCHHSTP will attract, maintain, develop, and utilize NCHHSTP's professional workforce to effectively promote health and prevention activities. The center will work with our partners to assess and support critical local staffing needs, as appropriate. We will examine and leverage opportunities in an evolving health system to support this goal. Additional detail on the six strategic goals, with accompanying objectives and strategies, are provided in this report.

## A Year in Review: Program Accomplishments

To ensure the greatest impact on the HIV/AIDS, STD, viral hepatitis, and TB epidemics, NCHHSTP uses a comprehensive, evidence-based approach to prevention that incorporates surveillance, research, prevention interventions, and evaluation. NCHHSTP's surveillance and research activities help to better define and understand the nature of the epidemics across the nation, providing vital information to develop prevention strategies. The center's prevention interventions and capacity-building efforts are based on behavioral, laboratory, and medical science and are designed to reduce the spread of HIV/AIDS, STDs, viral hepatitis, and TB. Program evaluation and policy research and development assess intervention effectiveness and refine prevention approaches.

The following sections provide examples of how NCHHSTP's programs supported the center's strategic plan in FY 2010.



### Goal 1: Prevention Through Health Care

HIV and other STDs, viral hepatitis, and TB are among the leading causes of morbidity and death in the United States and account for substantial portions of health care spending. The national focus on prevention and wellness provides an opportunity

to address the health conditions NCHHSTP emphasizes and to contribute to improving the nation's health through evidence-based clinical and community prevention and wellness activities.

There is also a new focus on improving the delivery of health care services, improving patient health outcomes and population health, developing new quality measures and disseminating best practices in the delivery of quality health care services. By establishing or expanding collaborations across CDC and with other governmental and non-governmental partners, NCHHSTP is working to advance its strategic and programmatic imperatives and expand opportunities for prevention through health care. Below are highlighted accomplishments related to this goal.

### Expanding HIV Testing for Disproportionately Affected Populations

NCHHSTP extended its successful 3-year HIV Testing Initiative, which was aimed at African Americans, for an additional 3 years and expanded the testing to also reach Hispanic men and women, men who have sex with men, and injection drug users, regardless of race or ethnicity. The initiative also received an additional \$4.4 million from the Affordable Care Act's Prevention and Public Health Fund and \$950,000 from the HHS Minority AIDS Initiative.

In the first 2 years of the testing initiative, more than 1.4 million HIV tests were conducted, with the majority (62%) among African Americans—who were the focus of the original program. More than 10,000 persons newly diagnosed with HIV infection were identified, of which about three-quarters were reported to have been linked to care and treatment.

### Updated STD Treatment Guidelines

The CDC STD Treatment Guidelines are the most widely referenced and authoritative source of information on STD treatment and prevention strategies for clinicians who evaluate persons with STDs or those at risk for STDs. For more than 20

years, these guidelines have assisted clinicians with effective guidance on the delivery of optimal STD care.

In FY 2010, NCHSTP worked on updating the Guidelines for the Treatment of Sexually Transmitted Diseases, in consultation with public and private sector professionals knowledgeable in the management of STDs. An evidence-based, systematic review was employed to guide the update. The updated guidelines were released in December 2010.

### Expansion of Expedited Partner Therapy

In recent years, a growing number of states have adopted laws authorizing Expedited Partner Therapy (EPT), an evidence-based option to prevent patient re-infection through management of sex partners of patients diagnosed with chlamydia or gonorrhea. Some of these states, however, still face challenges in implementing EPT. In other states, EPT is either not legal or the legality remains unclear.

The Division of STD Prevention and the Centers for Law and the Public's Health, a collaborative at Johns Hopkins and Georgetown Universities, partnered to address legal and policy barriers to implementation of EPT. In May 2010, CDC hosted a 1-day consultation with 20 key consultants, including STD directors from states in different phases of EPT implementation; experts in public policy, law, and ethics; representatives from professional organizations; and other partners key to EPT implementation. The Division of STD Prevention identified EPT implementation barriers and gathered input on tools to assist states in developing policies to implement EPT.

### Expansion of Human Papillomavirus Vaccine Recommendation

A high-priority strategic goal for the Division of STD Prevention is the prevention of STD-related cancers. In 2006, a quadrivalent Human Papillomavirus (HPV) vaccine for preventing cervical cancers was licensed for use in females and recommended for routine use at ages 11 or 12 and catch-up vaccination through age 26. In October 2009, a second HPV vaccine—the bivalent vaccine—was licensed by the Food and

Drug Administration for use in females, and the quadrivalent HPV vaccine was also licensed for use in males to prevent genital warts.

The Division led the HPV Vaccine Workgroup of the Advisory Committee on Immunization Practices (ACIP) in its development of updated HPV vaccination recommendations in FY 2010. The Division developed cost effectiveness analyses, reviewed relevant clinical trial and epidemiologic data, and information on vaccine acceptability. ACIP recommended that either vaccine could be given for routine vaccination of females ages 11 or 12 and catch-up vaccination for females through age 26. For males, ACIP provided guidance that the quadrivalent vaccine may be given to males ages 9 through 26 years. ACIP recommendations guide clinical practice and have direct implications on funding and insurance coverage in the country. To see the published recommendations in the *MMWR* (2010;59(20):626–629) visit: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5920a4.htm>.



### Guidance for Syringe Services Programs

The Consolidated Appropriations Act of 2010 modified the ban on the use of federal funds for needle exchange programs. The Act allowed CDC and its partners to more fully implement a comprehensive, evidence-based approach for reducing HIV infection among injecting drug users, who account for approximately 16% of new HIV infections.

In response, NCHHSTP worked with HHS to develop guidance for health departments wanting to use FY 2010 funds for syringe services programs. HHS issued technical guidance for HHS agencies and for CDC in July 2010. In August, CDC held a Syringe Services Program Consultation that brought experts together to provide advice on developing programmatic guidance on syringe services programs for HIV prevention to be implemented by CDC-funded state and local health departments. Guidance for the program is to be released in early 2011.

### Updated Guidelines for Using Interferon Gamma Release Assays to Detect TB Infection

In June 2010, the Division of TB Elimination published updated guidelines for using Interferon Gamma Release Assays (IGRAs) to detect *M. tuberculosis* infection. The Division developed the guidelines based on data submitted to the Food and Drug Administration (FDA), published reports, and expert opinion related to IGRAs. The guidelines were updated because two new IGRAs have been approved by the Food and Drug Administration and peer-reviewed articles describing clinical studies of IGRAs have been published since the guidelines were originally published in 2005. The guidelines also provide recommendations addressing quality control, test selection, and medical management after testing.

### Tuberculosis Trials Consortium

Tuberculosis Trials Consortium (TBTC) is a partnership of clinical investigators from the CDC, domestic and international public health departments, academic medical centers, and selected Veterans Administration medical centers that conduct research about the diagnosis, medical treatment, and prevention of TB infection and disease. FY 2010 marked the first year of a new 10-year plan for the consortium.

Research sites in the United States and around the world will receive more than \$90 million over the next 10 years to develop more effective TB treatments through the consortium. From 2010–2020 the focus of TBTC will shift from clinical sites located mostly in North America to an increased number of sites and collaborations located around the world.

TBTC has undertaken nine major trials and 15 sub-studies. Most recently, TBTC study findings have influenced guidelines for treating people co-infected with TB and HIV.

Currently, the TBTC is concluding a study of an innovative ultra-short-course treatment for latent tuberculosis infection (i.e., TB preventive therapy—results expected in mid-2011).

### National Chlamydia Initiative

In collaboration with Partnership for Prevention, NCHHSTP's Division of STD Prevention successfully launched the National Chlamydia Coalition (NCC) in 2008 to address the continued high burden of *Chlamydia trachomatis* (chlamydia) infection, especially among women age 25 and under. NCC works to reduce the rates of chlamydia and its harmful effects among sexually active adolescents and young adults.



Over the past year, the NCC awarded 10 mini-grants to address barriers to chlamydia screening, commenced a new evaluation workgroup and research subcommittee, and explored the use and influence of social media (e.g., Twitter and Facebook) to reach patients and providers. The NCC is also working to expand its monthly online newsletter, NCC News, which features up-to-date research, publications, and news on chlamydia and related areas of interest. For more information on the NCC visit <http://ncc.prevent.org/>.

In addition, in May 2010, Division of STD Prevention scientists participated in the CDC Public Health Grand Rounds session, "Chlamydia Prevention: Challenges and Strategies for Reducing Disease Burden." The session raised awareness of chlamydia prevention within CDC. It focused on current efforts to reduce the burden of chlamydia and addressed the public health challenges associated with chlamydia. To view the Grand Rounds or read more, visit: [www.cdc.gov/about/grand-rounds/archives/2010/05-May.htm](http://www.cdc.gov/about/grand-rounds/archives/2010/05-May.htm).

### Better Hepatitis Prevention Through Communication Research

The Division of Viral Hepatitis, with support from the NCHHSTP Health Communication Science Office, conducted formative research with groups at risk for viral hepatitis. The purpose was to explore different risk groups' knowledge and attitudes related to hepatitis and to pretest educational materials. Focus groups were conducted in Boston, Chicago, and Houston with four separate audiences: Asian



Americans, African Americans, gay men, and persons in the general population. Participants included men and women between the ages of 45 and 64.

Findings from the focus groups revealed that consumers from all the audience segments are largely unaware about viral hepatitis, a finding echoed by the recently released Institute of Medicine report. There was some awareness that different types of hepatitis exist, but little to no understanding of the differences between types. There was a great deal of misinformation about symptoms.

For example, many participants believed that that no symptoms indicated no infection, while others believed that without symptoms, the disease is not detectable. Most participants were unsure who might be at risk for viral hepatitis. Few people in any of the groups knew that viral hepatitis is a leading cause of liver cancer. The Division of Viral Hepatitis is using these findings to plan future educational strategies, to improve its website, and to improve other educational materials.

### NCHHSTP Web Metrics Dashboard

The Health Communication Science Office worked with communication staff throughout the center to develop an NCHHSTP Web Metrics *Dashboard*. This *Dashboard* provides a yearly overall snapshot of Web activity across the entire center, including who is visiting and how they interact with NCHHSTP topic areas and each of the four division sites. The *Dashboard* provides three types of measurements: visitor behavior on the sites, customer satisfaction with the sites, and audience details of visitors to the sites.

The *Dashboard* indicated that in 2009, NCHHSTP's Web pages had more than 57 million page views and included three of the top 10 pages on CDC.gov: "STD Facts—Genital Herpes," "STD Facts—Human papillomavirus (HPV)," and "STDs—Information from CDC."

## Goal 2: Program Collaboration and Service Integration

For years, many national organizations and CDC grantees have called for better integration of services provided by related programs, especially of prevention activities related to HIV/AIDS, other sexually transmitted diseases, viral hepatitis, and tuberculosis. Public health leaders, care providers, and prevention partners are continually striving to increase their ability to respond to changing disease epidemiology, eliminate missed opportunities, and meet the needs of communities and populations at risk for multiple infections.

Program collaboration and service integration (PCSI) is a mechanism for organizing and blending interrelated health issues, activities, and services to facilitate comprehensive delivery of services. NCHHSTP is looking broadly across program areas to implement ways to collaborate, using epidemiologic data to identify opportunities to intervene in the transmission of multiple infections in a coordinated way. NCHHSTP published a white paper on PCSI in December 2009 (available at <http://www.cdc.gov/nchhstp/Publications/>).

Following are examples of PCSI accomplishments during FY 2010.

### Addressing Syndemics Through PCSI Funding Opportunity Announcements

NCHHSTP awarded \$6.2 million in funds to six health departments—New York City, North Carolina, Philadelphia, San Francisco, Texas, and Washington, D.C., —to plan, scale up, and implement PCSI activities. The awards aim to increase collaboration among programs and integration of prevention, testing, and treatment services for these infections, which may be interrelated due to characteristics such as risk, transmission, or other factors.

With NCHHSTP guidance, each area will tailor its project to meet local needs, taking into account prevalence of disease, number of new infections, and which communities are most impacted. The projects will be monitored and evaluated by NCHHSTP on an ongoing basis to identify innovative and effective evidence-based strategies, programs, and services that can serve as future models for other health departments across the country.

### PCSI Webcast, May 15, 2010

On May 10, 2010, CDC hosted a live webcast on the PCSI White Paper (available at <http://www.cdc.gov/nchhstp/programintegration/Default.htm>). The webcast included presentations from HIV/AIDS, viral hepatitis, STD, and TB leaders at the national, state, and local levels. Almost 600 attendees—twice the number that normally view webcasts—from various organizations joined the webcast to learn more about PCSI and how NCHHSTP and partners are working together at all levels to implement PCSI into their public health efforts. In addition to participants in the United States, the webcast had attendees from Australia, Belgium, Namibia, Columbia, and Canada.

### Data Security and Confidentiality Consultation

On June 28, 2010, NCHHSTP convened a consultation with surveillance leaders from local HIV, viral hepatitis, STD, and TB surveillance programs across the United States, as well as national partner organizations. Participants provided feedback on draft Security and Confidentiality Guidelines, which were developed to improve surveillance data security across disease disciplines and to promote data sharing across programs. The draft guidelines cover data collection, storage, sharing, and use with the intent of removing many of the barriers to data sharing.

### Goal 3: Health Equity

NCHHSTP strives to improve the health of populations disproportionately affected by HIV, viral hepatitis, STDs and TB, and related diseases and conditions. The Office of Health Equity leads the effort to improve the health of populations experiencing health inequities. NCHHSTP's Division programs also support this goal, for example, by providing essential surveillance data about populations that are most at risk.

#### Social Determinants of Health Approach

Scientific evidence shows that genetic predisposition and risk behaviors only partially explain why some people become sick and others do not. Many chronic and infectious diseases cluster in populations that experience social and economic constraints to good health. In recognition of the effect these constraints have on health, NCHHSTP is incorporating social determinants of health (SDH) into its work.

Social determinants of health are the economic and social conditions that influence the health of individuals, communities, and jurisdictions as a whole. They determine the extent to which a person possesses the physical, social, and personal resources to identify and achieve personal aspirations, satisfy needs, and cope with the environment. The resources include, but are not limited to, conditions for early childhood development; education, employment, and work; food security, health services, housing, income, and income distribution; social exclusion; the social safety net; racism and discrimination of all forms; and unemployment and job security.

Promoting health equity is aimed at reducing disparities in diseases among persons who experience challenges and limitations for optimal physical and psychological health, opportunities for stable life conditions, and access to adequate health care. This is a new direction for American public health.

Informed by the findings of an external consultation held with national experts in December 2008, NCHHSTP developed a number of strategies to (1) increase awareness of the importance of SDH, (2) advance the science of SDH, and (3) develop a

framework for future policy decisions that will build capacity for addressing SDH in center-wide public health activities. NCHHSTP conducted a number of activities in FY 2010 that furthered its work the area of health equity and SDH. These are described below.

#### Report on Social Determinants of Health Activities

NCHHSTP produced a first ever *Report on Activities Related to the Social Determinants of Health, Fiscal Year 2009*, which details center and Division SDH activities conducted in FY 2009. The report provides a baseline for monitoring SDH activities. The goal of future versions of this report is to assess the allocation of programmatic, research, and other center resources by categories of SDH and provide center-wide guidance on gaps in SDH.

#### Release of White Paper on Social Determinants of Health

NCHHSTP also developed a white paper on SDH in FY 2010. This document (available at <http://www.cdc.gov/socialdeterminants/docs/SDH-White-Paper-2010.pdf>) provides an official set of proposals that will be used for policy development to address health disparities incorporating an SDH framework. It includes recommendations for advancing notions of health equity and social determinants in six critical public health functions. In the white paper, NCHHSTP commits to

- incorporating SDH into existing research and surveillance activities, and to developing and evaluating approaches to garner scientific evidence;
- using new technologies in health communication and marketing to increase knowledge and awareness of SDH and health equity among stakeholders;
- finding opportunities to address health inequities and SDH through health policy and other sector policy development;
- addressing SDH in prevention program activities, especially in interventions;
- building capacity to address SDH in science, in programs, and with partners nationwide; and

- seeking opportunities to enhance partnership activities in consultation with affected communities; territorial, tribal, state and local health departments; other governmental, non-governmental, and community-based organizations.

### **Issuance of Public Health Reports Supplement**

NCHHSTP spearheaded the issuance of the *Public Health Reports* supplement on “Addressing Social Determinants of Health in HIV/AIDS, Viral Hepatitis, Sexually Transmitted Diseases, and Tuberculosis,” published in June 2010. This special issue focuses on innovations and advances in incorporating an SDH framework for addressing the interrelated epidemics of HIV, sexually transmitted infections (STIs), viral hepatitis, and TB in the United States and globally.

### **Development of Educational Materials to Advance Health Equity**

NCHHSTP has developed various educational materials to better inform the CDC community and the public about health equity and SDH. These materials include a glossary of terms regarding health equity and SDH, a fact sheet with frequently asked questions, and a training slide set.

Staff developed a guidance document for monitoring SDH annually. The document recommends key variables to monitor and existing external data sets to use in conjunction with disease surveillance data and establishes clear guidance for measuring and reporting SDH. In addition, staff developed statistical methods to model SDH using AIDS surveillance data and the American Community Survey Data (a U.S. Census product).

### **Testing a Tool for Physicians Recording Patients’ Sexual History**

NCHHSTP’s Division of STD Prevention and Division of HIV/AIDS Prevention are testing a new tool for physicians to use in recording the sexual history of African-American men—a group which has a higher prevalence of syphilis and other STDs compared with other groups. The divisions have been collaborating with physicians associated with the National Medical Association, as well as health care providers who work in high HIV/STD incidence areas.

### **Advancing a Dialogue on Sexual Health**

During FY 2010, several NCHHSTP and CDC divisions and key external partners continued efforts to advance the dialogue and action on sexual health and responsible sexual behaviors in the United States. NCHHSTP organized and hosted a technical consultation in April 2010 of external stakeholders to provide feedback on public health approaches to advancing sexual health. This approach is also supported through the National HIV/AIDS Strategy.

Other NCHHSTP activities include a continuing effort to compile and publish systematic reviews of published sexual health interventions and sexual health strategies in other countries, initiation of a health communication project to develop optimal language to describe a sexual health framework, exploration of the formation of a dynamic coalition of public and private sector partners, and consideration of commissioning an Institute of Medicine report with collaborative support by partners.

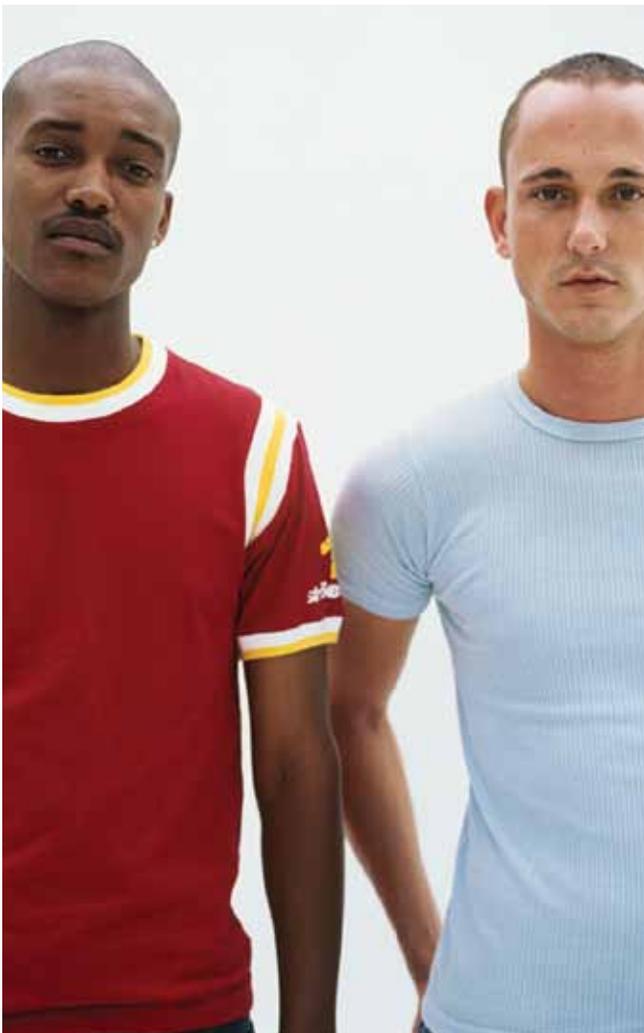
### **Analysis Shows Disproportionate Impact of HIV and Syphilis Among U.S. Gay and Bisexual Men**

NCHHSTP’s Division of HIV/AIDS Prevention estimates that approximately 1.1 million adults and adolescents were living with HIV infection in the United States at the end of 2006 and that gay and bisexual men of all races, African Americans, and Hispanics/Latinos were most heavily affected. An FY 2010 Division of HIV/AIDS Prevention and Division of STD Prevention data analysis shed further light on the disproportionate impact of HIV on men who have sex with men (MSM) in the United States.

The analysis, presented at CDC’s 2010 National STD Prevention Conference, estimated that the rate of new HIV diagnoses among MSM is more than 44 times that of other men and more than 40 times that of women. The range was 522–989 cases of new HIV diagnoses per 100,000 MSM vs. 12 per 100,000 other men and 13 per 100,000 women. The rate of primary and secondary syphilis among MSM is more than 46 times that of other men and more than 71 times that of women, the analysis says. The range was 91–173 cases per 100,000 MSM vs. 2 per 100,000 other men and 1 per 100,000 women.

While CDC data have shown that gay and bisexual men make up the majority of new HIV and syphilis infections for several years, CDC estimated the rates of these diseases for the first time based on new estimates of the size of the U.S. population of MSM.

NCHHSTP is also in the early stages of planning for estimates among heterosexuals. Ultimately, these data can be used to better inform national, state, and local approaches to HIV and STD prevention to ensure that efforts are reaching the populations in greatest need.



### Monitoring HIV Prevalence, Unrecognized Infection, and HIV Testing Among Men Who Have Sex with Men

In September 2010, CDC published an *MMWR* article describing HIV prevalence of 19% among MSM interviewed and tested for HIV infection during 2008 and reported to the National HIV Behavioral Surveillance System (NHBS). NHBS is conducted in 21 U.S. cities and is used to monitor the prevalence of, and trends in, HIV-related risk behaviors, HIV testing, and use of HIV prevention services among populations at high risk for HIV infection, including MSM, users of injection drugs (IDU), and heterosexuals at increased risk for HIV infection.

Division of HIV/AIDS Prevention analyses of NHBS data collected in 2008 reveal that HIV prevalence remains high among MSM and reinforce the data estimating HIV and syphilis incidence for MSM. The data show that many MSM are unaware they are infected, and minority MSM are disproportionately affected by the HIV epidemic. Of all MSM surveyed and tested, 19% were infected with HIV and 44% of those infected were unaware of their infection. HIV prevalence among white MSM was 16%, 18% among Hispanic MSM, and 29% among black MSM. Black and Hispanic MSM were more likely than white MSM to be unaware of their HIV infection; 26% of white MSM with HIV infection did not know their status compared with 46% of Hispanic MSM and 59% of black MSM. Of MSM with unrecognized infection, 54% had not been tested within the preceding 12 months, but 46% reported having had an HIV test in the preceding 12 months, indicating they had acquired HIV recently.

NHBS will be critical for monitoring the impact of the National HIV/AIDS Strategy (<http://www.whitehouse.gov/administration/eop/onap>), which focuses on reducing HIV incidence, increasing access to care and optimizing health outcomes, and reducing HIV-related health disparities.

## Urban Poor in the United States have High Rates of HIV

NCHHSTP released a first-of-its-kind analysis showing that 2.1% of heterosexuals living in high-poverty areas in 23 major U.S. cities are infected with HIV—more than four times the national average (0.45%). The data also showed an inverse correlation between income and HIV prevalence among heterosexuals living in these poor urban areas: the lower the income, the higher the prevalence of HIV.

The HIV prevalence in high poverty urban areas is severe enough to be considered a “generalized epidemic” (defined by UNAIDS as an overall HIV prevalence in the general population of more than 1%). Poverty was the single most important factor in predicting HIV infections among heterosexuals in these areas. No statistically significant differences in HIV prevalence among heterosexuals by race or ethnicity were found in these low-income, urban areas. These findings from the Division of HIV/AIDS Prevention study remind us that we cannot look at HIV disease in isolation from the environment in which people live.

## TB Rates Declined Dramatically

The U.S. TB rate decreased by more than 10% in 2009 from the previous year. A total of 11,540 TB cases were reported in the United States according to data from the National TB Surveillance System. The TB rate was 3.8 cases per 100,000 population, a decrease of 11.4% from the rate of 4.2 per 100,000 population reported for 2008. TB case counts and rates decreased substantially among both foreign-born and U.S.-born persons, although foreign-born persons and racial/ethnic minorities continued to have TB disease disproportionate to their respective populations. The 2009 rate showed the greatest single-year decrease ever recorded and was the lowest recorded since national TB surveillance began in 1953.

Due to the unexpected steep decline in TB cases, the Division of Tuberculosis Elimination investigated and analyzed the decline to ensure the decline was not a function of underreporting or other problems. No such evidence was found. Investigations in two states also did not find evidence that health care providers were less likely to consider the diagnosis of TB in 2009 compared with previous years. Nor were there



changes in laboratory diagnostic procedures that might explain the decline. The decline in reported TB may be associated with improvements in TB control as well as changes in immigration patterns and health care seeking during a time of economic recession.

### Estimating Burden of STDs Among Young Women in the United States

A study published in FY 2010 highlighted the burden of STDs among women in the United States. Using data from the National Health and Nutrition Examination Survey (NHANES), researchers in the Division of STD Prevention, for the first time, estimated the prevalence of the most common STIs

among a representative sample of 14–19 year-old females in the United States. The study found that 24.1% of female adolescents had at least 1 of the 5 STIs and STI prevalence was 37.7% among sexually experienced girls.

HPV was the most common STI, followed by chlamydia. The study also showed that STIs begin to be acquired soon after sexual initiation and with few sex partners. These findings indicate the need for early and comprehensive sexual health education, routine HPV vaccination at the age of 11 to 12 years, and chlamydia screening of sexually active female adolescents.



## Goal 4: Global Health Protection and Health Systems Strengthening

NCHHSTP is working to maximize global health protection and strengthen global health systems by fostering programmatic relationships among its divisions that conduct international activities. Ensuring active collaboration between NCHHSTP divisions leverages center and CDC resources and maximizes health impact.

### Leading Global Perinatal Integration Workgroup

NCHHSTP is co-chairing the CDC Global Perinatal Integration Working Group. The cross agency working group supports implementation and evaluation of interventions aimed at protecting the health of mothers and infants during pregnancy, delivery, infancy, and early childhood. Established in 2007 to promote collaboration across NCHHSTP divisions implementing interventions during pregnancy, the Global Perinatal Integration Workgroup was broadened to engage membership from other CDC programs working in global maternal and newborn child health. The workgroup seeks to advance the science and delivery of comprehensive and appropriately integrated maternal and newborn child health services globally.

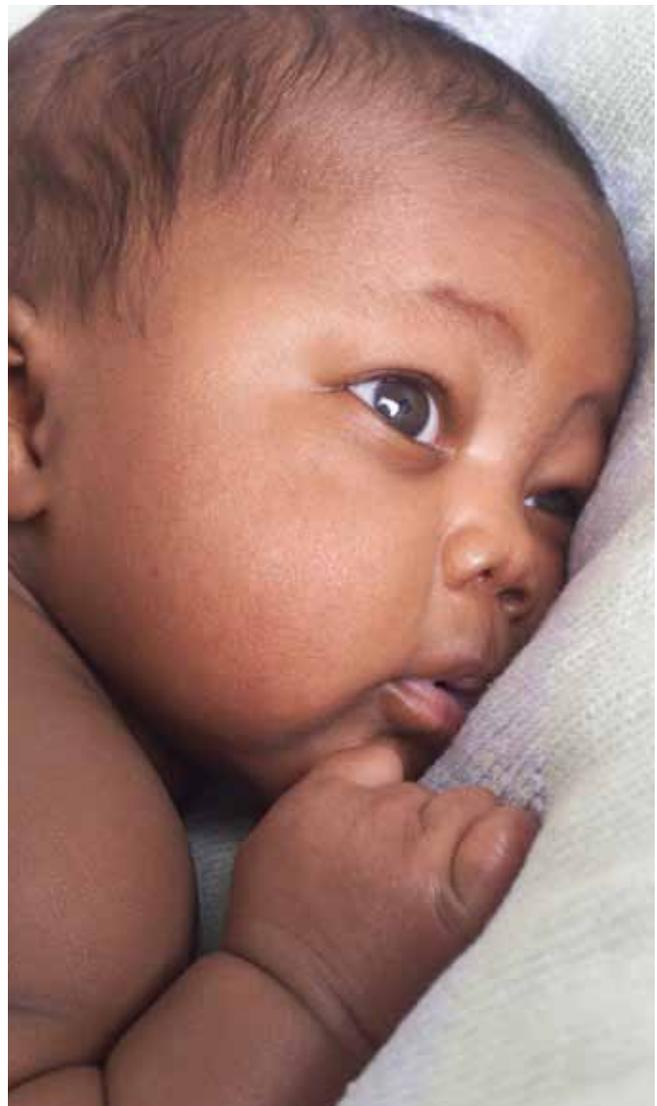
The workgroup's priority activity for 2010 was to promote implementation science around integrated maternal and newborn child health activities by conducting evidence-based evaluations to assess the challenges and effectiveness of integrating maternal and newborn child health interventions in developing countries.

### International Activities: Global STD Control and Prevention

NCHHSTP scientists in the Division of STD Prevention continue to collaborate with other nations, the World Health Organization (WHO), and other international partners to prevent STDs globally through: conducting clinical, laboratory, and programmatic research in support of priority areas such as the global elimination of congenital syphilis and new STD surveillance; supporting rolling out HPV vaccine in low-income, high burden nations;

and promoting laboratory technologies of emerging concern, such as global surveillance of highly resistant strains of *Neisseria gonorrhoea*.

As part of its long-term collaboration with the WHO Department of Reproductive Health Research, NCHHSTP technical experts supported the development of an *Investment Case for the Global Elimination of Congenital Syphilis*. This 2010 document promoting congenital syphilis screening and treatment in the context of better maternal and child health and stronger health systems outlines the global burden of congenital syphilis, including prevalence of untreated maternal infections, and estimates adverse pregnancy outcomes worldwide. Division of STD Prevention scientists also continue to lead the development of the elimination initiative's global monitoring and evaluation activities. In 2010,



indicators measuring congenital syphilis program progress and impact were formally adopted by WHO's Regional Offices, paving the way for syphilis indicators to be integrated into existing health services monitoring systems.

NCHHSTP also continues to support WHO in strengthening regional surveillance by assessing the global spread of gonorrhea caused by cephalosporin-resistant strains, including development of standardized protocols in 2010. In addition, Division of STD Prevention laboratory scientists provide technical assistance to the Global AIDS Program to establish a network of regional and sub-regional reference laboratories equipped to provide STD laboratory training and reference functions required to enhance STD surveillance, program improvement, and monitoring and evaluation. During the past 5 years, CDC actively supported the successful implementation of the integrated sexual behavioral and biomarker surveillance studies in Honduras (2005), El Salvador (2008), and Nicaragua (2010). Additionally in 2009–2010, CDC conducted the assessment of STD laboratory capacity at Guatemala, Nicaragua, and Panama to decentralize the STD laboratory capacity in the regional and sub-regional levels.



## Reduction of Occupational TB in the Russian Federation

NCHHSTP's Division of Tuberculosis Elimination is a partner in an effort to help reduce TB transmission in Vladimir, Russia, (at the Vladimir Center of Excellence for Tuberculosis Infection Control at the Vladimir Oblast Tuberculosis Dispensary) as well as other areas of the country. The risk of TB among health care workers in the Russian Federation exceeds the risk in the general population more than twentyfold. Additionally, the Russian Federation has among the highest levels of multidrug-resistant TB (MDR TB) in the world. The occurrence of TB among health care personnel and prison guards in Vladimir, Russia, heightens anxiety about institutional transmission.

The program is a partnership with the Vladimir Oblast Administration, the Division of Tuberculosis Elimination, the U.S. Agency for International Development, Central Tuberculosis Research Institute, and WHO-Moscow. The Vladimir Center serves as an infection control training hub for Russia and other members of the Commonwealth of Independent States. The center is involved in teaching, monitoring, and implementing infection control measures which protect people in health facilities, homeless shelters, and prisons from nosocomial TB transmission.

Several infection control interventions have been implemented at the Vladimir Oblast Tuberculosis Dispensary. The Division of Tuberculosis Elimination conducted an infection control training course that included respirator fit testing. Following the course, the Russian Dispensary staff developed an infection control program for their new location that included measures such as improving the ventilation system, installing biosafety equipment, giving staff respirators, training staff in use of respirators, and separating patients by infectious status.

As a result of these Infection Control interventions, a remarkable reduction in occupationally acquired TB was achieved in the Oblast TB Dispensary (from 1,083 to 166 new cases per 100,000 during the first 5 years of the program, and no new cases of occupational TB were reported during 2008–2009).

## Global Hepatitis E Virus (HEV)

Leading experts from Asia, Europe, Africa, and North America gathered in Seoul, Korea, in September 2010 for the first International Symposium on Hepatitis E, which was organized by NCHHSTP's Division of Viral Hepatitis and the International Vaccine Institute in collaboration with WHO. The symposium offered participants the opportunity to share current data on hepatitis E epidemiology, disease burden, diagnostics, and vaccines. The overall objective of the symposium was to establish an international consortium to accelerate the development and implementation of HEV control and prevention measures through standardized approaches.

Outcomes of the symposium included publication of the symposium proceedings in a peer-reviewed supplement to a scientific journal and generation of a research agenda, including strategies for accelerated development and implementation of hepatitis E vaccines.

## International AIDS Conference, Vienna

NCHHSTP co-sponsored a satellite session at the International AIDS Conference 2010 in Vienna with the Public Health Agency of Canada. The session focused on "MSM and HIV/AIDS Prevention and Care: Challenges and Opportunities in High Resource/ Low Prevalence Countries." The session featured speakers from NCHHSTP, the Public Health Agency of Canada, the National Institute for Public Health and the Environment in the Netherlands, and Deutsche AIDS-HILFE in Germany. The presenters discussed challenges, successes, and strategies for HIV prevention among MSM. NCHHSTP researchers also gave a number of other presentations at the International AIDS Conference, including a presentation on NCHHSTP's analysis showing high rates of HIV infection among heterosexuals living in high-poverty, urban areas of the United States and preliminary results from an NCHHSTP clinical study that found no significant safety concerns regarding tenofovir taken daily for HIV prevention among gay and bisexual men.



## Goal 5: Partnerships

NCHHSTP engages partners to improve prevention of HIV/AIDS, viral hepatitis, STDs, and TB. NCHHSTP works with government and non-government partners at the community, state, national, and international levels. These partnership activities include funding prevention efforts, demonstration projects, capacity-building efforts, and surveillance activities in state, local, and territorial health departments, as well as community-based and national organizations. NCHHSTP coordinates its efforts with other federal agencies, including those within HHS.

### Supporting the National HIV/AIDS Strategy Through the Prevention and Public Health Fund

On July 13, 2010, President Obama released the new National HIV/AIDS Strategy. The strategy is an across-the-board approach that calls for a more coordinated national response to achieve three primary, concrete goals: (1) reduce new HIV infections, (2) increase access to care and optimize health outcomes for people with HIV/AIDS, and (3) reduce HIV-related health disparities.

Following the release of the strategy, NCHHSTP worked with colleagues across CDC, HHS, and the federal government to complete detailed departmental operational plans for implementing the strategy.

To support the strategy, CDC received an allocation of \$30 million from the Affordable Care Act's Prevention and Public Health Fund to expand HIV prevention efforts under the National HIV/AIDS Strategy. This includes \$21.6 million in grants to state and local health departments. The funding was to help to further focus HIV prevention on high-risk populations and communities, as well as fill critical gaps in data, knowledge, and understanding of the epidemic.

### Enhanced Comprehensive HIV Prevention

**Planning:** Cooperative agreements totaling \$11.6 million support demonstration projects to identify and implement a "combination approach" to enhance effective HIV prevention programming in 12 hard-hit areas across the country. These efforts will both supplement existing programs in these communities and help jurisdictions to better focus efforts on key at-risk populations and fulfill unmet needs.

The 12 jurisdictions funded in the first year for these efforts were Chicago, the District of Columbia, Florida, Georgia, Houston, Los Angeles, Maryland, New York City, Philadelphia, Puerto Rico, San Francisco, and Texas. The average award was approximately \$960,000.

**Increasing HIV testing:** \$4.4 million will allow CDC to further expand its successful HIV testing initiative, which was mentioned previously in this report.

**Filling critical data gaps:** \$5.6 million will enhance local area data collection to provide critical information to better monitor and target future HIV prevention and treatment programs. Specifically, the new funds allow areas to monitor disease indicators among HIV-infected populations to better understand access to care, prevention, and treatment services. Filling these data gaps is a step toward monitoring community HIV viral load—a surveillance technique using a biological marker for potential HIV transmission at the population level. Recent studies suggest that increased coverage with combination antiretroviral therapy could reduce HIV transmission at the population level through mediating viral load. CDC is exploring how community viral load could be monitored nationally.

The remainder of the funding supports additional activities for HIV prevention:

**Supporting evaluation for new activities:** \$6.6 million will support the evaluation and monitoring of combination prevention approaches and other activities. Funding will also establish a Web-based survey to quickly identify and respond to trends in risk behavior and exposure to HIV prevention services among MSM.

**Prioritizing underserved populations:** \$1 million will support work with tribal communities to improve HIV prevention and program integration for American Indians/Alaska Natives.

### Expanding the Reach of Viral Hepatitis Programs

The CDC Foundation is working with NCHHSTP to develop new private sector partnerships to enhance the center's programs. A new partnership initiated in FY 2010 through the Foundation is the Viral Hepatitis Action Coalition. The Viral Hepatitis Action Coalition, launched in January 2010, is comprised of private-sector organizations committed to supporting high priority research, education, and program evaluation projects initiated by the Division of Viral Hepatitis. In addition to providing funding for specific projects, Coalition members also will support CDC by sharing research data, connecting CDC to appropriate stakeholders and networks, and providing feedback on the information and tools needed in the field to respond to the recommendations outlined in the Institute of Medicine report. Initially organized with participation from four members, the Coalition now has the support of nine members.

### Expansion of Act Against AIDS Campaign Activities

The Act Against AIDS campaign, launched in FY 2009, is the first federally funded, national HIV prevention campaign in more than two decades. Act Against AIDS is a 5-year, multifaceted, national communication campaign intended to refocus national attention on the domestic HIV/AIDS epidemic and reduce HIV incidence in the United States. The campaign's first phase was *9½ Minutes*, which delivered the simple message to the general public that in the United States, every 9½ minutes, someone's brother, mother, sister, father, or neighbor is infected with HIV—the virus that causes AIDS. In the 18 months since Act Against AIDS was launched, the campaign has garnered more than 1.2 billion impressions through media placements, internet advertising, and donated billboard and out-of-home advertising. The *9½ Minutes* TV public service announcements had a total of more than 513 million impressions.

Two new campaign phases aimed at African Americans were implemented in FY 2010. One phase encourages African-American MSM to be tested for HIV on a regular basis. Another phase, *i know*, was aimed at African-American men and women aged 18 to 24. The *i know* campaign represented NCHHSTP's first HIV prevention campaign using social media to reach a specific population and was designed to encourage young African-American adults to talk openly and often about HIV, online and off. The *i know* phase featured Web videos of celebrities such as Jamie Foxx, radio PSAs, a Facebook fan page, live Twitter feeds, and other platforms intended to create an informative dialogue about HIV and what can be done to prevent it. At launch, *i know* garnered more than 45 million news media impressions.

In June 2010, NCHHSTP launched *HIV Screening. Standard Care*, a phase of the Act Against AIDS national communication campaign designed to help physicians make HIV testing a routine part of medical care. The program provides tools and resources to primary care providers for incorporating HIV testing into primary care settings, including an annotated physician's guide with CDC's testing recommendations, a patient brochure and poster explaining the need for HIV screening, and a new webpage where physicians can get more information.

In FY 2010, NCHHSTP expanded its successful Act Against AIDS Leadership Initiative (AALI)—a partnership of leading national organizations designed to increase HIV prevention efforts. NCHHSTP increased its funding from \$10 million to \$16 million over 6 years and broadened its scope to include eight additional organizations to help fight HIV among African Americans, Latinos, and gay and bisexual men—the populations hardest hit by HIV. When launched in 2009, the initiative brought together some of the nation's foremost African-American organizations to intensify HIV prevention efforts in black communities since African Americans are the racial group that bears the heaviest burden of HIV in the United States.

Within its first year, AALI partners coordinated nearly 1,400 outreach events, engaged nearly 400 affiliates across the United States in prevention activities, and reached millions more with HIV prevention messages

through conferences, advertisements, and media stories.

### Get Yourself Talking

NCHHSTP is also using new media in other communications efforts. Building on the success of the *GYT: Get Yourself Tested* campaign initiated in 2009, the Division of STD Prevention worked with its partners, Kaiser Family Foundation, MTV Networks, and Planned Parenthood Federation of America, to expand the campaign messages to include “Get Yourself Talking” in April 2010, STD Awareness Month. The enhanced campaign is a result of formative research and message testing with the target audience, a key contribution of Division of STD Prevention scientists to this critically important partnership. Using on-air, online, and traditional media strategies, the campaign reaches out to young people with an empowering, action-oriented message: *GYT: Get Yourself Tested. Get Yourself Talking*. This is the first national campaign aimed at encouraging youth to be tested for STDs as well as HIV.

In sentinel clinics in April 2009, the number of female clients tested for chlamydia and gonorrhea increased by 18%, while the number of male clients being tested increased by over 35% compared with April of the previous year. Additionally, 2009 data indicated the largest volume of chlamydia testing ever recorded by the national Infertility Prevention Project. The uptake in testing was additionally impressive because the positivity rate indicates that the campaign reached those needing to be tested for STDs.

The message encouraging youth to, “Get Yourself Tested and Get Yourself Talking,” is supported by a wide variety of tools available online and for download by clients or clinic staff. The campaign includes videos and print material describing how to discuss STD testing with a health care provider, and similar materials for talking with sex partners about STD testing. The campaign also provided web resources for finding STD testing locations ([www.findstdtest.org](http://www.findstdtest.org)); thus, providing a one-stop shop for information, resources, and helpful tips for taking action. Additionally, the campaign provided online, customizable promotional materials to use with local populations. A major effort to increase the reach

to colleges and Indian reservations appears to have been successful, with data still being analyzed.

### Collegiate Contest

During STD Awareness Month, the Division of STD Prevention executed and produced a collegiate campaign, “*Get Tested. Make it Contagious*,” that employed new and traditional media approaches to reach 18–25 year-olds on their campuses and in the surrounding communities and encourage them to get tested for STDs. Three historically black schools in Atlanta launched the campaign: Clark Atlanta University, Morehouse College, and Spelman College. The campaign centered around a free STD testing day hosted by the school's student health center. The campaign included flyers, palm cards, banners, Facebook advertisements, and a YouTube video.

As a result of the campaign, more than 200 students were tested across the three campuses, with each school reporting significant increases over their average daily number of STD tests. The evaluation demonstrated that communicating through multiple channels, incorporating both new media and traditional outreach methods, may be effective for reaching college students.

### Twitter Town Hall on HIV Testing Day

National HIV Testing Day is an annual observance intended to help normalize and routinize HIV testing as part of an overall HIV prevention strategy. Activities for the National HIV Testing Day are led by the National Association of People with AIDS (NAPWA). For National HIV Testing Day 2010, CDC, CDC's National Prevention Information Network, NAPWA, and AIDS.gov decided to take a look at 2.0 technologies that have redefined the landscape for information connections and partnership building. Together, they began a new venture in technology: a Twitter Town Hall.

The Twitter Town Hall was held on June 3, 2010. The event brought CDC leaders and staff, federal and national partners, state and local health departments, community-based organizations, individuals, and media together in a fast-paced and lively conversation whose impact is still being realized.

There were approximately 1,000 tweets during the Town Hall from 145 separate Twitter accounts. The potential reach of the Town Hall was estimated at 243,000 (representing the total number of followers for the 145 Town Hall participants). People tweeted about National HIV Testing Day plans and promotions, facts and figures, and shared ideas for collaboration. The success of this event showed the power of new technology to bring together diverse and varied participants with the same goal—to end HIV—along with the opportunity for community-building and collaboration in a virtual environment.

### **HIV Prevention Projects for Community-based Organizations**

Between July and August 2010, NCHHSTP's Division of HIV/AIDS Prevention made awards to 133 community-based organizations (CBOs) under PS 10-1003, "HIV Prevention Projects for Community-Based Organizations." The Division's new, 5-year iteration of its flagship program for directly funded CBOs provides HIV prevention services to communities disproportionately affected by the HIV epidemic (particularly racial/ethnic minorities and high-risk groups such as MSM).

The program aims to

- Support the development and implementation of effective community-based HIV prevention programs that reflect local prevention priorities and serve persons at high risk for acquiring or transmitting HIV;
- Promote collaboration and coordination of HIV prevention efforts among CBOs, health departments, and private agencies; and
- Build the capacity of NCHHSTP-funded CBOs delivering selected behavioral interventions and/or HIV counseling, testing, and referral (CTR) services to persons at high risk for acquiring or transmitting HIV.

The new CBO program improves upon the previous CBO-based program by incorporating critical lessons learned. Under the new program CBOs must better match planned services to their organizational capacity by limiting the number of evidence-based interventions and strategies they provide. They must also create and maintain referral tracking systems and dedicate trained staff to collect, manage, analyze, and report the data. Finally, funded organizations are required to develop plans to incorporate STD, viral hepatitis, and TB screening and prevention services into their proposed HIV prevention activities.



## Institute of Medicine Review of Viral Hepatitis and HHS Interagency Working Group

In January 2010, the Institute of Medicine (IOM) issued a report that assessed the effectiveness of current prevention and surveillance strategies and recommended priorities to guide surveillance, research, and program development.

In its report titled, *Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C*, the IOM identified multiple barriers to hepatitis prevention and care in the United States. Viral hepatitis is a leading cause of liver cancer and other liver diseases and the most common reason for liver transplants in the United States. Yet, there is lack of awareness about this serious public health challenge, not only among the general public, but among health care and social service providers, at-risk populations, and policy makers. As a result, most of the estimated 4.5 million Americans infected

with hepatitis B and hepatitis C are unaware of their infection and not receiving the care they need. The IOM panel concluded that this overall lack of awareness has resulted in inadequate public resources to measure, prevent, and control hepatitis.

In response to the IOM report, HHS convened an interagency working group to attack the problem of viral hepatitis with a strong, unified approach. The working group has been tasked with identifying the highest priorities for addressing the viral hepatitis epidemic in this country as well as the disease and death that it causes. To that end, the workgroup has assembled expert panels to develop an HHS Action Plan on Viral Hepatitis. CDC and other departmental staff are actively engaged in developing the plan. The planning process has been inclusive, incorporating feedback from HHS subject matter experts, as well as input solicited from other government agencies and non-governmental organizations.



## Goal 6: Workforce Development and Capacity Building

In 2010, NCHHSTP's workforce development activities included ongoing and new training and career development programs. Ongoing programs include the Branch Chiefs' Opportunities for Leadership Development (BOLD) initiative and the NCHHSTP Summer Fellows Forum. Both are led by the center's deputy director. Some newly implemented activities include NCHHSTP's Career Development Program and the Division of STD Prevention Pilot Mentoring Project. Additionally, programs were implemented to address goal 6 of NCHHSTP's Strategic Plan, which focuses on attracting and maintaining NCHHSTP's diverse workforce.

The BOLD initiative provides opportunities for the Center's branch chiefs to strengthen executive leadership skills and increase their effectiveness in managing NCHHSTP personnel and programs. Activities include monthly leadership meetings, branch chiefs' quarterly leadership training on the Office of Personnel Management's Executive Core Qualifications, and supplemental CDC trainings.

The NCHHSTP Summer Fellows Forum is an 8-week program that provides summer fellows participating in racial and ethnic minority training programs with knowledge and skills in conducting public health prevention, intervention, surveillance, or epidemiologic research in HIV/AIDS, viral hepatitis, STDs, and TB. The ultimate goal is to provide a pipeline for future public health workers who are interested in returning to work at CDC. <http://nchhstp.cdc.gov/Fellows/Interns-Fellows.shtml>. Twenty-four fellows participated in the 2010 summer session.

NCHHSTP's Career Development Program was developed in the Office of the Director (OD) for persons at the GS-13 and GS-14 level or U.S. Public Health Service Commission Corps Officers to serve on a 6-month detail rotation to provide opportunities to work in a variety of positions in NCHHSTP OD offices—Office of Health Equity, Office of the Associate Director for Science, Office of the Associate Director for Laboratory Science, Office of the Management Officer, Office of

Health Communication Science, and the Office of Program Planning and Policy Coordination. The goal of the career development program is to develop and enhance skills in leadership, program/project coordination and management, budget administration, and quality assurance for future NCHHSTP leaders.

The Division of STD Prevention Pilot Mentoring Project was designed to provide employees with mentoring on developing leadership or technical skills based on employee self-identified developmental needs. The project allows all employees regardless of organizational level or position within the Division, the opportunity to participate, and provide protégés with an avenue to proactively develop their career. The project may be expanded to other divisions in the near future.

In line with goal 6 of NCHHSTP's Strategic Plan, one major workforce development activity was the creation of two advisory groups to provide advice to the NCHHSTP Director and Deputy Director concerning strategies, goals, and best and promising practices for workforce development, succession planning, and work life programs. The first group, Workforce Development Champions Work Group, includes representatives from each division within NCHHSTP, and meets monthly to discuss current and new strategies to enhance workforce development activities. The other advisory group—the Excellence in Workforce Development, Capacity Building and Succession Planning Advisory Group—meets quarterly and includes senior leaders from HHS Atlanta Human Resources Center, and CDC's Human Capital Management Office, and Offices of Diversity Management and Equal Employment Opportunity; and Safety, Health, and Environment.

In an effort to attract a more diverse workforce, linkages were established with external stakeholders from Historically Black Colleges and Universities, National Association of County and City Health Officers, Association of State and Territorial Health Officers, and the Council of State and Territorial Epidemiologists. Additionally, NCHHSTP appointed staff to serve in CDC's Recruiter Cadre to recruit underrepresented minorities to intern and work in NCHHSTP. Also in 2010, NCHHSTP actively participated with CDC's Diversity Council and the

Equal Employment Opportunity Advisory Council (EEOAC) monthly.

NCHHSTP is also committed to mentoring young scientists who are interested in epidemiologic and prevention research. The extramural Minority HIV/AIDS Research Initiative (MARI), initiated in 2002, creates partnerships between NCHHSTP epidemiologists and researchers who are members of minority races and ethnicities and who work in communities of color. MARI funds epidemiologic and prevention studies of HIV in communities of color and encourages the career development of young investigators.

To date, MARI has supported 19 junior researchers who are conducting HIV prevention research in highly-affected minority communities. Their research has included studies focusing on housing challenges and HIV care access for HIV-infected persons; resiliency factors among gay, black men

at high risk of HIV infection; feasibility of HIV testing and referrals in pharmacies that provide clean needles for injection drug users; barriers and facilitators for HIV testing among pregnant Latinas; and exploring youth and family communications that promote improved sexual health. MARI research findings have been presented at national and international scientific meetings, shared with community partners, and published in peer-reviewed journals. The MARI network of investigators continues to expand and result in successful cross-collaborations for HIV prevention research in minority communities.

NCHHSTP also has had a number of Epidemic Intelligence Service (EIS) officers. Six officers joined the center in FY 2010. The EIS is the country's critical epidemiology training service, working to combat the causes of major epidemics.



# A Year in Review: Scientific Findings

Research is an important part of CDC's comprehensive approach to prevention, and excellence in science is a strategic priority. This priority mandates that we practice evidence-based science grounded in sound, peer-reviewed research, and that we ensure a strong science base for public health action.

NCHHSTP conducts extensive biomedical and behavioral research to better understand the complex factors that lead to epidemics, to evaluate methods of testing and treatment, and to examine strategies to eliminate health disparities. All extramural and intramural research activities conducted or supported by NCHHSTP are subject to external peer review, ensuring rigor and quality and that research funds support the most meritorious research ideas and projects. External peer review improves our science by providing expert feedback on quality, productivity, science, and direction.

Three advisory boards regularly provide peer review of NCHHSTP programs: the Advisory Council for the Elimination of Tuberculosis, which advises on the center's TB prevention and control programs; the CDC/HRSA HIV/AIDS Advisory Committee on HIV and STD Prevention and Treatment, which reviews HIV, STD, and viral hepatitis programs; and the Office of Infectious Diseases (OID) Board of Scientific Counselors, which focuses on all OID programs, including those of NCHHSTP.

Research findings are published in peer-reviewed journals. NCHHSTP staff published, or have in-press, a number of journal articles, book chapters, books, guidelines, and other publications. Included below are some highlights from FY 2010.

## HIV Studies and Research

### U.S. Extended Pre-Exposure Prophylaxis Safety Trial

#### Among Men Who Have Sex with Men

The approach of taking a daily antiretroviral drug to try to prevent HIV infection is known as pre-exposure prophylaxis, or PrEP, and studies around the world are currently underway to determine if it is effective in reducing HIV infection among persons at high risk, including MSM, injection drug users, and heterosexual men and women. Preliminary findings from the first CDC PrEP study to examine the clinical and behavioral safety of tenofovir taken daily for HIV prevention among MSM suggest no significant safety concerns in this population.

The study was conducted by NCHHSTP's Division of HIV/AIDS Prevention in collaboration with the San Francisco Department of Health, the AIDS Research Consortium of Atlanta, and Fenway Community Health in Boston. The trial examined whether a 300 mg tablet of tenofovir disoproxil fumarate taken daily was safe among 400 HIV-negative MSM in San Francisco, Atlanta, and Boston. Study results were presented at the International AIDS Conference in Vienna, Austria, in July 2010. This safety study suggests that the strategy may be well tolerated in MSM, should it prove effective.

In November, the National Institutes of Health (NIH) announced results of another PrEP trial—the international iPrEx trial examining whether drugs used to treat HIV can also help prevent HIV infection. Trial findings showed that a once-daily pill containing tenofovir plus emtricitabine was safe and provided an average of 44% (95% Confidence Interval [CI]; 15%–63%) additional protection against HIV infection to MSM and transgendered women who have sex with men, who also received a comprehensive package of prevention services. These services included use of condoms, monthly HIV testing, counseling, and management of other sexually transmitted infections.

## Investigation of Increased Diagnoses of HIV Infection

### Among Young Black Men Who Have Sex with Men in Milwaukee

An NCHHSTP investigation of a 144% increase in HIV diagnoses among young black MSM in Milwaukee found this likely reflected increased HIV transmission among young black MSM, rather than intensified HIV testing. The findings were published in the July 2010 *Morbidity and Mortality Weekly Report*.

This investigation found that increases in HIV diagnoses in Milwaukee preceded the implementation of intensified HIV testing, so intensified testing could not explain the increase. The investigation also found that increases in primary and secondary syphilis diagnoses preceded the increases in HIV diagnoses among young black MSM, suggesting that changes in risk behaviors or sexual networks among this group may have facilitated the spread of HIV.

Young, HIV-infected MSM in Milwaukee County who were diagnosed from January 2006–June 2009 were interviewed to identify socioenvironmental factors that might contribute to HIV transmission. Low perceived community acceptance of MSM, internalized homophobia, sex with older men, same-race sexual partnerships, and socioeconomic instability were common among men interviewed. The investigation also revealed that black MSM were three times more likely than MSM from other racial/ethnic groups to report that their families' reactions to their sexual orientation affected their living arrangements. These findings suggest that black MSM may encounter greater stigma against same-sex behaviors than other MSM.

Stigma, unstable housing, and socioeconomic instability may foster high-risk sexual behaviors that enhance exposure to HIV. Young age at HIV diagnosis with concurrent AIDS diagnosis suggests that some black MSM may have contracted HIV close to the time of their first homosexual encounter, underscoring the need for early interventions for HIV-infected MSM and young MSM at risk for HIV.

As a result of this investigation, the City of Milwaukee Health Department, in collaboration with community partners, is developing a comprehensive, peer-focused action plan to reduce ongoing HIV transmission by combating homophobia, promoting education that affirms the sexuality of MSM, and integrating HIV and syphilis prevention efforts. NCHHSTP encourages examinations of SDH to prevent HIV transmission among vulnerable populations.

### Study Shows That Heterosexual Women in the Southeast May Be at Increased Risk for HIV Infection

The behavioral risk factors for HIV infection were assessed among African-American women in rural counties in Alabama and North Carolina and among Latinas in Florida.

Researchers recruited 1,527 sexually active women without known HIV infection using multiple sampling methods. Participants completed a computer-administered questionnaire and were tested for HIV infection. A subset of participants also completed a qualitative, semi-structured interview.

Overall, 26% of the participants (24% in North Carolina, 22% in Alabama, and 31% in Florida) reported that they had engaged in unprotected anal intercourse in the past 12 months. Correlates



of this behavior included being unemployed, having engaged in exchange sex, having engaged in unprotected vaginal intercourse, binge drinking, and ever being pregnant. Only two women tested HIV-positive in the study suggesting that most of the women's sexual partners were not infected with HIV.

These findings indicate that the potential for HIV infection is very high among women in the Southeast if HIV-positive men enter the women's sexual networks. The findings will inform the design of behavioral interventions for heterosexual women of color.

## **Viral Hepatitis Studies and Research**

### **Mass-spectrophotometric Analysis of Full Length Genomes of Hepatitis B Virus**

Genotyping hepatitis B virus is critical to the tracking of hepatitis B infections and for predicting both the risk of progression of chronic hepatitis B and outcomes of antiviral therapy. However, current methods for genotyping hepatitis B virus are laborious and costly.

Laboratorians in the Division of Viral Hepatitis have developed and evaluated an automated approach based on matrix-assisted, laser desorption ionization-time-of-flight mass spectrometry that should provide accurate and rapid HBV genotyping. More widespread adoption of this technique may help to reduce the cost of public health HBV surveillance and may help improve the clinical management of persons with chronic HBV infection. The technique may decrease the length of time required to report the genotype to health care providers so that patients can receive earlier treatment.

The Division has established collaborations with clinical centers of excellence in the management of chronic hepatitis B patients to study the application of this new methodology for routine patient care.

### **Evaluation of the Performance Characteristics of Serological Assays to Diagnose Acute Hepatitis**

In the United States, infection with hepatitis E virus (HEV) appears common, although clinical disease caused by it seems rare. Underdiagnosis of hepatitis E may contribute to the low numbers of clinical cases. A number of commercial serological assays for detecting immunoglobulin M antibodies to hepatitis E virus have become available but their performance characteristics have not been fully evaluated.

Division of Viral Hepatitis laboratorians undertook and completed such an evaluation. The evaluation identified assays with the best sensitivity and specificity characteristics and provided information so that diagnostic and public health laboratories can select the best-performing assays that will assist further epidemiologic study of incident HEV infection.

### **Treatment of Hepatitis C Virus Infection in Patients Coinfected with HIV**

Liver disease due to HCV infection is a leading cause of non-AIDS-related morbidity and mortality in HIV-infected patients; however, many studies show that only a small proportion of eligible patients are offered treatment for HIV coinfection and the predictors of receiving treatment are not fully understood. In a recent study, the frequency of, and predictors for, initiation of treatment for HCV infection among HCV/HIV-coinfected patients enrolled in the HIV Outpatient Study (HOPS) during 1999–2007 were assessed.

The results showed low levels of treatment for HCV infection among the cohort, although some variation was found by race/ethnicity and clinical characteristic among persons initiating treatment. For patients starting observation in 1999–2001, 2002–2004 and 2005–2007, 5%, 11% and 21% of patients initiated treatment during the first year of follow-up, respectively. Of 22 patients in the cohort who had hepatic-related deaths, only 7 (32%) received anti-HCV treatment. The study points to the importance of treating HCV infection in HCV/HIV-coinfected patients, given the increased risk of accelerated end-stage liver disease.

## Hepatocellular Carcinoma Increasing in United States

Liver cancer, primarily hepatocellular carcinoma (HCC), is the third leading cause of death from cancer worldwide and the ninth leading cause of cancer deaths in the United States. Chronic HBV and HCV infections account for an estimated 78% of global HCC cases. To determine trends in HCC incidence in the United States, Division of Viral Hepatitis researchers analyzed data for the period 2001–2006 from CDC's National Program of Cancer Registries and the National Cancer Institute's Surveillance, Epidemiology, and End Results surveillance system.

The analysis showed that the average annual incidence rate of HCC during 2001–2006 was 3.0 per 100,000 persons and increased significantly from 2.7 per 100,000 persons in 2001 to 3.2 in 2006. The average annual percentage change (APC) in incidence rate was 3.5%. The largest increases in HCC incidence rates were among whites (APC=3.8), blacks (APC=4.8), and persons aged 50–59 years (APC=9.1), revealing a continuation of long-term increases in HCC incidence and HCC racial/ethnic disparities.



## Hepatitis C Testing Practices and Prevalence in a High-risk, Urban Ambulatory Care Setting

Approximately 3.2 million persons are chronically infected with HCV in the United States; most are not aware of their infection. A team led by investigators from Boston University, Montefiore Medical Center, and NCHHSTP examined HCV testing practices in an urban ambulatory care clinic to determine which patient characteristics were associated with HCV testing and positivity and to estimate the prevalence of HCV infection in a high-risk urban population.

The study subjects were patients included in the baseline phase of the Hepatitis C Assessment and Testing Project, a serial cross sectional study of HCV screening strategies among patients with a clinic visit to Montefiore Medical Center in early 2008. Demographic information, laboratory data, and ICD-9 diagnostic codes for visits in the previous 5 years were extracted from the electronic medical record. Risk factors for HCV were defined based on birth date, ICD-9 codes, and laboratory data.

The prevalence of HCV infection was estimated assuming that untested subjects would test positive at the same rate as tested subjects, based on risk factors. Of 9,579 subjects examined, 3,803 (39.7%) had been tested for HCV and 438 (11.5%) were positive. The overall prevalence of HCV infection was estimated to be 7.7%. Risk factors associated with being tested and with anti-HCV positivity included being born in the birth cohort (1945–64) associated with highest prevalence of HCV, substance abuse, HIV infection, alcohol abuse, diagnosis of cirrhosis, end-stage renal disease, and alanine transaminase elevation. In this high-risk, urban population, a sizable minority of patients was tested for HCV and the prevalence of HCV infection was high. Physicians appeared to employ a risk and clinically based screening strategy to identify HCV infection.

Based on these findings, the authors proposed that HCV screening recommendations for populations such as the one under study (a high-risk, urban population) be expanded to include those born from 1945 through 1964. People born between 1945 and 1964 have a higher risk of HCV infection than those born other periods.

## STD Research and Studies

### Dual Treponemal/Non-Treponemal Point of Care Tests

Division of STD Prevention researchers have been involved in the development of a rapid immunofiltration (flow-through) test for the simultaneous detection of treponemal and non-treponemal antibodies in the serum of patients with syphilis. The assay is rapid, inexpensive, and requires limited expertise in interpreting the results. A positive test is characterized by the appearance of three red/magenta spots within 2–10 minutes.

Division of STD Prevention researchers examined 376 banked serum samples from the Georgia Public Health Laboratory using three tests—the flow-through test, the rapid plasma reagin (RPR) test, and the *Treponema pallidum* passive particle agglutination assay. The test results indicated that the dual treponemal and non-treponemal assay could be used as a screen and confirmatory test for the serological diagnosis of syphilis in remote or resource-poor settings where there is a need to provide counseling and treatment at the initial consultation. The study was published in *Sexually Transmitted Infections*, 2010.

### Internet Partner Notification for Syphilis

The Internet has become a common venue for meeting sex partners and planning participation in risky sexual behavior. The Division of STD Prevention, with colleagues at Washington, D.C.'s Department of Health, evaluated the D.C. Department of Health's Internet-based Partner Notification (IPN) program for early syphilis infections.

Records were analyzed from all early syphilis investigations initiated during January 2007–June 2008. Internet partners were defined as sex partners for whom syphilis exposure notification was initiated by e-mail because no other locating information existed. From the 361 early syphilis patients found in the study, a total of 888 sex partners were investigated, of which 381 (43%) were via IPN.

IPN led to an 8% increase in the overall number of syphilis patients with at least one treated sex partner, 26% more sex partners being medically examined

and treated if necessary, and 83% more sex partners notified of their STD exposure. The study was published in *Sexually Transmitted Diseases*, 2010.

### New Statistical Method for Evaluation of NAAT Testing for Chlamydia

In collaboration with scientific colleagues, the Division of STD Prevention has developed a new statistical model called the multiple latent variable model, which can be used to estimate test performance parameters in the absence of a gold-standard test. The model was applied to evaluate the sensitivity and specificity of nucleic acid amplification tests for detecting *Chlamydia trachomatis* and the manuscript describing this work was deemed the 2010 best statistical paper (theoretical category) written by a CDC statistician in the CDC/ATSDR Statistical Science Awards Program. The study was published in *Statistics in Medicine* (2009;28[3]:441–61).

## Tuberculosis Studies and Research

### Improving Diagnosis of Tuberculosis in HIV-Infected Persons

TB is the most common cause of death in people with HIV. Routine TB screening for those infected with HIV is recommended, but diagnosing TB in people with HIV is difficult and evidence is lacking about how best to do the screening.

With funding from the United States Agency for International Development and support from the President's Emergency Plan for AIDS Relief, the Division of Tuberculosis Elimination enrolled 2,000 people with HIV from 8 clinics in Cambodia, Thailand, and Vietnam in a study designed to determine how best to screen for, and diagnose TB in, people with HIV. The study sought to identify a highly sensitive approach to TB screening in people with HIV that could be used in resource-limited settings and to determine what combination of diagnostic tests would be most useful to diagnose TB.

The study found that asking patients only about the presence of a cough for at least 2 weeks, which is the internationally recommended approach, failed to detect over two-thirds of patients with TB, placing them at increased risk for death. However, the

percentage of missed TB diagnoses dropped to less than 10% if health care workers asked about three specific symptoms (cough or fever of any duration and night sweats for at least 3 weeks). Patients who reported none of the three symptoms did not require additional testing and could be started safely on HIV treatment and TB prevention medication. Study results were published in the *New England Journal of Medicine* in February 2010.

In addition, WHO and the Division of Tuberculosis Elimination conducted a meta-analysis of TB screening studies, including this study and studies from other parts of the world. The results confirmed the study findings. WHO convened a meeting in January 2010 to update guidelines for TB screening and prevention in people with HIV and eliminated screening based solely on chronic cough, replacing it with screening based on a combination of symptoms, similar to those noted above.

### **Improving TB Prevention for HIV-infected Persons in TB-endemic Countries**

A study by NCHHSTP's Division of Tuberculosis Elimination suggests that a simple change in the drug regimen used to prevent active TB disease among HIV-positive people who test positive for latent TB infection can greatly reduce TB-related illness.

HIV-infected persons who have also been infected with tuberculosis have a very high risk of progressing to TB disease. WHO recommends that HIV-infected persons receive 6 months of isoniazid preventive therapy in order to reduce their risk of TB disease. However there has been a longstanding concern that 6 months of preventive therapy may be insufficient in TB-endemic countries because of the high risk of reinfection with TB.

NCHHSTP's Division of Tuberculosis Elimination recently concluded a large clinical trial in which preventive therapy was provided for 3 years to see if TB was better prevented among 2,000 HIV-infected adults. The study found continuing isoniazid preventive therapy reduced the risk of TB by half, compared to the 6-month therapy. Among participants who were tuberculin skin test-positive and received continuous preventive therapy, there was a 92% reduction in TB.

These findings resulted in substantial changes to the WHO's 2010 revision of the WHO isoniazid preventive therapy recommendations. If these new recommendations are adopted by member nations, over 30 million HIV-infected persons living in TB-endemic countries stand to benefit. Botswana's Ministry of Health is currently reviewing its isoniazid preventive therapy policy as a result of the trial it conducted in collaboration with CDC.



## NCHHSTP Budget

Funding for most NCHHSTP programs has remained roughly level over the past 5 years. The HIV program, however, has increased since 2006. (See figure 1.)

Of NCHHSTP’s \$1 billion domestic budget, the majority of funds, 71%, goes to domestic HIV prevention programs, with the rest distributed to TB, STD and viral hepatitis prevention programs. (See figure 2.) The majority of the overall domestic budget funds, about 84%, was distributed extramurally to state and local health departments, nongovernmental agencies, universities and other partners. (See figure 3.)

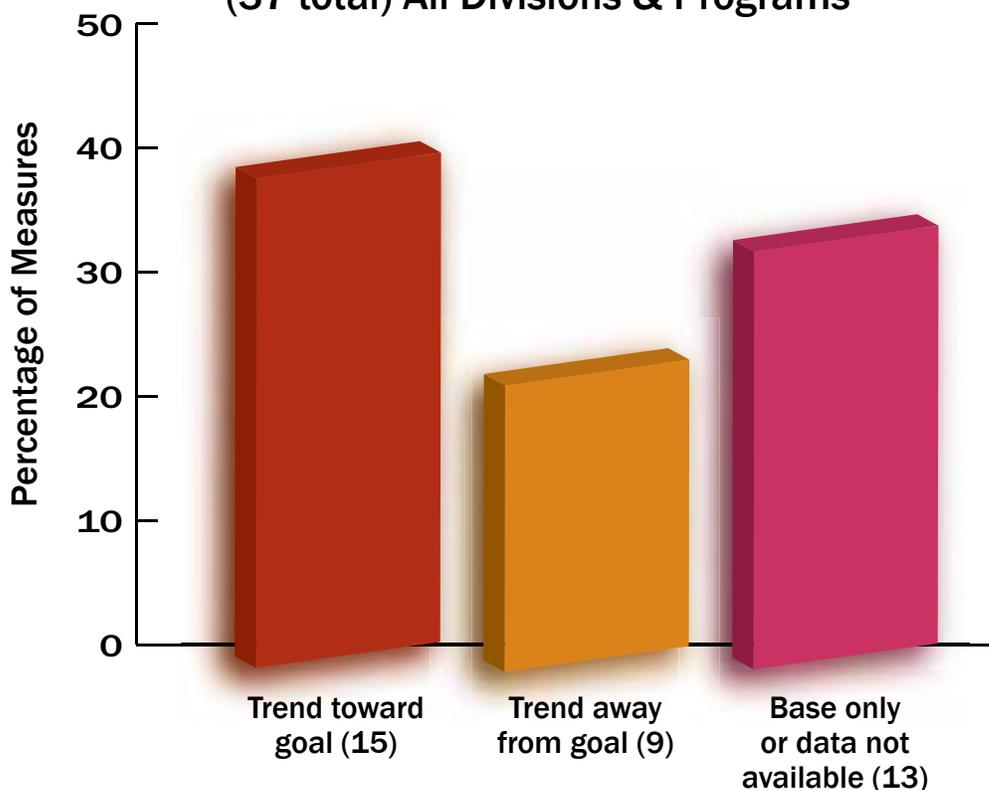
NCHHSTP receives funding from the HIV, STD, TB, and viral hepatitis account in the Labor-HHS appropriation to support its programs. Other critical sources of support in FY 2010 included the budget activities for Emerging Infections (\$8.8 million) and Food Safety (for hepatitis A) (nearly \$700,000). NCHHSTP also received \$30 million from the Affordable Care Act’s Prevention and Public

Health Fund in FY 2010 for activities to help carry out the President’s National HIV/AIDS Strategy. And NCHHSTP received \$3.4 million through the HHS Minority AIDS Initiative.

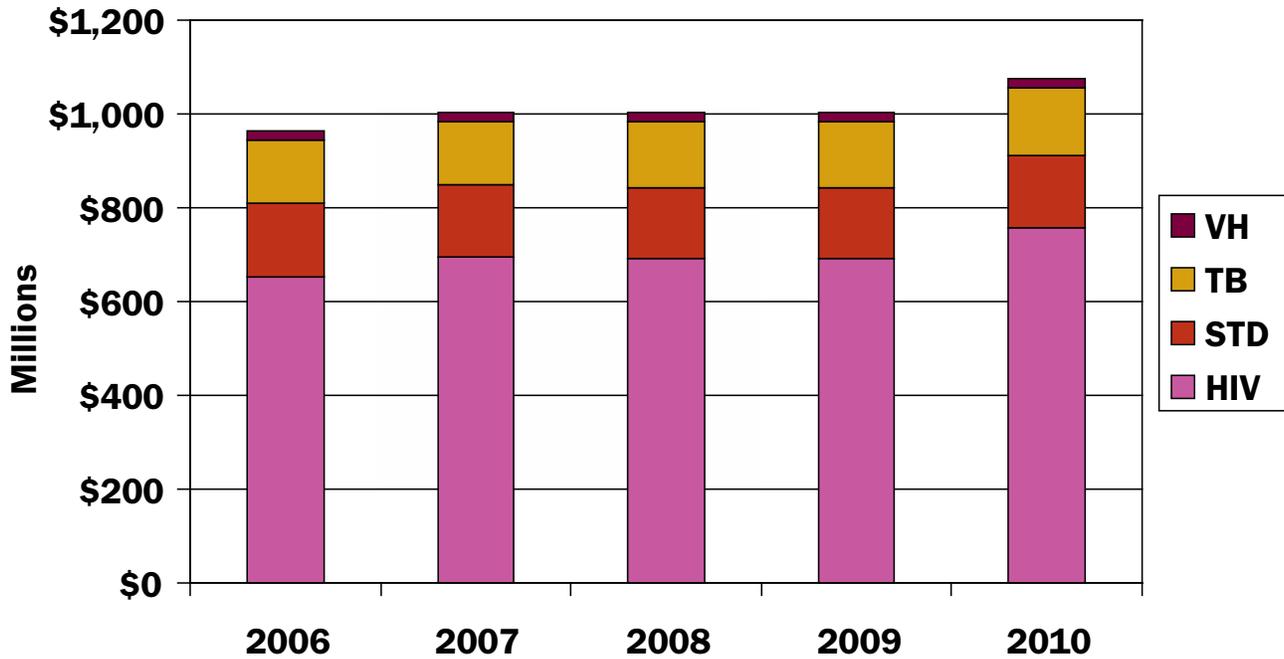
### Performance Indicators

NCHHSTP’s portfolio has been reviewed by the Office of Management and Budget (OMB) and found to be performing effectively. Results are available at [www.expectmore.gov](http://www.expectmore.gov). In collaboration with OMB, NCHHSTP has established 37 performance measures to assess to extent to which our efforts in HIV/AIDS, viral hepatitis, STD, and TB prevention result in real changes in health outcomes. These indicators reveal that progress is being made; data on 41% of the indicators have improved since 2002. NCHHSTP is working to improve the outcomes in those areas where progress has not been made and to establish data systems to assess performance in other areas.

**FY 2010 NCHHSTP Performance Indicators  
(37 total) All Divisions & Programs**

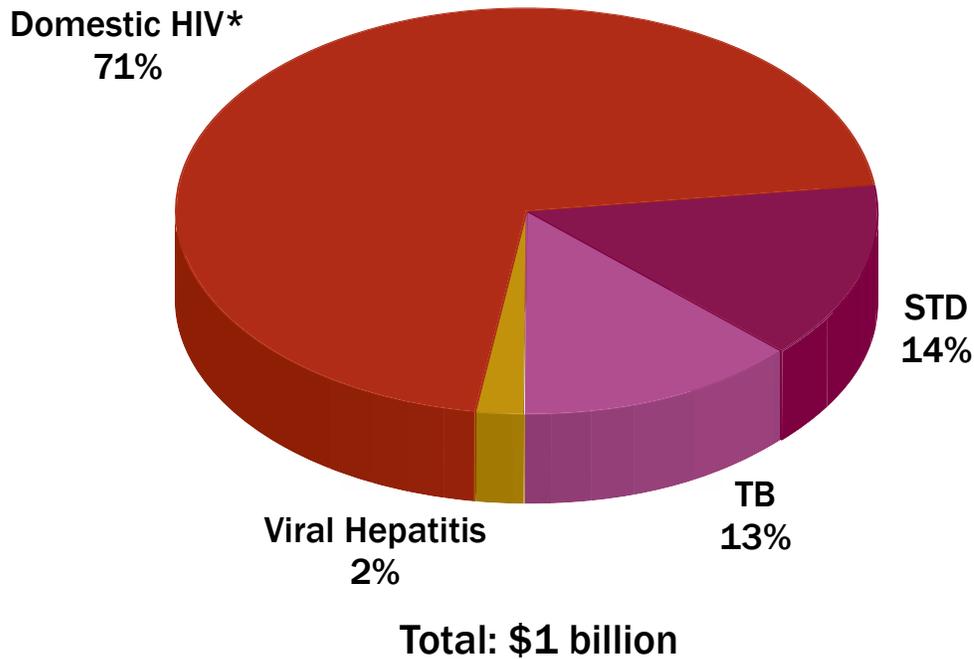


**Figure 1: NCHHSTP Domestic Program Budget  
FY 2006-2010\***



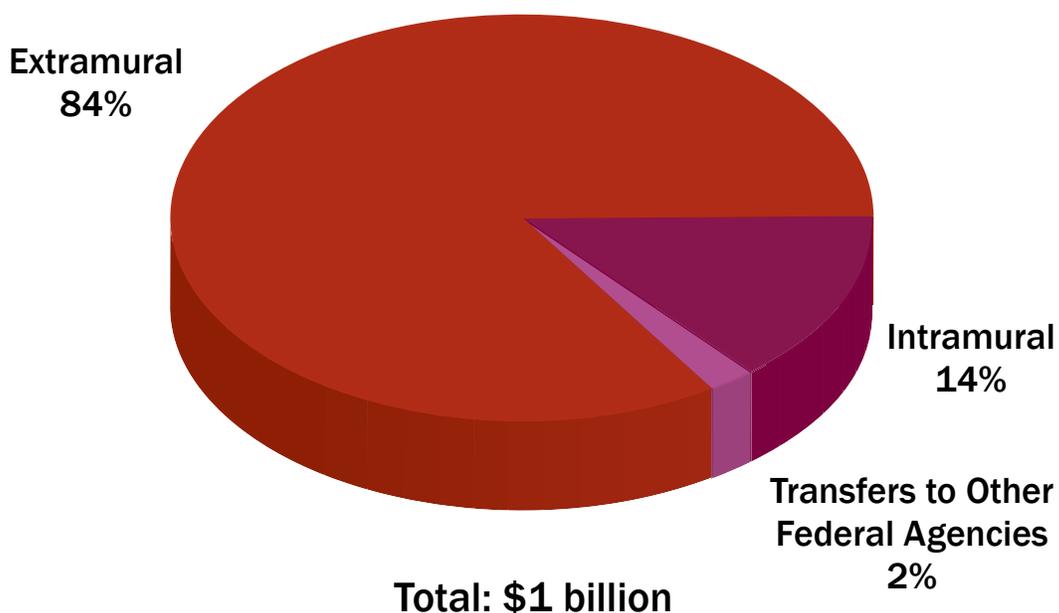
\*FY 2010 HIV budget amount includes \$30 million from the Affordable Care Act's Prevention and Public Health Fund.

**Figure 2: Domestic HIV, Viral Hepatitis, STD, and TB Prevention Actual Funding, FY 2010**



\*FY 2010 HIV budget amount includes \$30 million from the Affordable Care Act's Prevention and Public Health Fund.

**Figure 3: Domestic HIV, Viral Hepatitis, STD, and TB Prevention Extramural and Intramural Obligations, FY 2010\***



\*Excludes Gift Fund, CRADA, Royalties and Reimbursable Funding; includes Affordable Care Act Prevention and Public Health Funds



# APPENDIX

## PERFORMANCE MEASURES FOR HIV/AIDS, VIRAL HEPATITIS, STD, AND TB PREVENTION

### Domestic HIV/AIDS Prevention

<b>GOAL 1: DECREASE THE ANNUAL HIV INCIDENCE RATE</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Decrease the annual HIV incidence.</b>	<b>56,300 (2006)</b>	<b>Not Available</b>
<b>2. Decrease the number of pediatric AIDS cases.</b>	<b>118</b>	<b>41 (2008)</b>
<b>3. Reduce the black:white rate ratio of HIV/AIDS diagnoses.*</b>	<b>10.33:1</b>	<b>9.2:1 (2008)</b>
<b>4. Reduce the Hispanic:white rate ratio of HIV/AIDS diagnoses.*</b>	<b>4.1:1</b>	<b>3.49:1 (2008)</b>
<b>5. Increase the number of states with mature, name-based HIV surveillance systems.</b>	<b>29</b>	<b>39</b>
<b>6. Increase the percentage of HIV prevention program grantees using Program Evaluation and Monitoring System (PEMS) to monitor program implementation.</b>	<b>0 (2006)</b>	<b>97%</b>
<b>7. Increase the number of evidence-based prevention interventions that are packaged and available for use in the field by prevention program grantees.</b>	<b>7</b>	<b>21</b>
<b>8. Increase the number of agencies trained each year to implement Diffusion of Effective Behavior Interventions (DEBIs).</b>	<b>53</b>	<b>935</b>

Data Source: Measure 1 - HIV/AIDS Incidence Surveillance in 34 states. Measures 2 - 5 - HIV/AIDS Reporting System (eHARS). Measure 6 - Program Evaluation and Monitoring System (PEMS). Measure 7 - Replicating Effective Programs (REP) Project data. Measure 8 - Diffusion of Effective Behavioral Interventions (DEBI) Tracking Database.

\* Data for these measures is derived from 33 states with mature, stable HIV case surveillance. These states are: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Iowa, Indiana, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.

<b>GOAL 2: DECREASE THE RATE OF HIV TRANSMISSION BY HIV-INFECTED PERSONS</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Decrease the rate of HIV transmission by HIV-infected persons.</b>	<b>5% (2006)</b>	<b>Not Available</b>
<b>2. Decrease risky sexual and drug using behaviors among persons at risk for transmitting HIV.</b>	<b>Not Available</b>	<b>Not Available</b>

Data Source: Measure 1 - Calculations of HIV incidence and prevalence, utilizing HIV/AIDS Incidence Surveillance System and special prevalence studies; Measures 2 - Medical Monitoring Project (MMP).

- Baseline established for 2002, unless otherwise indicated
- Result established for 2009 data, unless otherwise indicated
- Progress reflects performance data available as of 2-1-2011.

<b>GOAL 3: DECREASE RISKY SEXUAL AND DRUG USING BEHAVIORS AMONG PERSONS AT RISK FOR ACQUIRING HIV</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Decrease risky sexual and drug-using behaviors among persons at risk for acquiring HIV.</b>	Men who have sex with men (MSM) – 47% (2004) High Risk Heterosexual (HRH) – 86% (2007) Injection Drug Users (IDU) – 72% (2005)	MSM – 54% (2008) HRH – Not Available IDU – Not Available
<b>2. Increase the proportion of persons at risk for HIV who received HIV prevention interventions.</b>	MSM – 18.9% (2004) HRH – 12.5% (2007) IDU – 29.7% (2005)	MSM – 17.6% (2008) HRH – Not Available IDU – Not Available

Data Source: Measures 1 and 2 – National HIV Behavior Surveillance (NHBS) System.

<b>GOAL 4: INCREASE THE PROPORTION OF HIV-INFECTED PEOPLE IN THE UNITED STATES WHO KNOW THEY ARE INFECTED</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Increase the proportion of HIV-infected people in the United States who know they are infected.</b>	74.5% (2003)	79% (2006)
<b>2. Increase the proportion of persons with HIV-positive test results from publicly funded counseling and testing sites who receive their test results.</b>	81%	92% (2008)
<b>3. Increase the proportion of people with HIV diagnosed before progression to AIDS.*</b>	78.1%	82.1% (2008)

Data Source: Measure 1 – Special studies using eHARS. Measure 2 - Counseling, Testing, and Referral System (CTR) → Program Evaluation and Monitoring System (PEMS). Measure 3 - eHARS.

\* Data for these measures is derived from 33 states with mature, stable HIV case surveillance. These states are: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Iowa, Indiana, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.

<b>GOAL 5: INCREASE THE PROPORTION OF HIV-INFECTED PERSONS WHO ARE LINKED TO PREVENTION AND CARE SERVICES</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Increase the percentage of HIV-infected persons in publicly funded counseling and testing sites who were referred to Prevention Counseling and Referral Services (PCRS).</b>	Not Available	Not Available
<b>2. Increase the percentage of HIV-infected persons in publicly funded counseling and testing sites who were referred to medical care and attended their first appointment.</b>	Not Available	Not Available
<b>3. Increase the percentage of HIV-infected persons in publicly funded counseling and testing sites who were referred to HIV prevention services.</b>	Not Available	Not Available
<b>4. Increase the percentage of HIV-infected persons in medical care who initiated medical care within three months of diagnosis.</b>	Not Available	Not Available

Data Source: Measures 1 - 3 – Program Evaluation and Monitoring System (PEMS). Measure 4 - Medical Monitoring Project (MMP).

- Baseline established for 2002, unless otherwise indicated
- Result established for 2009 data, unless otherwise indicated
- Progress reflects performance data available as of 2-1-2011.

## Viral Hepatitis Prevention

<b>GOAL 6: REDUCE THE RATES OF VIRAL HEPATITIS IN THE UNITED STATES</b>		
Measure	Baseline	Result
1. Reduce the rate of new cases of hepatitis A (per 100,000 population).	11.3/100,000 (1997)	0.9/100,000 (2008)
2. Reduce the rate of new cases of hepatitis B (per 100,000 population).	2.6/100,000 (2003)	1.3/100,000 (2008)
3. Increase the proportion of individuals knowing their hepatitis C virus infection status.	50% (2004)	49% (2002-2007)
4. Increase the number of areas reporting chronic hepatitis C virus infections to CDC to 50 states and New York City and District of Columbia.	19 areas (2003)	33 areas (2008)

Data Source: Measures 1, 2, 4 – The National Notifiable Diseases Surveillance System (NNDS); Measure 3 -- The National Health and Nutrition Examination Survey (NHANES).

## STD Prevention

<b>GOAL 7: REDUCE THE RATES OF NON-HIV SEXUALLY TRANSMITTED DISEASES (STDs) IN THE UNITED STATES</b>		
Measure	Baseline	Result
1. Reduce pelvic inflammatory disease in the U.S.	197,000	100,000
2. Reduce the prevalence of chlamydia among high-risk women under age 25.	10.1%	11.3%
3. Reduce the prevalence of chlamydia among women under age 25, in publicly funded family planning clinics.	5.6%	7.4% (2008)
4. Reduce the incidence of gonorrhea in women aged 15 to 44 (per 100,000 population).	279/100,000	255/100,000
5. Eliminate syphilis in the U.S.	2.4/100,000	4.6/100,000
6. a) Reduce the incidence of P&S syphilis in men (per 100,000 population). *	5.7/100,000 (2006)	7.8/100,000
6. b) Reduce the incidence of P&S syphilis in women (per 100,000 population).	1.1/100,000	1.4/100,000
7. Reduce the incidence of congenital syphilis (per 100,000 live births).	10.2/100,000	10.0/100,000
8. Reduce the racial disparity of P&S syphilis (reported ratio is black:white).	8.1:1	9.0:1

Data Source: Measure 1 – The National Disease and Therapeutic Index (NDTI) (IMS Health). Measure 2 -- The U.S. Department of Labor, National Job Training Program; CDC, IPP Chlamydia Prevalence Monitoring Project. Measure 3 -- CDC, IPP Chlamydia Prevalence Monitoring Project. Measure 4 - 8 -- STD Morbidity Surveillance System, CDC.

\*In FY 2002, the incidence of P&S syphilis in men was 3.8 per 100,000 (initial 2002 baseline). However, because an outbreak of syphilis among men who have sex that occurred after 2002 has driven up the male syphilis rates, CDC is reporting a new baseline for 2006.

- Baseline established for 2002, unless otherwise indicated
- Result established for 2009 data, unless otherwise indicated
- Progress reflects performance data available as of 2-1-2011.

## TB Prevention

<b>GOAL 8: DECREASE THE RATE OF CASES OF TUBERCULOSIS AMONG U.S.-BORN PERSONS IN THE UNITED STATES</b>		
<b>Measure</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Decrease the rate of cases of TB among U.S.-born persons (per 100,000 population).</b>	<b>2.9</b>	<b>1.7</b>
<b>2. Increase the percentage of TB patients who complete a course of curative TB treatment within 12 months of initiation of treatment (some patients require more than 12 months).</b>	<b>80.9%</b>	<b>84.3% (2007)</b>
<b>3. Increase the percentage of TB patients with initial positive cultures who also have drug susceptibility results.</b>	<b>93.0%</b>	<b>95.7%</b>
<b>4. Increase the percentage of contacts of infectious (Acid-Fast Bacillus (AFB) smear-positive) cases that are placed on treatment for latent TB infection and complete a treatment regimen.</b>	<b>41.0%</b>	<b>64.3% (2007)</b>

Data Source: Measures 1 – 3 - The National TB Surveillance System. Measure 4 -The National TB Surveillance System and the national Aggregate Reports for TB Program Evaluation.

## Overarching NCHHSTP Efficiency Measure

<b>Efficiency Measure1</b>	<b>Baseline</b>	<b>Result</b>
<b>1. Increase the efficiency of core HIV/AIDS surveillance as measured by the cost per estimated case of HIV/AIDS diagnosed each year.</b>	<b>\$1,357 (2003)</b>	<b>\$772 (2008)</b>

Data Source: Measure 1 - HIV/AIDS Reporting System (HARS) is used to collect state HIV and AIDS data, financial assistance information is drawn from administrative records and adjusted for inflation.

- Baseline established for 2002, unless otherwise indicated
- Result established for 2009 data, unless otherwise indicated
- Progress reflects performance data available as of 2-1-2011.



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