



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

Annual Report • Fiscal Year 2008





This second annual report of the National Center for HIV/AIDS, Viral Hepatitis, STD and TB prevention highlights some of the major achievements and challenges faced by our organization in 2008, and looks forward to the opportunities for even better prevention in the year ahead. This report is part of the fulfillment of our Center's commitment to ensure that we are accountable and transparent in our work to protect health, prevent disease, and use the funds that are entrusted to us with the greatest care. We are committed to the ideals of the new administration to ensure we earn your trust and work within an open environment in which we ask for your participation and collaboration. This active accountability and engagement will certainly strengthen and promote

efficiency and effectiveness in the work we do to protect your health.

You will find in this report, briefs on the impact the work of this Center and our partners has on the lives and well-being of people at home and abroad. The title, "Moving Forward With Prevention," was chosen to emphasize the incredible change and hope for making concrete advances in prevention from the past year. Our stories show how we have continued to strengthen our science by growing the size of our research efforts, strengthening our research partnerships and collaborations, and developing and mentoring new researchers in the prevention arena. We have continued to deliver life-saving, effective, evidence-based prevention programs at home and abroad. And we remained focused on reaching more people in more places with life-saving prevention interventions. We achieved this by increasing the reach of HIV testing and other prevention interventions for African Americans through the Heighten National Response initiative; by increasing the purchase and delivery of Hepatitis B vaccines in our Adult Vaccine Initiative; and through the dramatic scale-up of HIV treatment and the expansion of international prevention and care efforts under the President's Emergency Plan for AIDS Relief (PEPFAR).

The epidemics of HIV and other STDs, hepatitis, and TB in the United States and overseas are large and complex, but we have made progress over the last year both in the United States and throughout the world. In the United States:

- New diagnoses and rates of TB continued to fall and, in 2008, were at the lowest levels ever recorded.

- New estimates of HIV incidence, attained through the use of breakthrough technology, show that incidence has remained mostly stable since the late 1990s.
- Expansion of hepatitis B vaccination programs have brought continued declines in acute hepatitis B infections.
- Advances in tracking of hepatitis C infection continue.
- New efforts have been started that focus on mobilizing communities to reduce HIV, STD, TB and hepatitis health disparities and promote greater health equity.
- Large investments have been made to promote HIV testing, especially in areas with high rates of disease among African Americans.
- The planning and delivery of our prevention investments and programs are being improved by providing new program and funding opportunity announcements that are more balanced between national and local prevention priorities and needs.
- New prevention programs have been introduced and established programs and approaches refined, including programs that are collaborative and integrate services for more than one disease or risk; that begin to address the

social determinants of health; and that put the funding in areas where there is evidence that our work is improving health.

- New communication technologies are being used to promote HIV and STD prevention.

This year's report also highlights the staff of NCHHSTP. Our Center attracts an exceptionally diverse set of public health and support professionals with a range of skills and experience that is perfect for the development and delivery of evidence-based and high-impact prevention programs, research and policies. We are especially proud of, and thankful for, the work of the more than 1,300 locally employed staff who are citizens or residents of the countries that host CDC programs. These staff provide essential program and support functions. Our expert staff combined with our unique relationships with governmental, non-governmental and private sector partners, form our foundation that provides us the opportunity to champion public health and accelerate our disease prevention and health protection activities.

As we move toward the next decade, we must continue to be open to change to ensure we continue to achieve excellence in our prevention efforts. Our upcoming strategic plan will set out our vision for the Center,



reflecting what we've heard from our staff, partners and the public. We will strengthen our focus on health and health protection and not simply on the prevention of disease. We will move away from a one-size-fits-all prevention service to one that is tailored to the needs of our partners and the people we serve, maintaining our focus on quality, effectiveness and impact, while ensuring equitable access.

We are committed to building on the achievements, infrastructures and networks for prevention that have existed since the creation of our Center more than a decade ago. We will continue to build an organization that is effective in protecting the health of the public at home and abroad by:

- Helping to reduce the incidence and burden of HIV and other STDs, hepatitis and TB;
- Improving our efforts to protect and maintain health and health equity;
- Ensuring that all that we do is based on sound evidence of effectiveness;
- Ensuring that our research investments continue to contribute directly to health improvement and health protection;
- Ensuring that people have the information they need to

protect themselves, their loved ones and their communities;

- Building strong, transparent and collaborative partnerships to improve our collective capacity to respond to ongoing and emerging challenges;
- Providing clear, accurate and useful health protection advice and guidance that is the first choice for the public, health professionals, other key stakeholders, and the media;
- Ensuring the most effective use of resources in our programs to maximize health impact and in so doing continue to attract the brightest and best working in all parts of the public health protection field.

We will work to meet the standards set by this new administration that government should be transparent and accountable; participatory and committed to public engagement; and collaboration. We remain committed to CDC's core values of respect, integrity and accountability and our goal to ensure that high-quality prevention services are available to those in need. We are committed to ensuring that our partners and the public get the right information, at the right time and in the right way, and that our science promotes the delivery and implementation of the most effective programs at home and around the world.

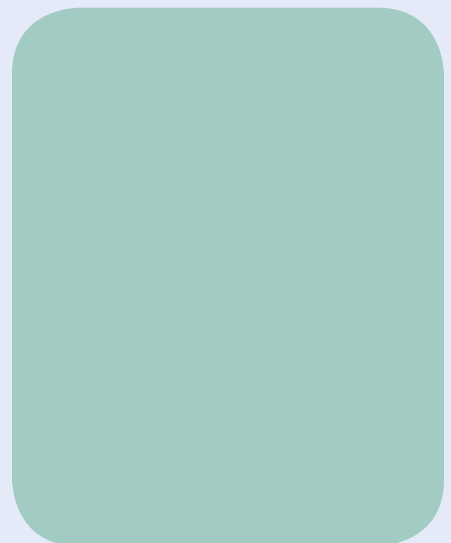
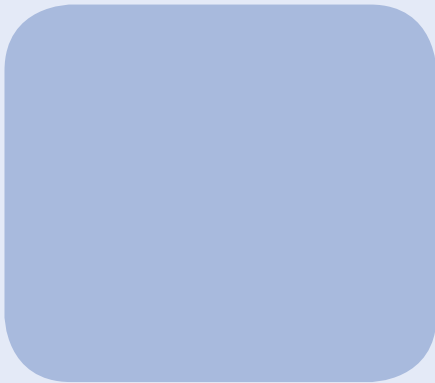
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History

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). It is one of four national centers housed within CDC's Coordinating Center for Infectious Diseases (CCID).

The National Center for HIV/AIDS, STD, and TB Prevention (NCHSTP) was established in 1994 to bring together most of CDC's HIV prevention activities 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 and the center was renamed the National Center for HIV/AIDS, Viral Hep-

atitis, STD, and TB Prevention (NCHHSTP).

The diseases addressed by NCHHSTP share a number of commonalities. They have similar or overlapping at-risk populations—including racial and ethnic minorities, 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, homophobia, 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.

Mission

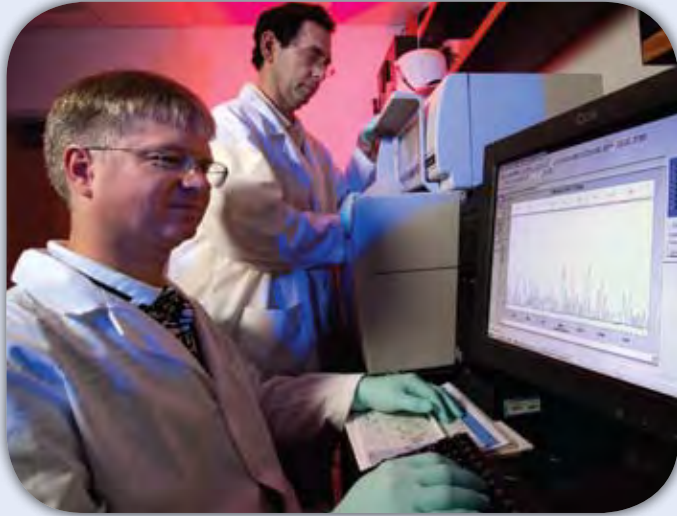
NCHHSTP maximizes public health and safety nationally and internationally through the elimination, prevention, and control of disease, disability, and death caused by HIV/AIDS, viral hepatitis, other STDs, and TB.



NCHHSTP achieves its mission by:

- Developing, implementing, and evaluating effective science-based prevention programs for HIV, viral hepatitis, STDs, and TB.
- Developing high quality research and translating relevant findings into prevention policy and programs.
- Creating and strengthening strategic relationships and networks with individuals and organizations.
- Strengthening and promoting surveillance activities and findings for program planning, public health response, and evaluation.





Who Are We?

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.

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. These activities are conducted with a wide range of public- and private-sector partners, including state and local health departments, community-based organizations and other non-

governmental organizations, universities, businesses, and the media.

NCHHSTP works to prevent viral hepatitis infections and their acute and chronic liver disease consequences.

Center staff educate health care

and public health professionals to improve identification of persons at risk for chronic hepatitis C infection and ensure appropriate counseling, diagnosis, management, and treatment. NCHHSTP also conducts research and policy development to control hepatitis A, B, and C and supports surveillance to monitor who is getting chronically infected with viral hepatitis and to ensure appropriate counseling, testing, and medical management of infected persons.

To prevent STDs, NCHHSTP provides national leadership through research, surveillance, policy development, and assistance

to states, territories, and local health departments. NCHHSTP also provides federal support for a community-wide, science-based, interdisciplinary systems approach to STD prevention and conducts prevention research to improve methods and delivery of prevention services and to develop and refine interventions. The center's focus areas include preventing STD-related infertility in women, preventing adverse outcomes of pregnancy, eliminating syphilis, preventing cancer related to sexually transmitted infections (STI), and preventing STI-related HIV transmission, reducing STI-related health disparities, addressing the effects of the social and economic determinants and the costs of specific STDs among specific populations, and strengthening STD prevention capacity and infrastructure.

NCHHSTP provides leadership and assistance to domestic and international efforts to prevent, control, and eliminate TB. NCHHSTP provides grants to states and other entities for prevention and control services, researches the prevention and control of TB, funds

demonstration projects, and sponsors public information and education programs. In addition, the center supports education, training, and clinical skills improvement activities to prevent, control, and eliminate TB. NCHHSTP also manages the national TB surveillance system and provides laboratory support for TB control activities. Because more than half of the U.S.



TB cases are among those born outside of the United States, one of the TB program's chief aims is to prevent and control TB among foreign-born persons.

NCHHSTP also includes the Global AIDS Program (GAP), which was initiated in 2000 to address the international HIV/AIDS epidemic by assisting resource-constrained countries. GAP assists such countries in preventing HIV infection, improving treatment, care and support for people living with HIV, and building vital capacity and infrastructure to address the global HIV/AIDS epidemic. GAP's highly trained physicians, epidemiologists, public health advisors, behavioral scientists, and laboratory scientists support the national HIV/AIDS strategies of more than 60 countries in Africa, Asia, Central and South America, and the Caribbean through its country and regional offices. In 2003, when the President's Emergency Plan for AIDS Relief (PEPFAR) was announced, GAP joined this unified U.S. Government response to global HIV/AIDS. In 2008, Congress extended PEPFAR for five more years with the passage of the PEPFAR reauthorization bill. The legislation authorizes \$48 billion to the program through 2013.

Where Are We?

NCHHSTP employs a cadre of dedicated staff to accomplish its domestic and international objectives. The center has more than

3,500 staff comprised of federal employees, fellows, contractors, and special overseas staff. Of these, approximately 1,700 work in NCHHSTP's offices in Atlanta, Georgia. In addition, 300 staff are assigned to field offices in 29 states and the District of Columbia. NCHHSTP also employs approximately 1,500 federal employees, contractors, fellows, and locally employed staff working in international field offices in more than 30 countries.

NCHHSTP Key Priorities

NCHHSTP has three key priorities that are guiding center-wide initiatives and focusing work group activities in 2008:

- Reducing health disparities
- Encouraging program collaboration and service integration
- Maximizing global synergies

These priorities guide NCHHSTP's overall mission and programs. NCHHSTP has established eight internal workgroups to address these three key programmatic priorities. These workgroups are focusing on topics such as health issues in corrections facilities, surveillance and strategic information, and use of modeling and health outcome measures as tools to aid prevention efforts.

For example, the surveillance and strategic information workgroup published the *2006 Disease Profile* report (<http://www.cdc.gov/>

[nchhstp/Publications/](#)). The report brings together annual NCHHSTP surveillance data, reported by division, and is the first in a series of planned annual profiles. When the data are compared across divisions, they show that certain populations are particularly vulnerable to the overlapping occurrence of these diseases. This first issue includes a special focus on African-American men to illustrate how these diseases may interact and the associated set of historical, structural, and sociocultural factors that influence disease rates and contribute to excess disease burden.

Reducing Health Disparities

NCHHSTP strives to improve the health of populations disproportionately affected by HIV, viral hepatitis, STDs and TB, and related diseases and conditions, with the ultimate goal of eliminating health disparities. One of CDC's overarching health protection goals is to give priority to activities that have the greatest health impact and reduce health disparities. The Office of Health Disparities (OHD) leads this effort within the center.

A health disparity is the difference that separates a group of interest from a reference group on an indicator of health that is measured in terms of rate, proportion, mean, or some other quantitative measure. Differences may occur by gender, race or ethnicity, education, income, disability, geographic loca-

tion, or sexual orientation. Social determinants of health such as poverty, unequal access to health care, lack of education, stigma, and racism are closely connected to health disparities.

OHD coordinates and tracks health disparity activities within the center and provides leadership in support of research, surveillance, education, training, and program development to reduce health disparities. OHD works with NCHHSTP leadership to promote a diverse public health workforce through internships, fellowships, training programs, and other mentoring activities for emerging scientists and public health professionals. OHD also coordinates and contributes to HHS reports regarding center activities for racial/ethnic minorities.

Major accomplishments and activities in 2008 aimed at reducing health disparities include the following.

Hispanic/Latino Consultation

Of the more than 1 million Americans living with HIV/AIDS, 17.5% are Hispanic or Latino. In April 2008, NCHHSTP held a consultation on HIV/AIDS prevention for Hispanic/Latino communities. More than 100 leaders of Hispanic-serving organizations joined academic researchers, policy makers, public health practitioners, and government agency representatives to formulate comprehensive and effective strategies for preventing HIV infection among Hispanics and to develop a National Plan of Action. The goals of the consultation included identifying ways that CDC and Hispanic leaders can work together to implement HIV prevention activities, developing a shared vision for reducing new HIV infections among Hispanics, and increasing access to culturally appropriate prevention, care, and treatment services for the Hispanic community.

The recommendations NCHHSTP received from consultation attendees highlighted the need for provision of culturally competent services, development of structural approaches to HIV prevention, improved surveillance of Hispanics/Latinos, better collaboration with Hispanic/Latino leaders and other nations, and more training opportunities for community leaders and service providers. Consultation participants outlined a bold agenda that CDC will carefully consider as it develops a national action plan to address HIV/AIDS among Latinos.

In response to consultation recommendations, NCHHSTP has named an acting Associate Director for the Hispanic Latino Executive Committee. It has also formed an internal Hispanic Latino Executive Committee within the Division of HIV/AIDS Prevention.

Dissemination of Health Disparities Research

In collaboration with guest editors at NCHHSTP, the peer reviewed journal *Women and Health* published a special issue entitled *Black Women and HIV/AIDS: Epidemiology, Risk Behaviors, and Prevention [Volume 46 (2/3)]*. The special issue includes papers on HIV/AIDS surveillance, best practices for improving health education, selection of evidence-based behavioral interventions, and other HIV prevention strategies for black women.



Inaugural Session of the NCHHSTP Summer Fellows Forum

The NCHHSTP Summer Fellows Forum is an eight-week seminar series designed to provide 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, STD, and TB. The forum, which was initiated in Fiscal Year (FY) 2008, also fosters skills in communicating research findings through seminar presentations.

Undergraduate and graduate fellows are matched with NCHHSTP mentors who guide them through the research process and introduce them to a broad array of NCHHSTP programs and research. Fellows are also able to attend division and CDC-wide seminars offered during the summer. FY 2008 summer fellows with mentors on research topics such as *“Expanding the Guidelines for Discontinuation of Airborne Infection Isolation Precautions for Patients with Multidrug-resistant Tuberculosis,”* *“Assessing Evaluation Capacity of Community Based Organizations Implementing HIV Programs,”* and *“Health Information-seeking Behaviors of Spanish-speaking Hispanics.”* The NCHHSTP Summer Fellows Forum is a component of the NCHHSTP Deputy Director’s Initiative on PublicHealth Workforce and Leadership Development.



Health Disparities Work Group

In August 2008, the Health Disparities Work Group, in partnership with the CDC Sexual and Gender Minorities Workgroup, participated in the 2008 Black Gay Pride event by organizing three health discussion groups at the annual event in Atlanta. The discussion groups addressed health disparities challenges for:

- Gay or bisexual men
- Lesbian or bisexual women
- Transgender persons

Encouraging Program Collaboration and Service Integration

Program collaboration and service integration (PCSI) is one of NCHHSTP’s three strategic programmatic priorities. The focus of PCSI is to promote integrated

service delivery at the client level or point of service delivery; it does not address integration at the organizational or structural level. CDC’s vision for PCSI is to provide prevention services that are comprehensive, science-based, and high quality to appropriate populations at every interaction with the health system.

PCSI activities in 2008 focused on formalizing center- and division-level action plans and policy statements based on the results of the external consultation held in August 2007, communicating these plans to external partners, and making progress toward goals and objectives.

Green/White Paper

In 2008, NCHHSTP revised a green paper on PCSI to produce a PCSI white paper, based on discussions with internal and external stakeholders. The white paper articulates NCHHSTP’s strategic plan for PCSI through 2011. The

document describes a framework for conceptualizing PCSI, identifies how CDC will work with internal and external stakeholders to accomplish relevant goals, outlines key measures to monitor and evaluate progress, and describes how NCHHSTP will work with partners at national, state, and local levels to advance this strategic priority. The primary audience of this document is domestic NCHHSTP-funded programs. The PCSI white paper is to be published in FY 2009.

Action Plan and Evaluation

To track activities, NCHHSTP developed an action plan for program collaboration and service integration for FY 2008. The action plan tracks activities and monitors progress toward PCSI goals and objectives. NCHHSTP is also finalizing an evaluation design for monitoring progress toward PCSI implementation in the field for FY 2009.

Communication and Shared Leadership

NCHHSTP launched a web portal on PCSI at <http://www.cdc.gov/nchhstp/programintegration/Default.htm> in FY 2008. The web portal is a resource for all relevant NCHHSTP publications and other products related to PCSI.

Program and Policy Improvements

NCHHSTP has made progress on addressing some of the priority areas and activities for PCSI identified in the center's external consultation on PCSI, held in August 2007. Key priorities identified were integrated funding, integrated training, and integrated surveillance. Achievements in these areas include the following:

- NCHHSTP's director and staff conducted a joint site visit to the Southwest to learn about specific issues and needs among rural Native American tribal nations. One major result of this visit is strengthened language in all NCHHSTP funding announcements related to tribal government eligibility.
- Standard operating procedures for developing funding opportunity announcements were changed so that all new announcements are reviewed early in development to identify integration opportunities and ensure adequate time for cross-division review. In 2008,

PCSI language and activities were added to four major funding announcements.

Training

As a significant first step toward enhancing training on PCSI, NCHHSTP held a meeting with its funded training entities on June 24, 2008 in Long Beach, California. The purpose of the meeting was to develop a shared vision on integrated training opportunities within NCHHSTP-funded training entities and to identify priority activities to facilitate integrated training. The meeting report is available at <http://www.cdc.gov/nchhstp/programintegration/docs/PCSImeetingreportwithcover11-26%202.pdf>.

Surveillance

A low-cost, high-impact activity identified by the external PCSI consultants was to develop common assurance of confidentiality statements for HIV/AIDS, viral hepatitis, STDs, and TB to facilitate sharing of surveillance data across and within program areas. NCHHSTP is pilot testing several models of assurances of confidentiality obtained from states.

Maximizing Global Synergies

In 2008, NCHHSTP saw the continued expansion of the Global AIDS Program (GAP) and the mobilization of activities addressing drug-resistant TB. In today's world, success in prevention



requires interdependent relationships that are global in nature.

NCHHSTP is working to maximize global synergies by fostering interdependent programmatic relationships related to international activities between NCHHSTP



divisions. The goal is to ensure active collaboration between NCHHSTP divisions to leverage NCHHSTP, CCID, and CDC resources and to maximize health impact. NCHHSTP actively pursues and seeks input about international program development and public health research, fosters robust internal and external partnerships, and commits to novel and participatory approaches for implementation and dissemination. Following are some activities that support this priority.

Strengthening Laboratory Systems Globally

Playing a key leadership role, GAP helped lead a January 22-24, 2008 meeting that brought together a total of 120 experts and policy makers from 33 countries, including representatives from Cambodia, Haiti, India, Thailand, Vietnam and 28 Sub-Saharan African

countries, to address strengthening national laboratory systems in order to deliver quality services for universal access to HIV/AIDS, TB and malaria prevention, care and treatment services.

On January 24, these leaders signed the Maputo Declaration on Strengthening of Laboratory Systems. This declaration calls on national governments to give priority to laboratory systems by developing a national laboratory policy within their national health development plans. It calls for national governments to establish a department of laboratory systems within the Ministry of Health and to work with partners to develop national strategic laboratory plans that integrate laboratory support for the major diseases of public health importance, including HIV, TB, and malaria.

GAP is supporting multiple countries across Africa in developing these national strategic laboratory plans. Training, logistics and commodities management, facility and equipment maintenance, and quality assurance are cross-cutting aspects of all disease-specific laboratories, and GAP is providing



support to address all of these by helping countries develop national strategic laboratory plans. These plans will reduce parallel disease-specific lab systems, building efficiency and augmenting countries ability to respond effectively to numerous diseases including HIV, TB, malaria, and avian influenza.

Leadership and Management Training for Locally Employed Staff

As part of its commitment to continuing employee education, CDC offers extensive management and leadership training through its nine-month Leadership Management Institute. The 2007-2008 academic year marked the first time that the Leadership Management Institute courses have been available to CDC's locally employed staff (LES) in overseas field locations. These are employees who are citizens or residents of the countries that host CDC programs and who provide essential program and support functions. CDC's global presence has grown exponentially over the past decade and the number of LES has risen just as dramatically. There are now approximately 1,300 GAP LES. About 600 are in middle- to senior-level positions, including medical officers, epidemiologists, and laboratorians.

Recognizing the pivotal role of LES in achieving the CDC's goal of implementing sustainable global programs, GAP, with the support of the CDC Coordinating Office for Global Health, nominated six

GAP LES to attend CDC's Leadership Management Institute. The six nominees are leaders in their respective fields from Nigeria, South Africa, Uganda, and Zambia.

For their Leadership Management Institute project, the four doctors and two public health professionals developed recommendations to CDC on how to better support LES and the global health workforce in general. These recommendations were presented in their report, *"Strengthening CDC's International Operations: Optimizing the Role of CDC Locally Employed Staff,"* which was issued in August 2008. They proposed several overarching recommendations on career path and development, classification and compensation, and organization design that will help lay the groundwork for developing a sustainable global public health workforce.

During visits to Washington, D.C., in March and August 2008, the six leaders became ambassadors for global health workforce issues, presenting to staff at the White House Office of Science and Technology, Office of the First Lady, Faith-Based and Community Initiatives, and the National Security Council. They also met with policy makers and leaders from CDC, HHS, and the Office of the Global AIDS Coordinator and were presenters at a Center for Strategic and International Studies panel, where they discussed local workforce development. (This presentation was webcasted by the Kaiser Family Foundation and is available

at: <http://www.kaisernetwork.org/healthcast/csis/24mar08>).

Partnerships

NCHHSTP works in collaboration with governmental and nongovernmental partners at community, state, national, and international levels. NCHHSTP funds 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 several other agencies within HHS. For example, the Health Resources and Services Administration (HRSA) is authorized under the Ryan White HIV/AIDS Treatment Modernization Act to support treatment programs for people living with HIV and AIDS, and HRSA utilizes data

from NCHHSTP's HIV/AIDS surveillance systems to guide funding for these programs. These data are also used to guide funding for the Department of Housing and Urban Development's Housing Opportunities for People with AIDS program.

NCHHSTP also reaches out to partners in business, media, communities, and other groups. For example, in FY 2008, in an effort to support partner mobilization activities and facilitate communication with its many partners in the Heightened National Response to the HIV/AIDS Crisis among African Americans initiative, NCHHSTP has launched the HNR Community Web Server. The Community Web Server is an online community designed to help HNR partners make connections, access information, share best practices, discuss and solve challenges, and seek answers related to HIV prevention among African Americans. The Web site address is <https://www.cdcnpin.org/communities/hnr/>.



Focus on Communication Science, Health Marketing, and eChannels

In FY 2008, NCHHSTP took a number of steps to increase the evidence base and support for its communication research programs and health communication and social marketing campaigns. The STD Program received intramural support for its research into communication factors—including stigma and personal health beliefs—that may influence sexual health outcomes and health disparities among African-Americans. NCHHSTP also awarded two grants to the Centers for Excellence in Health Communication and Marketing at the University of Connecticut to study how young people might use mobile cell phone technology in viral marketing campaigns aimed at increasing awareness of the need for HIV testing.

These grants followed innovative marketing efforts in mobile media in FY 2008. NCHHSTP, in collaboration with the Kaiser Family Foundation (KFF) and National Center for Health Marketing's eHealth Division, led CDC in building capacity for using mobile channels to reach young people at risk with prevention messages. For World AIDS Day 2007, NCHHSTP supported and promoted KFF's short-message service that enables people to find HIV testing



locations near them by texting their zip code to “KNOWIT.” These efforts were taken a step further through an innovative partnership with the University of Georgia’s New Media Center. Students developed “personal public service announcements,” short video messages about the need for HIV testing, that were distributed nationally by Verizon

on its V-Cast network and through CDC’s YouTube channel, CDC MySpace, and other social media channels.

This year, NCHHSTP continued to advance its use of the Web and new media by launching “Health Protection Perspectives,” a blog in which CDC’s partners and other interested parties can exchange ideas for the prevention of HIV, Hepatitis, STD, and TB. CONNECTIONS, an email-based newsletter for partners, also advanced program collaboration by providing updates across the center’s programs. The projects highlighted here are among the many high-quality communication research efforts underway at NCHHSTP.



A Year in Review:

Program Accomplishments

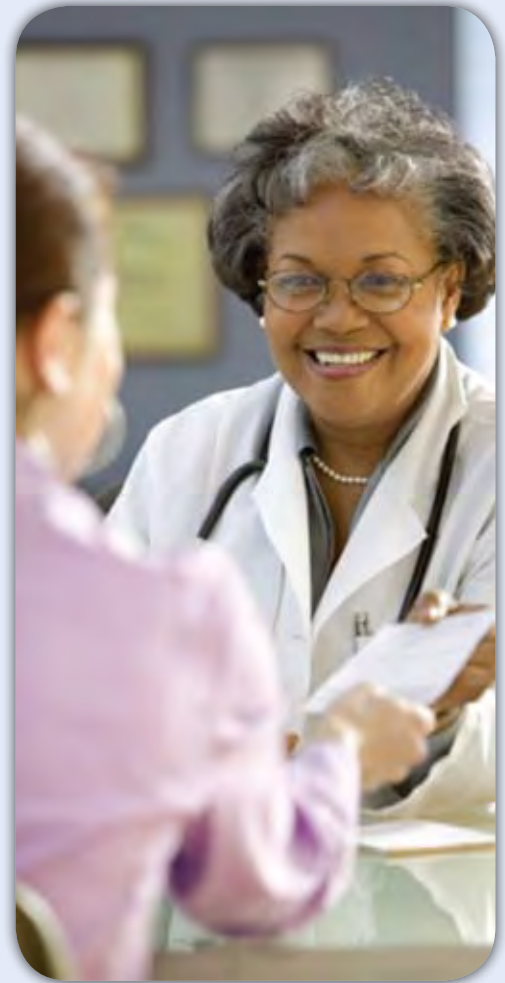
To ensure the greatest impact on the HIV/AIDS, STD, viral hepatitis, and TB epidemics, NCHHSTP uses a comprehensive, evidence-based approach to prevention that incorporates surveillance, research, prevention interventions, and evaluation. NCHHSTP's surveillance and research activities help to better define and understand the nature of the epidemics across the nation and inform the targeting and development of prevention strategies. The center's prevention interventions and capacity-building efforts are based on behavioral, laboratory, and medical science and are designed to contain 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 Office of Management and Budget rates all federal programs using a standard questionnaire called the Program Assessment Rating Tool (PART). The PART rating indicates how well a program is performing so the public can see how effectively tax dollars are being spent. NCHHSTP's comprehensive prevention programs have been rated "effective," the top rating for federal programs. Programs that receive this rating set ambitious goals, achieve results, are well-managed, and improve efficiency.

In 2005, CDC established Health Protection Goals for the nation. NCHHSTP's program areas are primarily represented in three of CDC's four overarching Health Protection Goals: healthy people, healthy places, and global health. Following are examples of NCHHSTP programmatic activities and accomplishments in FY 2008, by goal area.

Healthy People in Every Stage of Life

CDC's primary mission is to reduce health risks at all stages of life, through the most efficient and effective means possible. CDC's goals are focused on helping all people, and especially those at greater risk of health disparities, to achieve their optimal lifespan with the



best possible quality of health in every stage of life. Following are some highlights of NCHHSTP's key accomplishments and activities related to the goal area of healthy people in every stage of life.

Providing a Clearer Picture of the HIV Epidemic

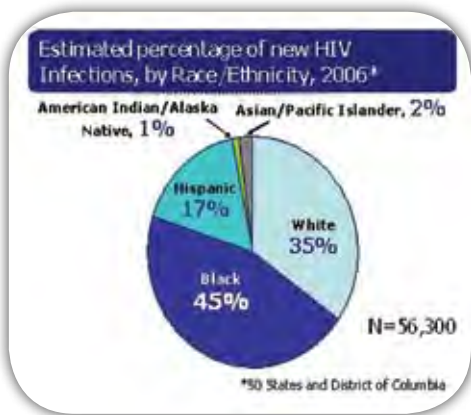
Measuring HIV Incidence

Accurately tracking the HIV epidemic is essential to the nation's HIV prevention efforts. However, monitoring trends in new HIV



infections has posed a major challenge since the beginning of the epidemic, in part because many HIV infections are not diagnosed until years after they occur.

Now, new technology developed by CDC can be used to distinguish recent from long-standing HIV infections. CDC has applied this advanced technology—serologic testing algorithm for recent HIV seroconversion (STARHS)—to develop the first national surveillance system that is based



on direct measurement of new HIV infections. This new system represents a major advance in HIV surveillance and allows for more precise estimates of HIV incidence (the annual number of new infections) than ever before possible.

CDC's first estimates from this system, issued in August 2008, revealed that the HIV epidemic is—and has been—worse than previously known. Results indicate that approximately 56,300 new HIV infections occurred in the United States in 2006. This figure is roughly 40% higher than CDC's former estimate of 40,000 infec-

tions per year, which was based on limited data and less precise methods.

The estimates of HIV infection from the STARHS system were published in the journal *JAMA*. In coming years, this new surveillance system will provide trend information that will allow better monitoring of the course of the epidemic and assessment of the impact of our nation's HIV prevention efforts.

A separate CDC historical trend analysis also published as part of the *JAMA* article suggests that the number of new infections was probably never as low as the previous estimate of 40,000 and has been roughly stable overall since the late 1990s. The new estimate does not represent an actual increase in the number of new infections, but rather reflects the ability to more precisely measure new HIV infections.

HIV Name-based Reporting

In July 2005, CDC Director Dr. Julie Gerberding recommended that "all states conduct HIV reporting using the same name-based approach currently used for AIDS surveillance nationwide." Use of confidential name-based reporting for HIV is consistent with all other infectious diseases reporting, including AIDS. As of April 2008, all 50 states, District of Columbia, and 5 territories have adopted confidential, name-based HIV reporting.

CDC policy has been to report HIV infection and AIDS case surveillance data only from areas conducting confidential name-based reporting because this reporting has been shown to routinely achieve high levels of accuracy and reliability. Having all states collect HIV information in the same manner will ensure that the nation has reliable and valid data to monitor the scope of the epidemic; allow for planning and evaluation of prevention, care, and treatment programs; and focus those programs on persons most at risk. CDC expects that the 2012 HIV/AIDS Surveillance Report will capture HIV/AIDS surveillance data from all 50 states, the District of Columbia, and 5 territories.



Heightened National Response to the Ongoing HIV/AIDS Crisis Among African Americans

HIV remains a persistent and pervasive threat to the health, well-being, and human potential of many African Americans, who



account for 45% of HIV/AIDS infections, yet make up 12% of the U.S. population.

In March 2007, in response to the alarming HIV/AIDS epidemic, CDC launched an initiative termed the “Heightened National Response (HNR) to the Ongoing HIV/AIDS Crisis Among African Americans.”

In an effort to mobilize broader community action, leaders from many sectors were asked to join NCHHSTP in expanding efforts to address the HIV/AIDS epidemic among African Americans. A total of 80 leaders representing the media, AIDS service organizations, faith, health, and civic/social organizations, the arts and entertainment industry, education, business, labor, and government attended the HNR launch event held March 8, 2007. A total of 113 commitments to take a specific action to address the epidemic were made by the 80 leaders and organizations. As of September 2008, 65 of the original commit-

ments have been completed and 34 commitments are in progress.

In May 2008, NCHHSTP held a one-year anniversary meeting for HNR in Atlanta. More than 120 leaders attended the meeting and made more than 150 new commitments to stop the spread of HIV among African Americans. This important gathering of public health and African American leaders added significant momentum to HNR mobilization efforts. Many leaders exceeded the scope of the commitments made at the 2007 partnership meeting and many new partners continue to join this important effort.

For example, platinum-selling singer/songwriter/producer Lyfe Jennings will launch a program in support of HNR named *It’s Real. Preserve Your Lyfe!* The program will occur in each of the 22 cities where Lyfe’s tour will be making stops. As part of the program, local health facilities will distribute “*Lyfe Change*” kits featuring important HIV/AIDS prevention and education resources, as well as copies of Lyfe’s song, “It’s Real,” which addresses the HIV/AIDS epidemic. Since the start of his career, Lyfe, whose third album *Lyfe Change* debuted at #1 on the Billboard R&B charts in April, has been particularly vocal about promoting HIV/AIDS awareness through his music.

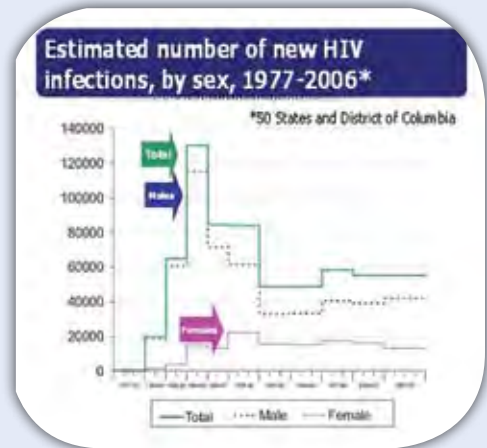
Another example of a commitment is that of Dr. Nelson L. Adams, President of the National Medical Association (NMA). Dr. Adams committed to increasing

HIV awareness and educational efforts by using print and electronic HIV/AIDS prevention communications more effectively and promoting HIV/AIDS awareness, education, training, testing, and access during NMA meetings, which were held in Atlanta in July 2008.

NCHHSTP has launched a monthly electronic newsletter that features updates on recent HNR activities and information about upcoming HNR events.

HIV Prevention Aimed at Men Who Have Sex With Men

Surveillance data from 2003-2006 show an overall increase in HIV/AIDS diagnoses among men who



have sex with men (MSM), with the upward trend most sharply evident among younger MSM and African American MSM. MSM accounted for 72% of all new HIV infections among male adults and adolescents in 2006, even though only about 4% to 6% of male adults and adolescents in the

United States identify themselves as MSM. The HIV incidence estimates confirm that gay and bisexual men of all races remain the group most heavily affected by HIV, accounting for 53% of all new infections. These recent overall increases in HIV diagnoses among MSM, coupled with racial disparities, strongly point to a need for enhanced efforts to identify and provide appropriate prevention and education services for MSM in general, and specific groups of MSM (e.g., those who are members of minority races/ethnicities) in particular.

In 2008, NCHHSTP continued to support a variety of efforts aimed at improving HIV prevention among MSM, including the following:

- Funding six sites to develop and test new behavioral interventions for MSM. Funded sites will conduct small randomized trials. Four sites (Baltimore, Chicago, Milwaukee, and New York City) focus on African American MSM, while the other two sites (Miami and New York City) focus on Latino MSM.
- Supporting four sites (Los Angeles; New York City; Raleigh, NC; and San Diego) to conduct formative research to develop interventions for methamphetamine-using MSM.
- Developing an Internet-based intervention that will be appropriate for all MSM. DHAP is working with the nonprofit organization Public Health Solu-



tions in New York City through its “Ground Breaking Interventions” project to develop this intervention, which will be tested in a five-arm randomized controlled trial. By simultaneously testing a number of interventions for MSM in small studies, DHAP hopes to identify multiple interventions that look promising to compete for funding for a larger randomized trial.

- Packaging additional evidence-based interventions (EBIs) for MSM or adaptations of EBIs, through its Replicating Effective Interventions (REP) projects. For example, d-UP!, an adaptation of the Popular Opinion Leader intervention for African American MSM, has been shown to reduce unprotected anal intercourse by 32.3% and unprotected receptive anal intercourse by 44.5% at 12 months post-intervention. This adapted intervention will be available in late 2008, and funds will be provided to train capacity-building assistance providers and to train more than 200 community-based organizations serving African American MSM.

- Providing \$4 million to state and local health departments to support the development of plans for enhancing HIV prevention services for MSM.

Recommendations on Partner Services

During FY 2008 CDC finalized its *Recommendations for Partner Services Programs for HIV Infection, Syphilis, Gonorrhea, and Chlamydial Infection*, and published the new recommendations as a *Morbidity and Mortality Weekly Report Recommendation and Report* on November 7, 2008. The recommendations are intended for health department program managers responsible for overseeing HIV, STD, or integrated HIV/STD programs. Partner services are a broad array of services that should be offered to persons with HIV infection, syphilis, gonorrhea or chlamydial infection and to their partners. These services include partner notification, counseling and testing for HIV and other STDs, treatment or linkage to medical care and linkage or referral to other services. The recommendations provide health department managers with broad policy suggestions and key contextual information that will assist them as they plan, implement, and evaluate their partner services programs.

Before the release of the new recommendations, two separate sets of guidelines governed partner services for *HIV and for STDs: CDC's 1998 HIV Partner Counseling and*

Referral Services Guidance and the Partner Services module of the 2001 *Program Operations Guidelines for STD Prevention*. The new recommendations revise and integrate these older guidelines in an effort to improve the efficiency and efficacy with which partner services are delivered. Greater integration of prevention services at the client level will reduce missed opportunities to offer clients needed services when they access care, help eliminate duplication and other structural inefficiencies, and create cost savings while simultaneously realizing public health benefits.

Expedited Partner Therapy

Expedited partner therapy (EPT) is the practice of providing treatment to partners of persons diagnosed with an STD without requiring a clinical examination or encounter with those partners. With EPT, the patient delivers either medication or a prescription to the partner. In 2006, the CDC recommended EPT as a useful option for treating partners of patients diagnosed with chlamydia or gonorrhea.

NCHHSTP undertook policy initiatives to assist STD prevention programs with implementation of EPT. The Division of STD Prevention assessed the legal barriers to and facilitators of implementation of EPT at the state level. This legal research resulted in development of a web-based tool for local public

health practitioners interested in implementing EPT in their jurisdictions (<http://www.cdc.gov/std/ept/legal/default.htm>). Additional policy initiatives include collaborations with:

- the American Medical Association, which supported the practice of EPT through passage of resolutions at its June 2006 and November 2007 House of Delegates meetings;
- the American Bar Association, which supported removal of state-level legal barriers to practice of EPT through passage of a resolution at its August House of Delegates meeting;
- the Council of State Governments to develop materials to educate state legislators about EPT.

Infertility Prevention

One of NCHHSTP's key priorities for STD prevention is increasing chlamydia screening of young women outside of traditional public health settings. Annual chlamydia screening of sexually active women 25 years and younger is recommended by CDC and other professional organizations to detect and treat women before chlamydia progresses to pelvic inflammatory disease, which can lead to infertility. The National Infertility Prevention Program, a collaboration between CDC and the Office of Population Affairs, funds chlamydia and gonorrhea screening and treatment services

for low-income, sexually active women attending family planning, sexually transmitted diseases, and other women's healthcare clinics. However, a significant proportion of individuals screened or seeking medical care for STDs access services through the private or non-profit sectors.

In 2008, CDC recruited a National Chlamydia Screening Coordinator to lead an initiative to engage partners on this important reproductive health issue. In addition, a new National Chlamydia Coalition (NCC) was successfully launched on June 5, 2008 at a meeting attended by more than 30 national organizations. Under the leadership of Partnership for Prevention, a Steering Committee of eight founding organizations planned for the meeting and recruited other national organizations with interests in reproductive and sexual health. The overall goal of NCC is to improve and protect the health of sexually active adolescent and young adults by increasing rates of chlamydia screening among young women.

NCHHSTP also collaborated with Partnership for Prevention on developing a review paper of the evidence supporting recommended adolescent clinical preventive services. Although the National Commission on Prevention Priorities ranked chlamydia screening as one of the most effective clinical preventive services, based on relative health benefits and cost-effectiveness, the service utilization remains low. NCHHSTP, NCC, and

Partnership for Prevention will use this paper to broaden awareness among providers of the importance of adherence to chlamydia screening recommendations.

Other FY 2008 activities contributed to our national infertility prevention efforts. To broaden understanding of chlamydia and its sequelae, CDC held the *Chlamydia trachomatis* Immunology and



Control Expert Advisory Meeting, which brought together 34 chlamydia experts to identify and prioritize the key questions about chlamydia immunobiology that have implications for chlamydia control programs; identify answers to key questions or where more information is needed; and develop research priorities to address gaps. NCHHSTP also collaborated with colleagues in CDC's Division of Reproductive Health to write and publish a White Paper on infertility prevention, detection, and management as a public health issue. The paper formed the basis

of a CDC Infertility Symposium held in September 2008 at which invited participants discussed a broad range of issues and identified steps toward developing a national public health plan for the prevention, detection, and management of infertility.

Using Communication Technology for Prevention of Sexually Transmitted Diseases

NCHHSTP scientists have been in the forefront of using new communication technologies to further STD control and prevention and to promote sexual health. In collaboration with the National Coalition of STD Directors, the *National Guidelines for Internet-based STD and HIV Prevention* were released in FY 2008. The guidelines provide state and local health departments and local community-based organizations with tools and best practices for using the Internet as a tool for the control and prevention of STDs and the promotion of sexual health. The guidelines are available at <http://www.ncsddc.org/upload/wysiwyg/documents/IGE.pdf> and include sections on Internet-based partner services, outreach, and health communications.

In addition, the CDC STD Technology Center of Excellence developed and launched an STD prevention professional networking website, STD Prevention Online, that provides both timely STD prevention information and an opportunity for STD prevention professionals to interact on line, share best practices and materials, and collaborate on new interventions. The website, www.stdpreventiononline.org is updated daily and enrolled over 1300 members in the first 8 months of operation.

Other innovations were conducted to support STD Awareness Month in April 2008. The HIVtest.org website (www.hivtest.org) was enhanced and expanded to include search results for STD testing locations by zip code; previously the site returned only information about HIV testing locations. CDC also introduced STD-focused electronic greeting cards (e-cards), which are available to both the general public and state and local health departments (www.cdc.gov/std). Finally, NCHHSTP released the findings of the multi-site Safe in the City waiting room video intervention trial, which showed an almost 10% reduction in new





STDs among STD clinic patients who were exposed to the video. The video can be easily integrated into the clinic waiting room, requires very little staff time to set up with no disruption to clinic flow, and requires no counseling or small-group facilitation. NCHHSTP is actively supporting its use through multiple distribution channels.

Syphilis Elimination

To continue the success of the Syphilis Elimination Effort initiated in 1999 to eliminate syphilis in the United States, NCHHSTP implemented several new activities in FY 2008. First, to improve monitoring of syphilis elimination activities and progress toward meeting elimination objectives, beginning in FY 2008, syphilis elimination programs were required to use an evidence-based action plan to guide the collection of information on the target populations, interventions provided,

resources allocated, and outcomes. For FY 2008, programs submitted evidence-based action plans, based on local morbidity data. The plans focused on target populations experiencing the highest burdens of infectious syphilis. MSM, African Americans, incarcerated persons, and Latino populations were among the priority groups.

Second, a new integrated Interview Record, jointly developed by the Division of STD Prevention and the Division of HIV/AIDS Prevention, was introduced. The record is designed for use in both STD and HIV prevention programs to support partner services. It provides a useful tool for syphilis elimination programs with significant syphilis morbidity among MSM. Two new data fields on the Interview Record are particularly useful to note: 1) a data field for sex of sex partner, an important element in understanding the nature of the syphilis epidemic at the local level; and 2) a data field for indicating whether persons with syphilis met their partners through the Internet. This is significant because the Internet is a venue where MSM seek sex partners, and public health programs are successfully using the Internet as a tool for notification of potential infection and connecting partners to services. Since implementation of the new Interview Record, 43 states are now reporting gender of sex partner, providing more precise data on the nature of the syphilis epidemic, both nationally and locally.

Finally in FY 2008, CDC issued clarifying guidance about use of various syphilis testing algorithms, based on an analysis of testing algorithms used by four New York City laboratories. The analyzed algorithms reversed the traditional order of laboratory testing for syphilis; thus first testing with a treponemal test, followed by a non-treponemal test in cases found to be initially reactive. Reversing the order was found to be cost-saving, but could lead to confusion about interpretation and clinical management of the patient. The clarification will lead to cost-savings for syphilis elimination programs, and standardize interpretation and management of patients.

Control and Prevention of Hepatitis

NCHHSTP Helps Identify Hepatitis C Outbreak at a Nevada Clinic

NCHHSTP's Division of Viral Hepatitis (DVH) epidemiology and laboratory staff members played a critical role in identifying an outbreak of Hepatitis C at a Nevada endoscopy clinic in 2008.

Six patients contracted hepatitis C during July-December 2007 after endoscopy and were found to have virtually identical viral sequences; subsequently, 40,000 patients were notified about their risk of exposure to bloodborne pathogens. The

transmission of hepatitis C was associated with reuse of syringes that contaminated multiply used vials of anesthetic. DVH epidemiologists and laboratory scientists collaborated in the investigation with the CDC Division of Health Care Quality Promotion, Nevada State Health Division, and Southern Nevada Health District. Preliminary results were published in *MMWR* (May 16, 2008;57(19);513-517).

An Epidemic Intelligence Service officer from DVH assisted with and provided advice for the state's efforts, including interviewing and collecting specimens from identified hepatitis C patients for analysis at CDC; investigating infection control procedures at the clinic that was the subject of the investigation; and conducting appropriate data collection, notification, and testing procedures for other patients who were potentially exposed at the clinic in question.

The viral hepatitis laboratory was responsible for conducting the initial molecular analysis that confirmed the association of hepatitis c virus infections among patients seeking care at the endoscopy clinic. In addition, the epidemiologic

analysis and technical assistance offered by CDC was instrumental to subsequent actions taken by local public health officials to prevent further spread of disease and notify those potentially exposed.

The Division of Viral Hepatitis is working with partners to develop a comprehensive approach involving better viral hepatitis surveillance and case investigation, healthcare provider education and training, professional oversight, licensing, and public awareness, to prevent out-of-hospital healthcare-related viral hepatitis transmission.

Recommendations on Hepatitis B Virus Infection

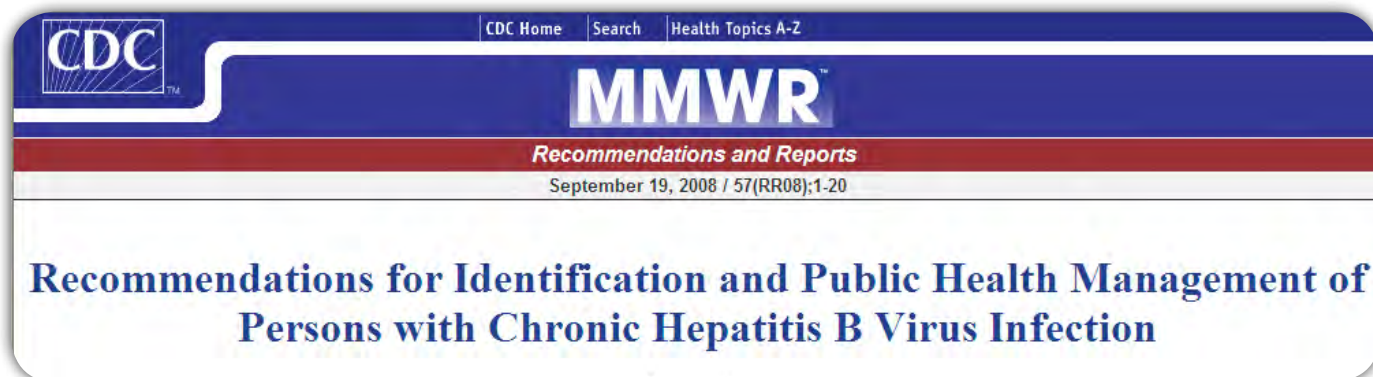
NCHHSTP published new recommendations for identification and public health management of persons with chronic hepatitis B virus infection in the September 19, 2008 issue of *MMWR Recommendations and Reports*. This is the first time CDC has published hepatitis testing recommendations as a stand-alone report. This report compiles and updates recommendations for hepatitis B testing previously made by CDC. The recommendations serve as a

resource for public health officials, organizations, and health care professionals involved in the development, delivery, and evaluation of prevention and clinical services. Partners were instrumental in the development and dissemination of recommendations.

Hepatitis B Vaccine Initiative

Eliminating viral hepatitis B in the United States will require immunization of adults who are at high risk for hepatitis B. NCHHSTP worked with the National Center for Immunization and Respiratory Diseases (NCIRD) and CCID to initiate a Hepatitis B Vaccine Initiative in FY 2007. Section 317 Immunization Grant Funds to the states were used for this initiative.

The initiative reaches more high-risk adults by making vaccine available in public health venues, including HIV clinics, STD clinics, and correctional facilities. In the first year, \$20 million of immunization program funds were awarded to 51 state and local health departments to purchase hepatitis B vaccine to immunize high-risk adults. By 2008, 1,500 public health settings had par-



CDC's contributions, in partnership with ministries of health and its U.S. Government colleagues in the large interagency PEPFAR initiative, have helped to achieve the following results:

- 1.73 million men, women and children have received antiretroviral therapy.
- 12.7 million pregnant women have participated in preventing mother-to-child transmission of HIV.
- 194,000 infant infections have been prevented.

ticipated in the initiative. A total of 151,574 doses of hepatitis B vaccine were ordered during the first and second quarters, and approximately 69,900 doses were administered.

WHO Collaborating Center

The Pan American Health Organization/World Health Organization has redesignated NCHHSTP's Division of Viral Hepatitis as a *PAHO/WHO Collaborating Center for Reference and Research on Viral Hepatitis* through 2012. The Division of Viral Hepatitis provides member states with epidemiologic, surveillance, laboratory, and programmatic data and technical assistance and assists in promoting scientific and programmatic recommendations and strategies for the prevention, control, and management of viral hepatitis.

Healthy People in a Healthy World

CDC spearheads efforts to improve global health through medical technology, international coalitions, government interventions, and basic behavior changes. NCHHSTP contributes to this global effort via international research in HIV/AIDS, viral hepatitis, STDs, and TB, through its Global AIDS Program (GAP) and through technical assistance in areas such as TB control.

Global AIDS Program

GAP is a proud partner in the President's Emergency Plan for AIDS Relief (PEPFAR), a multifaceted approach to combating the HIV/AIDS in more than 120 countries around the world. As part of PEPFAR, GAP works



alongside other dedicated partners, both governmental and non-governmental, to provide direct scientific and technical assistance to ministries of health, partner organizations, and other U.S. Government agencies. GAP develops cutting-edge science and translates it to public health service delivery, by strengthening ministry of health capacity to build self-reliant national public health systems.

In FY 2008, PEPFAR was extended another five years with the signing of the Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reau-



thorization Act. CDC has leveraged the agency's core strengths to make unique contributions to the PEPFAR initiative over the past five years and is poised to play an even greater role in the next five years of this ground-breaking effort.

During the first five years of PEPFAR, CDC:

- Provided leadership on over 125 studies, ensuring scientifically sound interventions;
- Helped build sustainable laboratory infrastructure to respond to HIV and other diseases;
- Helped implement innovative surveillance systems and data for epidemiologically driven decision-making;
- Spearheaded HIV Prevention in Care and Treatment Settings for HIV-infected individuals in sub-Saharan Africa;
- Partnered with HRSA to support massive scale-up of anti-retroviral treatment to adults and children and increase pregnant women participation in programs to prevent mother-to-child transmission; and
- Researched and developed the Basic Care Package, a package of interventions that is designed to minimize the susceptibility of HIV-positive persons to common opportunistic infections and illnesses spread by unsanitary water.

CDC will continue to play a leadership role in improving health

systems, treatment and prevention, laboratory capacity building, surveillance, human capacity development, and data-driven program decision-making in the next phase of PEPFAR. The PEPFAR reauthorization legislation also calls for CDC leadership in the areas of:

- Program monitoring;
- Impact evaluation research and analysis;
- Operational research;
- Microbicide research and development; and
- Malaria operations and implementation research.

CDC's efforts will be key to meeting the new 10-year program goals for PEPFAR, which include treatment for at least 3 million people, the prevention of 12 million new infections, and care for 12 million people, including 5 million orphans and vulnerable children. Specifically, CDC will play an enhanced role in:

- Prevention, including a renewed emphasis on prevention of mother-to-child transmission;
- Improvement of diagnostic laboratory capabilities across HIV/AIDS, TB, and malaria;
- Meeting the goal of training and retaining 140,000 health care workers; and
- Strengthening of health systems, in consultation with the World Health Organization (WHO).

HIV Prevention: Male Circumcision

As a result of research funded by the National Institutes of Health, evidence from several African countries has now shown that medically provided adult male circumcision can decrease the rate of heterosexual HIV acquisition in men. GAP is providing technical assistance to ministries of health to develop national policies and strategic plans, conduct situational assessments, and implement and evaluate male circumcision service delivery programs.

Working collaboratively with other U.S. government agencies, GAP is supporting the development of technical guidance and tools as well as monitoring and evaluation systems. Furthermore, GAP is helping the international community, working with UNAIDS and WHO, to define priorities and develop guidance on the key service components, communication strategies, quality assurance measures, and operational research priorities for male circumcision programs.

GAP worked closely with the government of Kenya in 2008, providing technical assistance on policy and strategic plan development, design of service delivery models, and the development of a monitoring and evaluation system. With GAP support, Kenya is now preparing for an innovative method of service delivery—portable male circumcision services to reach men in rural areas. GAP is also jointly supporting, with the Gates

Foundation, a training center in Kenya to train public and private sector providers in male circumcision. Thus far, the center has trained 115 medical and clinical officers, nurses, and counselors.

Early Infant Diagnosis

Worldwide, children account for almost 14% of all new HIV infections, but make up only 7% to 9% of cases being treated. Early infant diagnosis via testing of infants born to HIV-infected mothers in the infants' first months of life enables HIV-infected infants to receive timely and appropriate care and treatment, often before the onset of rapid disease progression. Without treatment, up to 50% to 60% of HIV-infected infants die by 2 years of age. Early infant diagnosis also has the potential to improve the effectiveness of prevention of mother-to-child HIV transmission programs by promoting follow-up after delivery and providing essential data to assess the impact of interventions designed to prevent mother-to-child transmission of HIV.

Through PEPFAR, GAP is helping build capacity in multiple countries for early infant diagnosis



using dried blood spot technology. With the simple prick of an infant's heel, toe, or finger, whole blood can be placed on a filter paper card to dry, creating samples which are stable for relatively long periods without refrigeration and are light and simple to transport by courier or vehicle to a lab for testing. In 2008, GAP strengthened laboratory networks for early infant diagnosis, developed demonstration protocols and testing algorithms, helped implement quality assurance/quality control programs, and conducted emerging infectious disease training of laboratory technicians and health care providers.

Furthermore, GAP has developed training materials on pre- and post-test counseling to caregivers, including training to improve care, treatment, and other referral services for vulnerable HIV-exposed and HIV-infected infants, and has built and strengthened data monitoring and feedback systems to support early infant diagnosis and associated programs. With GAP's leadership, early infant diagnosis is now being implemented in 13 countries in Africa and 2 countries in the Caribbean region.



Innovative Kenya AIDS Indicator Study

In countries with large generalized HIV epidemics, nationally representative HIV prevalence data are critical for resource and program planning and for monitoring the impact of the epidemic. The Kenyan Government, with assistance from GAP, implemented an innovative national population-based household survey (~10,000 households) that not only measured HIV prevalence, but also the prevalence of diseases that interact with HIV, such as syphilis, herpes simplex virus 2, and viral hepatitis. They also measured CD4 cell counts among persons who tested HIV positive to estimate the number of HIV-positive persons in need of treatment.

The preliminary results of the 2007 Kenya AIDS Indicator Survey, released in July 2008 by the Government of Kenya, showed that an estimated 1.4 million adults in Kenya are infected with HIV. Other preliminary findings include:

- Among adults age 15-64, 7.4% are infected with HIV, a slight increase from the 6.7% prevalence recorded in the 2003 Kenya Demographic and Health Survey.
- Women (8.7%) continue to be disproportionately infected with HIV compared to men (5.6%).
- Prevalence among adults age 50-54 is 8% and declines to less than 3% among adults ages 60-64.

After successful completion of the survey, survey partners in Kenya focused on laboratory testing, a return-of-results exercise, and data entry of survey responses.

International Tuberculosis Control Technical Assistance

Because TB kills 1.6 million a year worldwide and because most cases of TB in the United States are among foreign-born persons, it is critical for the United States to assist in international TB control. NCHHSTP's Division of Tuberculosis Elimination (DTBE) and, for PEPFAR-related activities, GAP provide leadership and technical assistance in controlling TB internationally. In FY 2008, DTBE staff provided technical assistance in 40 countries. CDC's global technical assistance for TB includes:

- Deploying outbreak response teams

- Improving access to TB drugs
- Developing TB testing standards
- Building capacity of health care providers
- Collaborating with other international partners to develop and implement the global plan to combat XDR TB
- Providing technical assistance to expand program capacity
- Supporting TB communication and education efforts.

In addition to working closely with ministries of health in other countries, CDC works with other federal agencies and with multilateral organizations such as WHO and the International Union Against Tuberculosis and Lung Disease; foundations, including a Bill and Melinda Gates Foundation-funded collaboration and the Foundation for Innovative Diagnostics; and non-governmental organizations. CDC is a founding member of the WHO Stop TB Partnership, a global effort of more than 500 governmental and non-governmental organizations,

housed by WHO. Members of the Stop TB Partnership work toward achieving the 2006-2015 Millennium Development Goals of reducing global TB deaths by 50% and the number of persons suffering from TB by 50%.

International Sexually Transmitted Disease Prevention Efforts

Efforts to leverage opportunities for global STD prevention continued in FY 2008 with four significant activities. First, NCHHSTP conducted program assessments of STD prevention services in U.S. Affiliated Pacific Islands (USAPI). NCHHSTP hosted a two-day planning meeting to develop an action plan for improving STD prevention capacity in the USAPI, based on findings from the program assessments. NCHHSTP also initiated collaborations with Secretariat of the Pacific Communities, WHO, United Nations Population Fund, and Pacific Island Health Officers Association.

Efforts to enhance support STD prevention in the USAPI include development of STD case definitions and program guidelines; identification of training and professional development needs; increased and more focused communications with local health officers; development of a multidisciplinary working group that meets



regularly to support specific Pacific Islands issues; and continued communications with other CDC Divisions working in the Pacific Islands to ensure integration of approaches whenever possible.

Secondly, NCHHSTP continued its collaboration on the WHO initiative to eliminate congenital syphilis. Congenital syphilis is a serious public health problem globally, accounting for an estimated 1.5 million cases each year and resulting in up to 750,000 perinatal deaths, in addition to other significant perinatal morbidity. Congenital syphilis can be prevented by serological screening for syphilis during pregnancy and prompt treatment of those women found positive with intramuscular penicillin. However, fragmented antenatal health services, lack of awareness of the burden and significant public health outcomes of congenital syphilis, and limited resources for screening have allowed this old disease to continue to cause substantial health problems in many developing countries.

In FY 2008, NCHHSTP worked closely with WHO to develop surveillance, monitoring, and evaluation strategies for measuring the impact of the global initiative, as well as a research agenda to support the initiative. Additionally, CDC worked with WHO and other international partners to develop an investment case study to identify funding and other resources to support the global initiative for the elimination of congenital syphilis as a public health problem. The investment

case study will be finalized in Fall 2008. Finally, NCHHSTP collaborated with the World Bank to develop two documents promoting global STD control as an important development strategy; both documents had a special emphasis on eliminating congenital syphilis.

Third, a point-of-care rapid syphilis test is currently being field tested in international settings in collaboration with the WHO STD Diagnostics Initiative. The low-cost, user-friendly test is based on a patented technique developed in CDC's STD laboratory. Using two antigens (both non-treponemal and treponemal), the test is a significant improvement over currently available rapid tests, which use only a single treponemal antigen. This test could prove to be a useful tool for expanding antenatal screening to prevent congenital syphilis in the developing world and could also enhance screening of high-risk populations in the United States.

Finally, antimicrobial-resistant gonorrhea is a growing problem both domestically and internationally. NCHHSTP supported WHO in 2008 to strengthen its regional gonococcal surveillance program, with special emphasis on the Western Pacific Region, where the emergence of further drug resistance is most likely to occur.

Healthy People in Healthy Places

CDC is working hard to ensure that the places we live, work, and play have safe, healthy environments. Controlling TB in communities is one of the ways CDC addresses this goal.

Tuberculosis Morbidity at All-time Low in 2007

In 2007, TB morbidity was at an all-time low in the United States, with 13,293 new cases reported in data released in FY 2008. This represents the 14th consecutive year of decline in reported TB cases.

The average annual percentage decline in the TB rate slowed from 6.6% per year during 1993-2002 to 3.3% during 2003-2007. Foreign-born and ethnic minorities bear a disproportionate burden of U.S. TB cases. The percentage of TB cases in foreign-born persons in the United States increased from 22% of reported cases in 1986 to 58% in 2007. U.S.-born blacks make up almost half (45%) of all TB cases among U.S.-born persons.

Hepatitis B/C Testing for Tuberculosis Patients in Cook County, Illinois

Liver damage and viral hepatitis are long-standing and often

treatment-limiting concerns for patients with latent TB infection or TB disease. Drug-induced liver injury may occur with all recommended TB regimens, so monitoring for this effect is a necessary element of anti-TB therapy. Because testing for liver damage is an integral part of TB treatment, a natural opportunity exists for integrating CDC programs that address TB and Hepatitis.

The Illinois Department of Health implemented a study to provide hepatitis B and C tests for patients who are undergoing treatment for either latent TB infection or TB disease. The goal is to establish baseline hepatitis seropositivity rates for the population served in its jurisdiction. An NCHHSTP public health advisor assigned to Illinois supervised the project, collaborating with the Illinois TB Program, the American Lung Association, the University of Illinois–Chicago, and the Suburban Cook County TB Sanitarium District. Activities included working with partners to complete the study design, recruiting partners in hepatitis programs to accept TB patient referrals and care for seropositive patients, providing technical assistance, developing a patient database, ensuring laboratories had correct supplies and testing procedures for TB and hepatitis B and C, training nurses on

the study protocol, and developing hepatitis education materials to share with TB patients.

Community Collaboration to Address Tuberculosis in African Americans in Central Georgia

African-Americans suffer disproportionately from TB. African-Americans born in the United States represent 44% of TB cases in U.S.-born persons, and account for approximately 19% of the overall national case total. TB rates among US born African Americans are 10.2 cases per 100,000.

In 2004, to help characterize how transmission of TB occurs, NCHHSTP initiated a universal genotyping project in all state and local programs and laboratories. Genotyping enables the identification of TB strains with matching DNA but no apparent epidemiologic links (transmission between

people who know one another and come into contact regularly). Upon identification of a genotyped cluster of TB cases, the Georgia TB program conducted contact

investigations to look for potential links between the patients. Although no specific links were identified, some of the patients could have interacted with one another in situations involving substance or alcohol abuse, construction work, incarceration, or living in relatively close proximity to each other.

To be sure that TB transmission would be halted in any of these circumstances, the Georgia TB program, which is funded by CDC's state TB cooperative agreement program, developed a project to raise TB awareness in the affected health districts. The goals were to foster better communications among the local public health department and the health care sector in the health district and provide TB education to residents of targeted zip code areas where cases had been found.

The Georgia TB program conducted a survey that assessed at-risk residents' TB knowledge and enablers or barriers to accessing TB services in the district. Results showed that residents needed transportation to access services, TB education and outreach efforts, and additional TB testing locations around the community.

To address these findings, the Georgia TB program held a meeting with community partners to elicit support for more TB educational and testing opportunities in the neighborhoods. The partners now meet quarterly to discuss TB and other health disparities.



Expanding the Reach of Prevention and Improving Health in Correctional Settings

The U.S. Bureau of Justice Statistics reported in 2006 that almost 7.3 million persons were under correctional supervision. Approximately 2,259,000 prisoners were held in federal or state prisons or local jails and 5,035,200 million persons were on probation or parole. Many persons in correctional settings have multiple risk factors for HIV, STD, viral hepatitis, and TB, and the prevalence for these diseases is often higher than in the general population.

Inmates bring complex social problems and health issues with them from the community, and criminal justice settings provide an

excellent opportunity for conducting integrated health screening and testing and for providing medical treatment and prevention services. Criminal justice settings can also play a critical role in assisting inmates with linkage to care as they transition back into the community.

NCHHSTP has formed the Center Corrections Workgroup tasked to address the challenges of facilitating health equity within

this population. The overarching mission of this workgroup is to address issues related to the prevention and control of HIV, STD, Viral hepatitis, and TB among incarcerated persons. The workgroup facilitates collaboration within NCHHSTP and across CDC to address health disparities and to promote integration of programs for incarcerated populations. In early 2009, the workgroup will host a Public Health and Corrections consultation designed to create collaborations and new partnerships and develop strategies to promote an effective corrections agenda.



A Year in Review: Scientific Findings

NCHHSTP conducts extensive biomedical and behavioral research to better understand the complex factors that lead to epidemics. Research is an important part of CDC's comprehensive approach



External peer review improves our science by providing expert feedback on quality, productivity, science, and direction.

Three advisory boards provide peer review of NCHHSTP programs on a regular basis. The Advisory Council for the Elimination of Tuberculosis provides advice on NCHHSTP TB prevention and control programs. The CDC/HRSA HIV/AIDS Advisory Committee on HIV and STD Prevention and Treatment reviews HIV, STD, and viral hepatitis programs. The CCID Board of Scientific Counselors provides cross

cutting program review, focusing on all CCID programs, including those of NCHHSTP. In addition, external peer review panels are periodically convened to review NCHHSTP research programs. In June 2008, an external panel reviewed the Division of HIV/AIDS Prevention Laboratory Branch's intramural research programs.

Further, 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. Below are some highlights from FY 2008.

NCHHSTP is also committed to mentoring young scientists interested in epidemiologic and prevention research. The extramural Minority HIV/AIDS Research Initiative (MARI), initiated in 2002, creates partnerships between CDC 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. The center also has a number of Epidemic Intelligence Service (EIS) officers, with six officers joining the center in FY 2008. The EIS is the country's critical epidemiology training service, working to combat the causes of major epidemics.

Healthy People in Every Stage of Life

NCHHSTP released two significant products promoting evidence-based HIV behavioral interventions in 2008: the Updated Compendium of Evidence-based Interventions and the Tiers of Evidence Framework. These products represent a major advance in HIV



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 assure a strong science base for public health action.

NCHHSTP conducts or supports research in areas such as diagnostic tests, microbicides, vaccines, and behavioral research focused on eliminating 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.

prevention science and will make a significant impact in CDC's efforts towards evidence-based HIV prevention efforts.

The Updated Compendium provides a comprehensive, up-to-date list of scientifically proven HIV behavioral interventions reducing HIV/STD risk and incidence that can be used to guide programmatic planning throughout the United States. A total of 57 evidence-based individual-level and group-level interventions (EBIs) published between 1988 and 2008 are currently posted on the Prevention Research Synthesis web site. The majority of EBIs are designed for racial/ethnic minority groups who are disproportionately affected by the HIV epidemic. NCHHSTP is currently identifying evidence-based community-level interventions and continuously assesses newly published behavioral interventions.

The Tiers of Evidence framework identifies and describes four levels of evidence for an intervention's efficacy, based on different kinds of evaluation designs. The framework was developed to supplement the Updated Compendium and to help the HIV prevention community understand CDC's evidence-based HIV prevention efforts. The framework comprises two evidence-based and two theory-based tiers. Tier I contains 'Best EBIs,' those with the most rigorous study design, implementation, and analysis and with the strongest evidence for reducing HIV/STD risk or incidence. Tier II contains 'Promising EBIs,' those that have

been rigorously evaluated and have significant findings. Tier III includes theory-based interventions with positive outcome monitoring, and Tier IV consists of theory-based interventions with positive process evaluation. The Tiers framework can help guide funding decisions around which interventions should be supported through federal, state, and local funds. It also provides important guidance to community-based organizations for improving their evaluation of locally developed interventions.

Study Assesses Prevalence of Sexually Transmitted Infections Among Female Adolescents

In FY 2008, CDC released a study indicating that one in four (26%) female adolescents in the United States has at least one of the most common sexually transmitted infections (STIs). The study is the first to examine the combined national prevalence of common STIs among adolescent women in the United States.

Data on 838 female adolescents (aged 14-19 years) who participated in the 2003-2004 National Health and Nutrition Examination Survey, a continuous annual study that examines a nationally representative sample of the U.S. household population, were analyzed to assess a broad range of health issues. The teens were

tested for human papillomavirus (HPV) infection, chlamydia, herpes simplex virus type 2 (HSV-2) infection, and trichomoniasis. The authors examined high-risk HPV types, including 23 types that are known to cause cancer, and the two types that cause most genital warts.

Based on the overall STI prevalence of 26%, the authors estimate that about 3.2 million adolescent females in the United States are infected with one of these STIs. Most of these were HPV infections. Total prevalence might be slightly higher than these estimates indicate, because some STIs—including syphilis, HIV, and gonorrhea—were not included in the analysis; however, the prevalence of these STIs is low in this age group.

Study Examines Prevalence of Heterosexual Anal and Oral Sex

An NCHHSTP study examined the correlates of heterosexual anal and oral sex in the general population, and found a high lifetime prevalence of anal sex (>30% of sample) and oral sex (>60% of sample) and relatively low levels of condom use in various subgroups. An association between anal sex and viral STDs was found among women and Hispanic and black men. This suggests that physicians and other public health practitioners should consider assessing anal and oral sex practices when

determining patients' STI/HIV risk (e.g., during sexual risk assessments). Incorporating messages about the risks of anal and oral sex could reduce potential unintended consequences that may result when interventions among heterosexuals solely focus on vaginal sex.



Chlamydia Screening and Testing

An NCHHSTP study identified missed opportunities for chlamydia testing of young women at ambulatory care visits during pelvic examinations, Pap tests, and urinalyses. These types of encounters can be targeted for the development of structural interventions that can result in increased chlamydia screening. The study also identified physician specialties—obstetrics and gynecology and primary care—that should be targeted for interventions to increase screening rates. Further, chlamydia screening data may be used to track rates over time, to monitor the effectiveness of interventions designed to increase screening. The study found that obstetrician-gynecologists did not perform a

chlamydia test at 82% of visits with pelvic examinations and at 77% of visits with Pap tests. Primary care physicians did not perform a chlamydia test at 99% of visits with urinalyses.

Advances in Laboratory Testing for Sexually Transmitted Diseases

NCHHSTP is working to make it easier to diagnose LGV (*Lymphogranuloma venereum*), a sexually transmitted disease caused by three strains of the bacterium *Chlamydia trachomatis*. NCHHSTP researchers have refined a real-time polymerase chain reaction (PCR) diagnostic test to differentiate LGV from non-LGV infection of the rectum. In addition, the test is able to detect specimens that contain PCR inhibitors and can verify the adequacy of the specimen.

LGV can be difficult to diagnose. Typically, the primary lesion produced by LGV is a small genital or rectal lesion, which can ulcerate at the site of transmission after an incubation period of 3 to 30 days. These ulcers may remain undetected. As with other STDs that cause ulcers, LGV may facilitate transmission and acquisition of HIV. Although LGV infections are thought to be relatively rare in the United States, the number of U.S. cases is unknown. Outbreaks in the Netherlands and other European countries among men who have

sex with men have raised concerns about possible cases of LGV in the United States.

Cost Effectiveness of Chlamydia Screening and Human Papillomavirus Prevention

NCHHSTP has conducted cost-effectiveness research for chlamydia testing and HPV prevention. One study analyzed the cost-effectiveness of screening high-risk men for chlamydia against the alternative of expanding chlamydia screening of lower-risk women. Screening high-risk men was found to be cost-saving compared to expanding screening in lower-risk women. Screening high-risk men also resulted in treatment of a greater proportion of chlamydial infections and prevention of more sequelae of infection at lower overall cost. The chlamydia prevalence in men was 86% higher than the prevalence in women who would



have been screened as an alternative. This suggests that limited programs targeting venues that have access to high-risk men can be a valuable tool in chlamydia prevention.

Another NCHHSTP study used a simplified model, based on the current economic and health effects of HPV, to estimate the cost-effectiveness of HPV vaccination of 12-year-old girls in the United States. HPV vaccination of 12-year-old girls was found to be cost-effective by the usual standards of cost-effectiveness in the United States. Results were consistent with previous studies based on more complex models. This consistency is important because models of various degrees of complexity will be essential tools for policy makers in the development of optimal HPV vaccination strategies.

Diagnosing Hepatitis C

NCHHSTP has developed a novel approach to viral hepatitis diagnostics. Members of its bioinformatics laboratory constructed a computational model based on an artificial neural network that is able to predict the structure of viral proteins from genetic information alone, paving the way toward rationally designed diagnostic assays. As reported recently in *Bioinformatics*, this unique model was applied to enhance dramatically the ability to detect antibodies to hepatitis C virus.

Identifying Patterns in the Hepatitis C Virus Genome That Shape the Evolution of Hepatitis C

Like HIV, the hepatitis C virus mutates continually during virus replication, which helps it become resistant to drug therapy. NCHHSTP scientists have identified molecular interaction patterns in the HCV genome that shape the evolution of HCV, thus providing a basis for developing strategies to devise new antiviral drugs and forestall vaccine escape or drug resistance mutations. This research, published in the journal *Proceedings of the National Academy of Science of the United States of America*, (July 15, 2008;28:9685-90) was done at CDC using computer modeling to explore the effect of mutations in each of the 3,010 codon sites of genotype 1b HCV. The scientists found that mutations in only 60 sites increased the virus's ability to replicate; mutations in 1,905 sites decreased replication and in other sites had no effect. Importantly, mutations were linked—or “coordinated”—with each other, with some linkages stronger than others. Thus the likelihood and effect of mutations could be analyzed as a complex network, identifying sites at which mutations would have the most impact on viral replication and thus be more suitable targets for drugs and vaccines.

Cluster of Hepatitis C Virus Infections Associated With a Suburban High School

The absence of a laboratory test that distinguishes acute from chronic hepatitis C virus infection has impeded prevention and control efforts by making it difficult to assess national HCV infection incidence and identify clusters of recent transmission that may be targeted for intervention. Using funds provided by NCHHSTP for enhanced hepatitis surveillance, the New York State Department of Health and the Erie County Department of Health investigated reports of HCV infection in persons under age 30, used as a surrogate for possible recent infection, and identified a cluster of 20 recently-infected persons who had attended a single high school in suburban Buffalo.

Nearly all persons reported injection drug use. This discovery led to several prevention and control initiatives by state and county health authorities, in collaboration with school districts and local healthcare providers, to promote prevention education and services in areas with high HCV infection rates. These included prevention of injection drug use and bloodborne pathogen transmission and provision of primary care, STD/HIV screening, drug treatment, harm reduction, hepatitis testing, and treatment services.

The results, reported in *MMWR* (May 16, 2008;57(19):517-21), demonstrate the potential for improved hepatitis C surveillance to identify cases, estimate the magnitude of HCV infection and disease, detect outbreaks, evaluate response measures, and develop effective prevention measures. Given limited resources, an enhanced surveillance approach that gives highest priority to likely new cases of HCV infection, such as those in persons aged <30 years, can be implemented to identify clusters and outbreaks.

Importance of Delivery Hospitals in Implementing the National Strategy to Eliminate Hepatitis B Virus Transmission in the United States

Administration of the first dose of hepatitis B vaccine shortly after birth is important to prevent transmission from mothers with chronic HBV infection to their infants. Vaccination is important because infants who are infected perinatally have a high likelihood of remaining chronically infected and developing cirrhosis or liver cancer as adults. The Advisory Committee on Immunization Practices recommends that all pregnant women be screened for hepatitis B and that newborns of chronically infected women receive post-exposure prophylaxis within



12 hours after birth. However, implementation of this recommendation is incomplete.

NCHHSTP, in collaboration with the National Center for Immunization and Respiratory Diseases, analyzed data from the 2006 National Immunization Survey and found that during January 2003–June 2005, the national newborn hepatitis B vaccination coverage estimate was only 42.8% at age 1 day and 50.1% at age 3 days, with substantial variation across states and local areas (*MMWR* July 24, 2008; 57(30):825-8.). These data reveal that newborn hepatitis B vaccination coverage is low and that delivery hospitals play a key role in the national strategy to eliminate hepatitis B transmission by ensuring vaccination of all newborns before discharge.

Healthy People in a Healthy World

Antiretroviral Treatment Costing Study

CDC is contributing to PEPFAR support of antiretroviral treatment (ART) to over 1.73 million individuals throughout the world. Efficient scale-up of ART requires an accurate estimation of resource needs and an understanding of how these needs change over time as a result of changes in the epidemic.

CDC is providing leadership on an ART costing/budgeting study in five countries: Nigeria, Uganda, Ethiopia, Botswana, and Vietnam. The 45-site study is designed to

estimate the cost of providing comprehensive HIV treatment in PEPFAR-supported programs. Preliminary analysis of the two-year, multi-country study indicates that treatment costs vary widely across facilities and that the composition of spending changes markedly as programs mature.

This study generated interest among other PEPFAR-funded countries, prompting three additional countries to conduct economic evaluations of HIV treatment using country-level funding. The lessons learned from this project will be incorporated into an economic evaluation curriculum currently under development.

HIV Counseling and Testing in TB programs

TB is the leading cause of death among HIV-infected individuals, and one of the most common opportunistic infections. The prevalence of HIV infection among patients in TB clinical settings is high—up to 80% in some countries. In many countries, GAP has

worked with partners to support the expansion of provider-initiated testing and counseling among TB patients and collaborated with international partners to develop and disseminate protocols, training, and policy to improve the integration of HIV and TB service care.

CDC developed a new tool to assist countries in planning and implementing provider-initiated counseling and testing in TB clinical settings. The tool includes a template for national guidance for provider-initiated HIV testing and counseling programs and procedures, a training curriculum for clinic staff, and provider job aids.

The tool was field tested with the assistance of the National AIDS Control Program and the National Tuberculosis and Leprosy Program of Tanzania. In preliminary evaluations 3 months after training, 88% of TB patients in the clinical sites where the program was implemented had accepted and undergone HIV testing. Health care providers in these TB clinical settings remained highly motivated, retained skills in pre- and post-test counseling and record keeping that they obtained through training on voluntary counseling and testing, and often requested that expanded HIV care and treatment activities, such as ART, be provided in their programs.

Application of a Broadly Sensitive Genotyping Assay for Surveillance of HIV-1 Drug Resistance in PEPFAR Countries

GAP, through PEPFAR, is leading efforts to provide HIV drug resistance surveillance in resource-limited settings. These critical surveillance data help guide public health policies to reduce occurrences of drug resistance and inform the selection of future drug regimens, without draining resources from higher-priority treatment, prevention, and laboratory expansion activities.

An important part of GAP's critical support has been the development of a broadly sensitive assay that uses dried blood spots to detect resistance, even when plasma viral load is low (≤ 400 copies/ml). GAP applied this assay to dried blood spots samples collected from HIV-infected individuals (who had never had treatment) from China, Malawi, and Tanzania. With the dried blood spots samples collected under field conditions, GAP was able to genotype 90% of the samples. This assay is less expensive and broadly sensitive, and it will be an essential tool in the implementation of HIV drug resistance surveillance and monitoring in resource-limited countries. The data were presented at the XVII International HIV Drug Resistance Workshop.



Healthy People in Healthy Places

Latent Tuberculosis Infection Treatment in the United States and Canada

The second phase of a three-part study evaluated acceptance and completion of treatment for latent TB infection in the United States and Canada using retrospective chart reviews and clinic surveys at 68 clinics. Of persons offered treatment, 83% accepted it, with employees of a health care facility more likely and contacts of a patient with TB less likely to decline. A 9-month course of isoniazid was prescribed for 1,674 persons (84.0%), 6 months of isoniazid for 181 persons (9.1%), and 4 months of rifampin for 91 persons (4.6%). Overall, less than half (47%) of 1,994 persons initiating treatment for latent TB infection completed therapy. Risk factors for failure to complete included initiating the 9-month regimen, residence in a congregate setting, injection drug use, age >15 years, and employment at a health care facility. Shorter regimens and interventions targeting residents of congregate settings, injection drug users and employees of health care facilities are needed to increase completion rates.

Prevalence of Tuberculosis Infection in the United States

This study used National Health and Nutrition Examination Survey data from 1999-2000 to determine the prevalence of TB infection in the United States. Prevalence in the United States was estimated to be 4.2%, or over 11 million persons. TB infection was especially prevalent among the foreign-born (18.7%), non-Hispanic blacks/African-Americans (7.0%), Mexican-Americans (9.4%), and individuals living in poverty (6.1%). The study found that while progress in controlling TB has been made, a large number of the U.S. population is still infected with TB and therefore at risk of developing TB disease. This study provides a strong scientific foundation for understanding the risk of TB among those born abroad, African Americans, and the poor.

Development and Evaluation of a Tuberculosis Vaccine

Over one third of the world's population is infected with *Mycobacterium tuberculosis*. The current vaccine, based on the attenuated strain *M. bovis* BCG and administered intradermally, has variable efficacy among different populations. NCHHSTP research has identified a possible subunit



vaccine that induces a strong anti-mycobacterial response when administered via intranasal route in a mouse model. These results have led to the filing of an international patent for the development of a new mucosal subunit vaccine to prevent TB. NCHHSTP researchers and colleagues at CDC and Emory Vaccine Center have been awarded a \$100,000 grant from the Georgia Research Alliance to evaluate the protective efficacy and mechanisms of protection of this new subunit vaccine.

Epidemiology of TB Among Foreign-born Persons in the United States

NCHHSTP analyzed data from the National Tuberculosis Surveillance System and the U.S. Census Bureau to study the Epidemiology of TB among foreign-born persons in the United States. The study found that rates of TB disease have

declined among both U.S.-born persons and foreign-born persons, but that rate of decline has been much slower for foreign-born persons, thereby widening the disparity in TB case rates between the two. In 2006, 57% of all TB cases in the United States occurred among foreign-born persons.

The study estimated that adding TB culture testing to overseas pre-immigration screening for U.S.-bound migrants would have prevented the importation of at most 250 TB cases per year from 2001-2006. Since approximately 7,000 TB cases occur among foreign-born persons each year, additional strategies are needed. Finding and treating latent TB infection is one such strategy, but with over 37 million foreign-born persons living in the United States, reaching out to all of them would not be feasible.

The study found that the risk of TB among foreign-born persons varies based on time since U.S. entry, age at U.S. entry, and country of birth. Annual TB case rates declined with increasing time since U.S. entry, but rates never decline to the level of U.S.-born persons. Case rates were highest for persons born in most countries of sub-Saharan Africa and Southeast Asia, exceeding 100 times the rate of U.S.-born persons during the first 2 years after U.S. arrival. Over half of all cases of TB in foreign-born persons occur in the 20% of foreign-born persons born in the highest risk countries, which include most countries of sub-Saharan Africa and South and

Southeast Asia. The study was published in *JAMA* (300; 4: 405-12).



Publication of Guidelines

Updated Recommendations for Hepatitis B Screening and Evaluation and Management of Chronically Infected Persons and Their Contacts

Serologic testing for hepatitis B surface antigen (HBsAg) is the primary method for identifying persons with chronic hepatitis B virus infection. NCHHSTP published updated and expanded CDC guidelines for HBsAg test-

ing, including new recommendations for public health evaluation and management for chronically infected persons and their contacts (*MMWR*, September 2008). Testing has been recommended previously for pregnant women, infants born to HBsAg-positive mothers, household contacts and sex partners of hepatitis B-infected persons, persons born in countries with HBsAg prevalence of >8%, persons who are the source of blood or body fluid exposures that might warrant post-exposure prophylaxis (e.g., needle-stick injury to a healthcare worker or sexual assault), and persons infected with HIV.

The new recommendations, which were developed with input from a two-day consultants meeting, include routine testing for HBsAg in additional populations with HBsAg prevalence of >2%: persons born in geographic regions with HBsAg prevalence of >2%, men who have sex with men, and injection-drug users. The recommendations report is intended to serve as a resource for public health officials, organizations, and health-care professionals involved in the development, delivery, and evaluation of prevention and clinical services.

Budget

NCHHSTP receives funding from the Labor-HHS appropriation to support both its domestic and global programs. Most funding comes through the HIV/AIDS, Viral Hepatitis, STD and TB prevention budget activity, and the Global Health budget activity. In addition, NCHHSTP's Global AIDS Program receives significant support from the Global HIV/AIDS Initiative (GHAI) account. Other critical sources of support include the budget activities for CDC Leadership and Management, Emerging Infections, Food Safety (for hepatitis A), Health Marketing, and Health Informatics.

Funding for most domestic programs has remained level or declined slightly over the past 4 years. (See figure 1.) In 2007, additional funding of \$45 million was directed to the President's domestic HIV Testing Initiative.

Of NCHHSTP's \$1 billion domestic budget, the majority of funds, nearly 70%, 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 86%, was distributed extramurally to state and local health departments, nongovernmental agencies, universities and other partners. (See figure 3.)

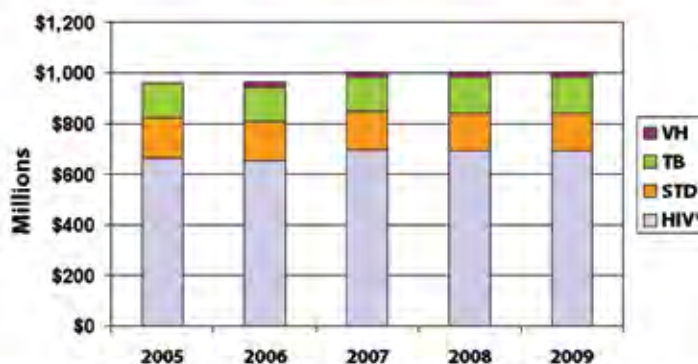
Funding from the GHAI account for global activities of the Global AIDS Program has increased significantly to support the

President's Emergency Plan for AIDS Relief. (See figure 4.)

Other budget lines at CDC support the Center's health communications activities, health informatics activities, and leadership and management. Also, Emerging Infectious Disease (EID) funds

support surveillance for vaccine preventable STDs (Hepatitis B and HPV), and surveillance for drug resistant infections (e.g. gonorrhea). In addition, some of NCHHSTP's activities to prevent hepatitis A are supported through the Food Safety Budget activity. (See table 1.)

Figure 1: NCHHSTP Domestic Program Budget FY 2005-2009**



*HIV amounts in FYs 2007 and 2008 reflect President's Initiative for HIV testing.
 **The budget for FY 2009 was extended at the FY 2008 level by a Continuing Appropriations Act that expires March 6, 2009.

*HIV amounts in FYs 2007 and 2008 reflect President's Initiative for HIV testing.

**The budget for FY2008 level by a Continuing Appropriations Act that expires March 6, 2009.

Figure 2: Domestic HIV, Viral Hepatitis, STD, and TB Prevention Actual Funding, FY 2008

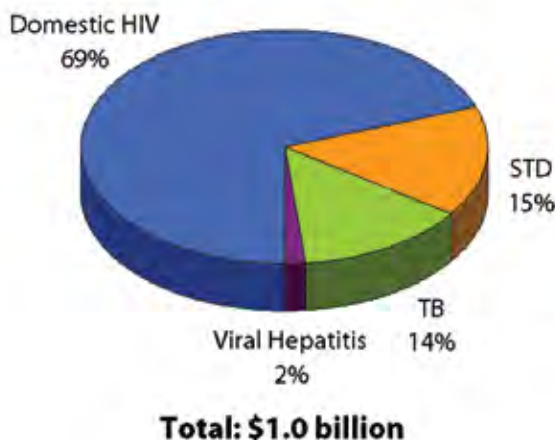
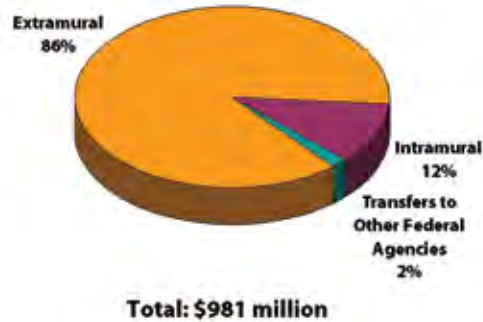


Figure 3: Domestic HIV, Viral Hepatitis, STD, and TB Prevention Extramural and Intramural Obligations, FY 2008*



*Excludes Gift Fund, Crada, Royalties and Reimbursable Funding.

Figure 4: Global AIDS Program (GAP) Budget

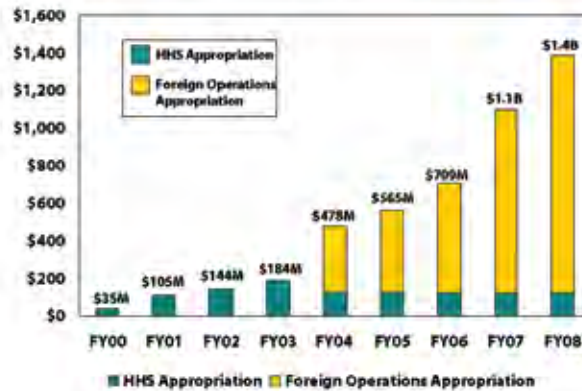


TABLE 1: OTHER CRITICAL SUPPORT RECEIVED FY 2005 - 2008

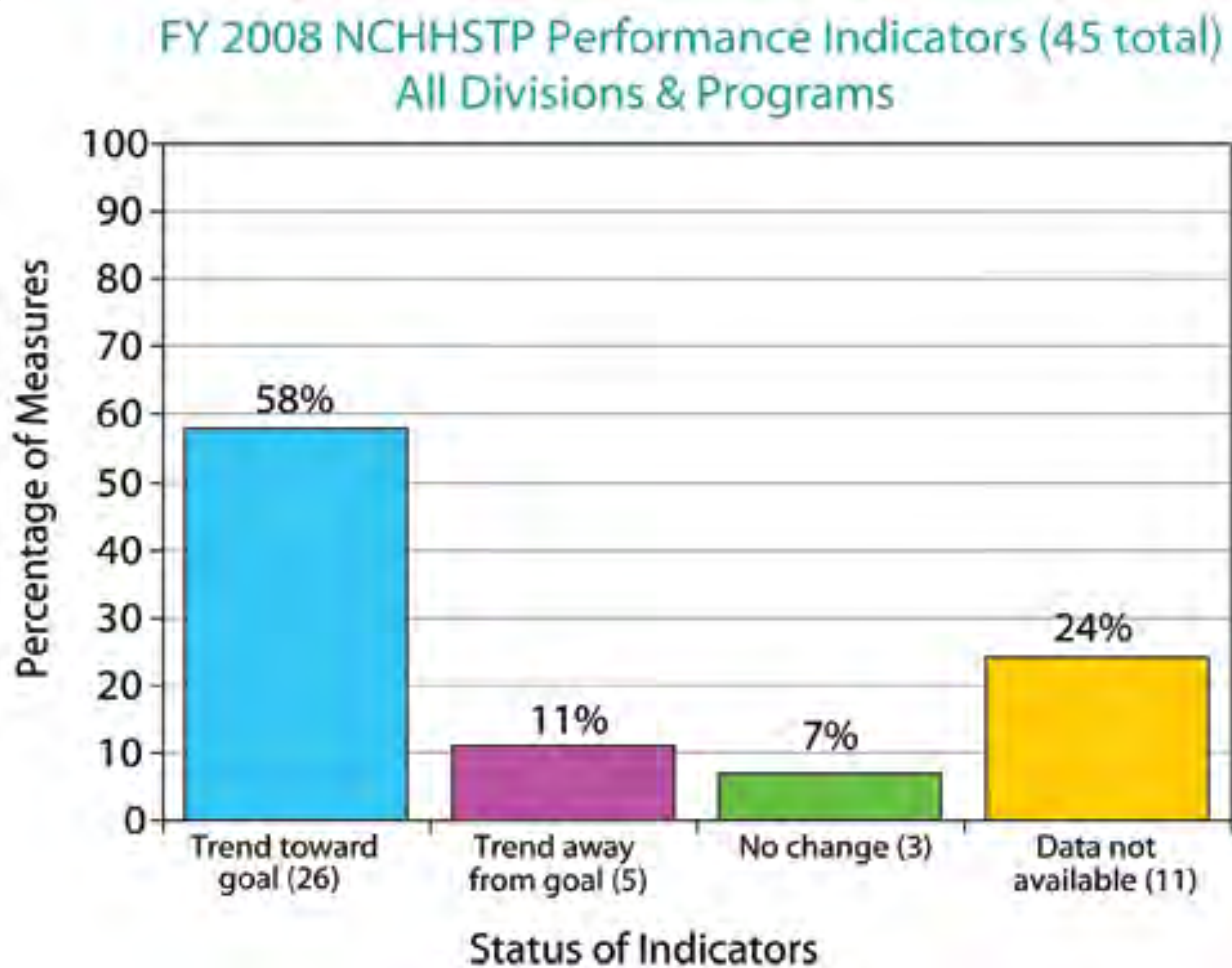
	2005	2006	2007*	2008
Leadership & Management	\$ 9,078,000	\$ 6,925,000	\$ 3,304,000	\$ 2,822,487
Business Support Services	\$ 1,261,000	-	\$ 482,000	-
EID	-	-	\$ 8,363,000	\$ 6,455,397
Food Safety (HAV)	-	-	\$ 693,000	\$ 683,506
Health Marketing	\$ 11,806,000	\$ 11,290,000	\$ 1,194,000**	-
Health Informatics	\$ 5,908,000	\$ 5,320,000	-	-
HHS Minority AIDS Initiative	\$ 9,722,000	\$ 8,390,000	\$ 7,697,000	\$ 7,284,975
Congressional Projects	\$ 1,389,000	-	-	\$ 1,275,324

*2007 amounts for food safety and emerging infectious diseases reflect the addition of the Division of Viral Hepatitis to the Center in 2007. EID funding also supports activities related to anti-microbial resistant STDs, and monitoring related to vaccine-preventable diseases.

**In 2007, funding for health marketing was reduced to reflect the transfer of funds for the National Prevention Information Network (formerly known as the AIDS Clearinghouse) back to the HIV prevention budget line.

PERFORMANCE INDICATORS

NCHHSTP's domestic and international portfolios have been reviewed by the Office of Management and Budget (OMB) and found to be performing effectively. Results are available at www.expectmore.gov. In collaboration with OMB, the Center has established 45 performance indicators to assess the extent to which our efforts result in real changes in health outcomes in the United States and abroad. These indicators reveal that positive progress is being made; data on 58% of the indicators have improved just since 2002. NCHHSTP is working to improve outcomes in those areas where progress has not been made and to establish data systems to assess performance in other areas.



Performance Measures for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Domestic HIV/AIDS Prevention

GOAL 1: DECREASE THE ANNUAL HIV INCIDENCE RATE

MEASURE	BASELINE	RESULT
1. Decrease the annual HIV incidence.	56,300 (2006)	Not Available
2. Decrease the number of pediatric AIDS cases.	118	68 (2005)
3. Reduce the black:white rate ratio of HIV/AIDS diagnoses.*	10.33:1	8.71:1 (2005)
4. Reduce the Hispanic:white rate ratio of HIV/AIDS diagnoses.*	4.1:1	3.5:1 (2005)
5. Increase the number of states with mature, name-based HIV surveillance systems.	29	34
6. Increase the percentage of HIV prevention program grantees using Program Evaluation and Monitoring System (PEMS) to monitor program implementation.	0 (2006)	Not Available
7. Increase the number of evidence-based prevention interventions that are packaged and available for use in the field by prevention program grantees.	7	16
8. Increase the number of agencies trained each year to implement Diffusion of Effective Behavior Interventions (DEBIs).	53	1147

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.

- Baseline established for 2002, unless otherwise indicated
- Result established from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

GOAL 2: DECREASE THE RATE OF HIV TRANSMISSION BY HIV-INFECTED PERSONS

MEASURE	BASELINE	RESULT
1. Decrease the rate of HIV transmission by HIV-infected persons.	Not Available	Not Available
2. Decrease risky sexual and drug using behaviors among persons at risk for transmitting HIV.	Not Available	Not Available

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

GOAL 3: DECREASE RISKY SEXUAL AND DRUG USING BEHAVIORS AMONG PERSONS AT RISK FOR ACQUIRING HIV

MEASURE	BASELINE	RESULT
1. Decrease risky sexual and drug-using behaviors among persons at risk for acquiring HIV.	MSM – 47% (2004)	Not Available
2. Increase the proportion of persons at risk for HIV who received HIV prevention interventions.	MSM – 18.9% (2004)	Not Available

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

- Baseline established for 2002, unless otherwise indicated
- Result established from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

GOAL 4: INCREASE THE PROPORTION OF HIV-INFECTED PEOPLE IN THE U.S. WHO KNOW THEY ARE INFECTED

MEASURE	BASELINE	RESULT
1. Increase the proportion of HIV-infected people in the United States who know they are infected.	74.5% (2003)	79% (2006)
2. Increase the proportion of persons with HIV-positive test results from publicly funded counseling and testing sites who receive their test results.	81%	83% (2006)
3. Increase the proportion of people with HIV diagnosed before progression to AIDS.*	78.1%	79.7% (2006)

Data Source: Measure 1 – Special studies using eHARS. Measure 2 - Counseling, Testing, and Referral System (CTR) g 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.

GOAL 5: INCREASE THE PROPORTION OF HIV-INFECTED PERSONS WHO ARE LINKED TO PREVENTION AND CARE SERVICES

MEASURE	BASELINE	RESULT
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).	Not Available	Not Available
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.	Not Available	Not Available
3. Increase the percentage of HIV-infected persons in publicly funded counseling and testing sites who were referred to HIV prevention services.	Not Available	Not Available
4. Increase the percentage of HIV-infected persons in medical care who initiated medical care within three months of diagnosis.	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 from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

Viral Hepatitis Prevention

GOAL 6: REDUCE THE RATES OF VIRAL HEPATITIS IN THE UNITED STATES

MEASURE	BASELINE	RESULT
1. Reduce the rate of new cases of hepatitis A (per 100,000 population).	11.3/100,000 (1997)	1.0/100,000
2. Reduce the rate of new cases of hepatitis B (per 100,000 population).	2.6/100,000 (2003)	1.5/100,000
3. Increase the proportion of individuals knowing their hepatitis C virus infection status.	50% (2004)	Not Available
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)	36 areas

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

- Baseline established for 2002, unless otherwise indicated
- Result established from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

STD Prevention

GOAL 7: REDUCE THE RATES OF NON-HIV SEXUALLY TRANSMITTED DISEASES (STDs) IN THE UNITED STATES

MEASURE	BASELINE	RESULT
1. Reduce pelvic inflammatory disease in the U.S.	197,000	146,000
2. Reduce the prevalence of chlamydia among high-risk women under age 25.	10.1%	13.2%
3. Reduce the prevalence of chlamydia among women under age 25, in publicly funded family planning clinics.	5.6%	6.9%
4. Reduce the incidence of gonorrhea in women aged 15 to 44 (per 100,000 population).	279/100,000	290/100,000
5. Eliminate syphilis in the U.S.	2.4/100,000	3.8/100,000
6.a) Reduce the incidence of P&S syphilis in men (per 100,000 population). *	5.7/100,000 (2006)	6.6/100,000
6.b) Reduce the incidence of P&S syphilis in women (per 100,000 population).	1.1/100,000	1.1/100,000
7. Reduce the incidence of congenital syphilis (per 100,000 live births).	10.2/100,000	10.5/100,000
8. Reduce the racial disparity of P&S syphilis (reported ratio is black:white).	8.1:1	7:1

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. Measures 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 with men 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 from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

TB Prevention

GOAL 8: DECREASE THE RATE OF CASES OF TUBERCULOSIS AMONG U.S.-BORN PERSONS IN THE UNITED STATES

MEASURE	BASELINE	RESULT
1. Decrease the rate of cases of TB among U.S.-born persons (per 100,000 population).	2.9	2.1
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).	80.9%	82.7% (2005)
3. Increase the percentage of TB patients with initial positive cultures who also have drug susceptibility results.	93.0%	94.6%
4. Increase the percentage of infected contacts of infectious (Acid-Fast Bacillus (AFB) smear-positive) cases that are placed on treatment for latent TB infection and complete a treatment regimen.	41.0%	43.5% (2005)

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.

- Baseline established for 2002, unless otherwise indicated
- Result established from 2007 data, unless otherwise indicated
- Progress reflects performance data available as of 11/7/2008

Global AIDS Program (GAP)

GOAL 9: THE GLOBAL AIDS PROGRAM WILL HELP IMPLEMENT THE PRESIDENT'S EMERGENCY PLAN FOR AIDS RELIEF IN 15 FOCUS COUNTRIES BY PARTNERING WITH OTHER USG AGENCIES TO ACHIEVE THE GOALS OF TREATING 2 MILLION HIV-INFECTED PEOPLE AND CARING FOR 10 MILLION PEOPLE INFECTED WITH OR AFFECTED BY HIV/AIDS BY 2008, AND PREVENTING 7 MILLION NEW HIV INFECTIONS BY 2010

Focus Country Performance Measures (Includes all USG activities)*

MEASURE	BASELINE	RESULT
1. Number of people receiving HIV/AIDS treatment.	69,911 (2003)	1,358,375
2. Number of individuals provided with general HIV-related palliative care/basic health care and support during the reporting period, including TB.	854,800 (2004)	3,901,543
3. Number of pregnant women receiving PMTCT services, including counseling and testing during the reporting period.	1,271,300 (2004)	4,011,797
4. Number of individuals who received counseling and testing during the reporting period (counseling includes the provision of test results to clients).	1,791,900 (2004)	10,580,699

Data Source: Country Operational Plans (COPS) database.

* Performance is reported for entire USG efforts by the OGAC. Data are through September 2007.

GOAL 10: THE GLOBAL AIDS PROGRAM WILL HELP IMPLEMENT THE PRESIDENT’S EMERGENCY PLAN FOR AIDS RELIEF IN THE OTHER BILATERAL COUNTRIES BY PARTNERING WITH OTHER USG AGENCIES , INTERNATIONAL AND HOST COUNTRY ORGANIZATIONS TO ACHIEVE THE GOALS OF PREVENTING NEW HIV INFECTIONS, TREATING HIV-INFECTED PEOPLE, AND CARING FOR PEOPLE INFECTED WITH OR AFFECTED BY HIV/AIDS

Other Bilateral Countries Performance Measures (Includes all USG activities)*

MEASURE	BASELINE	RESULT
1. Number of individuals receiving antiretroviral therapy at the end of the reporting period (includes PMTCT+ sites).	20,774 (2004)	276,965
2. Number of individuals trained to provide laboratory-related activities.	1,488 (2004)	3,988
3. Number of pregnant women who received HIV counseling and testing for PMTCT and received their test results.	145,133 (2004)	1,108,500
4. Number of individuals who received confidential counseling and testing during the reporting period.	773,649 (2004)	5,249,131

Data Source: GAP Planning and Reporting System and OGAC.

* This data was generated before the other bilateral countries received any specific guidance on monitoring and evaluation from OGAC. Hence, indicator values for certain programmatic activities appear low or non-existent due to lack of available existing data. Indicators include data from CDC, USAID, Peace Corps, and Department of Defense (DoD) and are based on each agency's existing indicators for reporting which were mapped into PEPFAR indicators. The reported indicators are a subset of the full set of PEPFAR indicators, i.e., only those for which FY 2005 USG data is available. Data are through September 2007, with exception of measure 3, which is through March 2007.

Overarching NCHHSTP Efficiency Measure

EFFICIENCY MEASURE	BASELINE	RESULT
1. Increase the efficiency of core domestic HIV/AIDS surveillance as measured by the cost per estimated case of HIV/AIDS diagnosed each year.	\$1,357 (2003)	\$887 (2005)

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.

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION**

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