

6-1 Overview of Supplemental Projects

DSHS Central Office is responsible for administering a number of CDC funded supplemental projects whose functions are handled primarily at central office. Below is a description of the supplemental projects in the TB/HIV/STD Epidemiology and Surveillance Branch.

6-2 HIV Incidence Surveillance

HIV incidence is the estimated total number of new HIV infections, diagnosed or undiagnosed, in a given period. HIV incidence estimates are used to monitor the HIV epidemic, and to help guide policies and programs created to serve communities and populations most affected by HIV. HIV incidence estimates reflect the leading edge of HIV transmission, HIV infection trends, and the impact of HIV prevention efforts.

Since 2005, Texas has participated in a national initiative funded by the Centers for Disease Control and Prevention (CDC) to estimate HIV incidence. The initiative uses the results from a laboratory test and information about a newly diagnosed patient's prior HIV testing and treatment history to characterize an infection as recent or long-term regardless of the date the patient was reported as HIV-positive. Results from all newly diagnosed patients within a given year are combined to provide an estimate of the total number of newly infected patients in Texas. An in-depth description of the project's methodology and the mathematics behind the estimation can be found online:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0017502>

6-3 Molecular HIV Surveillance (Formally known as Variant Atypical Resistance HIV Surveillance)

The VARHS project (Variant Atypical Resistant HIV Surveillance) began in Texas with testing of HIV-1 genotype sequences for drug resistance using remnant samples from Western Blot tests from newly diagnosed cases, much how the Incidence program is still performed today. HIV-1 genotype testing is now recommended for all persons newly diagnosed with HIV, persons with Acute HIV Infection, antiretroviral therapy (ART)-naïve patients with chronic HIV infection, persons with antiretroviral regimen failure, persons with sub-optimal suppression of viral load and HIV-infected pregnant women. All HIV-1 genotype tests performed on patients seen in Texas are required to be reported to the state of Texas. The MHS coordinator collects all genotype tests reported via ELR, and imports them into eHARS. Sequence results can be used to identify several different things, including the sub-type of HIV, presence of drug resistant strains, and transmission network analysis. Each of these are important in their own right. Identifying the subtype present in the population allows for surveillance to monitor trends in the type of HIV that people are infected with. Because the different strains respond to medication in different ways, it is important to know the subtype of HIV before treatment is initiated. By monitoring trends in subtypes and drug resistance, we can identify if new prevention and care efforts need to be taken in specific areas of the state. Perhaps the most complicated and exciting way that HIV-1 genotype data can be used is through the mapping of transmission networks. The genotype sequences can be used to identify likely transmission partners and to map clusters in transmission. This can be combined with Public Health Follow Up data to create more targeted testing and prevention strategies.

6-4 HIV Geocoding Supplemental Surveillance Project

The CDC developed the HIV Geocoding Supplemental Surveillance Project in 2011 as a mechanism to evaluate the correlation between social determinates of health and HIV infection, a goal set forth in the National HIV/AIDS Strategy. In order to achieve this goal, residence at HIV diagnosis is geocoded and overlaid with information on social determinates of health at the census tract level. In addition to geocoding the residence of diagnosis each year, staff classify the type of address is into eight categories: residential, Post Office, insufficient, missing, corrections, military, homeless, other. Cases with a residential address are selected for mapping by census tract. An analysis is conducted and aggregate results are provided to stakeholders and policy makers. National analysis of social determinants of health can be found at: http://www.cdc.gov/hiv/pdf/surveillance_Report_vol_19_no_2.pdf

6-5 National HIV Behavioral Surveillance

The National HIV Behavioral Surveillance (NHBS) Project is an ongoing behavioral surveillance system established by Centers for Disease Control and Prevention (CDC) in 2003 in cities where approximately 65 percent of all national cases of AIDS had been reported. NHBS assesses trends in HIV risk behaviors, testing behaviors, and HIV prevention services among three groups: injection drug users (IDUs); men who have sex with men (MSM); and heterosexuals at increased risk of HIV infection (HET). Dallas NHBS is conducted in the Dallas Metropolitan Division (DMD). NHBS employs two different sampling methods to recruit participants: respondent-driven sampling (RDS), a peer-referral sampling method used in the HET and IDU cycles; and a venue-based, time sampling method for the MSM cycle. The data obtained through NHBS cycles provide valuable information for guiding national and local HIV prevention efforts. More information on NHBS can be found at: <http://www.cdc.gov/hiv/statistics/systems/nhbs/>

6-6 Medical Monitoring Project

The Medical Monitoring Project (MMP) is an ongoing, population-based surveillance system that is currently conducted in 23 project areas by local and state public health departments in collaboration with the CDC. Texas has two sites: the city of Houston and the state of Texas, excluding Harris County. From 2005-2014, HIV-infected adults receiving medical care were randomly selected from a sample of HIV care facilities within the project areas. Starting in 2015, HIV-infected adults will be randomly selected from the National HIV Surveillance System (NHSS).

The primary objectives of MMP have been to 1) provide locally and nationally representative estimates of risk behaviors and clinical outcomes of persons receiving HIV care; 2) describe health-related behaviors; 3) determine accessibility and use of prevention, care, and support services; 4) increase knowledge of the care and treatment provided; and 5) examine variations of factors by respondent characteristics.

Data are collected through participant interviews and medical chart reviews. Collection of data from interviews with HIV-diagnosed persons provides information on current behaviors that may facilitate HIV transmission; seeking of, access to, and use of HIV-related prevention services; utilization of HIV-related medical services; and adherence to medication regimens. Through abstraction of medical records and

interviews with eligible persons, MMP provides information on clinical conditions that result from HIV-infected persons' illness or the medications they take, as well as the HIV care and support services they receive and the quality of these services. This surveillance project describes met and unmet needs for HIV care and prevention services, which is information that can be used to evaluate these services and to direct future resources for HIV-infected persons.

The expansion of the population of inference to all HIV diagnosed persons will enhance the value of the data collected. The design will allow for national and state or local estimates of certain characteristics and behaviors that will be generalizable to HIV-infected adults in the United States. MMP will allow direct estimation of the proportion of HIV-diagnosed persons who have not been linked to HIV care and who have not been retained in care. For those not engaged in care, it will allow description of the barriers to engagement both from the HIV-diagnosed person's own point of view and through identification of linkage and re-engagement facilitation services received as well as demographic or behavioral factors that predict linkage or retention. For more information on MMP at a national level, visit:

<http://www.cdc.gov/hiv/statistics/systems/mmp/>

6-7 Data to Care

Data to care is a new public health initiative to identify HIV-positive persons not in care and re-engage them in HIV-related medical care. Linkage and retention in care are critical to receiving antiretrovirals, achieving viral suppression, and ultimately improving health outcomes and reducing HIV transmission. Texas implemented pilot projects in Dallas County in 2012 and Austin-Travis County in 2013 that utilize HIV surveillance data and provider medical records to identify people that have fallen out of care or were linked to care. Laboratory tests and antiretroviral prescriptions are the primary markers of HIV-related medical care used by surveillance staff, while medical providers look for missed medical appointments. Lists of persons with no evidence of care are routinely sent to the local health departments for follow-up, and each person selected is contacted through telephone calls and home visits, and then assisted with scheduling medical appointments and referrals to other services. In addition to improving linkage and retention in care, the data to care project has improved HIV surveillance data by identifying laboratory reporting gaps and providing updated information on cases. Additional information about the national HIV data to care strategy and best practices can be found at

<https://effectiveinterventions.cdc.gov/en/HighImpactPrevention/PublicHealthStrategies/DatatoCare.aspx>.