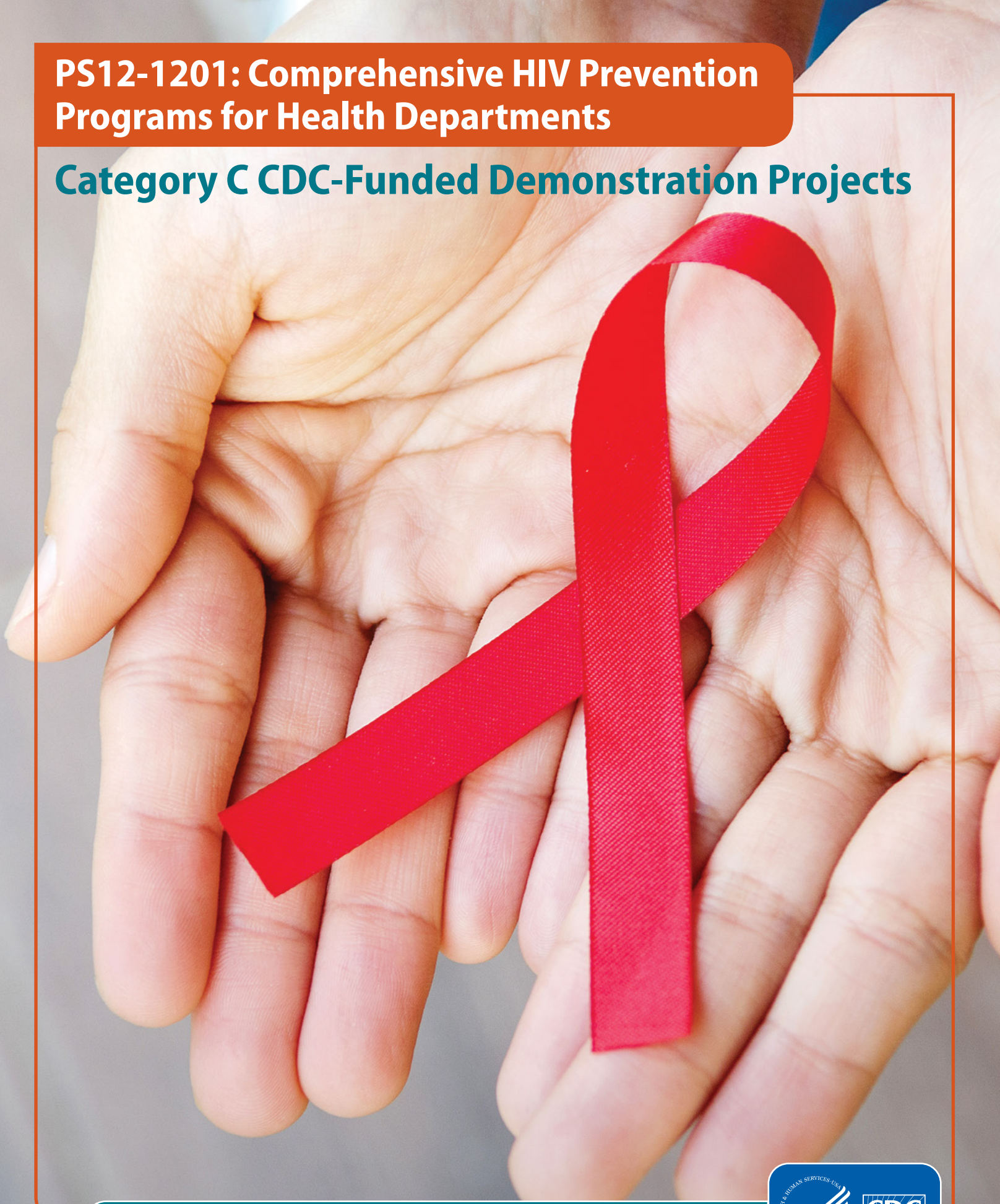
PS12-1201: Comprehensive HIV Prevention Programs for Health Departments

Category C CDC-Funded Demonstration Projects



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

PS12-1201: Comprehensive HIV Prevention Programs for Health Departments
Category C CDC-Funded Demonstration Projects

Contents

Overview

Background and Purpose of Category C

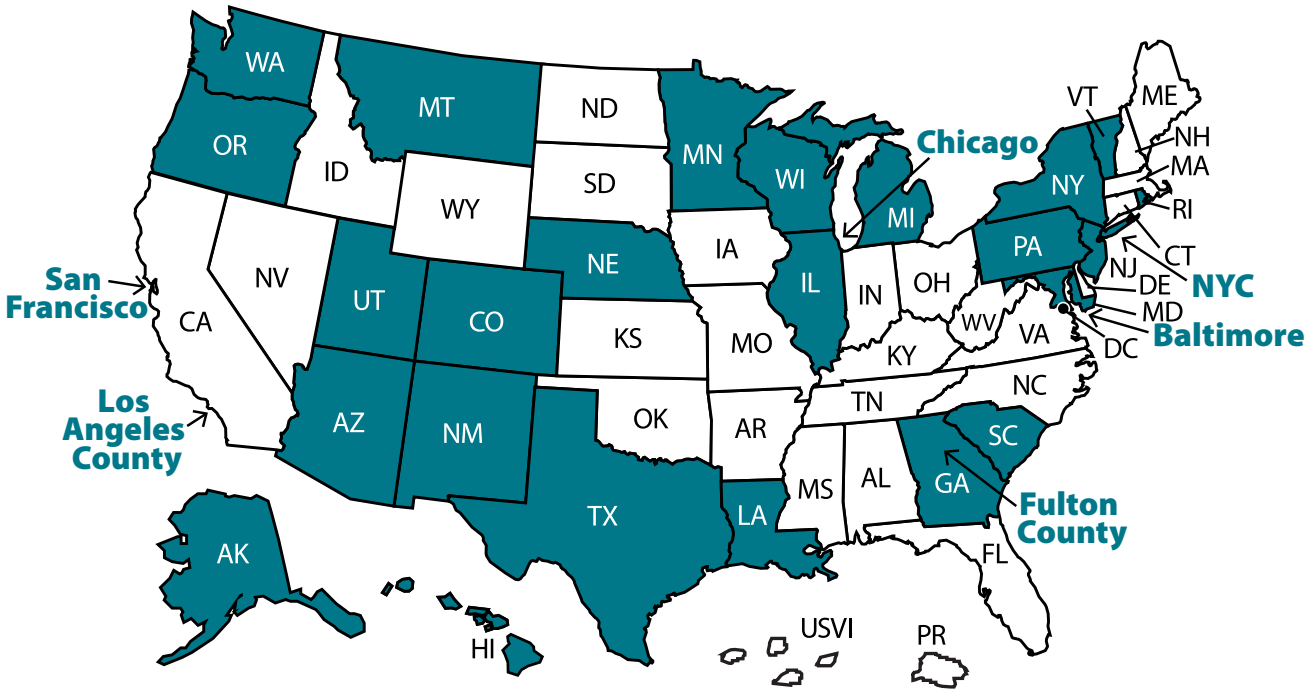
In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) *PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate innovative high-impact prevention (HIP)[2] non-research projects that were consistent with the National HIV/AIDS Strategy.[3] Projects from Category C were funded for a total of approximately $65 million for four years through December 2015. Health departments were required to conduct project activities in at least one of five Focus Areas: *HIV testing, Linkage and Re-engagement to Care for HIV-infected Persons, Use of HIV Surveillance Data, Interventions, and Use of Advanced Technology*. Main outcomes desired from Category C projects included documented successful high-impact activities and successful innovative practices transferred to routine public health practice after Category C funding ended.

The CDC Division of HIV/AIDS Prevention (DHAP) assigned Technical Monitors from five Branches[a] and the Office of the Division Director to support the projects as needed with their subject matter expertise. Locally, 19 universities were involved with Category C projects: three in a lead role and six conducting at least two types of activities (e.g., testing, clinical services, and evaluation). Community based organizations (CBOs) were involved with 21 Category C projects: seven in a lead role, nine who conducted more than one activity, and five who conducted one activity. This Overview is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels.

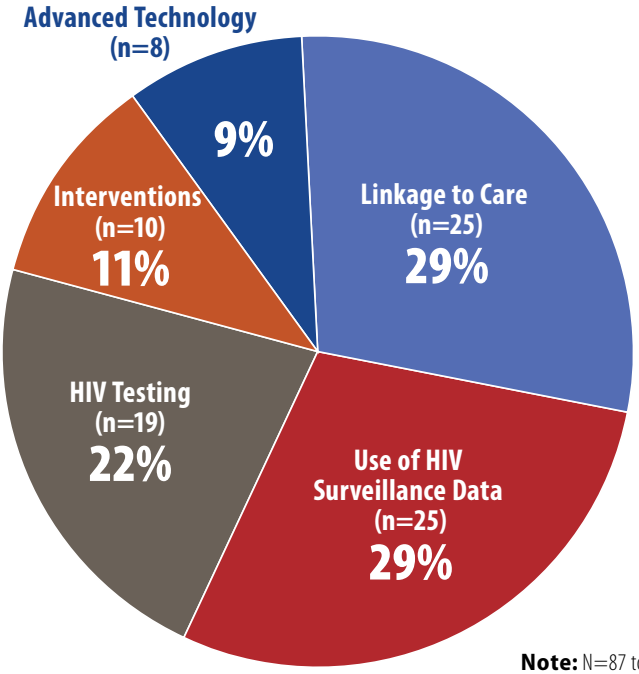
The 30 funded health departments chose to work on an average of three Focus Areas each. This Overview provides a high-level perspective and thus does not represent all of the activities, results, and context for the diverse portfolio of health department projects.

[a] Behavioral and Clinical Surveillance Branch, Capacity Building Branch, Epidemiology Branch, HIV Incidence and Case Surveillance Branch, and Prevention Research Branch.

PS12-1201 Health Departments Funded for Category C Projects



Percentage Distribution of Category C Work, by Focus Area

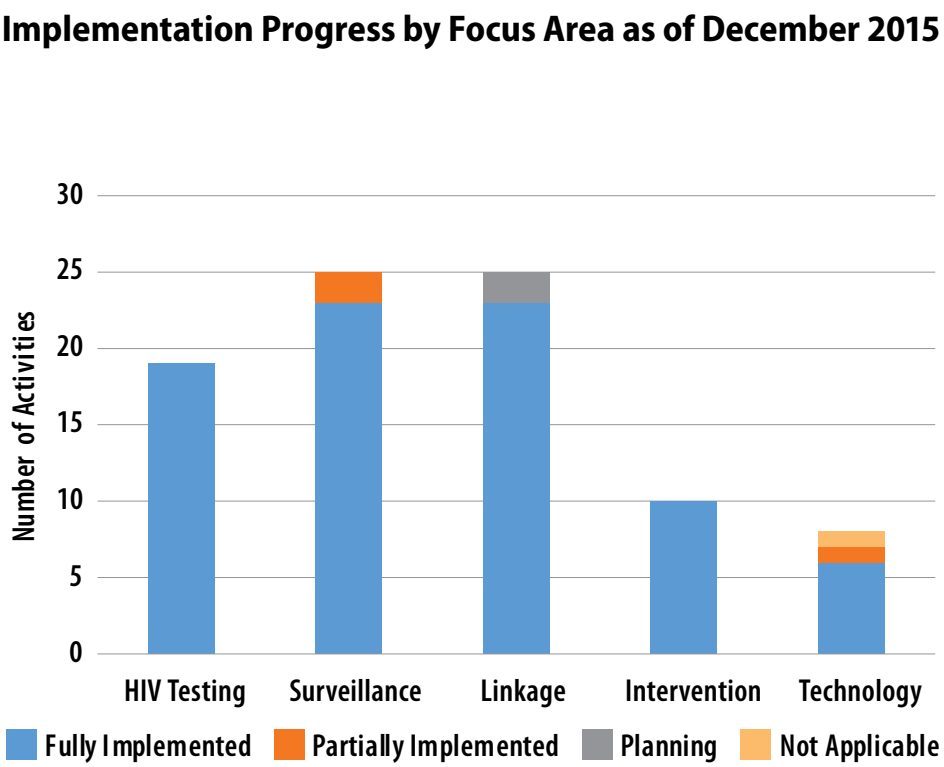


Note: N=87 total Focus Areas

Technical Assistance

CDC and non-CDC agencies, such as the National Alliance of State and Territorial AIDS Directors, provided capacity building technical assistance. Additionally, health departments and CBOs provided peer-to-peer technical assistance. CDC technical assistance was provided primarily by Category C Technical Monitors and a network of technical assistance providers via the DHAP Capacity Building Assistance Request Information System (CRIS) request system. From March 2012 to December 2015, technical assistance was provided for 45 CRIS requests. Requests were most frequently submitted for cost analysis (n=15), linkage to care (n=5), and HIV testing strategies (n=4).

Progress on Activity Implementation



Note: 87 total project activities; 1 advanced technology activity dropped in 2014.

Note: The designations "Planning," "Partially Implemented," "Fully Implemented," and "Not Applicable" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients; and examples of "Not Applicable" include an activity that was no longer conducted or a linkage project which had no newly diagnosed persons to link from testing."

Note: As of December 2015, 93% (81/87) of the health departments fully implemented their activities.

Quantitative Results

HIV testing[b]

- 0.5% (1,485/282,534) new HIV diagnoses during 2012-2015 from 9 health departments testing only in clinical sites, 10 health departments testing only in non-clinical sites, and 2 health departments testing at both sites but were unable to report all results by site type.
- From 9 health departments testing in clinical sites, 0.4% (155/34,605) new HIV diagnoses during 2012-2015 (range 0.0%-4.5%).
  - » 0.8% (150/18,783) from 5 health departments testing in HIV, STD, and ED sites vs 0.03% (5/15,822) from 4 health departments testing in substance abuse and corrections sites
  - » Compared with 0.1% minimum of HIV newly diagnosed persons screened in health-care sites (CDC guidelines[4]) and 0.5%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted routine HIV testing as part of Category A funding during 2013-2015 (only comparison data available)
- From 10 health departments testing in non-clinical sites, 0.9% (185/19,824) new HIV diagnoses during 2012-2015 (range 0.0%-4.7%).
  - » Compared with 1.0% Category A standard and 0.8% Category A performance of all 61 PS12-1201 health departments that conducted routine HIV testing during 2013-2015 (only comparison available)

Linkage to HIV care during 2012-2015 (18 HDs)

- 87% (1,987/2,271) of newly diagnosed persons attended an appointment with an HIV provider within 90 days of diagnosis.
  - » Compared with 85% NHAS goal,[3] 80% Category A Standard,[1] and 63%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted linkage activities as part of Category A funding during 2013-2015 (only comparison data available)

Re-engagement to HIV care during 2012-2015 (20 HDs)

- 75% (1,485/1,987) of HIV-infected out-of-care persons were re-engaged.
  - » Compared with 69%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted re-engagement activities as part of Category A funding during 2015 (only comparison data available)

Use of HIV surveillance data for HIV partner services (6 HDs)

- 14% (179/1,294) of the partners of HIV-infected persons were newly diagnosed with HIV.
  - » Compared with 6%-14% documented in the published scientific literature (since 2009)

Other testing during 2012-2015

- Syphilis: 8.8% (310/3,527) from 3 HDs.
- Gonorrhea: 0.9% (98/10,610) from 4 HDs.
- Chlamydia: 4.8% (511/10,612) from 4 HDs.
- Hepatitis C: 20% (2,439/12,334) from 5 HDs.

b An unknown proportion of positive testing results reported as newly diagnosed may represent positive results newly known to the health department but not necessarily confirmed new diagnoses.

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[5] Numerous Category C presentations have been given by CDC and health department staff at international, national, and local meetings and conferences, and some local staff have submitted manuscripts to peer-reviewed journals. Additionally, program staff have learned more about how science can enhance their work, and scientists have learned more about how HIV prevention programs can enhance their work and how their work can increasingly contribute to the day-to-day practice of HIV prevention.

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, 28 health departments sustained part or all of their Category C activities after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

Please send any questions or comments about this Overview or the PS12-1201 Category C projects to PS12-1201@cdc.gov.

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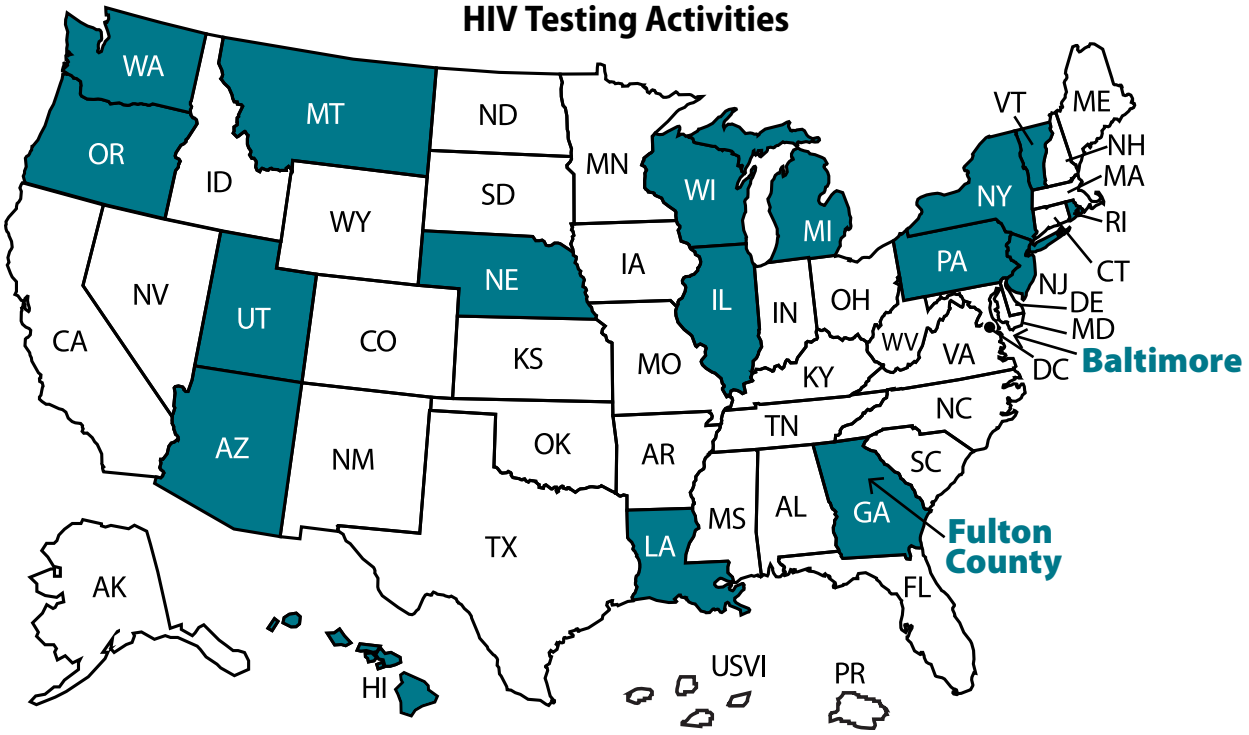
Focus Area: HIV Testing

Background

In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) PS12-1201: *Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate high impact prevention[2] non-research projects that were consistent with the National HIV/AIDS Strategy (NHAS).[3] Projects from Category C were funded for four years through December 2015. Of the 30 health departments, 19 (63%) were funded to conduct HIV testing activities. This Summary is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels. Because of the diverse portfolio of health department projects, the information does not represent all of the results and context of the testing activities.

PS12-1201 Health Departments Funded for Category C HIV Testing Activities



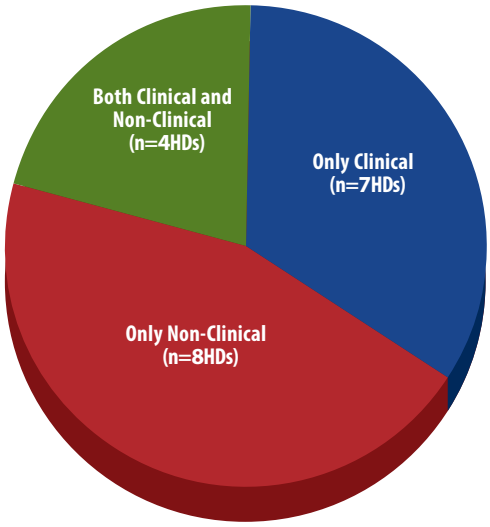
Science of HIV Testing

An important step in maintaining health and reducing the spread of HIV infection is through testing. Routine HIV screening of adults, adolescents, and pregnant women allows for early detection and protects others with whom they have sex or share needles. There are two modalities of tests (i.e., rapid point-of-care and laboratory-based) and three types of HIV diagnostic tests: antibody tests, antigen/antibody tests (also known as combination or 4th generation tests), and nucleic acid (or RNA) tests.[4] A combination test known as a "rapid HIV antigen/antibody combination assay" detects some acute HIV infections and has an advantage of immediately available results, but the laboratory-based antigen/antibody tests have better sensitivity (detecting infection when infection is present) during early infection, so in different

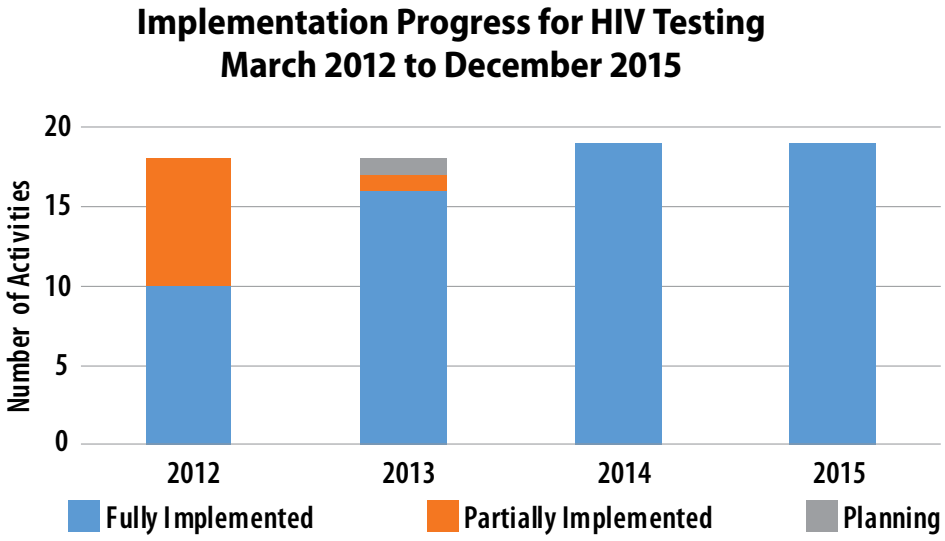
scenarios one or the other might be preferred.

In June 2014, CDC and the Association of Public Health Laboratories published a new laboratory algorithm, which accounts for advances in HIV diagnostic testing that use a sequence of tests that simultaneously tests for HIV-1 antibodies, HIV-2 antibodies, and HIV-p24 antigen.[5,6] The advantage of the new algorithm is the ability to identify HIV infection earlier. This is important, because transmission of HIV infection in persons with acute and early infection is much higher than those with established infection.[7] This new algorithm no longer uses the HIV-1 Western blot, the historic gold standard for diagnosis of HIV-1 infection, due to its inability to detect acute infection and potential for misclassifying HIV-2 as HIV-1 infection.

Number of Health Departments that Conducted HIV Testing Activities, by Testing Site Type



Progress on Activity Implementation

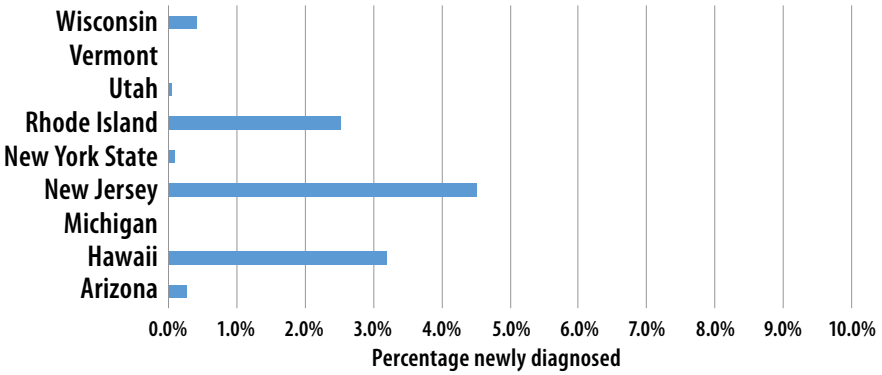


Note: 19 total project activities: 1 new activity planned and fully implemented in 2014.
Note: The designations "Planning," "Partially Implemented," and "Fully Implemented" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; and an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients.
Note: As of December 2015, 100% (19/19) of the health departments fully implemented their activities.

Persons Newly Diagnosed[a]

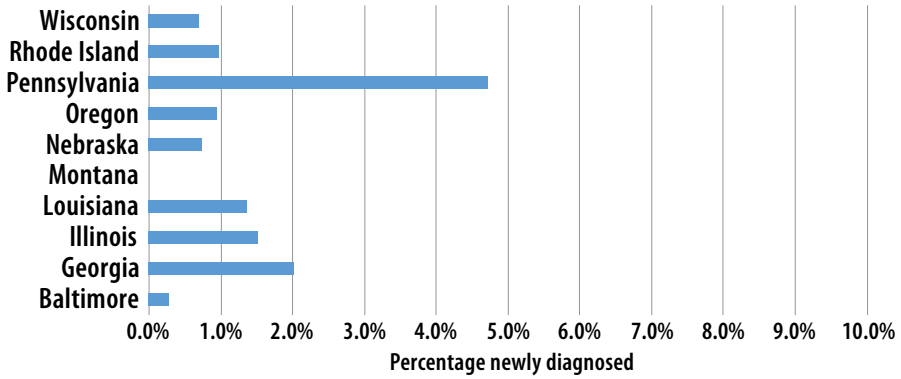
- From 9 health departments testing in clinical sites, 0.4% (155/34,605) new HIV diagnoses during 2012-2015 (range 0.0%-4.5%).
  - » 0.8% (150/18,783) from 5 health departments testing in HIV, STD, and ED sites vs 0.03% (5/15,822) from 4 health departments testing in substance abuse and corrections sites
  - » Compared with 0.1% minimum of HIV newly diagnosed persons screened in health-care sites (CDC guidelines[8]) and 0.5%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted routine HIV testing as part of Category A funding during 2013-2015 (only comparison data available)
- From 10 health departments testing in non-clinical sites, 0.9% (185/19,824) new HIV diagnoses during 2012-2015 (range 0.0%-4.7%).
  - » Compared with 1.0% Category A standard[1] and 0.8% Category A performance of all 61 PS12-1201 health departments that conducted routine HIV testing during 2013-2015 (only comparison data available)

Persons Newly Diagnosed in Clinical Settings



Note: Fulton County focused on acute testing, and Baltimore focused on preparing and providing HIV testing kits to providers.
Note: Washington state conducted testing in both clinical and non-clinical sites and reported 2.1% (93/4,501) newly diagnosed persons.
Note: An unknown proportion of positive testing results reported as newly diagnosed may represent positive results newly known to the health department but not necessarily confirmed new diagnoses.
Note: Some results may have been affected by challenges experienced by health departments.

Persons Newly Diagnosed in Non-clinical Settings



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Note: Some results may have been affected by challenges experienced by health departments.

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Challenges and How They Were Overcome

The 19 health departments reported 34 challenges and 21 lessons learned specific to their testing activities. None of the challenges were common to two health departments, except that two health departments had difficulty finding community venues that accepted HIV testing. Examples of challenges overcome and lessons learned included the following:

Illinois: It was difficult to find venues accepting of gay events, staff who would work outside of Chicago, and target population members to attend events. Also, it was difficult to have interagency collaborations, because other agencies were also looking to provide HIV/STD services from other grants. Small testing teams, a lengthy counseling and testing tool, and a protocol that included four tests per person (i.e., HIV, syphilis, gonorrhea/chlamydia, and hepatitis C virus) at "test and treat events" severely reduced client engagement. Now staff use peer navigators to provide integrated HIV/STD/hepatitis testing at smaller testing events, which is easier to manage. Local staff report greater testing success with individualized and small group integrated testing events.

Nebraska: Work with Popular Opinion Leaders proved to be challenging and not very effective, because some of them were older and had outdated awareness (e.g., not up to date on the behaviors and relationships of younger persons at risk) and because of the still present homophobia and testing stigma in the African-American community. This challenge led to the co-sponsoring of events with groups more credible with the at-risk populations. Since these changes, the number of tests has increased among African Americans, Latinos, and young adults during minority events, parades, and "table talks" to discuss racism, poverty, and classism.

New Jersey: For nearly 30 years, the focus of HIV testing as a prevention intervention was on the test, and the job of a test counselor was to conduct the test, deliver the results, provide counseling on risk-reduction, and make a referral to an HIV clinic if the result was positive. The new perspective of Treatment as Prevention was not initially widely accepted and took a long time for counselors to embrace the fact that finding an infected person meant very little unless that person was brought to care. This challenge was overcome by creating a rapid-rapid testing algorithm so that confirmed results could be delivered immediately to all clients and a network of linkage to care navigators who would then enroll infected persons into care on the same or next business day.

Health Departments Making Strides

The following are examples of innovative projects from health departments that completed and reported on activities, results, and benefits:

Georgia

The Georgia Department of Public Health used Antiretroviral Treatment and Access Services (ARTAS) as part of an innovative Test-Link-Care model so that HIV/STD counseling and testing sites, HIV/STD surveillance staff, and HIV primary care providers could best work together. District networks each had the following core components: >= 2 HIV testing sites, >= 1 HIV primary care provider, and 1 Linkage Case Manager.

Results (2013–2015):

- 2.0% (49/2,413) newly diagnosed from testing in community based organizations (CBOs)
- 77% (192/250) linkage to HIV care within 90 days of diagnosis
- 74% (71/96) re-engagement to HIV care

Lessons Learned:

Following concerns about data quality (e.g., for improved reporting of ARTAS data), local processes were put into place, such as updated monthly narrative reports completed by each site to make clearer distinctions between referrals and linkages, Excel patient-level data given to all ARTAS sites, a webinar conducted, and data collection training at the sites. Additionally, a website was created with forms and instructions for two purposes:

- Modules to help newly diagnosed persons optimize their health
- Opportunity for learning and networking among all infectious disease service providers in Georgia

How Category C work has helped health department work:

1. Test-Link-Care model led to better coordination of care and treatment through linkage activities with providers and communities involved with HIV testing.
2. Project staff demonstrated the value of having full-time dedicated linkage coordinators for newly diagnosed and out-of-care persons.
3. A secure, web-based linkage to care database system was built through collaborations with Information Technology staff to better monitor linkage and data-to-care activities throughout the state.

Sustainability:

Since January 2016, the health department has used Category A funds to continue this work, expand its activities, and integrate the use of HIV surveillance data to enhance linkage and re-engagement activities. Sites began in metropolitan Atlanta, and new sites were added throughout the state: Macon, Columbus, Waycross, Valdosta, and Albany. Additionally, surveillance staff will be preparing an out-of-care watch list to identify and re-engage clients that have been out of care.

Fulton County

The Fulton County Department of Health and Wellness tested for acute HIV infection in persons from areas of high HIV prevalence who sought services at the Aldredge STD clinic in downtown Atlanta. Clients eligible for acute HIV testing included persons aged >= 18 years who were African American and men who have sex with men (MSM) living in high morbidity zip codes (already determined by using HIV/AIDS surveillance data for Fulton County). Enhanced innovative testing included Nucleic Acid Amplification Testing (NAAT) of specimens testing negative from routine rapid testing. Persons identified with acute HIV were contacted by clinic staff to return to the clinic for counseling to reduce transmission, begin partner services (PS), and then be escorted by clinic staff to the on-site Ryan White HIV clinic for enrollment and scheduling of their first medical appointment. Partners of persons with acute HIV were tested for acute HIV infection.

Results (2012–2015):

- 0.07% (5/6,826) acutely infected with HIV

Lessons Learned:

1. Implementing routine NAAT testing was difficult given problems primarily with the quality of the work of a contracting laboratory. When choosing laboratories to conduct work, relying on the word of a prospective laboratory and their accreditation status as proof of work quality is not enough. Requiring quality control test results and other data specific to the work needed is important. As a result of the difficulty in overcoming challenges

experienced with contracted NAAT, the number of tests and detected acute infections were much less than initially anticipated. The health department has since begun piloting a rapid 4th generation HIV antigen/antibody combination assay to help diagnose acute infection.

2. Outsourcing of the lab work caused a delay in the identification of acute HIV infections. The benefits of earlier detection were off-set by the delay. Clients testing positive via NAAT would have to be located and notified to return to the clinic. The turnaround time for lab processing precluded same-day initiation of PS and linkage to care, thus putting the program at odds with its objective to have persons with acute HIV infection receive their updated results within 15 days. Moving forward, the health department with its own laboratory is being set up to conduct acute testing, immediately inform the client, and begin to provide needed services.

How Category C work has helped health department work:

1. Staff have shown that they can conduct cutting-edge HIV testing for acute infections.
2. Relationships between prevention and treatment staff have substantially improved.

Sustainability:

The health department will conduct acute HIV testing with Category A funds at the Aldredge STD clinic and expand this testing approach to the health department's Rapid Entry and HIV Pre-Exposure Prophylaxis clinics.

Pennsylvania

The Pennsylvania Department of Health sponsored an innovative project in Pittsburgh called, "Silk" that focused on young (i.e., 13-29 years old) African-American MSM and transgender persons and used a rented peer-led safe space structural intervention with the establishment of Social Network Strategy-based HIV testing and referrals. The space allowed for socializing and provides referrals for newly and previously diagnosed HIV positive persons who were not in care. The project also included HIV testing during a community behavioral intervention that was conducted at House Balls (term used to describe loose grouping of persons who gather under tutelage of a leader for activities and competitions), called Future Selves, and based on the "Possible Selves" and Embodiment theories.

Results (2012–2015):

- 4.7% (15/318) newly diagnosed
- 87% (13/15) linked to HIV care within 90 days of diagnosis
- 100% (21/21) out-of-care persons re-engaged to HIV care
- HIV incidence rate of 11.8 (95% CI: 4.3, 26.2) per 100 person-years (5 seroconversions over 42.3 person-years of observation among African-American MSM 13-29 years old whose first HIV-antibody test at Project Silk was negative)

Lessons Learned:

1. The project was highly successful in reaching a hard-to-reach population at risk for HIV and providing an array of health services in a non-traditional space.
2. Realizing that some of the target population would only come to the safe space with women or older companions, services were also offered to persons who were not part of the target population to maximize the number of young persons from the target population served.
3. Tracking repeated HIV-antibody testing as part of a regular testing program in a community-based setting offered a way to calculate real-time, real-world HIV incidence rates in the absence of state or local data.
4. A recreation-based community health space that was designed to engage young MSM and transwomen of color can effectively

recruit these target populations into HIV/STD testing, mental health, medical linkage, and broad-spectrum social support in a holistic health model for these highly vulnerable communities.

5. Pervasive HIV stigma and intra- and extra-community violence may pose significant programmatic challenges for HIV prevention and care agencies working with MSM and transgender youth with limited socioeconomic resources.

How Category C work has helped health department work:

1. The community-level threshold for use of the safe space (e.g., reaching >15% of the target county population) was regularly met.
2. An array of HIV/STD and support services was provided in a peer-supported, non-traditional space to a hard-to-reach population of young minority MSM and transgender persons.

Sustainability:

1. The health department and local project staff have completed strategic planning to sustain work after Category C funding ended by shifting services directly to a CBO and to consider Category A and other funding sources.
2. The state health department is exploring ways to replicate this work to other areas in the state.

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[9]

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, 16 of these 19 health departments sustained part or all of their Category C testing activities after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

Please see the CDC HIV testing website at: http://www.cdc.gov/hiv/testing/index.html for additional information and send any questions or comments about this Summary or the PS12-1201 Category C projects to PS12-1201@cdc.gov.

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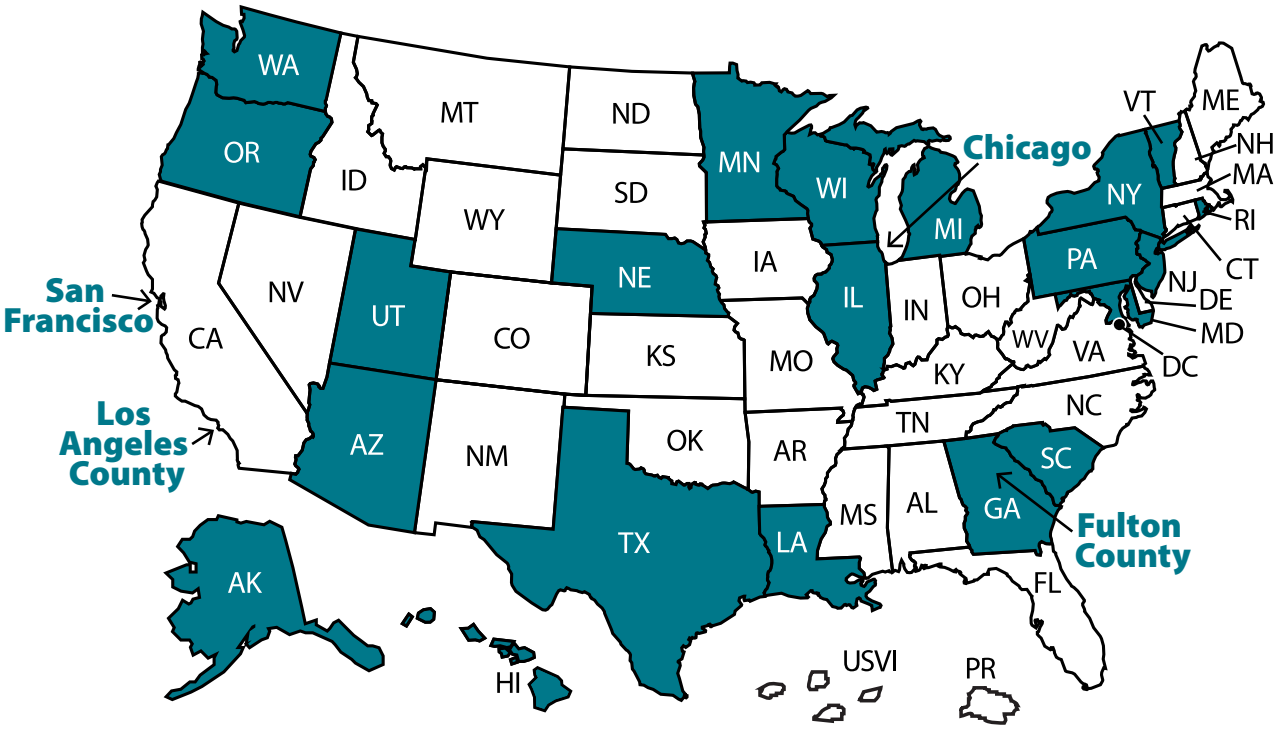
Focus Area: Linkage and Re-engagement to HIV Care

Background

In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) PS12-1201: *Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate innovative high-impact prevention[2] non-research projects that were consistent with the National HIV/AIDS Strategy (NHAS).[3] Projects from Category C were funded for four years through December 2015. Of the 30 health departments, 25 (83%) were funded to conduct linkage and re-engagement to HIV care activities. The PS12-1201 FOA had a standard for newly diagnosed persons of 80% linkage to HIV care within 90 days of HIV diagnosis, and the NHAS goal for linkage was 85%. This Summary is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels. Because of the diverse portfolio of health department projects, the information does not represent all of the results and context of the linkage and re-engagement activities.

Linkage and re-engagement to HIV care activities and methods of the grantees varied, but presented results for linkage account for seeing an HIV medical provider within 90 days of HIV diagnosis. Although there were not common definitions of re-engagement to care among all of the health departments, reporting of re-engaged persons was based on the number of out-of-care HIV-infected persons re-engaged to care divided by the number of out-of-care HIV-infected persons who had never been in care or who had fallen out of care.[3]

PS12-1201 Health Departments Funded for Category C Linkage and Re-engagement Activities



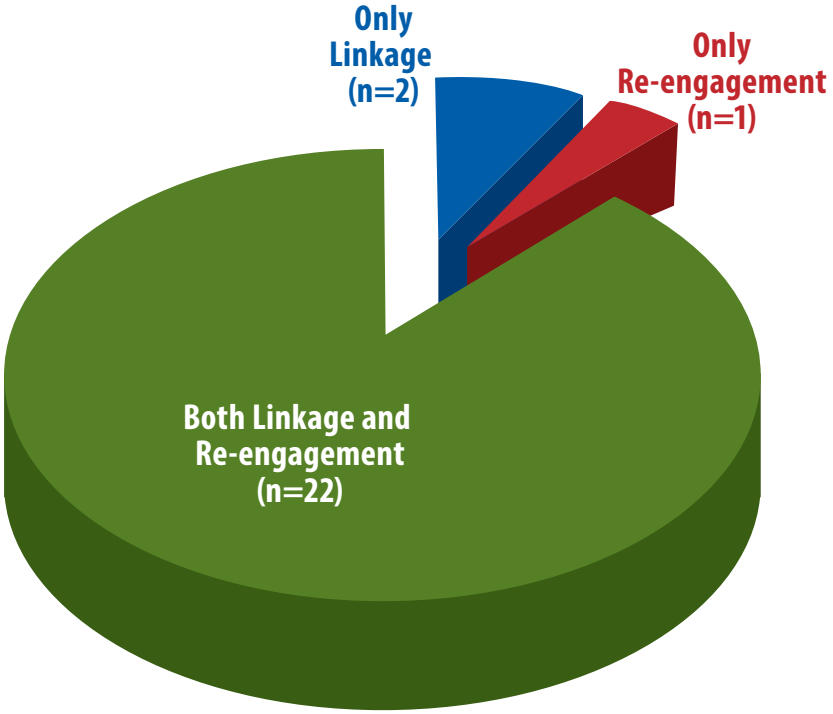
Science of Linkage and Re-Engagement to HIV Care

More than 1.2 million persons in the United States are infected with HIV with an estimated incidence of about 50,000 new HIV infections per year. Gay, bisexual, and other men who have sex with men (MSM) are disproportionately affected. Despite efforts to increase access to care, 60% of persons living with HIV (PLWH) in the United States are not engaged in care.[4] For persons newly diagnosed with HIV, prompt linkage to HIV medical care is essential for the early initiation of antiretroviral therapy,[5] and for infected persons previously in care but now out of care, re-engagement to care is important for adherence to HIV medications and viral load suppression, which helps improve the health of infected persons and decrease HIV transmission to others.[6]

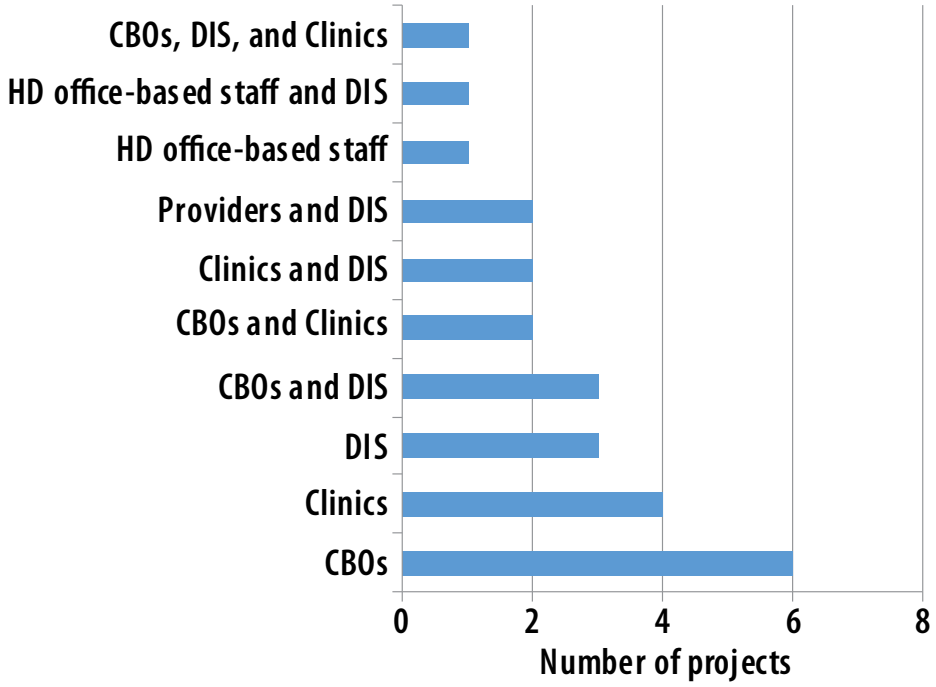
There are multiple reasons for the failure to achieve optimal linkage and retention in care, including barriers related to individual, system, and social factors.[7–9] To optimize outcomes, programs must provide services across the continuum of care, and barriers must be overcome. Success of these programs will depend on the proportion of PLWH who receive all of the care for which they are eligible.

Funded Category C Work

Number of Health Departments Funded to Conduct Linkage and Re-engagement Activities



Sites and Staff Who Conducted Linkage and Re-engagement Activities



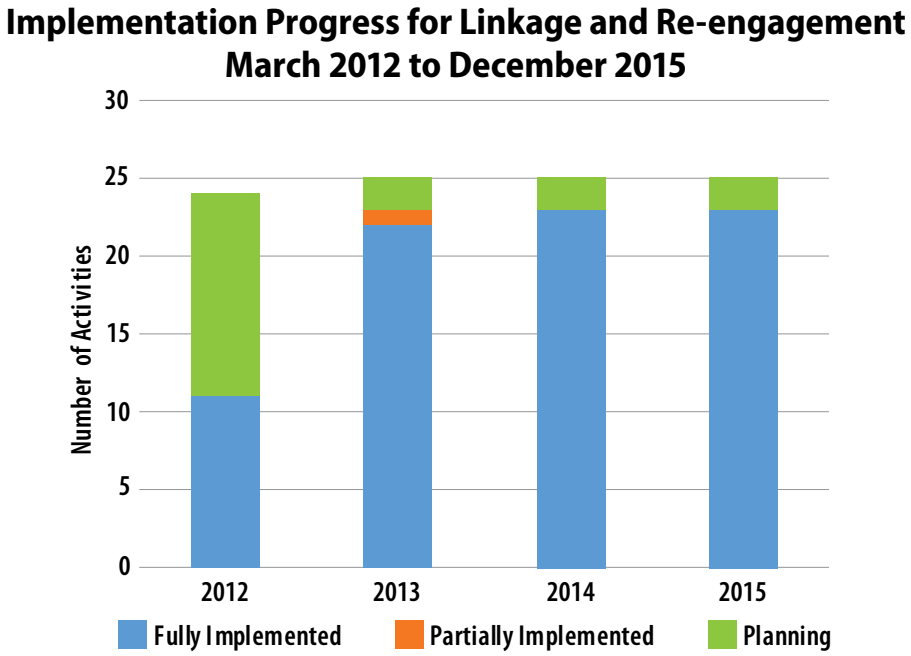
Note: Of the 25 funded health departments, 23 conducted linkage and re-engagement activities with clients.

Linkage and Re-engagement Strategies

Strategies	Number
Navigators	16
Use of data	11
HIV surveillance (n=1)	
HIV surveillance and other data (n=9)	
Clinic data (n=1)	
Strengthening Care Engagement Skills	9
Antiretroviral Treatment and Access Services (ARTAS) (n=6)	
Modified ARTAS (n=3)	
Co-located services	8
Motivational Interviewing	4
Provider initiated	3
Peer outreach/support or norm promotion	2
Immediate appointment scheduling	2
Other	12

Note: 23 health departments conducted 67 strategies.

Progress on Activity Implementation



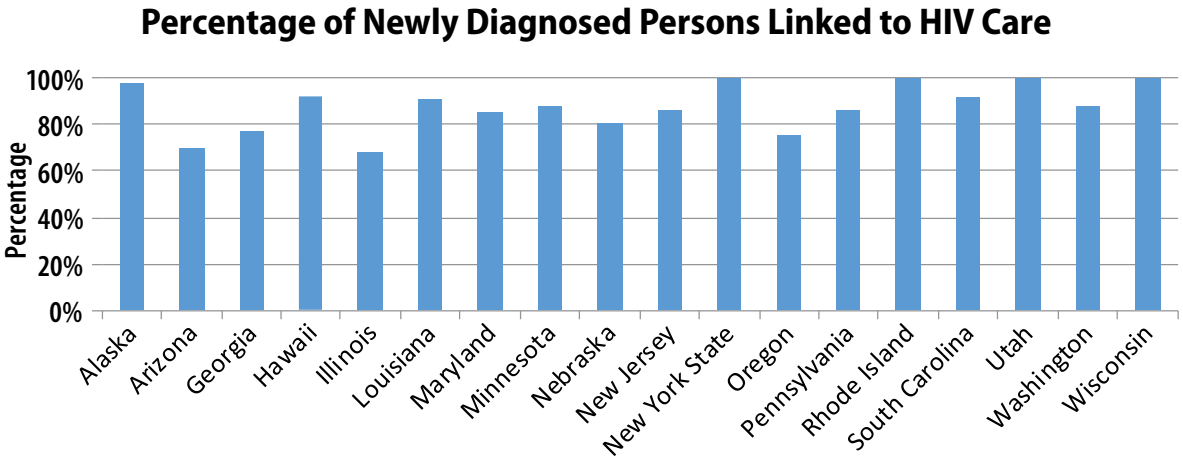
Note: Of 25 project activities, 1 experienced extensive IT delays; 1 never identified HIV-infected persons to link or re-engage to care; and 1 planned and fully implemented in 2013.
Note: The designations "Planning," "Partially Implemented," and "Fully Implemented" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; and an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients.
Note: As of December 2015, 92% (23/25) of the health departments fully implemented their activities.

Persons Linked and Re-Engaged to HIV Care

Linkage to HIV care during 2012–2015 (18 HDs conducted linkage activities with clients and reported data with a standardized definition)

- 87% (1,987/2,271) of newly diagnosed persons attended an appointment with an HIV provider within 90 days of diagnosis.

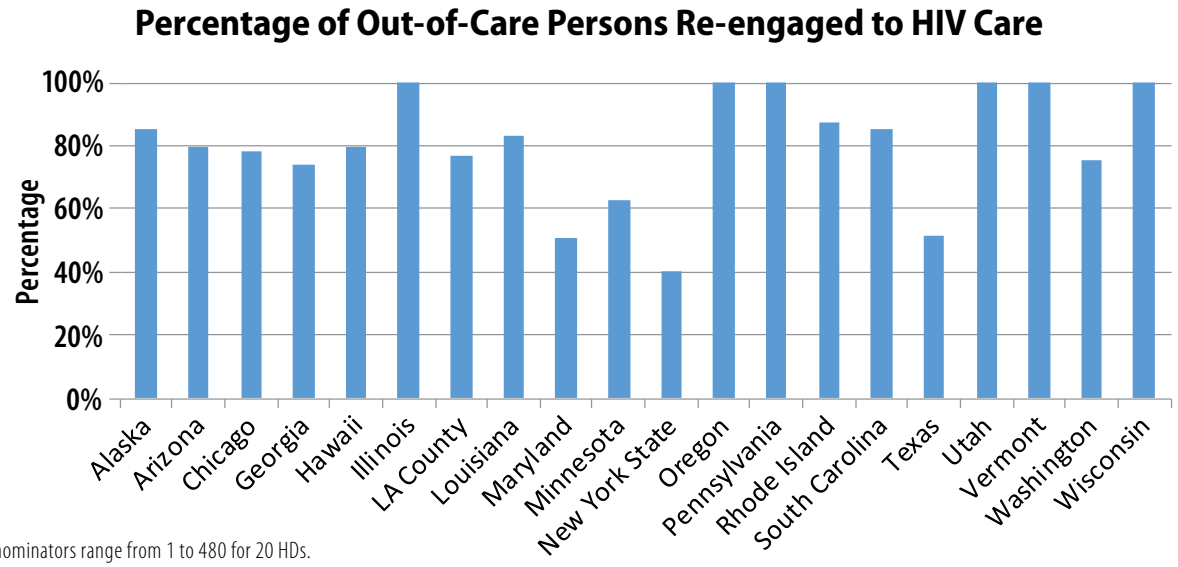
» Compared with 85% NHAS goal,[3] 80% Category A standard,[1] and 63%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted linkage activities as part of Category A funding during 2013-2015 (only comparison data available)



Note: Denominators range from 2 to 516 for 18 HDs.

Re-engagement to HIV care during 2012–2015 (20 HDs conducted re-engagement activities with clients and reported data)

- 75% (1,485/1,987) of HIV-infected out-of-care persons were re-engaged.
  - » Compared with 69%, which was the aggregate percentage of all 61 PS12-1201 health departments that conducted re-engagement activities as part of Category A funding during 2015 (only comparison data available)



Note: Denominators range from 1 to 480 for 20 HDs.

Challenges

The 25 health departments funded for linkage and re-engagement reported 53 challenges specific to linkage and re-engagement. Challenges common to at least two health departments included:

- Time-consuming to do work, particularly re-engagement (n=8 HDs)
- Data are in separate databases (n=5 HDs)
- Staff turnover (n=3 HDs)
- Transportation for clients (n=3 HDs)
- Motivating clients (n=3 HDs)
- Clarifying the difference between linkage work of CDC and HRSA (n= 2 HDs)
- Limited number of appointments or providers (n=2 HDs)

Lessons Learned and How Health Departments Have Benefited

The 25 health departments funded for linkage and re-engagement reported 52 lessons learned and 64 ways that Category C linkage and re-engagement activities have helped health department work. The following are examples common to at least two health departments:

- Improved collaborations and coordination among prevention and treatment staff (n=14 HDs)
- HIV surveillance database benefits from updated current locating information and risk factors (n=9 HDs)
- Checking more than one database is useful (n=7 HDs)
- Provided foundation for initiation, improvement, or expansion of work that uses data for linkage and re-engagement (n=6 HDs)
- Enhanced collaboration of the health department with providers (n=5 HDs)

- Enhanced collaboration of the health department with other agencies (n=4 HDs)
- Demonstration of the value of having full-time dedicated linkage coordinators (n=3 HDs)
- Demonstration of the value of having on-site linkage coordinators (n=2 HDs)
- Transportation support (n=2 HDs)

Health Departments Making Strides

The following are examples of innovative projects from health departments that completed and reported on activities, results, and benefits:

New Jersey

This project was based on a two-test rapid HIV testing algorithm in high prevalence areas at 24 sites (establishing 24 rapid-rapid sites was the original goal of the project in early 2012; by the end of 2014 that goal had been exceeded, and there were 39 facilities using the rapid-rapid algorithm, at 100 sites/programs), eight of which have HIV prevention patient navigators (HPPNs) to link and retain HIV-infected persons in care. This project was innovative because it combined rapid testing, multiple linkage strategies, and focused on prompt delivery of services. Within two business days, newly diagnosed persons were seen by a medical professional who did an initial intake assessment, ensured CD4 and VL tests were done, assessed the patient for symptoms (if any, patient was seen by an Infectious Disease physician within one day), and a follow-up appointment was scheduled with an HIV clinician within one week of diagnosis. The linkage strategies included having an on-site HPPN with a dedicated HPPN-only cell phone for concierge service, using ARTAS techniques and Motivational Interviewing, having co-located services, having a back-up HPPN available when the primary HPPN was with a patient, cross-training staff, and accompanying clients to appointments. Additionally, HPPNs worked with state-wide AIDS/STD hotline staff who conference called hotline callers with the HPPNs when possible or contacted them within one business day as needed.

Results (2013–2015):

- 4.5% (82/1,817) newly diagnosed high-risk persons who tested for the first time
  - » 87% (71/82) linked to care

Lessons learned:

1. Linkage committees reported difficulty with retention in care of young MSM and transgender persons. In addition to having stigma training, the health department distributed notices of webinars on stigma and educational materials for clinical providers.
2. HPPNs accepted all hotline-referred calls and assisted consumers even when not part of their job, because they were so dedicated to helping others. As a result, they felt overwhelmed, so non-linkage hotline calls are now directed to the more appropriate sources.

How Category C work has helped health department work:

1. Treatment as Prevention is now the cornerstone of the state health department's high-impact prevention portfolio.
2. Integration of prevention and care with navigators has improved provision of comprehensive services (e.g., STD, HCV, and TB testing, HCV treatment, gynecological services, behavioral health) and clinic referrals to and from community based

organization (CBO)/AIDS Service Organization testing and prevention programs. Fully integrated prevention and care services increases prevention-care coordination.

3. There are now 11 local/regional Linkage To Care collaboratives that meet on a quarterly basis to improve linkage and re-engagement in their areas.
4. Changes to routine work protocols given the paradigm shift from passive referrals for newly diagnosed persons (often took weeks for an appointment to be scheduled) to active referrals that usually have a person attending a first appointment within two business days.

Sustainability:

All activities are being sustained through the end of 2016 using carry forward funds from prior year unexpended PS12-1201 balances, and six new HPPN sites have been added using state funds.

South Carolina

South Carolina provided linkage and re-engagement to HIV care services at seven urban and rural CBOs in the seven geographic areas with the highest HIV prevalence in the state. The project was innovative compared to prior local and national work, because it involved rural and urban sites and had linkage coordinators exclusively at CBOs. Strategies used for linkage and re-engagement include navigation services, modified ARTAS, co-location of services, and Motivational Interviewing.

Results (2012–2015):

- 92% (473/516) of newly diagnosed persons linked to HIV medical care within 90 days
- 85% (410/480) of HIV-infected persons previously in care re-engaged within 90 days

Lessons learned:

1. Having a linkage coordinator on site helps with fast delivery and efficiency of services and trust with clients. Also having an outreach person helps (e.g., if missed appointments or need transportation).
2. Sites with co-located prevention and care services had higher linkage/re-engagement percentages, which overcomes transportation and financial burdens. Also, there were shorter wait times and no need to update client-level information into a separate database.
3. The biggest challenge was high turnover of linkage coordinators, which was initially addressed by having another person trained at each agency. Later, the state health department implemented a plan to assist local grantees in hiring staff with the needed skillsets.
4. To address a CBO concern about releasing client-identifying information to the health department, a new data sharing agreement was put in place.
5. Transportation in rural areas has been a challenge, but was addressed by providing outreach or gas money.

How Category C has helped health department work:

1. Based on a cost analysis that compared early linkage to HIV care with late linkage, early linkage averted 203 HIV infections, thus saving $82 million in lifetime costs, and added 812 Quality Adjusted Life Years.
2. Category C funding allowed the health department to hire a full-time state linkage coordinator and expand linkage, re-engagement, and retention services.
3. Increased collaboration among Prevention, Care, and Surveillance programs, and among ARTAS intervention providers, medical case managers, and HIV medical providers.
4. More efficient data entry for all sites decreased the burden of staff and duplication of services.

Sustainability:

The state health department is funding five of the seven sites to continue their successful work.

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[10]

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, 20 of these 25 health departments sustained part or all of their Category C linkage and re-engagement activities after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

Please send any questions or comments about this Summary or the PS12-1201 Category C projects to PS12-1201@cdc.gov.

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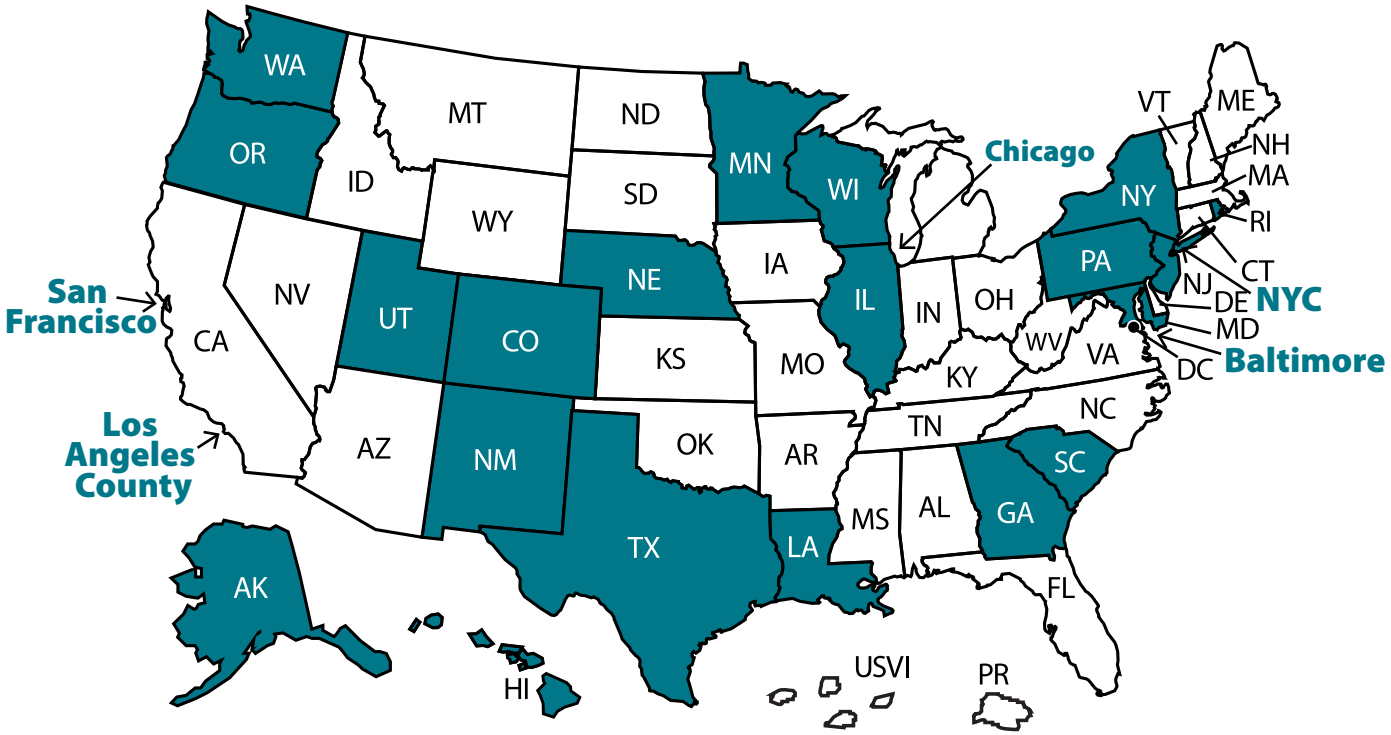
Focus Area: Use of HIV Surveillance Data

Background

In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) *PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate high-impact prevention[2] non-research demonstration projects that were consistent with the National HIV/AIDS Strategy (NHAS).[3] Projects from Category C were funded for four years through December 2015. Of the 30 health departments, 25 (83%) were funded to use HIV surveillance data for programmatic purposes.

This Summary is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels. Because of the diverse portfolio of health department projects, the information does not represent all of the results and context of the activities that used HIV surveillance data.

PS12-1201 Health Departments Funded for Category C Use of HIV Surveillance Data



Science of the Use of HIV Surveillance Data

The use of HIV surveillance data is an important strategy to control and prevent HIV and maximize the benefits of HIV medical care and treatment.[4,5] In the past, health departments needed HIV surveillance data to understand trends of HIV diagnoses and characteristics of infected populations and to help with program planning and resource allocation. Now, HIV surveillance data are increasingly used to help with linkage and re-engagement to HIV care and other HIV services such as Partner Services (PS).[6,7] Linking and re-engaging individuals into care is important to ensure that HIV-infected persons are receiving the necessary medical

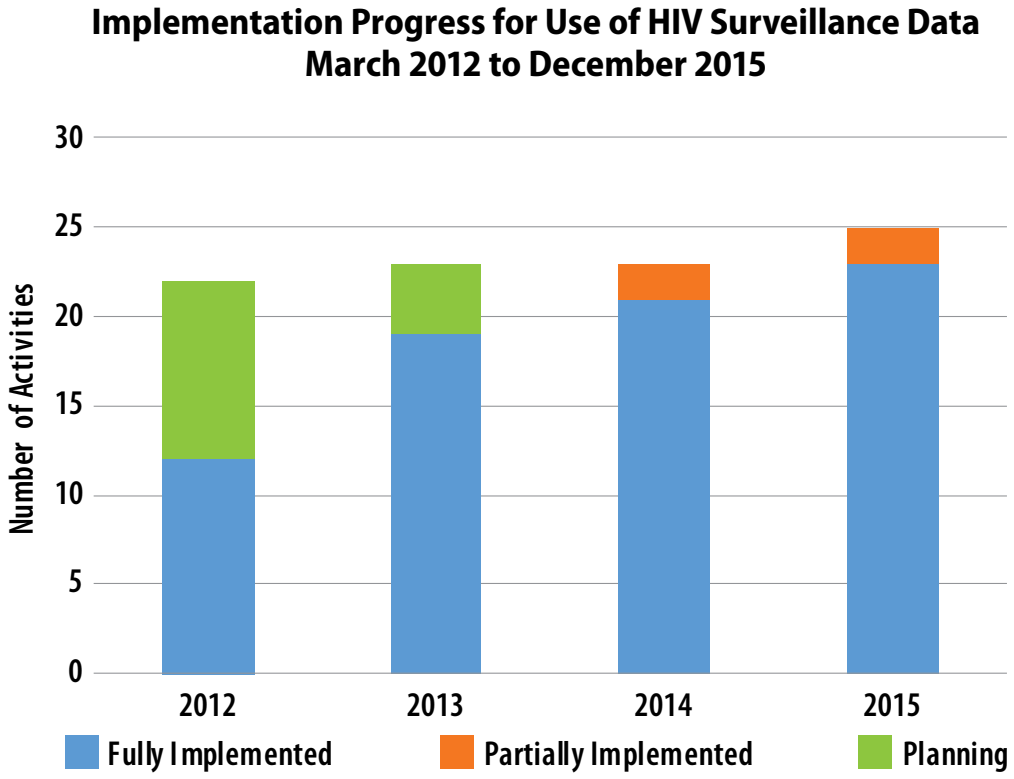
attention and to ensure population-level health. Since 2012, PS12-1201 grantees have been required to use HIV surveillance data for programmatic purposes, and since 2013, CDC PS13-1301 surveillance grantees have been required to support the improvement of health department operations and HIV prevention through a variety of methods including the sharing of HIV surveillance data. In 2014, CDC launched the Data to Care initiative and updated the Effective Interventions website that now provides extensive information on using data for care, including a variety of considerations for implementing data to care.[7] This is particularly important given the recently updated National HIV/AIDS Strategy[8] and President Obama's Executive Order for an HIV Care Continuum Initiative.[9]

The Category C health departments discussed in this Summary used HIV surveillance data primarily for linkage and re-engagement to HIV care, monitoring and evaluation, partner services, and documenting retention in care and viral load suppression.

Use of HIV Surveillance Data

The 25 Category C health departments conducted 54 activities. The activities using HIV surveillance data were monitoring and evaluation (n=18), linkage and re-engagement to care (n=13), PS (n=6), GIS mapping (n=6), database merging/ warehousing (n=5), interventions (n=4) and improving HIV case reporting (n=2).

Progress On Activity Implementation



Note: Of 25 project activities, 2 health departments experienced extensive delays, and 2 health departments planned and fully implemented in 2015.
Note: The designations "Planning," "Partially Implemented," and "Fully Implemented" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; and an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients.
Note: As of December 2015, 92% (23/25) of the health departments fully implemented their activities.

Quantitative Results During 2012–2015

The linkage and re-engagement to HIV work varied by health departments, and some used surveillance data (e.g., CD4 and viral load) as a proxy for documented linkage and re-engagement). Definitions of linkage and re-engagement varied, but presented results for linkage account for seeing an HIV medical provider within 90 days of HIV diagnosis. Although there were not common definitions of re-engagement to care among all of the health departments, reporting of re-engaged persons was based on the number of out-of-care HIV-infected persons re-engaged to care divided by the number of out-of-care HIV-infected persons who had never been in care or who had fallen out of care.[3]

- Use of HIV surveillance data for linkage to HIV care (5 HDs)
  - » 89% (1,124/1,269) of newly diagnosed persons attended an appointment with an HIV provider within 90 days of diagnosis
- Use of HIV surveillance data for re-engagement to HIV care (9 HDs)
  - » 68% (662/968) of HIV-infected persons known to be out of care were re-engaged
- Use of HIV surveillance data for HIV PS (6 HDs)
  - » 14% (179/1,294) of the partners of HIV-infected persons were newly diagnosed with HIV

Challenges

The 25 health departments reported 47 challenges specific to surveillance. Challenges common to at least two health departments included the following:

- HIV surveillance data not having updated data (n=8 HDs)
- IT challenges (n= 6 HDs)
- Sharing surveillance data in a secure and confidential manner (n=4 HDs)
- Time-consuming to do work, particularly re-engagement (n=4 HDs)
- Data entry (n=2 HDs)

Lessons Learned and How Health Departments Have Benefited

The 25 health departments reported 33 lessons learned and 48 ways that Category C surveillance activities have helped health department work. The following are examples common to at least two health departments:

- Improved collaborations and coordination among prevention, treatment, and program staff (n=12 HDs)
- HIV surveillance database benefits from updated current locating information and risk factors (n=11 HDs)
- Provided foundation for initiation, improvement, and expansion of Data to Care work (n=10 HDs)
- Documentation, monitoring, and quality assurance of linkage services (n=7 HDs)
- Checking more than one database for linkage and re-engagement activities is useful (n=6 HDs)

Health Departments Making Strides

The following are examples of innovative projects from health departments that completed and reported on activities, results, and benefits:

Alaska

Alaska used HIV surveillance data for statewide linkage and re-engagement to care (defined by receiving CD4 and viral load tests) efforts when a client was newly diagnosed as HIV positive or was previously diagnosed with HIV but had no record of receiving CD4 or viral load testing within the prior 12 months. Newly diagnosed HIV-positive persons were offered linkage to care services immediately upon diagnosis confirmation. Previously diagnosed out-of-care persons were identified using HIV surveillance records and other state databases. The project was innovative for using HIV surveillance data and an extensive list of data sources to identify persons not in care (Medical and lab reports; Lexus Nexus Accurint; and public record searches such as the Department of Motor Vehicles, Department of Corrections, Alaska Court System, and other locally available databases). Strategies used for linkage and re-engagement included use of eHARS and other data, modified ARTAS, and navigation services (e.g., accompanying clients to medical appointments).

Results (2012–2015):

- 98% (98/100) newly diagnosed persons linked to HIV medical care within 90 days
  - » 86% (84/98) achieved viral suppression
- 85% (100/117) out-of-care clients living in Alaska re-engaged to care
  - » 90% (90/100) achieved viral suppression

Lessons learned:

1. Provider-initiated re-engagement was a successful part of the linkage to care program, and HIV medical providers realized the need to ensure retention in care.
2. Linkage/re-engagement interventions require substantial investment in human resources, time, and fiscal resources. Even after being established, linkage/re-engagement programs require substantial monitoring and upkeep to remain successful.

How Category C work has helped health department work:

1. Helped surveillance and prevention programs develop and implement systems to document and track linkage and re-engagement services and outcomes.
2. Over time, there was been a dramatic decrease in the number of out-of-care persons.

Sustainability:

1. The health department has applied for and received HIV Care Early Intervention Services funds to support linkage, re-engagement, and retention activities in 2016.

New Mexico

The Expanded HIV Partner Services (EHPS) project expanded PS work through expanded referrals. Referrals into the project's activities occurred by 1) the HIV and Hepatitis Epidemiology Program referring newly diagnosed reported cases to the Disease Prevention Team (DPT) in the geographic region where the patient resides and 2) HIV Service Provider agencies receiving incentive payments for referral for either newly diagnosed persons or persons in HIV care who have a "sentinel event" that warrants PS (i.e., new risk behavior, partner, or STD diagnosis), data collection, and evaluation costs proportional to their caseload.

Results (2012–2015):

- Increased number of persons living with HIV who received PS
  - » Average of 75 persons living with HIV offered and interviewed for PS during the three years prior to EHPS (2009-2011), compared with average of 151 persons offered PS and interviewed during the first three years of EHPS (2012-2014)
- 19% (61/319) partners of HIV-infected persons newly diagnosed with HIV (2012-2015)
- Increased number and positivity of persons newly diagnosed through PS
  - » During the three years before EHPS (2009-2011), average of 8.3 new diagnoses per year and a new positivity percentage of 14% (25/174) from elicited partners tested
  - » During the first three years of EHPS (2012 to 2014), average of 15 new diagnoses per year and had a new positivity percentage of 18% (45/253) from elicited partners tested

Lessons learned:

1. Surveillance-based PS is an important and effective way to expand PS work. Creating policies and procedures to have epidemiology staff send information about new diagnoses to disease prevention staff allows a consistent and uniform approach.
2. Surveillance-based PS is more productive at identifying persons with HIV who are good candidates for HIV PS than sentinel event-based PS from HIV medical and case management providers, as all cases are referred rather than just cases with specific behaviors.
3. Results from this Category C project compared favorably in productivity (i.e., number of new diagnoses found and percent of tested partners newly diagnosed with HIV) and cost with prior pilot PS projects in New Mexico and statewide testing.
4. Because two pilot routine HIV testing projects conducted in New Mexico health-care settings during a one year period prior to Category C funding yielded only two newly diagnosed HIV infections, PS as a targeted HIV case finding strategy in New Mexico is more effective than broad-based routine HIV testing. This is considered true because targeted strategies get closer to the pool of HIV infection, which may be helpful to other low-to-moderate HIV prevalence jurisdictions.

How Category C has helped health department work:

1. Use of HIV surveillance data is a more effective strategy to increase referrals which has resulted in more new HIV diagnoses from PS.
2. Further enhanced collaborative relationship among prevention, HIV medical case management, and surveillance programs.
3. The Category C project has greatly increased the volume of HIV PS work being done in New Mexico.

Sustainability:

An alternative funding source was identified to continue all of the Category C activities once Category C funding ended. Annual funding from Medicaid billing revenue supports these activities and others, which frees up Category A funding for additional work.

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[8]

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, 21 of these 24 health departments sustained part or all of their Category C activities that used HIV surveillance data after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

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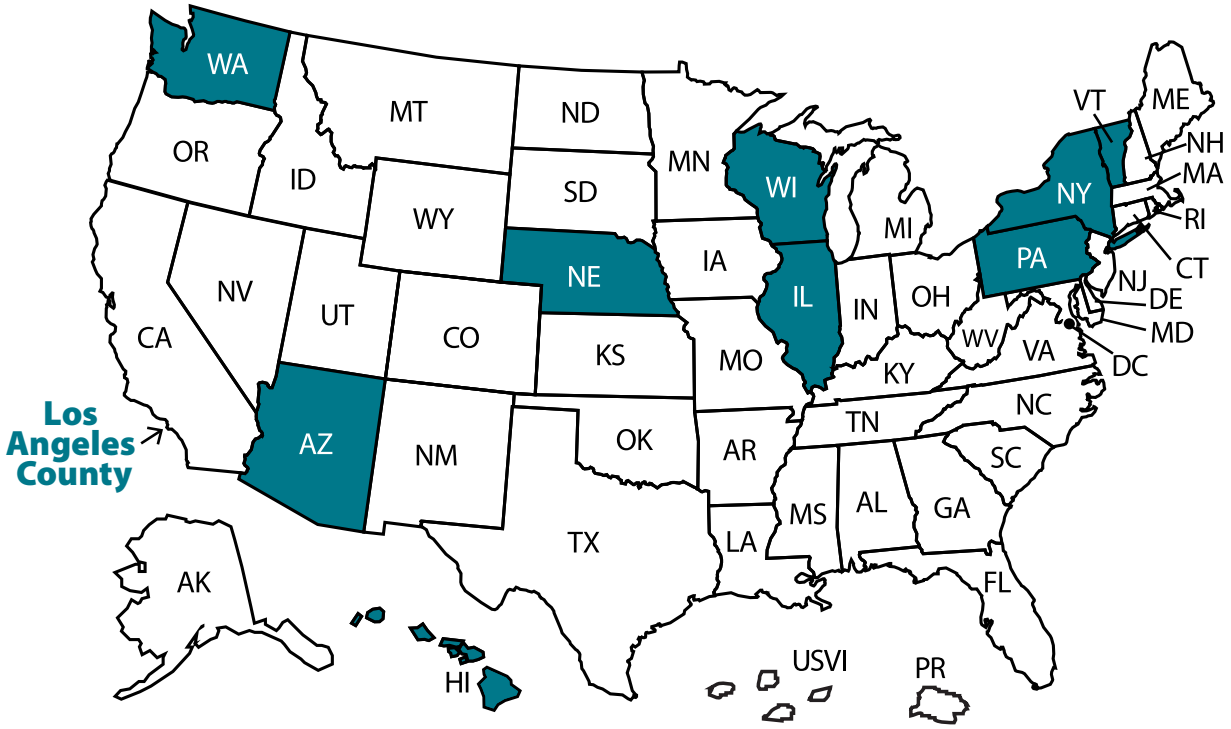
Focus Area: Interventions

Background

In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) *PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate high-impact prevention (HIP)[2] non-research projects that were consistent with the National HIV/AIDS Strategy (NHAS).[3] Projects from Category C were funded for four years through December 2015. Of the 30 grantees, 10 (33%) were funded to conduct interventions. This Summary is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels. Because of the diverse portfolio of health department projects, the information does not represent all of the results and context of the intervention activities.

PS12-1201 Health Departments Funded for Category C Interventions



Science of Interventions and Best Practices

The HIP approach to reduce new HIV infections is based on the use of scientifically proven and cost-effective interventions. The types of Category C interventions were highly varied; some were novel and innovative, and some were based on interventions that were already proven to be effective such as the Partnership for Health,[4] Popular Opinion Leader (POL),[5,6] and Anti-Retroviral Treatment and Access to Services (ARTAS).[7,8] Additionally, CDC's Prevention Research Synthesis Project routinely updates an online Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention

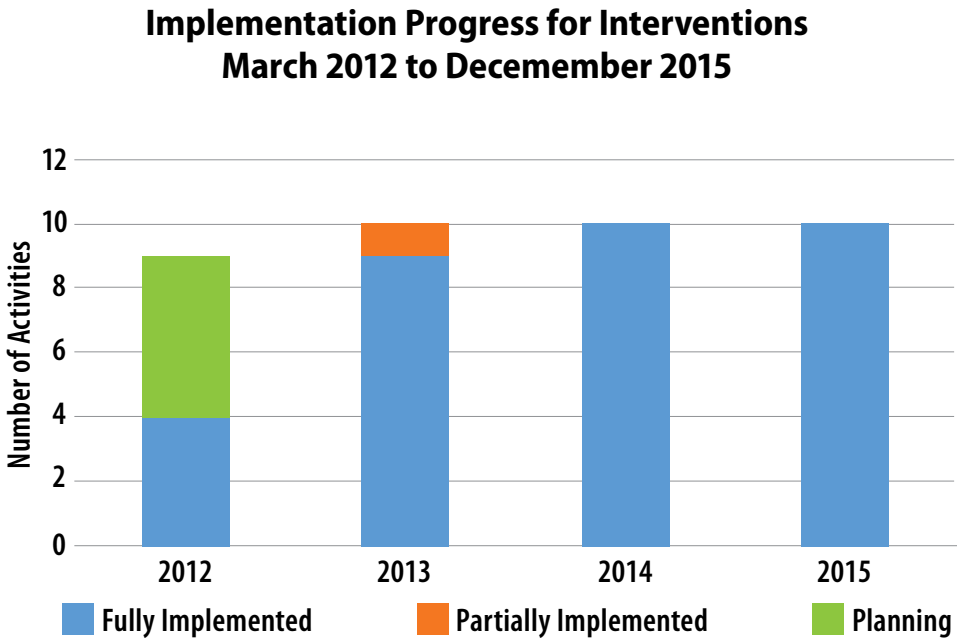
by adding newly identified evidence-based interventions (EBIs) and best practices that have been scientifically proven to significantly reduce HIV risk or promote HIV care.[9] The compendium comprises three chapters: a new chapter lists best practices for promoting linkage to, retention in, and re-engagement in HIV medical care; one chapter lists EBIs for promoting HIV medication adherence among persons with HIV; and one chapter lists behavioral EBIs for reducing sex or drug injection behaviors, which directly impacts the risk of HIV transmission.

Types of Interventions

The 10 health departments conducted the following interventions:

- Partnership for Health model that provided brief repeated messaging to increase a patient's knowledge, skills, and motivation to practice safer sex and stay HIV negative (Arizona).
- Key Opinion Leaders for input, endorsement, and implementation support for Partner Services (PS) and use of surveillance data to help influence providers implement PS and benefit from the use of surveillance data (Hawaii).
- Locally developed Prevention for Positives initiative that was adapted from the POL intervention and modified for use among Latino men who have sex with men (MSM) and transgender persons (Illinois).
- To find out-of-care persons and re-engage them to care, modified ARTAS techniques, multiple data sources (e.g., HIV/STD surveillance, HIV laboratory system, county and state inmate locator, Google, and Lexis-Nexis), a combination of recruitment methods in clinical and non-clinical settings, and respondent-driven sampling from social network referrals to recruit out-of-care persons were used (Los Angeles County).
- African-American POLs were used throughout the community to increase HIV testing at a gay bar, homeless shelters, and Gay Pride and other lesbian, gay, bisexual, and transgender (LGBT) sponsored events (Nebraska).
- Education and training of corrections officers, medical staff, and inmates on HIV stigma in state-wide prisons were conducted (New York State).
- In a rented peer-led safe space, which was considered as a structural intervention, used Social Network Strategy-based HIV testing and referrals and a community behavioral intervention based on the "Possible Selves" theory (Pennsylvania).
- For persons who inject drugs, a community based organization (CBO) used a modification of Comprehensive Risk Counseling and Services to enhance knowledge and reduce HIV and Hepatitis C virus behaviors via a computerized assessment of HIV/HCV to increase the number of persons who inject drugs who have accurate HIV knowledge, skills that reduce personal risk, access to safer sex supplies, and understanding of the importance of HIV treatment (Vermont).
- For out-of-care persons statewide, local health departments used HIV surveillance, STD PS, and county STD clinic data to contact providers and their patients for possible enrollment in a brief behavioral intervention to re-engage and retain them in care (Washington).
- In a safe space known as "Q-Blok," which was considered as a structural intervention, provided case management services to homeless and runaway youth, and linked them to housing, social services, training, and HIV testing (Wisconsin).

Progress on Activity Implementation



Note: Of 10 interventions, 1 was added in 2013 and fully implemented in 2014.
Note: The designations "Planning," "Partially Implemented," and "Fully Implemented" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; and an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients.
Note: As of December 2015, 100% (10/10) of the health departments fully implemented their interventions.

Challenges

The 10 health departments reported 27 challenges specific to their interventions. Challenges common to at least two health departments were administrative delays (3 HDs) and staff turnover (n=2 HDs). Other challenges included the following:

- Some physician Key Opinion Leaders did not initially cooperate with PS, so the state health department sent providers written materials with explanations and requests for their participation with PS, which resulted in more buy-in and referrals from providers
- For the modified initiative that was adapted from the POL intervention for Latino MSM and transgender persons, confidentiality and serostatus disclosure was a concern, e.g., even in small groups of HIV infected persons, because group members know each other's status
- Efficiently finding out-of-care clients and scheduling enrollment and linkage appointments, in part addressed by coordinating with Medical Care Coordination teams at the clinic sites, agencies implementing new expedited processing of Navigation Program clients, and Navigators working with enrolled clients on financial screening appointments
- From the respondent-driven sampling obtained from social network referral intervention to recruit out-of-care persons, clients were resistant to participate due to stigma, substance abuse, and competing needs
- Information technology (IT) work and communicating with IT staff were routinely difficult for the brief behavioral intervention to re-engage and retain patients in care

Lessons Learned and How Health Departments Have Benefited

The 10 health departments reported 24 lessons learned that are specific to their interventions and 15 ways that Category C interventions have benefited the health department. Examples common to at least two health departments were establishing or improving collaborations among prevention, treatment, and surveillance staff and among health departments and other agencies (3 HDs). Other examples included the following:

- In addition to project staff anecdotally witnessing fewer stigmatizing remarks and behaviors than in the past among corrections officers, medical staff, and inmates, survey results showed:
  - » high levels of stigma among corrections officers, medical staff, and inmates toward HIV-infected persons
  - » concerns about confidentiality are widespread and contributing to unfavorable perceptions of medical care among inmates
  - » lower stigma post vs pre intervention baseline for each of the three populations
- Made substantial progress with HIV providers and PS based on having a joint care and prevention planning group that included key providers and leveraging good will of STD program with these providers to help widen provider participation
- Realized that the intensity of the re-engagement intervention needed varies for out-of-care persons, so modified the initial process to three tiers: only phone calls needed for some (not full ARTAS intervention because they were ready to go into care and did not need multiple sessions), then added Motivational Interviewing (MI) if needed, and finally ARTAS
- Provided an array of HIV/STD and support services in a peer-supported, non-traditional space to a hard-to-reach population (African-American young MSM and transgender persons)
- For the statewide use of data to contact providers and their patients for a brief behavioral intervention to re-engage and retain them in care, information was identified that was not already in the HIV surveillance data system, so updates to that system were made when appropriate, which resulted in more accurate HIV surveillance data

Health Departments Making Strides

The following are examples of innovative projects from health departments that completed and reported on activities, results, and benefits:

Hawaii

This project focused on the use of surveillance data for PS and linkage and re-engagement to HIV care and was innovative for the use of physician and non-physician Key Opinion Leaders for input, endorsement, and implementation support.

Results (2013–2015):

- 16% (17/108) newly diagnosed persons from PS
- 92% (200/217) newly diagnosed persons were linked
- 83% (166/200) linked persons became virally suppressed
- 80% (4/5) previously diagnosed persons were re-engaged

Lessons Learned:

HIV surveillance data were analyzed weekly to determine newly diagnosed cases for PS staff who then contacted private providers. Any updated case information from the providers or PS staff was reported back to the HIV surveillance system, which enhanced the quality and timeliness of the surveillance data.

How Category C has helped health department work:

Through this project, Hawaii has:

1. Relied on previously-established working relationships between STD program staff and the providers, made substantial progress with HIV providers and PS based on having a joint care and prevention planning group that included key providers to help increase provider participation, and integrated STD and HIV services.
2. Developed a data sharing agreement between the HIV Prevention and Surveillance programs that created a mechanism and process to expand data sharing for public health purposes beyond newly diagnosed individuals for PS to persons who have fallen out of medical care for re-engagement services.

Sustainability:

1. Health department has transitioned Category C activities to Category A funding and uses AIDS Drug Assistance Program Rebate funds to continue funding positions.
2. AIDS Service Organization contracts have been modified to make Prevention for Positives work part of their other funding sources since Category C funding ended.
3. Category C best practices are now part of standard services.

Los Angeles County

The innovative program for out-of-care persons had two parts: Navigation Program and Project Engage. The Navigation Program searched multiple data sources for lost-to-care clients (HIV/STD surveillance, HIV laboratory system, and public people-finder sites such as LAC inmate locator, CA State Prison inmate locator, Zaba, Spokeo, Google, and Lexis-Nexis) and used modified ARTAS techniques for clients in seven large county-funded HIV clinics. Project Engage used a combination of direct recruitment methods in both clinical and non-clinical settings and respondent-driven sampling from social network referrals to recruit out-of-care persons.

Results (2013–2015):

Navigation Program

- 75% (76/101) re-engaged to care within 3 months (85% within 6 months and 94% within 12 months)
- 82% (60/73) of clients enrolled for >= 6 months retained in care

Project Engage

- 71% (132/186) re-engaged to care
- 64% (82/128) of clients enrolled for >= 6 months retained in care
- 41% (17/41) virally suppressed

Lessons Learned:

Navigation Program:

1. HIV surveillance and clinic data were most useful data for finding clients. Prior program methods were changed and now start with county-wide surveillance data used by health department staff to overcome challenges that slowed full implementation of the Navigation Program (e.g., administrative rules at clinics, legal concerns of sharing surveillance data with non-health department staff, and large amounts of time finding patients who could not be located).
2. Intensity of intervention needed varies for out-of-care clients; three tiers but only phone calls needed

for some (not full ARTAS intervention because they were ready to go into care and did not need multiple sessions), then added MI if needed, and finally ARTAS.

Project Engage:

1. Use of HIV surveillance data were valuable for
   - » monitoring, linkage, re-engagement, and retention
   - » quality improvement activities
   - » more targeted HIV testing, which has resulted in higher numbers of HIV-infected persons identified
2. Agency-based recruitment (e.g., social venues, CBOs, parks, and public areas) were more effective than clinic-based recruitment, because clinics generally do not collect enough contact information to assist with the location of clients. Multiple data sources and techniques are now used (including clinical, non-clinical, and snowball sampling) to locate clients.
3. It was labor intensive to identify out-of-care persons and then link them.
4. Developed and implemented a three-tiered intervention strategy that encompasses a patient-centered approach rather than a one-size fits all approach like ARTAS.

How Category C has helped health department work:

Best practices from the Navigation Program and Project Engage have been incorporated into a permanent Linkage and Re-engagement Program, which is now county-based and includes jail linkage services.

Sustainability:

The health department is already training staff and finishing an operations manual as part of a phased plan for the new county-based Linkage and Re-engagement Program.

Nebraska

A POL intervention with African-American POLs was used to increase HIV testing among African Americans at a gay bar, homeless shelters, and Gay Pride and other LGBT sponsored events.

Results (2012–2015):

- 0.7% (42/5,654) new positive overall
- 81% (29/36) linkage to HIV care for newly diagnosed persons

Lessons Learned:

1. An innovative feature of this project was to place a Disease Intervention Specialist (DIS) at a CBO to conduct testing and linkage to HIV services, which was successful.
2. Work with African-American POLs was difficult because some of them were older and unfamiliar with younger at-risk MSM and their lifestyles. For example, compared with the past, some young males now have more relationships with girlfriends and transgender persons. Also, some of the older leaders helped contribute to the homophobia and testing stigma in African-American communities. Because of this and the belief that the number of leaders has reached its maximum, the CBO implementing these Category C activities now co-sponsors events and has made in-roads at events where the current goals are visibility and gaining trust of young MSM. The number of tests had decreased to 150-180, but now is over 200 among African Americans, Latinos, and young adults largely because of testing at minority events, parades, and "table talks" that discussed racism, poverty, and classism.

How Category C has helped health department work:

1. Furthered HIV testing efforts in both Category A and C (e.g., north Omaha where African Americans live and who are unaware of their infection) and have initiated school- and library-based testing.
2. Detected more syphilis.

3. Made in-roads for testing in the African-American community.
4. Effective streamlining and continuity with testing, PS, and case management services in one place.

Sustainability:

1. The CBO will support a .25 FTE linkage to care DIS at its Omaha location to continue counseling, testing, and linkage work.
2. Linkage to care and POL programs are continuing to expand and starting a re-engagement activity, but starting to see decrease in numbers of POL participants.
3. State health department hired an HIV surveillance coordinator to work on linkage and re-engagement.

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[10]

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, seven of these 10 health departments sustained part or all of their Category C intervention activities after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

Please send any questions or comments about this Summary or the PS12-1201 Category C projects to PS12-1201@cdc.gov.

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1. CDC. *Comprehensive HIV Prevention Programs for Health Departments Program Announcement PS12-1201, Notice of availability of funds for 2012*. Department of Health and Human Services, Centers for Disease Control and Prevention. 2011.
2. CDC. *High-Impact HIV Prevention: CDC's Approach to Reducing HIV Infections in the United States*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; August 2011. Available at: http://www.cdc.gov/hiv/pdf/policies_NHPC_Booklet.pdf. Accessed August 2, 2016.
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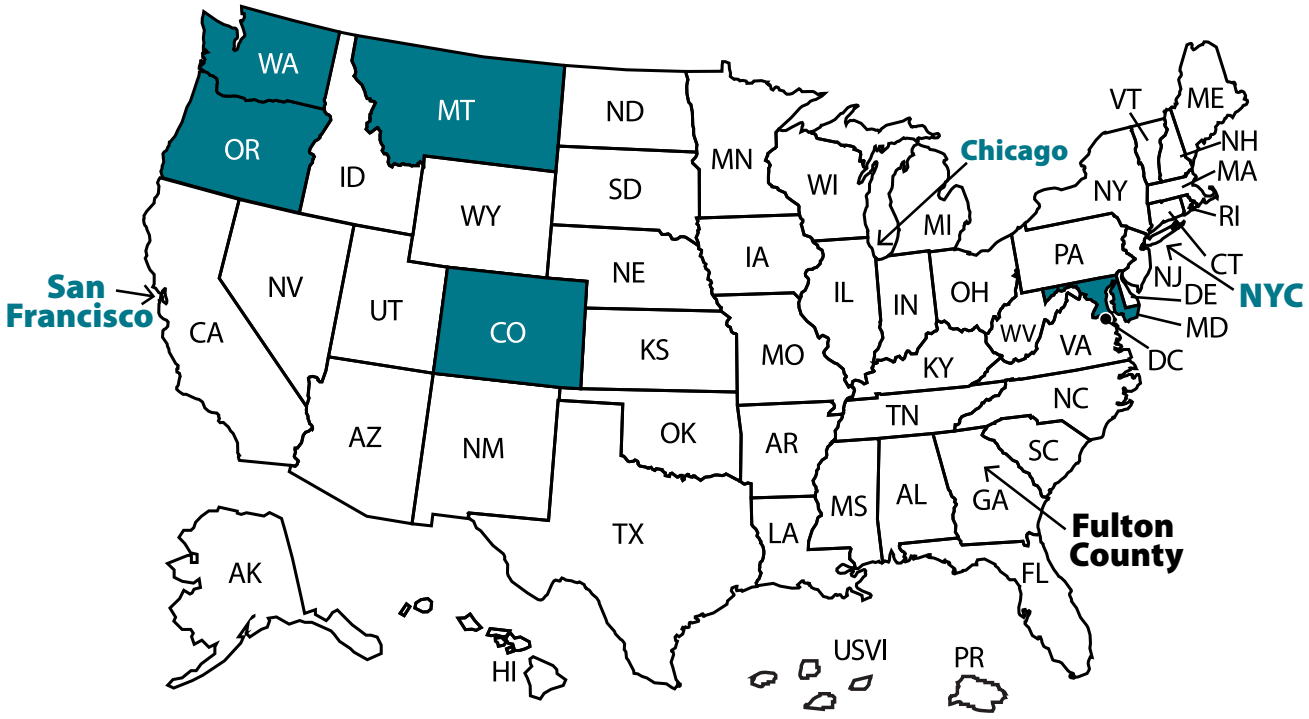
Focus Area: Use of Advanced Technology

Background

In March 2012, CDC awarded 30 health departments competitive Category C funding from Funding Opportunity Announcement (FOA) *PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments*[1] to implement, conduct, and evaluate their own high-impact prevention[2] non-research projects that were consistent with the National HIV/AIDS Strategy.[3] Projects from Category C were funded for four years through December 2015. Of the 30 grantees, 8 (27%) were funded to conduct projects that use advanced technology. This Summary is based on information from health department applications, progress reports, conference calls, emails, site visit reports, and comprehensive final reports and is intended primarily for PS12-1201 grantees and HIV prevention policy and decision makers at the national and local levels. Because of the diverse portfolio of health department projects, the information does not represent all of the results and context of the advanced technology activities.

PS12-1201 Health Departments Funded for Category C Use of Advanced Technology

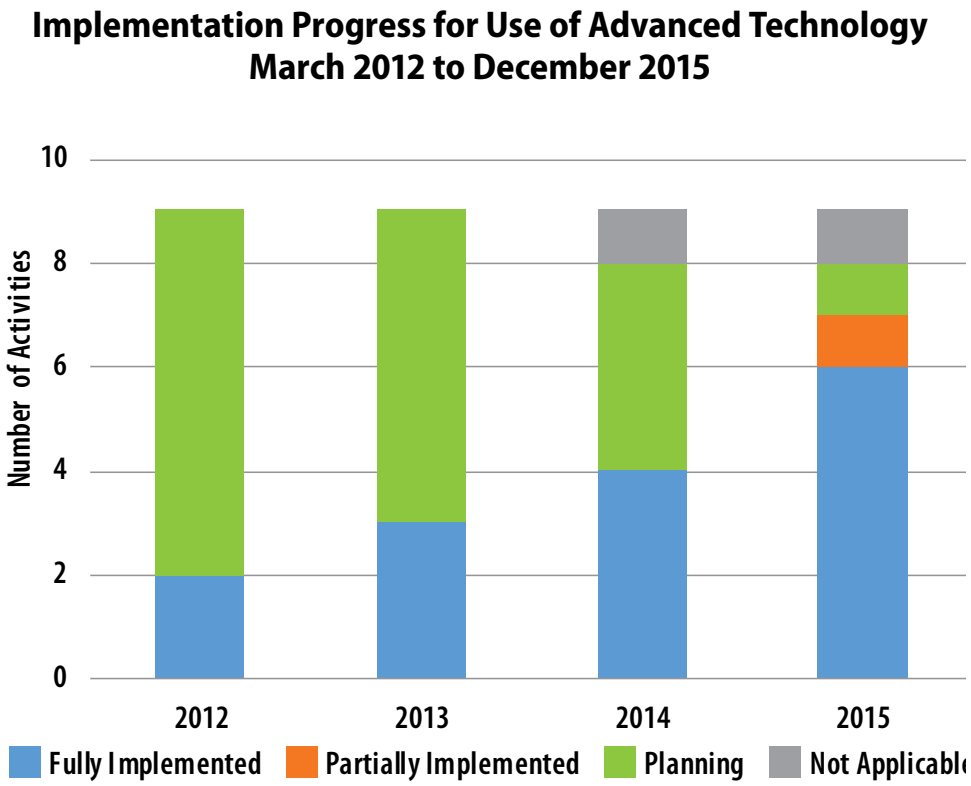


Type of Activities

The type of Category C projects that used advanced technology varied. Eight health departments conducted the following nine activities:

- Use of internet and texting to encourage testing and promote medication adherence (n=3 HDs)
- Data warehousing (n=2 HDs)
- Use of HIV care continuum dashboards to give providers feedback on linkage to care and viral load suppression (n=1 HD)
- Change and enhancement of HIV data system (n=1 HD)
- Electronic health reporting (n=1 HD)
- Web-based self-interview for partner services (n=1 HD, activity dropped)

Progress on Activity Implementation



Note: Of 9 project activities, 2 experienced extensive IT challenges, and 1 was dropped because of legal concerns about web-based interviews.

Note: The designations "Planning," "Partially Implemented," "Fully Implemented," and "Not Applicable" were used to determine and track progress of activity implementation. An example of "Planning" is health department staff who are preparing a procotol for an activity; an example of "Partially Implemented" is health department staff who are making assignments and training persons to conduct an activity; an example of "Fully Implemented" is staff from a facility who are conducting an activity and providing services to clients; and an example of "Not Applicable" includes an activity that was no longer conducted.

Note: As of December 2015, 67% (6/9) of the health departments fully implemented their activities.

Challenges

The eight health departments reported 18 challenges specific to their use of advanced technology. The only challenge common to at least two health departments was Information Technology (IT) delays (2 HDs). All other challenges were unique to one health department; examples include the following:

- Data sharing agreements for access to multi-jurisdictional data have been updated and finalized, but the flow of data has continued to be delayed due to technical difficulties
- Project website was censored and deemed unusable by internal health department review staff because of explicit language, which was deemed needed by focus groups
- Project delays with city and county contracting

Lessons Learned and How Health Departments Have Benefited

The eight health departments reported 14 lessons learned and 15 ways that Category C activities that used advanced technology have helped health department work. Examples include the following:

- Have updated data system
- Updated state regulation to allow more sharing of public health data with health care providers and contracted partners
- Because many data errors were found and the realization that the data warehouse is only as accurate as the source data being used, the local health department now does an array of data

cleaning and quality control measures and gives feedback to keepers of the primary datasets as an ongoing QA activity

- Bringing in for testing persons at high risk for HIV
- Integrated online outreach into prevention activities
- Increased capacity to do IT work and collaborate with IT staff
- As a result of monitoring online marketing efforts to optimize the impact of all ads placed on various mobile applications and websites, the one site with the greatest yield (click-on ads, which direct users to project website) became the focus of the campaign
- Text and email were acceptable and desirable methods of health communication, more so than voice
- Implemented new methods of sexual health promotion via text, video, web badges, and widgets that were accessible, met user needs, and increased HIV testing

Health Department Making Strides

The following is an example of an innovative project from a health department that completed and reported on activities, results, and benefits:

Oregon

This innovative project involved three technology-based strategies: 1) a mobile health service (www.OregonReminders.org) offering text, email, and voice reminders to test for HIV/STDs every 3–6 months, to take medications daily, and to refill prescriptions monthly (marketed to men having sex with men [MSM], persons who inject drugs, and persons living with HIV), 2) the addition of HIV prevention content had structural changes to websites and mobile applications that serve populations at risk for HIV (e.g., websites of gay bars or substance abuse treatment agencies), and 3) Social Network Strategy HIV testing programs that use both in-person and technology-based recruitment and training methods (targeted to MSM).

Results (2013–2015):

1. Mobile health service

- 43.6 million impressions (appearances on a user's screen) from ads on websites and apps used by MSM and 232,317 website visits.
- 1,812 active users through July 2015: 1,160 persons receive HIV/STD test reminders every 3-6 months, 351 receive daily medication reminders, 135 receive monthly prescription refill reminders, and 199 receive weekly healthy tips. One in three (32%) users have a non-Oregon ZIP code.
- A subset of 115 users took an anonymous survey:
  - » Of respondents receiving medication/refill reminders, 72% stated that the reminders help them remember to take their medication, and 70% stated they miss doses less frequently than before.
  - » Of respondents receiving test reminders, 57% stated that the reminders help them remember to test, and 13% stated they test more than before.

2. Structural changes to websites and apps

- Of the 186 businesses and organizations approached, 23 (12%) added an HIV prevention badge (i.e., an image with HIV message and link to website) or widget (a small application that can be embedded on a website) to their website or app.

3. Social Network Strategy testing programs that use technology

- 1% (4/417) of network associates tested were newly diagnosed, of whom 75% (3/4) were linked to care.
- One network associate (0.2%) was previously diagnosed and re-engaged in care.
- 27% of tested network associates were recruited online or via text message.

Lessons Learned:

1. The availability of technology-based services to anyone with access to the internet or a cell phone can fill service gaps by geographic location.
2. Text and email are desirable methods of health communication, more so than voice. The majority (69%) of Oregon Reminders users selected text, 26% selected email, and 5% selected voice reminders.
3. Face-to-face interaction is important, even for technology-based initiatives. Client conversations with enthusiastic staff and volunteers contributed substantially to enrollment in the mobile health service and the successful recruitment of Social Network Strategy recruiters.
4. Offering clients options to meet their unique needs increased interest and motivation to change behavior. None of the 304 users who customized or wrote their own medication or test reminder messages opted out.
5. Community input during project development and implementation is a key component of quality assurance and improvement.
6. Implementing structural changes to external partners' websites required repeated outreach. The businesses and organizations that added HIV prevention content were happy to do so, but it was not an immediate priority in most cases.

How Category C Work Has Helped Health Department Work:

Through this project, Oregon has:

1. Harnessed the power of technology to support the health of populations at high risk for HIV and living with HIV.
2. Established partnerships with businesses associated with risk taking (e.g., gay dating apps).
3. Delivered far-reaching health messages through online marketing and structural changes to popular websites and apps.
4. Reduced gaps in service by geographic location.

Sustainability:

1. AIDS Drug Assistance Program funding has supported Oregon Reminders since Category C funding ended.
2. Social Network Strategy testing remains available for agencies wishing to use that approach.
3. Oregon expects that many of the badges and widgets added to websites and apps during the project period will remain available (unless a business decides to remove them).

Opportunities Moving Forward

Much progress in advancing HIV prevention has occurred since the start of Category C activities. Many health departments developed new infrastructure, hired new staff for Category C activities, and built local capacity to conduct high-impact activities. Health departments, CBOs, and other partners provided peer-to-peer technical assistance. CDC began providing technical assistance for FOA-required cost analyses, and the White House Office of National AIDS Policy updated NHAS through 2020.[4]

In addition to the above-mentioned high-impact quantitative results, health departments have benefited in other ways. For example, 6 of these 8 health departments sustained part or all of their Category C advanced technology activities after funding ended. CDC is using the Category C experience to help inform the next health department FOA for comprehensive HIV prevention activities and expects that successful Category C methods and activities will become part of future technical assistance and capacity building for other health departments that are interested in conducting similar work.

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