COUNTY OF LOS ANGELES
Public Health
Division of HIV and STD Programs

Program Brief:
HIV Prevention through Care and Treatment

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Erase Doubt is funded by the U.S. Centers for Disease Control and Prevention and the County of Los Angeles. This initiative is intended to increase HIV testing in LA County, drive awareness of HIV prevention, and provide information about HIV/AIDS treatment and care. EraseDoubt.org is designed as an online resource center for Los Angeles County residents at risk of contracting HIV/AIDS and/or living with HIV/AIDS. This site is designed solely for educational purposes and should not be used as a substitute for professional care. For more information, call 800-367-AIDS (2437), email info@erasedoubt.org, or consult your health care provider.

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EraseDoubt.org

Program Brief

Division of HIV and STD Programs
Mario J. Pérez, M.P.H.
Director

Jennifer Sayles, M.D., M.P.H.
Sonali Kulkarni, M.D., M.P.H.

600 S. Commonwealth Ave., 10th Fl.
Los Angeles, California 90005

Web: www.publichealth.lacounty.gov
Phone: (213) 351-8000

The case for improving linkage to and retention in medical care and treatment for HIV-positive individuals has never been more compelling. In recent years, evidence has been mounting in support of universal treatment of HIV-positive persons with antiretroviral drugs to reduce morbidity and mortality;[i,ii,iii] Recent HIV treatment guidelines now recommend consideration of antiretroviral treatment (ART) at even the earliest stages of the disease.[iv] In 2011, findings from the HPTN052 trial demonstrated a 96% reduction in transmission in HIV infection among sero-discordant couples treated immediately compared to those receiving deferred treatment. This randomized control trial provided definitive evidence that ART treatment can prevent HIV transmission and is an important strategy to curb the epidemic.

The Division of HIV and STD Programs (DHSP) at the Los Angeles County (LAC) Department of Public Health is responsible for preventing and controlling HIV and STD infections in LAC. DHSP develops and maintains a comprehensive continuum of HIV prevention, care, and treatment programs for people at risk for or living with HIV or AIDS. This brief summarizes data on the spectrum of engagement in HIV care in LAC, outlines DHSP's "Testing and Linkage to Care Plus" (TLC+) framework, and describes programs aimed at identifying, engaging, and retaining HIV-positive individuals in medical care to achieve viral load suppression and prevent forward transmission of HIV.

HIV Spectrum of Engagement

Los Angeles County ranks second behind New York City for the largest concentration of AIDS cases and the largest annual number of newly diagnosed HIV positive persons in the United States.[v] **Figure 1** displays the spectrum of engagement in care and treatment for all persons infected with HIV in LAC. There are an estimated 61,700 individuals living with HIV/AIDS in LAC and 21% of these individuals are unaware of their status. Of the 61,700 diagnosed and undiagnosed persons with HIV, 44% of those with HIV infection in LAC were in HIV care and 35% were retained in HIV care during 2009-10. Thirty-nine percent of all HIV-infected persons in LAC were on ART and 26% had an undetectable viral load at last measurement.

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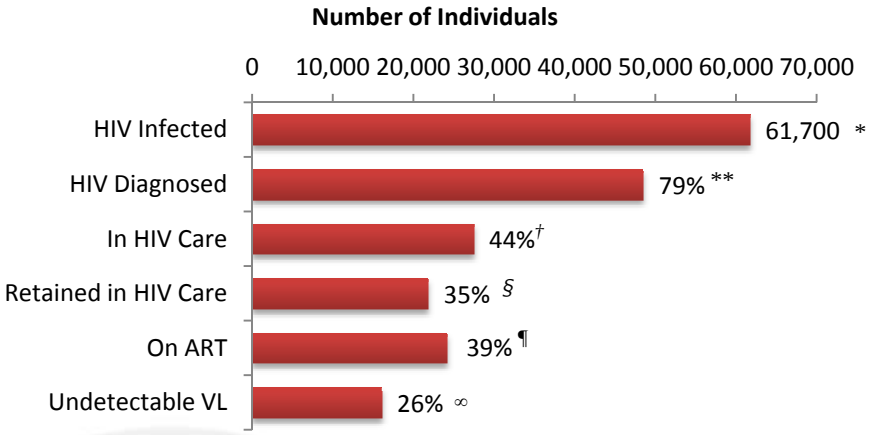
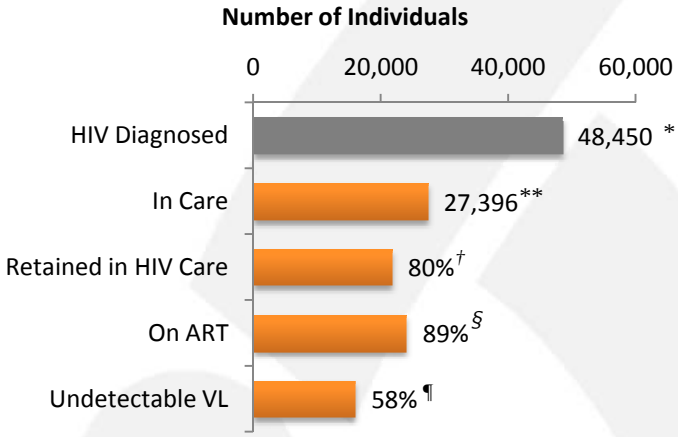
Figure 1. Spectrum of Engagement in Care for HIV-Infected Persons in Los Angeles County, 09-10



** Estimated HIV-infected, N = 61,700.* ***Source:*** *LAC HIV Surveillance Data 2009-2010.*
*** Calculated as HIV-diagnosed cases (N= 48,450) divided by estimated number infected (61,700).* ***Source:*** *LAC HIV Surveillance Data 2009-2010.*
† Calculated as estimated number PLWHA with ***≥ 1 CD4 or VL within 12 month period*** *(27,396) divided by estimated number infected (61,700). Source: LAC HIV Surveillance Data 2009-2010.*
§ Calculated as estimated number PLWHA with ***≥ 2 CD4 or VL 3 months apart with 12 month period*** *(21,917) divided by estimated number infected (61,700).* ***Source:*** *LAC HIV Surveillance Data 2009-2010.*
¶ Calculated as estimated number PLWHA on ART in MMP (24,382) divided by estimated number infected (61,700). ***Source:*** *Medical Monitoring Project 2009.*
∞ Calculated as estimated number PLWHA with undetectable viral load (15,890) divided by estimated number infected (61,700). ***Source:*** *LAC HIV Surveillance Data 2009-2010.*

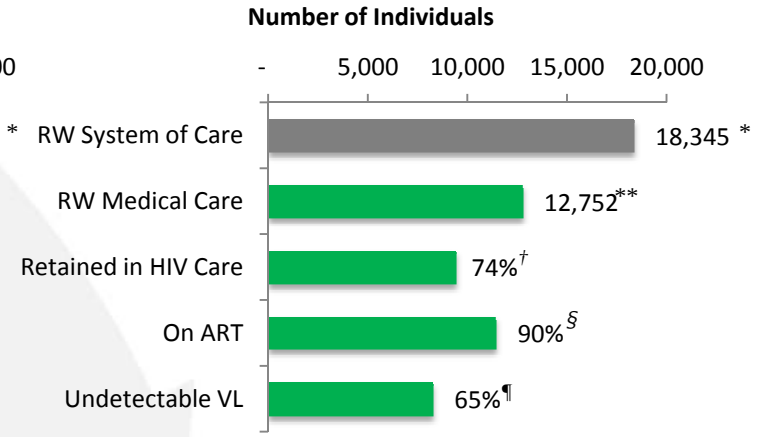
Figure 2 displays the spectrum of engagement in care and treatment among diagnosed persons living with HIV/AIDS (PLWHA) in LAC who were in care in 2009. Of the 48,450 PLWHA in the LAC HIV Surveillance system in 2009, 43% were not in HIV care that year (defined as no CD4 or viral load in the surveillance system). Of the 27,396 persons in HIV care, 80% were retained in care, 89% were on ART, and 58% had an undetectable viral load at last measurement. **Figure 3** describes the treatment cascade for HIV infected persons who have accessed the Ryan White system of care, a medical and social service safety net system for uninsured and underinsured persons with HIV. Among the 12,752 Ryan White clients in LAC who accessed medical care with one or more visits in 2009, 74% were retained in care, 90% were on ART, and 65% achieved an undetectable viral load at last measurement.

Figure 2. *Los Angeles County* Spectrum of Engagement in Care among PLWHA, 2009



** HIV-diagnosed PLWHA, N = 41,059.* ***Source:*** *LAC HIV Surveillance Data 2009- 2010.*
*** PLWHA with* ***≥ 1 CD4 or VL within 12 month period; n=27,396. Source:*** *LAC HIV Surveillance Data 2009-2010.*
† PLWHA with ***≥ 2 CD4 or VL 3 months apart with 12 month period; n****=21,917.* ***Source:*** *LAC HIV Surveillance Data 2009-2010.*
§ Calculated as PLWHA in care (27,396) x estimated percentage on ART in MMP(89%); n =24,382. ***Source:*** *Data from the Medical Monitoring Project 2009.*
¶ PLWHA with undetectable viral load (<200 copies) at last measurement; n = 15,890. ***Source:*** *LAC HIV Surveillance Data 2009-2010.*

Figure 3. *Ryan White* Spectrum of Engagement in Care among PLWHA, 2009



** Clients accessing any Ryan White services in 2009; N = 18,345.*
*** Clients with* ***≥ 1 medical visit and VL within 12 month period; n=12,752.***
† Clients with ***≥ 2 medical visits 3 months apart with 12 month period; n****=9,436.*
§ Clients prescribed ART at least once in 2009; n=11,477.
¶ Clients with undetectable viral load (<200 copies) at last measurement; n = 8,289.
Source: *Ryan White Casewatch Data, January- December 2009.*

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The local data presented here highlight the need for a coordinated response to LAC's HIV/AIDS epidemic through a set of innovative, evidence-based interventions across the continuum of HIV prevention and care, targeting individuals and communities at highest risk of and affected by HIV in LAC.

Los Angeles County TLC+ Framework and Programs

The LAC "Testing and Linkage to Care Plus" framework represents a comprehensive range of innovative interventions and program enhancements that address HIV testing, timely linkage to HIV care for those who test HIV positive, identification and linkage of HIV-positive individuals who are not in care, re-engagement of those who have fallen out of care, longer term retention in care among those initially linked, and support for antiretroviral therapy and adherence for those taking ART medications (Figure 4).

HIV Testing and Prevention for High-Risk Individuals

The spectrum of TLC+ services begins with programs aimed at disease identification, that is, reducing the number of PLWHA who are unaware of their status using a combination of routine and targeted testing methods. This includes expanding testing in communities identified through geospatial mapping as being "clusters" or locations with high rates of HIV and STD infections. Innovative and high yield testing modalities, such as focusing testing within the social networks of high-risk individuals, are increasingly being implemented to complement existing HIV testing services. For high-risk clients who test HIV negative, the goal is to link them to customized prevention programs based on an individual's level of HIV-acquisition risk. Such programs may include behavioral risk reduction, STD testing and treatment, biomedical prevention (non-occupational post-exposure prophylaxis and in the future pre-exposure prophylaxis), and mental health and substance abuse treatment, if needed.

Linkage to Care for Newly Diagnosed

Based on the growing evidence that earlier treatment not only benefits the individual but also can dramatically reduce the likelihood of HIV transmission, DHSP is investing substantial resources into improving linkage to care following HIV diagnosis. HIV surveillance data from LA County estimates that 73% of persons newly diagnosed with HIV in 2009 were linked to HIV care within 12 months, and only 54% linked within the first 3 months of diagnosis. This stands in contrast to the National HIV/AIDS Strategy goal of linking 85% of newly diagnosed persons within three months of diagnosis. In order to improve linkage to care after diagnosis, DHSP incentivizes its HIV testing services (HTS) programs to proactively link newly diagnosed clients to medical care and follow them until they complete their first appointment. In August 2011, DHSP re-structured HTS programs to create a stronger incentive structure tied to the following performance measures: HIV positivity rate, linkage to care, referral to partner services, as well as HIV testing episodes. As a result, many HTS programs have developed more intensive client-centered approaches to better link their clients to care. For individuals who still are not ready to link to care despite the efforts of testing providers, DHSP is also implementing an ARTAS Linkage Case Management (ARTAS LCM) protocol, which deploys public health investigators to locate clients who have recently tested positive for HIV, offer education and partner elicitation services, and use strengths-based case management techniques to support initial linkage and engagement in care. Additionally, a Youth Linkage Specialist works with children or adolescents newly diagnosed with HIV through public testing programs to facilitate their timely entry into HIV care.

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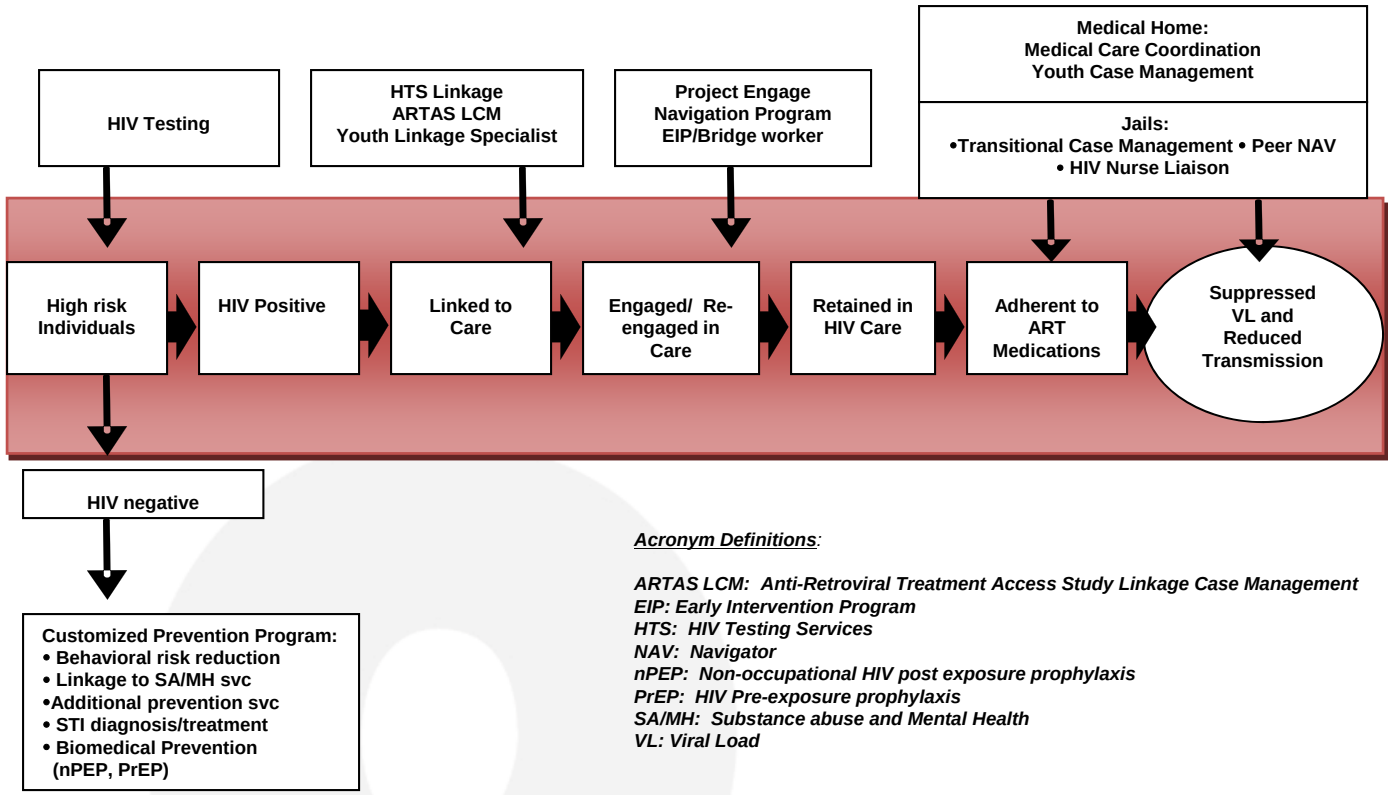
Figure 4. DHSP Framework for Testing and Linkage to Care Plus (TLC+) Programs



Acronym Definitions:

ARTAS LCM: Anti-Retroviral Treatment Access Study Linkage Case Management
EIP: Early Intervention Program
HTS: HIV Testing Services
NAV: Navigator
nPEP: Non-occupational HIV post exposure prophylaxis
PrEP: HIV Pre-exposure prophylaxis
SA/MH: Substance abuse and Mental Health
VL: Viral Load

Engagement and Re-engagement for Out of Care Individuals

While linkage to care is a critical first step, ongoing engagement and retention in care is equally important to achieving improved health outcomes and viral load suppression for PLWHA. A core set of Ryan White services are in place to support engagement and retention in care, such as early intervention programs (EIP) with outreach bridge workers, case management, substance abuse and mental health treatment, transportation assistance, and food and housing support. Despite these existing services, only 43% of the 48,450 named cases in LAC were not in HIV medical care during 2009 (Figure 2), highlighting the need for more intensive efforts to re-engage PLWHA who are currently out of care. Therefore, two complementary outreach focused interventions are being implemented to enhance the existing system. The first intervention, Project Engage, is a pilot program designed to tap into the social networks of in-care HIV- positive patients to identify other PLWHA in their social networks who are not in care and offer them incentives to re-engage in care. The second planned intervention is a Navigation program that is anchored to HIV medical homes. The Navigation program goal is to work with HIV medical homes to identify HIV-positive clients who have fallen out-of-care at their clinics, cross reference HIV Surveillance and Ryan White program data to determine whether those clients are receiving HIV medical services elsewhere in LAC, and then reach out to those persons truly out-of-care to address barriers and re-engage them in HIV care.

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Retention in Care and Adherence to Treatment

Once PLWHA have been successfully linked to or re-engaged in care there is an ongoing need for strategies to effectively retain PLWHA in care and treatment for the long term. In order to optimize retention and adherence to treatment, program enhancements in the HIV medical homes are being undertaken, which include implementing Medical Care Coordination (MCC). The MCC model integrates medical case management and non-medical case management into a multi-disciplinary care coordination team at patients' medical home in order to optimize access, retention, and treatment adherence and improve patient health outcomes and self-management. MCC specifically targets those patients who 1) have never been in HIV care, including the recently diagnosed and those who were diagnosed in the past but never accessed care; 2) have fallen out of care, i.e., have not accessed medical care for at least 6 months; 3) have difficulties adhering to a treatment plan; and 4) are adherent to a treatment plan but still have poor health status. The MCC team serves as the medical home anchor for the existing and planned linkage, outreach, and re-engagement programs described previously. The team focuses on the delivery of evidence-based interventions and patient-centered case management to address unmet needs (i.e. housing, transportation, food), identify and link to mental health and substance use services, provide HIV education and improve health literacy, provide risk reduction and treatment adherence counseling, and coordinate management of co-morbidities and specialty care. For patients who are newly starting ART, and those who are identified as having treatment adherence challenges, the MCC team delivers evidence-based interventions to address treatment readiness and behavior change needed to obtain optimal adherence and benefits from ART. Currently, MCC is in place at five of the Ryan White medical homes, with a planned expansion of the MCC model to all HIV medical homes in 2012.

In addition, a Youth Case Management program provides intensive case management for HIV-positive adolescents and young adults, who have been shown to be at high risk for falling out of medical care.

Jail Based TLC+ Programs

For the 500 or more HIV-infected persons who are incarcerated in the Los Angeles Sheriff's Department (LASD) jail system and at high risk for being out of care and having an unsuppressed viral load, DHSP supports a continuum of services including HIV testing, a jail-based HIV nurse liaison and transitional case management (TCM). Given the rapid turnover of jail populations, rapid HIV testing algorithms are used to provide confirmed HIV test results at the point of care and expedite referrals to medical care for those testing HIV-positive. The HIV nurse liaison works with jail HIV providers to address clients' medical needs including ensuring clients' timely access to the same HIV medications they were taking prior to incarceration. The TCM case workers facilitate linkage to community medical care upon release from jail and address any unmet needs that may serve as barriers to care. As part of a National Institutes of Health grant, DHSP, in collaboration with the University of California Los Angeles and LASD, is in the planning stages of a randomized controlled trial to examine the effectiveness of peer navigators (Peer NAVs) in helping HIV-positive inmates engage in HIV medical care after release into the community.

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Summary

In Los Angeles County, a new effort is underway to identify those who are unaware of their HIV status, are not in regular HIV medical care and/or are not achieving viral load suppression. The promise of early detection and newer treatment options offer individuals living with HIV and AIDS in LAC improving health outcomes while helping to reduce HIV transmission. The "Testing and Linkage to Care Plus" framework presented here describes how LAC will achieve this through a comprehensive range of DHSP supported interventions and program enhancements to better identify individuals with HIV, link them to timely HIV care, engage and retain those who have fallen out of care, and attain optimal medication adherence for those prescribed ART medications.

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[i] *Cain, L. E., R. Logan, J. M. Robins, et al "When to Initiate Combined Antiretroviral Therapy to Reduce Mortality and Aids-Defining Illness in Hiv-Infected Persons in Developed Countries: An Observational Study." Ann Intern Med 154, no. 8 (2011): 509-15.*

[ii] *Kitahata, M. M., S. J. Gange, A. G. Abraham, et al. "Effect of Early Versus Deferred Antiretroviral Therapy for Hiv on Survival." N Engl J Med 360, no. 18 (2009): 1815-26.*

[iii] *Sterne, J. A., M. May, D. Costagliola, et al. "Timing of Initiation of Antiretroviral Therapy in Aids-Free Hiv-1-Infected Patients: A Collaborative Analysis of 18 Hiv Cohort Studies." Lancet 373, no. 9672 (2009): 1352-63.*

[iv] *Department of Health and Human Services. Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents; January 10, 2011.*

[v] *Centers for Disease Control and Prevention. HIV Surveillance Report, 2009; vol. 21.*