The HIV Treatment and Prevention Continuum in Latinos

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Conflict of Interest Disclosure Statement

- No financial relationships to disclose
- No off-label discussions in presentation
Objectives

• To understand the evolution of the U.S. and local HIV Prevention and Care Continuums, including in sub-populations
• To assess HIV viral suppression rates and its impact on treatment and prevention outcomes in Latino populations
• To evaluate the HIV Care Continuum and strategies to improve engagement in HIV care
The Evolution of the HIV Care Cascade
HIV Care Continuum

- Not in HIV Care
  - Unaware of HIV infection
  - Aware of HIV infection (not in care)
  - Receiving some medical care but not HIV care
  - Entered HIV care but lost to follow-up
  - Cyclical or intermittent user of HIV care
- Engaged in HIV Care
  - Fully engaged in HIV care

Adapted from:
Eldred et al AIDS Patient Care STDs 2007;21(Suppl1):S1-S2
Cheever Clin Infect Dis 2007;44:1500-2
The Continuum Updated

HIV Diagnosis → Linkage to Care → ART Receipt → ART Adherence → Outcomes

Retention in Care → Re-Engagement in Care

The HIV Care Cascade - 2011

- Persons Living with HIV: 1,106,400
- HIV-Diagnosed: 874,056
- Linked to HIV Care: 655,542
- Retained in HIV Care: 437,028
- Need Antiretroviral Therapy: 349,622
- On Antiretroviral Therapy: 262,217
- Adherent/Undefectable: 209,773

Stage of Engagement in HIV Care

Percentage of persons with HIV engaged in selected stages of the continuum of care – United States

- Diagnosed: 82%
- Linked to care: 66%
- Retained in care: 37%
- Prescribed ART: 33%
- Viral suppression: 25%
Persons Living with Diagnosed or Undiagnosed HIV Infection
HIV Care Continuum Outcomes, 2014—United States

Note. Receipt of medical care was defined as ≥1 test (CD4 or VL) in 2014. Retained in continuous medical care was defined as ≥2 tests (CD4 or VL) ≥3 months apart in 2014. Viral suppression was defined as <200 copies/mL on the most recent VL test in 2014.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Race/Ethnicity, 2014—United States

Note. Estimates were derived using HIV surveillance and CD4 data for persons aged ≥13 years at diagnosis in the 50 states and the District of Columbia. Asian includes Asian/Pacific Islander legacy cases. Hispanics/Latinos can be of any race.
Linkage to HIV Medical Care within 1 Month after HIV Diagnosis during 2015, among Persons Aged ≥13 Years, by Race/Ethnicity—37 States and the District of Columbia

Note. Linkage to HIV medical care was defined as having a CD4 or VL test ≤1 month after HIV diagnosis. Hispanics/Latinos can be of any race.

Receipt of HIV Medical Care, Retention in Care, and Viral Suppression among Persons Aged ≥13 Years Living with Diagnosed HIV Infection, by Race/Ethnicity, 2014—37 States and the District of Columbia

Note. Receipt of medical care was defined as ≥1 test (CD4 or VL) in 2014. Retained in continuous medical care was defined as ≥2 tests (CD4 or VL) ≥3 months apart in 2014. Viral suppression was defined as <200 copies/mL on the most recent VL test in 2014. Asian includes Asian/Pacific Islander legacy cases. Hispanics/Latinos can be of any race.

Local HIV Continuum – Bexar County Texas

Thank you to Dr. Junda Woo, Medical Director San Antonio Metropolitan Health District for supplying this data.
New HIV Diagnosis Rates, 2008 - 2016

US estimated based on CDC number and US population
Percent of New HIV Diagnoses by Gender, Bexar County 2016

Data Source: Provided by the City of San Antonio
New HIV Diagnoses by Age Group, Bexar County 2011-2016

Data Source: Provided by the City of San Antonio
New HIV Diagnoses by Race/Ethnicity
Bexar County, 2011-2016

Rate per 100,000 population

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>10.0</td>
<td>36.9</td>
<td>20.7</td>
<td>3.7</td>
</tr>
<tr>
<td>2012</td>
<td>10.0</td>
<td>35.0</td>
<td>20.7</td>
<td>3.7</td>
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<tr>
<td>2013</td>
<td>10.0</td>
<td>34.8</td>
<td>20.4</td>
<td>3.7</td>
</tr>
<tr>
<td>2014</td>
<td>10.0</td>
<td>34.8</td>
<td>20.4</td>
<td>3.7</td>
</tr>
<tr>
<td>2015</td>
<td>10.0</td>
<td>34.8</td>
<td>20.4</td>
<td>3.7</td>
</tr>
<tr>
<td>2016</td>
<td>10.0</td>
<td>34.8</td>
<td>20.4</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Source: Texas HARS database, 2016 File
Percent of New HIV Diagnoses by Risk Factor, Bexar County 2016

Data Source: Provided by the City of San Antonio
Bexar County: 90-90-90 Metrics

Figure 1. HIV Care Continuum for Bexar County based on Fast-Track Cities targets
The Latino HIV Continuum

Diagnosis
Linkage
Retention
Suppression
The US Latino HIV Continuum
AIDS at the time of diagnosis

% Diagnosed Stage 3 (AIDS) - 2015

Men: 22.8%

Women: 25.1%

The US Latino HIV Continuum
AIDS at the time of diagnosis

% Diagnosed Stage 3 (AIDS) - 2015

Age 13 - 24: 8.8%
Age 25 - 34: 18.9%
Age 35 - 44: 32.7%
Age 45 - 54: 34.4%
Age >= 55: 40.1%
The US Latino HIV Continuum
AIDS at the time of diagnosis

% Diagnosed Stage 3 (AIDS) - 2015

- MSM: 20.2%
- Male IDU: 33.0%
- Female IDU: 26.5%
- Male Hetero: 52.5%
- Female Hetero: 24.9%

The US Latino HIV Continuum
Linkage to Care

Linked to HIV Care Within 30 Days of Diagnosis - 2015

- Men: 75.4%
- Women: 75.4%

The US Latino HIV Continuum

Linkage to Care

Linked to HIV Care Within 30 Days of Diagnosis - 2015

Age 13 - 24: 72.9%
Age 25 - 34: 74.3%
Age 35 - 44: 77.1%
Age 45 - 54: 77.9%
Age >= 55: 80.0%

The US Latino HIV Continuum
Linkage to Care

Linked to HIV Care Within 30 Days of Diagnosis - 2015

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>75.0%</td>
</tr>
<tr>
<td>Male IDU</td>
<td>71.6%</td>
</tr>
<tr>
<td>Female IDU</td>
<td>69.3%</td>
</tr>
<tr>
<td>Male Hetero</td>
<td>84.1%</td>
</tr>
<tr>
<td>Female Hetero</td>
<td>76.3%</td>
</tr>
</tbody>
</table>
The US Latino HIV Continuum
Retention in Care

Percent Retained in Care in 2014

- Men: 57.1%
- Women: 63.0%

The US Latino HIV Continuum
Retention in Care

Percent Retained in Care in 2014

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 13-24</td>
<td>60.5%</td>
</tr>
<tr>
<td>Age 25-34</td>
<td>55.8%</td>
</tr>
<tr>
<td>Age 35-44</td>
<td>56.3%</td>
</tr>
<tr>
<td>Age 45-54</td>
<td>59.9%</td>
</tr>
<tr>
<td>Age &gt;= 55</td>
<td>59.8%</td>
</tr>
</tbody>
</table>

The US Latino HIV Continuum
Retention in Care

Percent Retained in Care in 2014

- MSM: 58.4%
- Male IDU: 49.4%
- Female IDU: 62.3%
- Male Hetero: 54.5%
- Female Hetero: 63.2%

The US Latino HIV Continuum

Viral Suppression

Percent with Viral Suppression in 2015

Men: 57.8%
Women: 59.7%

The US Latino HIV Continuum
Viral Suppression

Percent with Viral Suppression in 2015

- Age 13 - 24: 54.6%
- Age 25 - 34: 55.4%
- Age 35 - 44: 56.9%
- Age 45 - 54: 60.0%
- Age >= 55: 60.1%

The US Latino HIV Continuum

Viral Suppression

Percent with Viral Suppression in 2015

- MSM: 60.7%
- Male IDU: 46.5%
- Female IDU: 56.1%
- Male Hetero: 54.4%
- Female Hetero: 61.5%

Local Hispanic Continuum Data
San Antonio Transitional Grant Area
Late HIV Diagnosis by Race/Ethnicity

Figure 33: Late diagnoses of HIV infections, SATGA 2014
San Antonio Transitional Grant Area Linkage to Care by Race/Ethnicity

Figure 35: Timely linkage to care in HIV Plan priority populations, SATGA 2012-2014
San Antonio Transitional Grant Area
Retention and Viral Suppression – Overall

Figure 38: Treatment Cascade and participation in treatment, San Antonio TGA 2014
San Antonio Transitional Grant Area
Retention and Viral Suppression – Hispanic MSM

Figure 39: Treatment cascades for HIV Plan priority groups, 2014
San Francisco Transgender Continuum Data

Upublished Data: TEACH and Trans*National Study


Odds Ratio HIV Positive Compared to Transgender White Women

<table>
<thead>
<tr>
<th>Year of Survey</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>6.7</td>
</tr>
<tr>
<td>2013</td>
<td>4.9</td>
</tr>
<tr>
<td>2016</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Transgender HIV Continuum by Race/Ethnicity
HIV Viral Suppression is Good for You (and others!)
The Association Between Long-Term HIV Viremia (viremia copy years, VCY) and Mortality

![Graph showing survival rate over years for different VCY categories.](image-url)
1-6 months to **BECOME** undetectable after starting treatment

6 months to **STAY** undetectable after first undetectable test result

Effectively **NO RISK** of transmitting HIV to a sex partner

As long as you stay undetectable:
- Take medications daily
- See your health care provider regularly to monitor your test results

**Undetectable Equals Untransmittable**

**U = U**
The US HIV Continuum

% of time with viral load above 1500 cps/ml

The US HIV Continuum

% of time with viral load above 1500 cps/ml

The US HIV Continuum

% of time with viral load above 1500 cps/ml

Transmission risk category

- M-to-M SC
- Male IDU
- M-to-M SC and IDU
- Male HC
- Female HC
- Female IDU

Undetectable = Untransmittable
Indetectable = Intransmisible

End Stigma!

www.preventionaccess.org
Interventions to Improve the Continuum of HIV Care
The Continuum has Helped Change the Way We View HIV Prevention and Care

• Allows us to measure and track our efforts
• It is more readily apparent that prevention and treatment are part of the same spectrum
• Gives structure to our conversations
  – With funders, HCWs, PLWH, clients
• Funding is becoming less siloed:
  – CDC used to be HIV testing and prevention
  – HRSA used to be HIV treatment and care
How do we improve the Continuum?

• Improving social support for PLWH
• Improve handoffs for new diagnoses
• Outreach and navigation, promotoras de salud
• Improve messaging on the importance of engagement
• Substance abuse counseling and treatment
• Mental Health diagnosis and care
• Universal Health Care (?)
• Improve housing and decrease homelessness
• Decrease competing needs (food, clothing, etc.)
• Adherence Support
• Improve the system of health care delivery
Linkage to HIV Care
Linkage Basics

• Getting a new diagnosis can be traumatic
• Linkage services have to be sensitive and persistent
• Factors to assess: socioeconomics, insurance, substance use, social support, mental health, stigma, and clinical stage (and others)
• Consideration for same-day ART
• Monitoring Linkage is everyone’s job including the testing site, public health, and HIV Clinics
• Linkage should be active not passive
Antiretroviral Treatment and Access Study (ARTAS): Linkage to Care Intervention

• Recently HIV-Diagnosed Individuals

• Randomized to
  
  – Standard of Care = passive referral to HIV Care
    • Received information about HIV and local resources
  
  – Strengths Based Case Management
    • Up to five case manager contacts over 90 days
    • Relationship building
    • Identifying client resources, needs and barriers to care
    • Help clients identify their strengths and assets
    • If needed, accompany the client to their first appointment

ARTAS: Percentage of Clients Linked to Care by 6 Months and Who Persisted in Care at 12 Months

- Latino Individuals represented about 30% of individuals in ARTAS
- Latinos were more likely to link and remain in care: aRR = 1.7 (1.3 - 2.0) compared to Black Non-Hispanics
- 78% were in care at 6 and 12 months

Other Linkage Strategies

• Outreach and Navigation
• Motivational interviewing
• Peer Support
• Engaging the newly diagnosed individual with the clinic prior to the provider visit

• Strategies that have not worked:
  – Financial Incentives
Retention in HIV Care
Retention Basics

• Poor retention is associated with a higher risk of death

• Monitoring retention in the clinic setting should be done routinely

• System level factors are sometimes critically important for promoting retention:
  – Patient-provider relationship
  – Better patient experience
  – Appointment availability
  – Scheduling convenience
Retention Messaging Improves Retention “Stay Connected”

- Clinic-wide (not just nurses/prescribers)
- Low cost, low effort
- Messages were written and verbal
- Clinic staff received formal training on the messaging
- Study included a pre-intervention/post-intervention comparison
- Took place at 6 U.S. clinics

Retention Messaging Improves Retention “Stay Connected”

• The messaging intervention included:
  – Print reminder material including brochures and posters that encouraged staying in care and contained information on:
    • The importance of staying in care
    • Clinic contact numbers
    • Research showing better health with regular care
  – Brief verbal messages used by all clinic staff
    • “Thank you for doing such a good job of keeping your appointments. It makes it easier for all of us to work together to keep you healthy.”

Stay Connected – Clinic Wide Intervention

- 18% of included patients were Hispanic/Latino
- Similar to the main study results, Hispanic/Latinos had statistically significant improvements in:
  - Keeping the next two visits
  - Mean proportion of visits kept

7% Relative Improvement
3% Relative Improvement


*Data adjusted for baseline variables
Stay Connected – Clinic Wide Intervention

7% Relative Improvement    3% Relative Improvement

Keeping 2 appointments was 28% better for individuals new or returning to care and 16% better for those with detectable viremia at baseline


*Data adjusted for baseline variables
The Division of HIV/AIDS Prevention strongly encourages state and local health departments to use HIV case surveillance data to improve the continuum of care in their communities, including the use of individual-level data to offer linkage and re-engagement to care services when appropriate. The **Data to Care** toolkit is one resource to assist programs in moving forward with these activities. The Division of HIV/AIDS Prevention will continue to provide resources and technical assistance to assist you in these efforts.

Sincerely,

/Janet C. Cleveland/

/Janet C. Cleveland, M.S.
Deputy Director for Prevention Programs
Division of HIV/AIDS Prevention
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Centers for Disease Control and Prevention

/Amy Lansky/

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CDC. High impact prevention: data to care.
Using HIV Surveillance Data to Re-engage Out-of-Care HIV-infected individuals

- 229 (33%) with ‘no care’ in 9 months were active and in care
- 409 (60%) were confirmed lost to follow-up with these outcomes:

- 409 (100%) confirmed lost to follow-up
- 315 (77%) linked to care
- 240 (59%) returned to care
- 232 (57%) returned to care with any CD4+ viral load at 12-months follow-up

Clinic-Based Data to Care: Effective, but Effect Size is Small

Madison Clinic, Seattle
Time to first return clinic visit: intervention vs. historical controls (N=1399)

HR: 1.7 (95% CI: 1.2 – 2.3)

Hispanics represented 12% of the population and had similar outcomes to the overall population

HR = hazard ratio

What About Incentives? HPTN 065

- Randomized by site (sites were in the Bronx and Washington D.C.)
- Patients (all patients at about 40 clinics)
- Received $70 for a suppressed viral load up to once every quarter
  - 40,000 gift cards were given to 10,000 PLWH at intervention sites
  - About $2.8 Million

HPTN 065: Incentives for Retention In Care

Percent Change in Retention and Suppression in HPTN 065

- Change in Continuity of Care: 16.5%, p < 0.001
- Change in Viral Suppression Overall: 11.5%, p = 0.01
- Viral Suppression in Those Not Consistently Suppressed at Baseline: 22.3%, p = 0.007

HIV Clinic-Based Buprenorphine Improved Clinic Retention Compared to Referral for Buprenorphine

Use of buprenorphine was increased by offering it right in the HIV Clinic: 74% vs 41%

Barriers to Care among Participants in a Public Health HIV Care Relinkage Program

<table>
<thead>
<tr>
<th>Barriers to HIV Care (N=247)</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No insurance</td>
<td>124 (50)</td>
</tr>
<tr>
<td>Forget appointments</td>
<td>83 (34)</td>
</tr>
<tr>
<td>Trouble getting appointments</td>
<td>79 (32)</td>
</tr>
<tr>
<td>Costs not covered by insurance are too high</td>
<td>75 (30)</td>
</tr>
<tr>
<td>No transportation</td>
<td>70 (28)</td>
</tr>
<tr>
<td>At least one healthcare organization and delivery barrier</td>
<td>184 (74)</td>
</tr>
<tr>
<td>Homelessness</td>
<td>59 (24)</td>
</tr>
<tr>
<td>Using drugs</td>
<td>56 (23)</td>
</tr>
<tr>
<td>Don’t need a doctor</td>
<td>48 (19)</td>
</tr>
</tbody>
</table>

*69% screened positive for depression, 54% reported substance use

Healthcare organization & delivery barriers are the most common “important” barriers

Sometimes, even if I stand in the middle of the room, no one acknowledges me.
# High Need, Complex Patients

The MAX (“MAXimum Assistance”) Clinic, Seattle, WA

<table>
<thead>
<tr>
<th>Low-Threshold Care</th>
<th>Incentives</th>
<th>High Intensity Outreach Support</th>
<th>Coordinated Care &amp; Case Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk-in access to medical care - 5 afternoons/wk - case managers 5 days/wk</td>
<td>Snacks each visit, $10 meal vouchers 1x/wk</td>
<td>Non-medical case managers (Public Health)</td>
<td>Madison Clinic and Public Health – Seattle &amp; King County STD Clinic</td>
</tr>
<tr>
<td>Direct phone line to MAX case managers (no phone tree)</td>
<td>Cell phone</td>
<td>Medical case managers (Madison)</td>
<td>Bailey Boushay Day Program</td>
</tr>
<tr>
<td>Text message communication</td>
<td>Bus pass</td>
<td>$25 - visit + blood draw q 2 months</td>
<td>Lifelong, DESC, supportive housing facilities</td>
</tr>
<tr>
<td>Harm reduction approach</td>
<td>$50 – VL&lt;200 q 2 months</td>
<td></td>
<td>Jail release planners</td>
</tr>
</tbody>
</table>

- Enrolled 95 patients in first 2 years; **80%** achieved **viral suppression at least once**, **~65%** currently virally suppressed

CDC Compendium of Best Practices in Linkage, Retention, and Re-Engagement in HIV Care

Key Messages - Interventions

• Streamline linkage to care, handoffs need to be active
• Respond to no-show visits, track retention
• Change clinic structure: open access approach for the hardest to reach patients
• Improve the system of care – remove barriers
• Focus on the patient/client
• Implement low-cost, low-effort interventions, when appropriate (with or without clinical trial data)
• Be pre-emptive, it is easier to find people when they are marginally engaged than when they are not engaged
Conclusions

• The HIV Care Continuum continues to improve in the US due to better care/engagement as well as better data
• Hispanic/Latino populations are more affected by HIV and have a higher likelihood of poor immune function at the time of diagnosis
• However, Hispanic/Latino populations in the US achieve similar levels of engagement in care compared to the general US population
• In local areas, such as Bexar County Texas, Hispanic/Latino populations outperform local engagement in care standards
• Continued work is needed in Latino populations nationwide to improve earlier diagnosis and further improve engagement statistics
• With better engagement and awareness, new HIV diagnoses in Hispanic/Latino populations should decrease and help end this HIV incidence disparity in the US
Thank You

Questions?