Testing Linkage to Care Plus Treatment (TLC+): Los Angeles County

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Medical Director
Office of AIDS Programs and Policy

HIV Prevention Planning Meeting
December 2, 2010
Defining TLC+

**TLC+:** A holistic approach to HIV prevention, medical care, and supportive services

- **T** – Testing
- **L** – Linkage
- **C** – Care
- **+** – Treatment

Source: The Report of a U.S. Think Tank on HIV Treatment as Prevention - February, 2010
http://www.projectinform.org/testandtreat/index.shtml
Testing Linkage to Care Plus Treatment (TLC+)

• A community level public health intervention aimed at reducing new HIV infections
  – TLC+ = Identifying unaware
  – TLC+ = Optimal care and treatment
  – TLC+ = Prevention

• Is this a new concept?
• Current studies/evidence based?
Elements of TLC+

- Assuring HIV+ individuals know their status
- Effective and timely linkage to care for newly identified HIV+ individuals
- Re-engage individuals who have been lost to the system of care
- Evaluation of eligibility for ART
- Effective efforts to support retention in care and ART adherence
- Reduce HIV Transmission
Sexual transmission of HIV according to viral load and antiretroviral therapy: systematic review and meta-analysis

Attia, S et. al.

• **Objective:** Review evidence on risk of HIV transmission through unprotected sex among serodiscordant couples on ART

• 11 cohorts – 5,021 heterosexual couples: 461 HIV-transmission events

• **Findings:** Overall transmission rate from ART-treated patients was 0.46 (95% CI 0.19–1.09) per 100 person-years (5 events)

• **Transmission rate from HIV+ partner with VL< 400 copies/ml:**
  – On ART = 0 (95% CI 0-1.27)/100 person-years (2 studies)
  – Not on ART = 0.16 (95% CI 0.02-1.13)/100 person-years (5 studies)

• **Limitations:** insufficient data to calculate rates according to STI presence and condom use. Studies reviewed were mainly among heterosexual
ART reduces Perinatal Transmission

FIG. 1. Trends in mother-to-infant transmission rate and maternal antiretroviral therapy: 1990–1999+ (Women and Infants Transmission Study Group). Rates per 100 (95% confidence interval).
Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model

Granich, RM et. al.

- **Objective:**
  - Theoretical evaluation on effect on HIV transmission by treating new HIV diagnoses immediately

- **Model assumptions:**
  - South Africa has a generalized epidemic (18% prevalence)
  - All HIV transmissions are heterosexual
  - Most PLWHA would be on ART within 5 years

- **Findings**
  - HIV would transition from endemic to elimination phase
  - By 2016 or 10 years, HIV incidence and mortality would be <1/1,000 people
  - HIV prevalence will drop to <1% within 50 years

*Lancet 2009; 373: 48–57*
Simply Testing and Treating will not eliminate the epidemic.....

Figure 1: Highly active HIV prevention
This term was coined by Prof K Holmes, University of Washington School of Medicine, Seattle, WA, USA. STI=sexually transmitted infections.
Testing
Estimated Number of Persons Living with HIV or AIDS in LAC as of July 2009

- **Undiagnosed HIV**: 12,900
- **Diagnosed HIV**: 24,400
- **PLWA**: 24,400

*Estimate based on a 1:1 ratio of HIV (non-AIDS) to AIDS cases*  
**Estimate based on CDC’s 2008 estimate that 21% are unaware of their HIV infection (CDC, 2008)
Awareness of Serostatus Among People with HIV and Estimates of Transmission

- Approximately 25% unaware of infection
- Approximately 75% aware of infection

People Living with HIV/AIDS: 1,039,000-1,185,000

New Sexual Infections Each Year: ~32,000

Accounting for:

- ~54% of new infections
- ~46% of new infections

Marks, et al. AIDS 2006;20:1447-50

CDC

County of Los Angeles Public Health
Typical Course of HIV Infection

- Acute HIV infection (AHI)
- Chronic HIV infection (CHI)
- AIDS

Plasma Viral Concentration (copies/ml)

Weeks

~ 8-10 Years
Effect of Counseling in Conjunction with HIV testing

- Meta-analysis of 27 studies of HIV-CT:
  - HIV-positive participants reduced unprotected intercourse and increased condom use.
  - HIV-negative participants did not modify their behavior more than untested participants.

Cost Effectiveness


“The cost-effectiveness of routine HIV screening in health care settings, even in relatively low-prevalence populations, is similar to that of commonly accepted interventions, and such programs should be expanded.”

1% HIV prevalence: $15,078 per QALY
>0.05% prevalence: <$50,000 per QALY
Time Between First Learned of HIV+ Status and AIDS Diagnosis

- Very late detection
- Late detection
- Early detection

<table>
<thead>
<tr>
<th>Time Range</th>
<th>Latino</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>42</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>1-12</td>
<td>28</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>13-36</td>
<td>13</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>37-60</td>
<td>6</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>&gt;60</td>
<td>12</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

SHAS, HIV Epidemiology Program. LAC, 2000 - 2004 (N = 672)
# HIV Positivity & New Positivity Rates by OAPP-funded Testing Programs, 2009

<table>
<thead>
<tr>
<th>Type of Testing Program</th>
<th>Number of HIV Tests</th>
<th>HIV Positivity Rate</th>
<th>HIV New Positivity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grand Total</strong></td>
<td>74,254</td>
<td>784</td>
<td>644</td>
</tr>
<tr>
<td><strong>Public Health STD Clinics</strong></td>
<td>25,171</td>
<td>203</td>
<td>164</td>
</tr>
<tr>
<td><strong>Routine Testing</strong></td>
<td>7,643</td>
<td>86</td>
<td>81</td>
</tr>
<tr>
<td><strong>Testing within Jail Settings</strong></td>
<td>9,631</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td><strong>Targeted Testing Total</strong></td>
<td>31,809</td>
<td>489</td>
<td>396</td>
</tr>
<tr>
<td><strong>OAPP Subcontracted Agencies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Storefront</strong></td>
<td>18,471</td>
<td>280</td>
<td>227</td>
</tr>
<tr>
<td><strong>Mobile Testing Unit Program</strong></td>
<td>6,419</td>
<td>73</td>
<td>64</td>
</tr>
<tr>
<td><strong>Multiple Morbidity Mobile Testing Units</strong></td>
<td>2,709</td>
<td>35</td>
<td>22</td>
</tr>
</tbody>
</table>

*Numbers based on available HIV Testing data, January 1 - December 31, 2009, reported to OAPP. Numbers are based on tests, not necessarily individuals.
### HIV Positivity & New Positivity Rates by OAPP-funded Programs, 2009, cont.

<table>
<thead>
<tr>
<th>Type of Testing Program</th>
<th>Number of HIV Tests</th>
<th>HIV Positivity Rate</th>
<th>HIV New Positivity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>n</td>
<td>(%)</td>
</tr>
<tr>
<td>Targeted Testing Total (cont.)</td>
<td>31,809</td>
<td>489</td>
<td>1.54%</td>
</tr>
<tr>
<td>Bath Houses and Sex Clubs</td>
<td>1,766</td>
<td>28</td>
<td>1.59%</td>
</tr>
<tr>
<td>Court Ordered &amp; Drug Expansion Testing Programs</td>
<td>1,797</td>
<td>34</td>
<td>1.89%</td>
</tr>
<tr>
<td>HIV Clinic Testing</td>
<td>647</td>
<td>39</td>
<td>6.03%</td>
</tr>
</tbody>
</table>

*Numbers based on available HIV Testing data, January 1 - December 31, 2009, reported to OAPP. Numbers are based on tests, not necessarily individuals.

OAPP funded testing = 40% of all testing in LAC / year
LINKAGE
Mortality and HAART Use Over Time
HIV Outpatient Study, CDC, 1994-2003

- Patients on HAART
- Deaths per 100 PY

Year
Deaths per 100 PY
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
 Patients on HAART
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9
ARTAS Linkage Case Management Intervention

- 626 recently HIV diagnosed individuals recruited from 10 US study sites
- 79% entered care within the first 6 months
- Through the intervention, the following were significantly more likely to have received care:
  - >25 yrs of age
  - Hispanic
  - Stably housed
  - Had not recently used non-injection drugs
  - Attended 2+ sessions with the case manager
  - Recruited at a study site that had HIV medical care co-located on its premises

HIV System Navigation: An Emerging Model to Improve HIV Care Access

Bradford, JB et. al.

• Goal: evaluate the use of a patient navigation model to reduce structural barriers to HIV care
• Study population: HIV+ clients not fully engaged in care (N = 437)
• Evaluated structural, financial, and personal barriers
• Findings: Structural barriers to care and provider engagement were significantly associated with improved health outcomes
Linkage to Care (LTC)

• LTC for all of LAC based on surveillance data
  – 66% of individuals newly dx with HIV in 2007-2008 linked to care within 1 yr (total of 4671 new cases)

• LTC for OAPP funded testing sites
  – 67% of individuals newly dx with HIV at OAPP testing sites in 2006-2008 were linked to care within 1 year (total of 679 new cases)

• Significant differences in LTC by race/ethnicity, gender, risk group, age, and testing site
Linkage to Care for Newly Diagnosed in LAC 2006-2008

HIV-positive Individuals, Jan 2006 - Jun 2008\(^1\) (n = 1,202)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched with HIV Case in HARS</td>
<td>1,043</td>
<td>86.8%</td>
</tr>
<tr>
<td>Previously Tested Positive</td>
<td>364</td>
<td>34.9%</td>
</tr>
</tbody>
</table>

\(^1\) Individuals who tested confidentially at OAPP-funded sites using a rapid test
### Linked to Care by Test Year, Jan 2006 - Dec 2008\(^1\) (n = 807)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linked to Care(^2)</td>
<td>528</td>
<td>65.4%</td>
</tr>
<tr>
<td>2006 (n=273)</td>
<td>164</td>
<td>60.1%</td>
</tr>
<tr>
<td>Within 3 months</td>
<td>123</td>
<td>45.1%</td>
</tr>
<tr>
<td>Within 6 months</td>
<td>18</td>
<td>6.6%</td>
</tr>
<tr>
<td>Within 1 year</td>
<td>23</td>
<td>8.4%</td>
</tr>
<tr>
<td>2007 (n=237)</td>
<td>163</td>
<td>68.8%</td>
</tr>
<tr>
<td>Within 3 months</td>
<td>138</td>
<td>58.2%</td>
</tr>
<tr>
<td>Within 6 months</td>
<td>17</td>
<td>7.2%</td>
</tr>
<tr>
<td>Within 1 year</td>
<td>8</td>
<td>3.4%</td>
</tr>
<tr>
<td>2008 (n=297)</td>
<td>201</td>
<td>67.7%</td>
</tr>
<tr>
<td>Within 3 months</td>
<td>177</td>
<td>59.6%</td>
</tr>
<tr>
<td>Within 6 months</td>
<td>13</td>
<td>4.4%</td>
</tr>
<tr>
<td>Within 1 year</td>
<td>11</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

\(^1\) Individuals who tested confidentially at OAPP-funded sites using a rapid test
Linked to Care by Gender, 2006-08

- Male (n=592): 67.7%
- Female (n=63): 68.3%
- Transgender (n=24): 54.2%*

*Statistically significant, p=.05
Linked to Care by Race/Ethnicity¹, 2006-08

- **African-American (n=149)**: 58.4%*
- **Asian/Pacific Islander (n=44)**: 68.2%
- **Hispanic/Latino(a) (n=335)**: 67.8%
- **White (n=141)**: 74.5%

*Statistically significant, p=.05, ¹Native American/Alaska Native not included due to small sample size
Linked to Care by Age Group, 2006-08

<table>
<thead>
<tr>
<th>Age Categories</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 12-19 (n=19)</td>
<td>78.9%</td>
</tr>
<tr>
<td>Age 20-24 (n=113)</td>
<td>69.9%</td>
</tr>
<tr>
<td>Age 25-34 (n=254)</td>
<td>69.7%</td>
</tr>
<tr>
<td>Age 35-44 (n=210)</td>
<td>66.2%</td>
</tr>
<tr>
<td>Age 45-54 (n=63)</td>
<td>60.3%</td>
</tr>
<tr>
<td>Age 55+ (n=20)</td>
<td>45.0%</td>
</tr>
</tbody>
</table>
Linked to Care by Priority Populations, 2006-08

Priority Populations

- Homeless (n=63) 41.3%*
- MSM (n=382) 69.6%
- MSMW (n=67) 65.7%
- MSM/IDU (n=35) 71.4%
- IDU (n=40) 42.5%*
- WASR (n=52) 73.1%

*Statistically significant, p=.05
HIV-positive Individuals\(^1\) Linked to Care\(^2\), 2006-08 by Zip Code

\(^1\)Newly-diagnosed individuals tested at OAPP-funded sites, identified in HIV surveillance data

\(^2\)Matched cases in surveillance data not having a CD4 or viral load laboratory record zip codes with small numbers not included in analysis

Data Source: HIV Epidemiology Program, 2010
HIV-positive Individuals\(^1\) Linked to Care\(^2\), 2006-08 by Zip Code

\(^1\)Newly-diagnosed individuals tested at OAPP-funded sites, identified in HIV surveillance data

\(^2\)Matched cases in surveillance data not having a CD4 or viral load laboratory record, zip codes with small numbers not included in analysis
What are we doing to improve linkage to care in LAC?
# Linkage to Care Activities

<table>
<thead>
<tr>
<th>LTC ACTIVITY</th>
<th>START DATE</th>
<th>SUMMARY OF PROJECT / ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentivize LTC for HCT Programs</td>
<td>2005</td>
<td>Incentivize LTC at OAPP funded testing sites through fee structure that pays additional $80-120 for linking to HIV care (also incentivize disclosure and partner svcs)</td>
</tr>
<tr>
<td>HIV Rapid Testing Algorithm (RTA)</td>
<td>2006</td>
<td>RTA (2 rapid tests) used to deliver presumptive dx at testing episode and direct linkage to care w/out waiting for confirmatory testing. Currently RTA in shelters, routine testing sites, LAC jails</td>
</tr>
<tr>
<td>Routine Testing with same day linkage</td>
<td>2008</td>
<td>Implementing routine opt out HIV testing in clinical sites in high burden areas with same day linkage to care</td>
</tr>
<tr>
<td>Partner Services w/ARTAS LTC</td>
<td>2010</td>
<td>Partner Services PHI’s trained to deliver 5 sessions of ARTAS model strength based CM to link all new positives and out of care back into HIV medical care</td>
</tr>
<tr>
<td>Youth focused Linkage Worker</td>
<td>2010</td>
<td>“Deputized” linkage worker trained to work with newly dx youth in LAC to link to care – uses testing data to ID and contact new cases in collaboration with providers</td>
</tr>
<tr>
<td>LTC ACTIVITY</td>
<td>START DATE</td>
<td>SUMMARY OF PROJECT / ACTIVITY</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Jail based Transitional Case Management (TCM)</td>
<td>2000</td>
<td>TCM in LAC jails work with all HIV+ inmates to establish LTC for medical care and other services upon release</td>
</tr>
<tr>
<td>HIV non-occupational Post-Exposure Prophylaxis (nPEP)</td>
<td>2010</td>
<td>Pilot of HIV nPEP with intensive RR counseling delivered to individuals with high risk HIV exposure, includes HIV testing and direct linkage to HIV care co-located with PEP site.</td>
</tr>
</tbody>
</table>
Retention in Care*

One visit to doctor ≠ ongoing HIV care

• If our goal is to reduce viral loads we must also improve retention in care

• Of newly dx HIV+ at OAPP testing sites in 2007-2008 who were linked to care, 81% were retained in care for 12 mo after diagnosis

• Of existing patients in LAC Ryan White HIV care system in 2008-2009 (n= 12,725), 82% were retained in care over this period

*Defined at 2 visits in 12 month period at least 3 months apart (HRSA/HAB)
Survival of some HIV+ adults same as general population

<table>
<thead>
<tr>
<th>Truncation for Duration of Follow-up, Yrs</th>
<th>Median Time Spent With CD4+ Cell Count ≥ 500 cells/mm³ After Truncated Duration of Follow-up, Yrs (IQR)</th>
<th>Deaths, n</th>
<th>SMR (95% CI) SMR&lt;1 = general population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (n = 1208)</td>
<td>4.5 (2.1-7.0)</td>
<td>37</td>
<td>2.5 (1.8-3.5)</td>
</tr>
<tr>
<td>1 (n = 1156)</td>
<td>4.2 (2.1-6.4)</td>
<td>29</td>
<td>2.1 (1.4-3.1)</td>
</tr>
<tr>
<td>2 (n = 1083)</td>
<td>4.0 (2.1-5.6)</td>
<td>26</td>
<td>2.2 (1.4-3.2)</td>
</tr>
<tr>
<td>3 (n = 1031)</td>
<td>3.5 (1.8-4.8)</td>
<td>22</td>
<td>2.1 (1.3-3.2)</td>
</tr>
<tr>
<td>4 (n = 967)</td>
<td>3.0 (1.5-3.8)</td>
<td>18</td>
<td>2.1 (1.3-3.4)</td>
</tr>
<tr>
<td>5 (n = 864)</td>
<td>2.4 (1.4-3.0)</td>
<td>12</td>
<td>1.9 (1.0-3.2)</td>
</tr>
<tr>
<td>6 (n = 763)</td>
<td>1.6 (1.0-2.2)</td>
<td>2</td>
<td>0.5 (0.1-1.6)</td>
</tr>
<tr>
<td>7 (n = 610)</td>
<td>0.9 (0.5-1.3)</td>
<td>1</td>
<td>0.5 (0.0-2.6)</td>
</tr>
</tbody>
</table>

Care of HIV-Infected People is Much Costlier Late in Course of Disease

April 1, 2006

Clinical Infectious Diseases

Distribution of Health Care Expenditures for HIV-Infected Patients

RY Chen, MS Saag, et al.

- Annual cost of care at U. of Alabama-Birmingham HIV Clinic
  - CD4 count <50  $36,553
  - CD4 count >350  $13,885

- 2.6-fold difference, primarily because of increased expenditures for nonantiretroviral medication and hospitalization
Changes in Guidelines

- Treat patients with CD4 counts between 350 and 500 cells/mm$^3$ (A/B-II)
- Patients with CD4 counts >500 cells/mm$^3$ (B/C-III)
- Regardless of CD4 count, treat the following patients:
  - pregnancy (AI)
  - HIV-associated nephropathy (AII)
  - HBV co-infection when treatment of HBV is indicated (AII)
Objective: Determine optimal ART initiation for ART naïve
17,517 patients in US and Canada from 1996-2005
CD4 351-500: 8,362 pts, 25% initiated ART, 75% deferred
  Deferred group: 69% increase in risk of death
    (RR 1.69; 95% CI, 1.26 - 2.26)
CD4 >500: 9,155 pts, 24% initiated ART, 76% deferred
  Deferred group: 94% increase in risk of death
    (RR 1.94; 95% CI, 1.37-2.79)
Conclusions: Early ART initiation before CD4 count fell significantly improved survival vs. deferred therapy groups

Early Treatment for HIV: the Time has Come

G.H. Friedland

Time to Hit HIV, Early and Hard

D.D. Ho
Expanded HIV Treatment to Slow Transmission: Selected Studies

**THE LANCET Infectious Diseases**
August, 2002

Could Widespread Use of Combination Antiretroviral Therapy Eradicate HIV Epidemics?
JX Velasco-Hernandez, HB Gershengorn & SM Blower

**The Journal of Infectious Diseases**
July 1, 2008

Expanded Access to Highly Active Antiretroviral Therapy: a Potentially Powerful Strategy to Curb the Growth of the HIV Epidemic
VD Lima, JD Montaner et al.
How could we measure effectiveness of TLC+?

*Reduced Community Viral Load*

Reduced Transmission

Reduced Incident Infections
Community Viral Load (cVL)*

Population-based measure of a community’s viral burden

Potential biologic indicator of effectiveness:
- Antiretroviral treatment
- HIV prevention

*Mean cVL calculated as mean of most recent VL for individuals in LAC surveillance system or HIV care system in a given time period
Community Viral Load (cVL)*

- Reducing HIV viral load = strategy to improve individual health outcomes as well as reduce HIV transmission (cVL)
- Mapping cVL shows significant geographic variations ("hot spots") throughout LAC
- Mean VL differs by age, race/ethnicity, risk group, insurance status, incarceration history
- cVL and individual VL reduction is an important outcome for HIV prevention and care programs, and informs targeted prevention services

*Mean cVL calculated as mean of most recent VL for individuals in LAC surveillance system or HIV care system in a given time period
# of RW Clients by Resident Zip-Code

Cumulative VL* by Resident Zip-Code

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
* Data limited to zip-codes with > 10 RW clients that had one VL measure – analysis based on client’s most recent viral load.
Average VL* by Resident Zip-Code

* Data limited to zip-codes with > 10 RW clients that had one VL measure – analysis based on client’s most recent viral load.
Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10): Data limited to zip-codes with > 10 RW clients that had one VL measure – analysis based on client’s most recent viral load.

* Defined as < 200 copies/ml.
HIV-1 Viral loads among RW Clients

- 14,875 RW clients database had 1 or more medical outpatient (MOP) visit in YR 19.
  - Of that, 12,725 (~86%) had at least one viral load test during that year.

\[ N = 12,725 \]

Data limited to RW Client w/ 1 or more MOP visit.
### Mean Viral Load & Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Mean of Most Recent VL</th>
<th>% Undetectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>16,798</td>
<td>(72%)</td>
</tr>
<tr>
<td>New Infection</td>
<td>48,967**</td>
<td>(47%**)</td>
</tr>
<tr>
<td>Old Infection*</td>
<td>13,547</td>
<td>(74%)</td>
</tr>
<tr>
<td>Male*</td>
<td>17,110</td>
<td>(72%)</td>
</tr>
<tr>
<td>Female</td>
<td>14,258</td>
<td>(71%)</td>
</tr>
<tr>
<td>Transgender</td>
<td>22,759</td>
<td>(69%)</td>
</tr>
</tbody>
</table>

**Source:** *Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):*
Data limited to RW Client w/ 1 or more MOP visit.

* Indicates reference/comparison group
** Significantly different from reference group (p-value < 0.05)
Mean Viral Load & Demographics

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Mean Viral Load</th>
<th>% Undetectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-24</td>
<td>20,302**</td>
<td>(63%**)</td>
</tr>
<tr>
<td>25-39</td>
<td>21,108**</td>
<td>(66%**)</td>
</tr>
<tr>
<td>40-49</td>
<td>16,194**</td>
<td>(74%**)</td>
</tr>
<tr>
<td>50+</td>
<td>11,575 (80%)</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>20,623**</td>
<td>(63%**)</td>
</tr>
<tr>
<td>Asian/</td>
<td>12,447 (81%**)</td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>15,709 (74%)</td>
<td></td>
</tr>
<tr>
<td>NA/AN</td>
<td>33,132 (68%)</td>
<td></td>
</tr>
<tr>
<td>White*</td>
<td>15,972 (74%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Casework YR 19 (Feb. ‘09 – Mar. ‘10): Data limited to RW Client w/ 1 or more MOP visit.
* Indicates reference/comparison group
** Significantly different from reference group (p-value < 0.05)
Mean Viral Load & Risk Behaviors

- **MSM**: 17,041 (73%)
- **IDU**: 10,739** (68%)
- **MSM/IDU**: 17,814 (69%)
- **Heterosexual***: 17,022 (72%)
- **Jail w/in 2 Yrs.**: 27,403** (57%**)
- **Jail > 2 Yrs.**: 21,281** (66%**)
- **No Jail Ever***: 15,190 (74%)

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
Data limited to RW Client w/ 1 or more MOP visit.

* Indicates reference/comparison group
** Significantly different from reference group (p-value < 0.05)
Mean Viral Load & Risk Behaviors

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean of Most Recent VL (Median)</th>
<th>% Undetectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Use (6-24 mo)</td>
<td>22,529**</td>
<td>62%**</td>
</tr>
<tr>
<td>No Drug Use*</td>
<td>12,900 (62%)</td>
<td></td>
</tr>
<tr>
<td>Retained in Care</td>
<td>11,867** (75%**</td>
<td>38,727 (58%)</td>
</tr>
<tr>
<td>Fell Out of Care*</td>
<td>16,227** (73%**</td>
<td></td>
</tr>
<tr>
<td>On ART</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not on ART*</td>
<td>26,456 (58%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
Data limited to RW Client w/ 1 or more MOP visit.
* Indicates reference/comparison group
** Significantly different from reference group (p-value < 0.05)
Among RW Clients w/ 1 or more MOP visit, 13,976 (~94%) are on antiretroviral therapy.

N = 13,976

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
Data limited to RW Client w/ 1 or more MOP visit.
ART Use in RW System

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
Data limited to RW Client w/ 1 or more MOP visit.
* Detectable is a subset of those on antiretroviral therapy with >200 copies VL.
ART Use in RW System

Source: Casewatch YR 19 (Feb. ‘09 – Mar. ‘10):
Data limited to RW Client w/ 1 or more MOP visit.
* Detectable is a subset of those on antiretroviral therapy with > 200 copies VL.
Challenges to TLC+
Los Angeles County

Houston

Philadelphia

San Francisco

District of Columbia

New York

Queens

Kings

Richmond

Data Source: U.S. Census Bureau, Topologically Integrated Geographic Encoding and Referencing system, 2009. Maps Drawn at 1:750,000 scale.
Challenges to TLC+

- Geography of LAC
- Fragmented health care system
- Resources to scale up components
- HIV stigma and homophobia
- Will not eliminate epidemic alone – need highly active HIV prevention
Simply Testing and Treating will not eliminate the epidemic.....

Figure 1: Highly active HIV prevention
This term was coined by Prof K Holmes, University of Washington School of Medicine, Seattle, WA, USA. STI=sexually transmitted infections.
QUESTIONS?
For More Information
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