HIV Prevention and Programs in Disproportionately Impacted Communities: Is There a Need for Course Correction?

Gregorio A. Millett

The conclusions in this presentation are those of the authors and do not necessarily represent the views of the White House or the Centers for Disease Control and Prevention.
Outline

• Epidemiological Overview

• Challenges and Successes in HIV Prevention Program and Research

• Next Steps

• Summary
HIV Around the Globe

Source: UNAids

Only metropolitan statistical areas with a population of more than 500,000 were included. Data are from the HIV/AIDS Surveillance Report 2007, Centers for Disease Control and Prevention. The inset shows the proportion of persons living with HIV–AIDS in New York City. Data are from the New York City Department of Health and Mental Hygiene, Epidemiology, and Field Services Program, October 2009.

(El Sadr, 2010)
Proportions of AIDS Cases among Adults and Adolescents, by Race/Ethnicity and Year of Diagnosis 1985–2006—United States and Dependent Areas

Note. Data have been adjusted for reporting delays.
Estimated Number of HIV/AIDS Cases among Adults and Adolescents, by Transmission Category, 1994–2006—25 States

Note. The data have been adjusted for reporting delay and cases without risk factor information were proportionally redistributed.

*Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
†Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.
Estimated Percentages of HIV/AIDS Cases, by Transmission Category, 2007

- Male-to-male sexual contact (MSM): 53%
- Female - Heterosexual contact: 21%
- Male - Heterosexual contact: 7%
- Male - Injection drug use (IDU): 11%
- Female - Injection drug use: 4%
- MSM/IDU: <1%
- Other/Unknown: 3%

*Includes data from 34 states with confidential name-based HIV infection reporting as of 2003.
Estimated Percentages of HIV/AIDS Cases by Race/Ethnicity, 2007

- **Black/African American**: 51%
- **White**: 29%
- **Hispanic/Latino**: 18%
- **Asian**: 1%
- **AI/AN**: <1%
- **Native Hawaiian/Other PI**: <1%

*Includes data from 34 states with confidential name-based HIV infection reporting as of 2003.

AI/AN = American Indian/Alaska Native
Estimated percentage of new HIV Infections, by Race/Ethnicity, 2006*

- Black: 45%
- Hispanic: 17%
- White: 35%
- Asian/Pacific Islander: 2%
- American Indian/Alaska Native: 1%

N=56,300

*50 States and District of Columbia
Estimated New HIV Infections Annually by Race/Ethnicity, Sex, Transmission Category

- White MSM**: 13,230
- Black MSM: 10,130
- Black Heterosexual Women: 7,340
- Hispanic MSM: 5,360
- Black Heterosexual Men: 3,290
- Hispanic Heterosexual Women: 2,310
- Black Male IDUs: 2,010
- Hispanic Heterosexual Women: 1,910
- Black Female IDUs: 1,470

Subpopulation
HIV Prevalence in Adults from Selected Countries in Sub-Saharan Africa and Subpopulations in the United States.

(El Sadr, 2010)
Lifetime Risk of HIV Diagnosis in 33 States, 2004-2005

- Blacks
  - 1 in 16 for men
  - 1 in 30 for women

- Hispanics
  - 1 in 35 for men
  - 1 in 114 for women

- Whites
  - 1 in 104 for men
  - 1 in 588 for women
AIDS Diagnosis 1 & 3 years after HIV diagnosis

<table>
<thead>
<tr>
<th>Race/ Ethnicity</th>
<th>AIDS Dx 1 yr After HIV Dx (%)</th>
<th>AIDS Dx 3 yrs After HIV Dx (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>18.4</td>
<td>25.3</td>
</tr>
<tr>
<td>Black</td>
<td>23.1</td>
<td>33.2</td>
</tr>
<tr>
<td>Latino</td>
<td>23.7</td>
<td>31.9</td>
</tr>
</tbody>
</table>

(Hall, 2007)
Disproportionate Impact Among MSM

- MSM
  - 4% of male population
  - 2% of overall population

- Rate of new HIV diagnoses
  - 44 to 86 times that of other men
  - 40 to 77 times that of women
  - The range was 522-989 cases of new HIV diagnoses per 100,000 MSM vs. 12 per 100,000 other men and 13 per 100,000 women.

(CDC, 2010)
Law of Conservation of Triviality in Research

(Golden, 2009)
### HIV Prevention Programs / Science

**Targeting MSM or Communities of Color**

<table>
<thead>
<tr>
<th>Status quo / Small Impact (<em>snore</em>)</th>
<th>Status quo / Big Impact (wow!)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative / Small Impact (feh!)</td>
<td>Innovative / Big Impact (wow!)</td>
</tr>
</tbody>
</table>
Status Quo/ Small Impact
↑Risk behavior ⇒ ↑HIV infection
(OR, 0.71, 95% CI, 0.53-0.97, k =41)
(OR, 1.05, 95% CI, 0.73-1.50, k = 17)

(OR, 0.64, 95% CI, 0.45-0.92, k = 10)

(OR, 1.64, 95% CI, 1.07-2.53, k = 11)

(Millett, 2007)
Low Risk but Greater Infection Rates: Heterosexual Black Adults

(Hallfors et al., 2006)
Disparities Research/ Programs Pitfalls

• Why do we continue to focus on the disparities and not the reasons for the disparities?
  – Intervention implications by identifying reasons for the disparities.

• Why do we target individual-level behavioral risk reductions interventions for communities with little or comparable risk?
  – Only serves to stigmatize communities.
  – Ignores high background HIV prevalence
  – Need population-level rather than piecemeal approach.
Sexual Orientation, Identity and Behavior

- **Sexual orientation**: to whom you are attracted (men, women, both)
- **Sexual identity**: how you describe yourself (to yourself and others)
- **Sexual behavior**: with whom you have sex

(Purcell et al., 1996)
### Characteristics of Black MSMW and Black MSM in Philadelphia and NYC

<table>
<thead>
<tr>
<th></th>
<th>MSM/W (n=225)</th>
<th>MSM (n=596)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sexual identity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>23.9%</td>
<td>5.2%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Homosexual</td>
<td>7.5%</td>
<td>64.7%</td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>63.8%</td>
<td>25.4%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5.5%</td>
<td>4.6%</td>
<td></td>
</tr>
<tr>
<td><strong>HIV test (ever)</strong></td>
<td>84.0%</td>
<td>91.8%</td>
<td>&lt;.01</td>
</tr>
<tr>
<td><strong>HIV rapid test results</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>58.9%</td>
<td>39.2%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Positive</td>
<td>40.7%</td>
<td>60.1%</td>
<td></td>
</tr>
<tr>
<td><strong>UAI receptive (past 3 mos)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15.9%</td>
<td>39.1%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>No</td>
<td>84.1%</td>
<td>60.9%</td>
<td></td>
</tr>
</tbody>
</table>

(Wheeler, 2008)
Black MSMW Adjusted Odds of UVA or UAI with a HIV-/? Status Female or Male Partner (N=212)

<table>
<thead>
<tr>
<th>HIV status</th>
<th>UVAI past 3 mos w/ HIV-/? main female partner</th>
<th>p</th>
<th>UAI past 3 mos w/ HIV-/? main male partner</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV+</td>
<td>1.0</td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>HIV-</td>
<td><strong>3.8 (1.3, 11.2)</strong></td>
<td><strong>.013</strong>*</td>
<td><strong>4.1 (1.1, 16.6)</strong></td>
<td><strong>.042</strong>*</td>
</tr>
<tr>
<td>HIV?</td>
<td><strong>4.6 (1.3, 16.5)</strong></td>
<td><strong>.017</strong>*</td>
<td><strong>8.5 (1.9, 39.1)</strong></td>
<td><strong>.006</strong>*</td>
</tr>
<tr>
<td>Site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York City</td>
<td>1.0</td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Philadelphia</td>
<td><strong>.8 (.4, 1.7)</strong></td>
<td><strong>.534</strong></td>
<td><strong>.4 (.2, 1.0)</strong></td>
<td><strong>.058</strong>*</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; HS</td>
<td>1.0</td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>HS/ GED</td>
<td><strong>.9 (.4, 2.0)</strong></td>
<td><strong>.791</strong></td>
<td><strong>.8 (.3, 2.0)</strong></td>
<td><strong>.592</strong></td>
</tr>
<tr>
<td>&gt; HS</td>
<td><strong>.6 (.2, 1.6)</strong></td>
<td><strong>.295</strong></td>
<td><strong>.5 (.1, 1.6)</strong></td>
<td><strong>.228</strong></td>
</tr>
<tr>
<td>Exchange sex in past 3 mos</td>
<td>2.2 (.9, 4.7)</td>
<td>.055</td>
<td>.7 (.3, 1.7)</td>
<td>.418</td>
</tr>
<tr>
<td>UAI w/ male partner 3 mos</td>
<td>3.8 (1.9, 7.8)</td>
<td><strong>.000</strong>*</td>
<td>4.5 (1.7, 12.1)</td>
<td><strong>.003</strong>*</td>
</tr>
<tr>
<td>Crack cocaine in past 3 mos</td>
<td>1.1 (.5, 2.6)</td>
<td>.765</td>
<td>1.6 (.6, 4.5)</td>
<td>.380</td>
</tr>
</tbody>
</table>

(Lauby, 2008)
Unrecognized HIV Infection among Black MSM/W

- Self-reported HIV+ MSM/W
  - 100% were HIV+

- Self-reported HIV- MSM/W
  - 6% were HIV+

- Self-reported HIV? MSM/W
  - 39% were HIV+

(Looby, 2008)
Awareness of HIV Status Among People with HIV and Estimates of Transmission to Others

~25% Unaware of Infection

~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

DL Identity and HIV Risk Behavior

- 361 DL Black MSM; 790 Black MSM

- Separate models predicting:
  - Unprotected insertive anal sex with a man
  - Unprotected receptive anal sex with a man
  - Unprotected vaginal/anal sex with a woman

- Controlled for study site, age, sexual identity, HIV status, sex trade, partner type (main, casual, both)

- DL identity not associated with any of the dependent variables

Among all HIV+ men, there were no differences in sexual risk with male or female partners between DL and non-DL identified men

(Bond, 2009)
Innovative/ Small Impact
Sexually Transmitted Diseases

- African Americans have the highest rates of sexually transmitted diseases (STDs). Compared to Whites, African Americans:
  - 18 times as likely to have gonorrhea
  - 7 times as likely to have Chlamydia
  - 5 times as likely to have syphilis.

- Young Black females are disproportionately affected.

- The presence of certain STDs can increase one’s chances of contracting HIV 3- to 5-fold.
MSM Prevalence Monitoring Project — Test positivity for gonorrhea, chlamydia, and HIV and seroreactivity to syphilis among men who have sex with men, by race/ethnicity, STD clinics, 2005

*Excludes persons previously known to be HIV-positive.
†Seroreactivity.
HIV/STD Coinfection

• Among 4000 MSM tested between 1990 and 1999 in NYC (Torian et al., 2002)

  - HIV+ Black MSM more likely than HIV+ White MSM to be coinfected with Gc, syphilis or nongonococcal urethritis (60% vs. 18%)
## STD Testing
### NHBS, 2003-2005

<table>
<thead>
<tr>
<th>Race/ Ethnicity</th>
<th>No</th>
<th>STD test (past 12 mos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1798</td>
<td>40.0</td>
</tr>
<tr>
<td>Black</td>
<td>791</td>
<td>45.0</td>
</tr>
<tr>
<td>Latino</td>
<td>1213</td>
<td>45.0</td>
</tr>
<tr>
<td>API</td>
<td>169</td>
<td>35.0</td>
</tr>
<tr>
<td>American Indian/ Alaska Native</td>
<td>22</td>
<td>55.0</td>
</tr>
</tbody>
</table>
Treating STDs To Reduce HIV Infection

Then

• Our success with bacterial STDs will slow the transmission of HIV and perhaps other viral STDs.
- Allan Ronald
  (Lancet, 1998)

Now

• The hypothesis that control of sexually transmitted infections can prevent the spread of HIV in populations has been extensively tested and is not supported by evidence in seven of eight trials. It is, therefore, questionable whether control of such infections should be promoted specifically for HIV prevention in HIV-negative populations. It is time to reassess the hypothesis and to adjust prevention policy accordingly. – Ronald Gray & Maria Wawer (Lancet, 2010)
Male Circumcision RCTs

(Weiss et al., 2008)
Male Circumcision in the United States

- Prevalence in general population
  - White (81-88%)
  - Black (65-73%)
  - Latino (42-54%)
  (Xu, 2007; Laumann, 1997)
Circumcision and HIV Infection among Black and Latino MSM

- Circumcision status was not associated with HIV infection among:
  - Black MSM or Latino MSM
  - Black bisexually active men
  - Black or Latino MSM with a new HIV diagnosis
  - Black or Latino MSM who only reported insertive anal sex

(Millett, 2007)
**Figure 2.** Overall Effect Size Estimates for Male Circumcision and HIV Infection Among Men Who Have Sex With Men (14 Studies; 15 Findings)

<table>
<thead>
<tr>
<th>Source</th>
<th>No. of Participants</th>
<th>Odds Ratio (95% CI)</th>
<th>Decreased Odds of HIV Infection</th>
<th>Increased Odds of HIV Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartholow et al.²⁶ 2006</td>
<td>5090</td>
<td>1.09 (0.79-1.50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Begley et al.²⁵ 2007</td>
<td>772</td>
<td>0.81 (0.47-1.39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buchbinder et al.³⁷ 2005</td>
<td>3257</td>
<td>0.63 (0.30-0.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buchbinder et al.²⁶ 2007</td>
<td>1787</td>
<td>1.49 (0.93-2.38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catzavara et al.²⁷ 2007</td>
<td>15</td>
<td>0.22 (0.02-2.67)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kreiss and Hopkins²³ 1993</td>
<td>499</td>
<td>0.46 (0.28-0.81)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kumta et al.³¹ 2002</td>
<td>122</td>
<td>0.32 (0.07-1.47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lal et al.³⁰ 2004¹</td>
<td>556</td>
<td>0.45 (0.17-1.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millett et al.³³ 2007²</td>
<td>1079</td>
<td>1.23 (0.94-1.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millett et al.³³ 2007²</td>
<td>957</td>
<td>1.01 (0.77-1.34)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mor et al.²² 2007</td>
<td>20,932</td>
<td>0.96 (0.89-1.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reid et al.⁴¹ 2002</td>
<td>13,851</td>
<td>1.23 (1.04-1.46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanchez,²⁹ 2007</td>
<td>2884</td>
<td>0.97 (0.54-1.74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tabet et al.⁴² 2002</td>
<td>440</td>
<td>0.24 (0.06-1.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Templeton et al.³⁴ 2007</td>
<td>1428</td>
<td>1.17 (0.60-2.26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined (random-effects model)</td>
<td></td>
<td>0.95 (0.81-1.11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Status Quo/ Big Impact
Kaiser Poll: Heard ‘A Lot About AIDS’

Percent Who Say They Have Heard A Lot About AIDS in the U.S. Has Fallen Since 2004

<table>
<thead>
<tr>
<th></th>
<th>A lot</th>
<th>Some</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Adults 2004</td>
<td>34%</td>
<td>36%</td>
<td>70%</td>
</tr>
<tr>
<td>All Adults 2009</td>
<td>14%</td>
<td>31%</td>
<td>45%</td>
</tr>
<tr>
<td>African Americans 2004</td>
<td>62%</td>
<td>21%</td>
<td>83%</td>
</tr>
<tr>
<td>African Americans 2009</td>
<td>33%</td>
<td>32%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Kaiser Poll: HIV/AIDS Most Urgent Health Problem

Trend in Share Naming HIV/AIDS as Most Urgent Health Problem Facing the Nation

Percent naming HIV/AIDS as the most urgent health problem facing the nation in an open-ended question...

Source: Kaiser Family Foundation surveys.
The Influence of Sexual Networks

- Sexual mixing and HIV infection risk (Service, 1995)

- Sex with older male partners (Bingham, 2003; Berry, 2007; Choi, 2003)

- Concurrency- Black MSM fewer sex partners, but 3x > odds to have had concurrent partnerships (Bohl, 2009)

- Intraracial sexual mixing
  - Black MSM (Bingham, 2003; CDC, 2003; Berry, 2007)
  - API MSM (Choi, 2003)
Missed Visits and Virologic Failure

‘Appointment nonadherence was more common in African American patients, associated with virologic failure, and seemed to explain part of observed racial disparities in virologic failure.’

Racial Disparities in HIV Virologic Failure: Do Missed Visits Matter?

Michael J. Mugavero, MD, MHSc,* Hui-Yi Lin, PhD,† Jeroan J. Allison, MD, MSc,‡ Thomas P. Giordano, MD, MPH,§ James H. Willig, MD,* James L. Raper, DSN, CRNP, JD,* Nelda P. Wray, MD, MPH,‖ Stephen R. Cole, PhD,‖ Joseph E. Schumacher, PhD,‡ Susan Davies, PhD,§ and Michael S. Saag, MD*

Background: Racial/ethnic health care disparities are well described in people living with HIV/AIDS, although the processes underlying observed disparities are not well elucidated.

Methods: A retrospective analysis nested in the University of Alabama at Birmingham 1917 Clinic Cohort observational HIV study evaluated patients between August 2004 and January 2007. Factors associated with appointment nonadherence, a proportion of missed outpatient visits, were evaluated. Next, the role of appointment nonadherence in explaining the relationship between African American race and virologic failure (plasma HIV RNA >50 copies/mL) was examined using a staged multivariable modeling approach.

Results: Among 1221 participants, a broad distribution of appointment nonadherence was observed, with 40% of patients missing at least 1 in every 4 scheduled visits. The adjusted odds of appointment failure (95% CI = 1.19 to 2.05), which declined to 1.30 (95% CI = 0.98 to 1.72) when controlling for appointment nonadherence, a hypothesized mediator.

Conclusions: Appointment nonadherence was more common in African American patients, associated with virologic failure, and seemed to explain part of observed racial disparities in virologic failure.

Key Words: access to care, adherence, disparities, HIV/AIDS, mediation

(J Acquir Immune Defic Syndr 2009;50:100–108)
Innovative/ Big Impact
Limited Access to Care

• 22% of African Americans with HIV have no medical coverage, compared to 13% of whites

• Overall, African Americans much less likely to be privately insured than whites (14% compared to 44%)

• African Americans more likely to postpone medical care because of lack of transportation or other competing needs

Limited Access to Effective HIV Treatments

- Nearly half of eligible HIV-positive adults not receiving HIV treatment
- Blacks less likely than whites to have access to HAART
- Greatest barrier to accessing ARVs – lack of diagnosis

(Teshale et al., 12th Conference on Retroviruses and Opportunistic Infections, February 2005. Abstract 167; Gebo et al., 2005)
### HIV Prevalence and Proportion with Undiagnosed HIV Infection in MSM in 5 Cities – NHBS, 2004-2005

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total Tested</th>
<th>HIV Prevalence N</th>
<th>(%)</th>
<th>Undiagnosed HIV Infection N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1767</td>
<td>450</td>
<td>(25)</td>
<td>217</td>
<td>(48)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>410</td>
<td>57</td>
<td>(14)</td>
<td>45</td>
<td>(79)</td>
</tr>
<tr>
<td>25-29</td>
<td>303</td>
<td>53</td>
<td>(17)</td>
<td>37</td>
<td>(70)</td>
</tr>
<tr>
<td>30-39</td>
<td>585</td>
<td>171</td>
<td>(29)</td>
<td>83</td>
<td>(49)</td>
</tr>
<tr>
<td>40-49</td>
<td>367</td>
<td>137</td>
<td>(37)</td>
<td>41</td>
<td>(30)</td>
</tr>
<tr>
<td>• 50</td>
<td>102</td>
<td>32</td>
<td>(31)</td>
<td>11</td>
<td>(34)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>616</td>
<td>127</td>
<td>(21)</td>
<td>23</td>
<td>(18)</td>
</tr>
<tr>
<td>Black</td>
<td>444</td>
<td>206</td>
<td>(46)</td>
<td>139</td>
<td>(67)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>466</td>
<td>80</td>
<td>(17)</td>
<td>38</td>
<td>(48)</td>
</tr>
<tr>
<td>API</td>
<td>95</td>
<td>7</td>
<td>(7)</td>
<td>2</td>
<td>(29)</td>
</tr>
<tr>
<td>NA/AN</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>(29)</td>
<td>&lt;10</td>
<td>(100)</td>
</tr>
<tr>
<td>Multiracial/Other</td>
<td>123</td>
<td>25</td>
<td>(20)</td>
<td>13</td>
<td>(52)</td>
</tr>
</tbody>
</table>

(MMWR, 6/24/05)
Community Viral Load

- CVL = mean of the mean of all individual viral loads
- N = number of HIV-infected individuals in the community of interest
Cohort VL predicts HIV incidence

Estimated community plasma HIV-1 RNA concentrations and HIV incidence density, with 95% confidence intervals, among two parallel cohorts of injecting drug users. HIV incidence first estimated in second half of 1996 as enrolment started in May 1996 and repeat HIV tests to assess incidence were available only after six months of follow-up.
## Clinical Status Variations in Mean CVL

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>(%)</th>
<th>Mean CVL*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Francisco</strong></td>
<td>11,598</td>
<td>(100)</td>
<td>22,562</td>
</tr>
<tr>
<td><strong>Receiving Antiretroviral Therapy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10,798</td>
<td>(93.1)</td>
<td>19,535</td>
</tr>
<tr>
<td>No</td>
<td>608</td>
<td>(5.2)</td>
<td>70,971</td>
</tr>
<tr>
<td><strong>Engaged in care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7,370</td>
<td>(63.6)</td>
<td>15,258</td>
</tr>
<tr>
<td>No</td>
<td>4,228</td>
<td>(36.5)</td>
<td>35,295</td>
</tr>
</tbody>
</table>

*p<0.001 using Kruskal-Wallis test to test the null hypothesis of the different means of the levels of the categorical variables*  

(Das-Douglas, 2009)
National HIV/AIDS Strategy

• Strategy goals
  - Reduce HIV incidence
  - Increase access to care for people living with HIV and optimize health outcomes
  - Reduce HIV-related disparities

• Federal HIV/AIDS interagency working group is responsible for developing the President’s National HIV/AIDS Strategy

• Representatives from across the federal government
  - HHS and HHS agencies, WH offices, DOJ, DOL, HUD, SSA, OGAC
National HIV/AIDS Strategy, cont'd

• Public input:
  - 14 Community Discussions (over 4,000 attendees)
  - Online ‘Call to Action’
  - Emails
  - Community-generated meetings

• Received over 1000 submissions

• Strategy will be released late spring
Summary

- HIV epidemic concentrated in specific populations in the U.S.
- Re-evaluate and retool HIV prevention research and HIV prevention toolkit
- Must utilize a combination of the best prevention approaches to make a big impact on the epidemic
Greg Millett

CDC email  GMillett@cdc.gov
White House email  GMillett@who.eop.gov