MEDICAL MONITORING PROJECT (MMP)

Results from the MMP survey of people receiving HIV Care in 2013-2014 in NYC

HIV EPIDEMIOLOGY AND FIELD SERVICES PROGRAM
BUREAU OF HIV/AIDS PREVENTION AND CONTROL
NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE
The Centers for Disease Control and Prevention (CDC) estimates that 1.1 million persons aged 13 years and older are living with HIV infection, including 180,900 who are unaware of their infection (CDC, HIV Surveillance Supplemental Report 2013;18(No. 5)).

In New York City, at the end of 2013, there were 117,618 persons diagnosed with HIV/AIDS and presumed to be living (NYC DOHMH, 2013).

MMP is a national study of persons living with HIV/AIDS (PLWHA) receiving outpatient medical care for HIV conducted by the CDC with local partners.
OBJECTIVES

• To develop greater understanding of the health status and health-related needs of PLWHA, and their HIV transmission risk and prevention behaviors.

• To conduct analysis on locally and nationally representative samples of HIV infected adults in care.

• To inform the development and planning of policy and programs for PLWHA, e.g. Ryan White CARE Act planning councils and consortia.
METHODS

• Multi-year (2005-open) project of US adults in outpatient care for HIV

• Cross-sectional design

• Annual multi-stage probability sample
METHODS (CONT’D)

3-Stage Sample Design

1st stage – Local Areas

2nd stage – Medical Providers

3rd stage - Patients
**Stage 1** – Local Areas:

- 23 areas selected (16 states, 6 cities and 1 US territory)
- Probability of selection is proportional to size (# of reported living AIDS cases in 2002)
- Includes >80% of US AIDS cases in 2002
METHODS (CONT’D)

- **Stage 2** – Medical Providers (facilities or private providers):
  - Providers who deliver HIV medical care
    - Monitor CD4 count, viral load
    - Prescribe antiretroviral therapy (ART)
  - Probability of selection is proportional to size (facilities with higher patient loads are more likely to be selected)
METHODS (CONT’D)

• **Stage 3** – Patients seen by a Selected Provider:

  • Randomly sampled

  • Eligibility

    • HIV-infected

    • ≥18 years of age

    • Received HIV medical care at facility between January 1st and April 30th in a given cycle year

Participation was voluntary; $40 incentive (MetroCard or cash or Visa Card)
METHODS (CONT’D)

• Data collection using 2 sources:
  • Computer-based, structured interview
    • Interview data collected:
      • Clinical status (viral loads, CD-4 counts and other general health data)
      • Treatment adherence
      • HIV-related service needs and utilization
      • Health behaviors (sexual, drug use, prevention)
  • Medical record abstractions
    • MRA data collected:
      • Healthcare Encounters
      • Medications
      • Laboratory and Screening Tests

Note: Beginning in 2013, MMP was designated a surveillance activity and did not require informed consent for medical record abstractions.
**METHODS (CONT’D)**

- Analysis*:
  - Descriptive statistics (frequency and percentage distributions)
  - Pearson Chi-Square test for associations between race/ethnicity and selected outcomes
  - Significance level set at $P<0.05$

*Analysis limited to only interview data.*
2013 AND 2014 NYC MMP SAMPLE

Facility Sampling Frame
N=390

 Eligible Facilities
32 out of 35 selected

2013 Facilities Agreeing to Participate
N=31

2013 Patient Sample
N=800

2013 Interviews Completed *
N=431

2014 Facilities Agreeing to Participate
N=31

2014 Patient Sample
N=800

2014 Interviews Completed **
N=432

Analysis sample †
2013-2014 interviews N=845

* Interviews conducted July 2013 to April 2014

** Interviews conducted July 2014 to April 2015

† Excludes persons re-interviewed in 2014
Social Demographics
PARTICIPANTS’ SOCIAL DEMOGRAPHICS, (N=845)
NYC MMP, 2013-2014

(Mean age = 48.4 years, SD = 11.7, range 19-79)
PARTICIPANTS’ SOCIAL DEMOGRAPHICS, (N=845)
NYC MMP, 2013-2014 (CONT’D)

Current Employment Status

Employed for wages: 21.8% (N=184)
Self-employed: 5.2% (N=44)
Out of work, > than 1 yr: 33.0% (N=278)
Out of work, < 1 yr: 4.5% (N=38)
Homemaker: 2.6% (N=22)
Student: 3.3% (N=28)
Retired: 5.1% (N=43)
Unable to work: 24.4% (N=206)

Main Source of Income

Salary/wages: 24.3% (N=203)
SSI/SSDI: 46.5% (N=388)
Public assistance: 20.4% (N=170)
Spouse/Family: 2.8% (N=23)
Other: 4.8% (N=40)
No income: 1.3% (N=11)
PARTICIPANTS’ SOCIAL DEMOGRAPHICS, (N=845)
NYC MMP, 2013-2014 (CONT’D)

Received Public Assistance
Past 12 Months

Covered by Health,
Past 12 Months

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<td>48.5</td>
</tr>
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<td></td>
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<td>94.1</td>
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<td>N=795</td>
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Homeless,
Past 12 Months

Jail,
Past 12 Months

Jail,
Ever

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<td>12.8</td>
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<td>N=49</td>
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<td>Yes</td>
<td>15.9</td>
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<td></td>
<td>N=135</td>
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Clinical Characteristics
Antiretroviral Therapy (ART) and Adherence, (N=845)
NYC MMP, 2013-2014

- Ever Taken ART: N=825, 97.8%
- Currently on ART: N=805, 97.8%
- Missed ART Dose Past 3 days: N=77, 9.6%

* Note: N based on non-missing responses
HIV Treatment by Race/Ethnicity, (N=845)
NYC MMP, 2013-2014

Ever on ART

- **Total**: 97.8%
- **Black**: 97.3%
- **Hispanic**: 98.1%
- **White**: 97.9%
- **Other**: 100.0%

Currently on ART

- **Total**: 97.8%
- **Black**: 97.4%
- **Hispanic**: 98.0%
- **White**: 98.9%
- **Other**: 97.2%

* Note: N based on non-missing responses
# Non-Adherence by Race/Ethnicity Among Those Currently on ART

**NYC MMP, 2013-2014**

## Table: Non-Adherence by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Dosing* Non-Adherence</th>
<th>Timing** Non-Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total N</td>
<td>Yes</td>
</tr>
<tr>
<td>Black</td>
<td>379</td>
<td>27</td>
</tr>
<tr>
<td>Hispanic</td>
<td>300</td>
<td>31</td>
</tr>
<tr>
<td>White</td>
<td>91</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>805</td>
<td>68</td>
</tr>
</tbody>
</table>

*Missed any dose in the past three consecutive days;  **Did not adhere to specific medication schedule (timing)
Service Utilization
HEALTHCARE SERVICE UTILIZATION BY RACE/Ethnicity, Past 12 Months (N=845)
NYC MMP, 2013-2014

**ER Services, HIV-related**
- Total: 4.7% (N=40)
- Black: 5.2% (N=21)
- Hispanic: 5.1% (N=16)
- White: 3.2% (N=3)

**Hospitalization, HIV-related**
- Total: 4.3% (N=36)
- Black: 5.0% (N=20)
- Hispanic: 4.8% (N=15)
- White: 0.1% (N=1)
MENTAL HEALTH SERVICES BY RACE/ETHNICITY, PAST 12 MONTHS (N=845)
NYC MMP, 2013-2014

People who received Mental Health Services

- Total N=353: 41.9%
- Black N=168: 41.9%
- Hispanic N=122: 39.1%
- White N=45: 47.9%
- Other N=18: 50.0%

People who did not receive Mental Health Services but needed them

- Total N=32: 6.5%
- Black N=16: 6.9%
- Hispanic N=15: 7.9%
- White N=1: 2.0%
HOUSING SERVICES PROVISION BY RACE/ETHNICITY, PAST 12 MONTHS (N=845)
NYC MMP, 2013-2014

People who received Housing Services

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Received Housing Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>30.2%</td>
</tr>
<tr>
<td>Black</td>
<td>38.1%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>23.6%</td>
</tr>
<tr>
<td>White</td>
<td>19.2%</td>
</tr>
<tr>
<td>Other</td>
<td>27.8%</td>
</tr>
</tbody>
</table>

People who did not receive Housing Services but needed them

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Did Not Receive Housing Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7.8%</td>
</tr>
<tr>
<td>Black</td>
<td>9.2%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.0%</td>
</tr>
<tr>
<td>White</td>
<td>2.6%</td>
</tr>
<tr>
<td>Other</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

N=255
N=153
N=74
N=18
N=10

N=46
N=23
N=19
N=2
N=2
Drug Use Profile
Drug and Alcohol Use, Past 12 Months (N=845)
NYC MMP, 2013-2014

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Injection Drug Use</td>
<td>24.5%</td>
<td>207</td>
</tr>
<tr>
<td>Injection Drug Use</td>
<td>1.1%</td>
<td>60</td>
</tr>
<tr>
<td>Injection Drug Use (Ever)</td>
<td>7.1%</td>
<td>10</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>48.1%</td>
<td>406</td>
</tr>
<tr>
<td>Alcohol Binge Use</td>
<td>11.8%</td>
<td>100</td>
</tr>
</tbody>
</table>

* For men, binge drinking was defined as 5 or more drinks in one sitting in the past 30 days. For women, binge drinking was defined as 4 or more drinks in one sitting in the past 30 days.
Non-Injection Drug Use* (N=845), Past 12 Months

NYC MMP, 2013-2014

Marijuana: 19.8%
Smoked Cocaine: 4.1%
Poppers: 4.1%
Crack: 3.8%
Crystal Meth: 3.6%
Ecstasy: 2.0%
GHB: 1.3%
Downers: 1.1%
Special K: 1.0%
Pain Killers: 0.8%
Smoked Heron: 0.4%

*N=167 N=35 N=35 N=32 N=30 N=17 N=11 N=9 N=8 N=7 N=3

* Includes patients using one or more drugs; categories are not mutually exclusive
Sexual Activity
and
Sexual Risk Behaviors
**SEXUALLY ACTIVITY AMONG PARTICIPANTS BY GENDER OF SEX PARTNERS, PAST 12 MONTHS**
NYC MMP, DATA ONLY FOR 2013

*N=423*  
*N=264*  
*N=159*  
*N=4*

*Note: N based on non-missing responses*
## Among the Sexually Active, Number of Sex Partners by Partnership Gender Type, Past 12 Months

NYC MMP, Data only for 2013

<table>
<thead>
<tr>
<th>Partnership Type *</th>
<th>N</th>
<th>Median</th>
<th>Min, Max</th>
<th>IQR **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male w/ Female</td>
<td>89</td>
<td>1</td>
<td>1, 10</td>
<td>(1, 2)</td>
</tr>
<tr>
<td>Male w/ Male</td>
<td>99</td>
<td>3</td>
<td>1, 300</td>
<td>(1, 10)</td>
</tr>
<tr>
<td>Female w/ Male</td>
<td>68</td>
<td>1</td>
<td>1, 3</td>
<td>(1, 1)</td>
</tr>
</tbody>
</table>

* Partnership types are not mutually exclusive  ** Interquartile Range
Partner Gender Among Participants Reporting Sexual Activity by Participant Gender, Past 12 Months
NYC MMP, Data only for 2013

Male Participants (N = 188)
- Male sex partners only: 52.7% (N=99)
- Femal sex partners only: 44.7% (N=84)
- Both: 2.6% (N=5)

Female Participants (N = 70)
- Male sex partners only: 94.3% (N=66)
- Femal sex partners only: 2.9% (N=2)
- Both: 2.8% (N=2)
Sexual Behaviors by Partnership Gender Among Sexually Active Male Participants, Past 12 Months*
NYC MMP, Data only for 2013

Male Sex Partner (N = 104)

- Any Anal: 81.7% (N=85)
- Any unprotected anal: 50.0% (N=52)

Female Sex Partner (N = 90)

- Any vaginal: 92.2% (N=83)
- Any unprotected vaginal: 22.2% (N=20)
- Any anal: 8.9% (N=8)
- Any unprotected anal: 2.2% (N=2)
- Any unprotected anal or vaginal: 2.2% (N=20)

* Male sex and female sex partners n's are not mutually exclusive
Sexual Behaviors by Partnership Gender among Sexually Active Female Participants with Male Partners, Past 12 Months

NYC MMP, Data only for 2013

Male Sex Partner (N = 68)

- Any vaginal: 98.5% (N=67)
- Any unprotected vaginal: 33.8% (N=23)
- Any anal: 14.7% (N=10)
- Any unprotected anal: 5.9% (N=4)
- Any unprotected anal or vaginal: 30.8% (N=23)
Exposure to Individual Counseling
or
Group Prevention
Exposure to Prevention, Past 12 Months (N=845)
NYC MMP, 2013-2014

- Received Free Condoms: 72.6% Yes, 27.4% No (N=611)
- Talked with Counselor about Prevention: 50.1% Yes, 49.9% No (N=420)
- Talked with Provider about Prevention: 60.0% Yes, 40.0% No (N=505)
- Participated in Group Session about Prevention: 73.2% Yes, 26.8% No (N=226)
- Participated in One2One/Provider or Counselor: 54.4% Yes, 45.6% No (N=385)
- Participated in any Prevention: 78.2% Yes, 21.8% No (N=184)
Provision of Condoms and Questions Asked by Physicians or Other Medical Providers about Prevention, Past 12 months
NYC MMP, 2013-2014

MD or Non-MD Medical Providers

- Provided Condoms: 64.3% (N=538)
- Condom Use: 67.0% (N=558)
- Partner Disclosure of HIV Status: 61.9% (N=516)
- # of sex partners: 63.6% (N=530)
- # of new sex partners: 59.5% (N=496)
- Having any STIs: 59.1% (N=480)
- Testing for STIs: 60.8% (N=505)
- Drugs/Alcohol use: 46.4% (N=245)
- Drugs/Alcohol before sex: 40.7% (N=231)
Patients’ Knowledge of HIV Drug Resistance
NYC MMP, 2013-2014

Do you think that taking your medication regularly affects how well it works?

- Yes: 89.0%
- No: 8.7%
- DK/R: 2.3%

N=837*

*Note: N based on non-missing responses

Do you know about resistance to HIV antiretroviral medicines?

- Yes: 81.7%
- No: 17.0%
- DK/R: 1.3%

N=837*

Have you ever been told by a provider that you are resistant to any HIV antiretroviral medicines?

- Yes: 73.4%
- No: 24.3%
- DK/R: 2.4%

N=837*
KNOWLEDGE OF PRE-EXPOSURE PROPHYLAXIS (PrEP), PAST 12 MONTHS
NYC MMP, 2013-2014

Note: N based on non-missing responses
† Among those who have heard of PrEP

Ever heard of PrEP
N=330
39.4%

†Discussed PrEP with partners?
N=59
17.9%

Discussed PrEP with partners?
Among the sexually active
N=14
16.7%

Note: N based on non-missing responses
† Among those who have heard of PrEP
ANALYSIS AND DATA LIMITATIONS

- Data based on self-report
- Stigmatized behaviors (e.g., sex and drug risk behaviors) may be underreported
- Cross-sectional design, therefore cannot determine causal relationships
- Caution is required in making generalizations to all NYC HIV-infected patients receiving care for HIV:
  - Some sampled facilities did not participate
  - Low response rate in patient sample
  - Unweighted data are drawn from a complex survey design — sample prevalence may differ from weighted population prevalence estimates
REFERENCES

Centers for Disease Control (CDC), *HIV Surveillance Supplemental Report 2013;18*(No. 5).

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