Medical Monitoring Project (MMP)
Results from the MMP survey of people receiving HIV care in 2009-2010 in NYC

HIV Epidemiology and Field Services Program,
Bureau of HIV/AIDS Prevention and Control,
New York City Department of Health and Mental Hygiene
Background
Medical Monitoring Project (MMP)

• The Centers for Disease Control and Prevention (CDC) estimates that 1.2m persons aged 13 years and older are living with HIV infection, including 207,600 who are unaware of their infection (CDC, HIV Surveillance Supplemental Report 2012)

• In NYC, at the end of 2011 113,319 persons were reported & presumed living with HIV (NYC DOHMH, 2011)

• MMP is a national study of PLWHA receiving outpatient medical care for HIV

• Conducted by CDC with local partners
Objectives
Medical Monitoring Project (MMP)

- Develop greater understanding of the health status and health-related needs of PLWHA, and their HIV transmission risk and prevention
- Conduct analysis on locally and nationally representative samples of HIV infected adults in care
- Inform the development and planning of policy and programs for PLWHA, e.g. Ryan White CARE Act planning councils and consortia
Methods
Medical Monitoring Project (MMP)

- Multi-year (2005-open) project of US adults in outpatient care for HIV
- Cross-sectional design
- Annual multi-stage probability sample
Methods
Medical Monitoring Project (MMP): 3-stage Sample Design

1st stage – local areas

2nd stage - providers

3rd stage - patients
Methods
Medical Monitoring Project (MMP): Sample Selection

• Stage 1 – Local Areas:
  – 26 areas selected (20 states and 6 cities)
  – Probability of selection is proportional to size (PPS) (# of reported living AIDS cases in 2002)
  – Includes >80% of US AIDS cases in 2002
Methods
Medical Monitoring Project (MMP): Sample Selection

- Stage 2 – Medical Providers (facilities or private providers):
  - Providers who deliver HIV medical care
    - Monitor CD4 count, viral load
    - Prescribe ART
  - Probability of selection is proportional to size (facilities with higher patient loads are more likely to be selected)
Methods
Medical Monitoring Project (MMP): Sample Selection

- Stage 3 – Patients seen by a Selected Provider
  - Randomly sampled
  - Eligibility
    - HIV-infected
    - ≥ 18 years of age
    - received HIV medical care at facility 1/1 – 4/30 in a given cycle year
  - Participation voluntary; $40 incentive (MetroCard or cash)
Methods
Medical Monitoring Project (MMP)

- Data collection using 2 sources:
  - Computer-based structured face-to-face interview or phone interview (few) by trained interviewer, conducted in private
  - Medical record abstractions

- Data collected:
  - Clinical status
  - Treatment adherence
  - Service utilization
  - HIV-related service needs
  - Health behaviors (health care utilization, sexual, drug use, prevention)
Methods
Medical Monitoring Project (MMP)

- Analysis:
  - Frequency and percentage distributions
  - Pearson Chi-Square test
  - Statistical significance for race/ethnic differences is for black, Hispanic, and white
NYC 2009 and 2010 MMP Sample

Facility Sampling Frame
N=443

Facility Sample Selected
N=33

2009 Facilities Agreeing to Participate
N=22

2009 Patient Sample
N=800

2009 Interviews Completed *
N=311

2009 Patient Sample
N=800

2010 Facilities Agreeing to Participate
N=21

2010 Patient Sample
N=800

2010 Interviews Completed * †
N=380

Analysis sample
2009-2010 interviews N=691

*Interviews conducted July.-April 09 & 10
† w/o duplicates & with complete data
MMP Participants' Social Demographics
Participants’ Social Demographics (N=691)
MMP, NYC, 2009/2010

(Mean age = 45.5 years, SD = 9.6, range 21-74)
Participants’ Social Demographics (N=691)
MMP, NYC, 2009/2010 (cont’d)

Main Source of Income Past 12 Months:

- Salary/wages: 27.8%
- SSI/SSDI*: 47.2%
- Public assistance: 16.7%
- Spouse/Family: 3.6%
- Other: 4.2%
- No income: 0.6%

Received Any Public Assistance Past 12 Months:
- 53.6%

Covered by Health Insurance Past 12 Months:
- 96.0%

* Supplemental Security Income (SSI); Social Security Disability Income (SSDI)
MMP Participants' Clinical Characteristics
Antiretroviral Treatment and Adherence
MMP, NYC, 2009/2010

- Ever taken ART: 632 (91.7%)
  - Currently on ART: 600 (87.5%)
  - Missed ART Dose: 104 (17.3%)
  - N = 689
  - N = 686
  - N = 600 (currently on ART)
HIV Treatment by Race/Ethnicity
MMP, NYC, 2009/2010

**Ever on ART**
- White: 93.3%
- Black: 92.1%
- Hispanic: 91.3%
- Other: 91.4%
- Total: 91.7%

**Currently on ART**
- White: 89.5%
- Black: 87.2%
- Hispanic: 87.4%
- Other: 86.7%
- Total: 87.5%

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

MMP, NYC, 2009/2010

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Dosing * Non-Adherence</th>
<th>Timing ** Non-Adherence</th>
<th>Food *** Non-Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NS</td>
<td>P = .009</td>
<td>p = .05</td>
</tr>
<tr>
<td>Black</td>
<td>292 (16.4%)</td>
<td>251 (61.8%)</td>
<td>173 (60.1%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>311 (12.2%)</td>
<td>268 (75.0%)</td>
<td>180 (72.2%)</td>
</tr>
<tr>
<td>White</td>
<td>58 (20.7%)</td>
<td>50 (74.0%)</td>
<td>29 (79.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>30 (20.0%)</td>
<td>26 (73.1%)</td>
<td>19 (63.2%)</td>
</tr>
</tbody>
</table>

* Missed any dose in the past three consecutive days; ** Did not adhere to specific medication schedule (timing); *** Did not adhere to specific food instructions; NS = Not significant
MMP Participants' Service Utilization
Healthcare Service Utilization by Race/Ethnicity in Last 12 Months
MMP, NYC, 2009/2010

ER Services, HIV-related

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Total</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>n=292</td>
<td>8.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>n=311</td>
<td>11.6%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>n=58</td>
<td>8.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>n=30</td>
<td>6.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>n=691</td>
<td>9.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hospitalization, HIV-related

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Total</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>n=292</td>
<td>9.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>n=311</td>
<td>8.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>n=58</td>
<td>6.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>n=30</td>
<td>13.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>n=691</td>
<td>9.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mental Health Services Provision by Race/Ethnicity
MMP, NYC, 2009/2010

N = 691

People who received Mental Health Services

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>691</td>
<td>37.8%</td>
</tr>
<tr>
<td>Black</td>
<td>292</td>
<td>26.4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>311</td>
<td>47.3%</td>
</tr>
<tr>
<td>White</td>
<td>58</td>
<td>44.8%</td>
</tr>
<tr>
<td>Other *</td>
<td>30</td>
<td>36.7%</td>
</tr>
</tbody>
</table>

OR: 2.5 (95% CI: 1.8, 3.5) for Hispanic compared to REF
OR: 2.3 (95% CI: 1.3, 4.1) for White compared to REF

* Significance test excludes other
Unmet Need for Mental Health Services Among Those Not Receiving the Service by Race/Ethnicity

MMP, NYC, 2009/2010

N = 428

- Total: Yes = 8.4%, No = 91.6%
- Black: Yes = 7.9%, No = 92.1%
- Hispanic: Yes = 7.9%, No = 92.1%
- White: Yes = 15.6%, No = 84.4%
- Other: Yes = 5.6%, No = 94.4%

Yes = Unmet Need
No = Service Not Needed
Housing Services Provision by Race/Ethnicity

MMP, NYC, 2009/2010

N = 691

People who received Housing Services

- Total: 19.8%
  - N=691
- Black: 20.2%
  - N=292
- Hispanic: 19.3%
  - N=311
- White: 17.2%
  - N=58
- Other: 26.7%
  - N=30
Unmet Need for Housing Services Among Those Not Receiving the Service by Race/Ethnicity
MMP, NYC, 2009/2010

N = 553

Total: n=553
- Yes: 8.7%
- No: 91.3%

Black: n=233
- Yes: 9.0%
- No: 91.0%

Hispanic: n=250
- Yes: 8.4%
- No: 91.6%

White: n=48
- Yes: 6.3%
- No: 93.7%

Other: n=22
- Yes: 13.6%
- No: 86.4%

Yes = Unmet Need
No = Service Not Needed
MMP Participants' Drug Use Profile
Drug and Alcohol Use
MMP, NYC, 2009/2010

(N=691)

- Injection Drug use: 12 (1.7%)
- Non-Injection Drug Use: 144 (20.9%)
- Alcohol Use: 392 (56.7%)
- Alcohol Bing Use *: 75 (10.9%)

* 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
MMP, NYC, 2009/2010

(N=691)

- Marijuana: 16.5% (114)
- Powder Cocaine: 7.7% (53)
- Crack: 4.9% (34)
- Poppers: 3.6% (25)
- Crystal Meth: 1.7% (12)
- Painkillers: 1.5% (10)
- Downers: 1.5% (10)
- Ecstasy: 1.5% (10)
- Heroin: 1.5% (10)
- GHB: 1.2% (8)
- Special K (Ketamine): 0.9% (3)
Sexual Activity and Sexual Risk Behaviors
Sexually Activity in Last 12 months by Gender
MMP, NYC, 2009/2010
Among the Sexually Active, Number of Sex Partners by Partnership, Past 12 months
MMP, NYC, 2009/2010

<table>
<thead>
<tr>
<th>Partnership Type</th>
<th>N</th>
<th>Median</th>
<th>IQR *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male w/ Female</td>
<td>145</td>
<td>1</td>
<td>(1, 2)</td>
</tr>
<tr>
<td>Male w/ Male</td>
<td>170</td>
<td>2</td>
<td>(1, 5)</td>
</tr>
<tr>
<td>Female w/ Male</td>
<td>120</td>
<td>1</td>
<td>(1, 1)</td>
</tr>
</tbody>
</table>

* Interquartile Range
Partner Gender Among Participants Reporting Sexual Activity, Past 12 Months

MMP, NYC, 2009/2010

Male Participants (N = 301)

- Male sex partners only: 51.8%
- Female sex partners only: 43.2%
- Both: 5.0%

Female Participants (N = 121)

- Male sex partners only: 95.9%
- Female sex partners only: 0.8%
- Both: 3.3%

Transgender Participants (N=6)

- Any gender partner: 100%
Sexual Behaviors by Partnership Gender Among Sexually Active Male Participants, Past 12 months
MMP, NYC, 2009/2010

Male Sex Partner (n=171)

- Any Anal: 150 (87.7%)
- Any unprotected anal: 67 (39.2%)

Female Sex Partner (n=145)

- Any vaginal: 137 (94.5%)
- Any unprotected vaginal: 27 (18.6%)
- Any anal: 27 (18.6%)
- Any unprotected anal: 5 (3.5%)
- Any unprotected anal or vaginal: 28 (19.3%)
Sexual Behaviors by Partnership Gender among Sexually Active Female Participants, Past 12 months
MMP, NYC, 2009/2010

Male Sex Partner (n=120)

- Any vaginal: 118 (98.3%)
- Any unprotected vaginal: 50 (41.7%)
- Any anal: 23 (19.2%)
- Any unprotected anal: 12 (10.0%)
- Any unprotected anal or vaginal: 51 (42.5%)
Exposure to Individual Counseling or Group Prevention
Exposure to Prevention in the Past 12 Months (N=691)
MMP, NYC, 2009/2010

Received any free condoms
- Yes (72.6%)
- No (27.4%)

Talked with a counselor (one-on-one) about HIV prevention
- Yes (52.9%)
- No (47.1%)

Participated in group sessions to talk about HIV prevention
- Yes (28.3%)
- No (71.7%)

Participated in group sessions or talked with a counselor about HIV prevention
- Yes (58.3%)
- No (41.7%)
Exposure to Prevention in the Past 12 Months Among Sexually Active Participants (N=434)
MMP, NYC, 2009/2010

- **Received any free condoms**
  - Yes (81.8%)
  - No (18.3%)

- **Talked with a counselor (one-on-one) about HIV prevention**
  - Yes (58.2%)
  - No (41.8%)

- **Participated in group sessions to talk about HIV prevention**
  - Yes (29.9%)
  - No (70.1%)

- **Participated in group sessions or talked with a counselor about HIV prevention**
  - Yes (63.6%)
  - No (36.4%)
Limitations

- Data are 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 facilities did not participate
  - Low response rate in patient sample
  - Unweighted data are from a complex survey design

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