Virginia Department of Health
Medical Monitoring Project
Stakeholder Meeting

Monday, April 20, 2015
10-11:30am
Introduction

• Presenters
  • Anne Rhodes, PhD; Director of HIV Surveillance
  • Lauren Yerkes, MPH; HIV Epidemiologist
  • Kristen Kreisel, PhD; MMP Project Coordinator
  • Jennifer Kienzle, PhD; MMP Data Manager
  • Celestine Buyu, MPH, MHSA; MMP Principal Investigator
  • Mark Freedman, DVM, MPH; CDC MMP Project Officer for Virginia

• Hold questions for discussion sections
• Chat feature for questions
Webinar Agenda

• Introduction
• Overview of the HIV Surveillance Program at VDH
• HIV Epidemiology in Virginia
• What is MMP?
• MMP data overview
• DISCUSSION
• New Case Surveillance Based Sampling (CSBS) Methodology for MMP 2015
• Reasons for Change to New Design
• DISCUSSION
• CSBS Pilot Study
• Change in Facility Involvement with CSBS
• CSBS Challenges and Benefits
• DISCUSSION
HIV Surveillance at VDH

- Collect data on Persons Living with HIV
- Work with providers and other stakeholders to improve data quality and understand needs
- Disseminate information on HIV data, trends, rates to monitor the epidemic
Division of Disease Prevention

• Includes HIV Prevention, HIV Care (Ryan White grant), TB Control and Newcomer Health, and STD Surveillance and Field Operations

• Part of the Office of Epidemiology


Facebook Page: https://www.facebook.com/DiseasePreventionHotline
HIV Case Surveillance

- Collect data on newly identified cases of HIV
- Collect ongoing data on labs for persons living with HIV
- Data utilized as base for Ryan White and HIV Prevention funding
- Base for HIV Continuum of Care and assessing epidemic in VA
# HIV Incidence Surveillance

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Definition</th>
<th>Usages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provides estimates of the number of new HIV infections over a certain period of time.</td>
<td>• Incidence refers to persons newly infected with HIV in a specified time period, whereas a person newly diagnosed with HIV may have been infected for years before being diagnosed.</td>
<td>• Important for prevention evaluation and planning, public health policy development, resource allocation and to identify disease trends.</td>
</tr>
</tbody>
</table>
Molecular HIV Surveillance

Collection

- All HIV nucleotide sequence data from laboratories that perform HIV genotypic drug resistance testing;
- Have data for 2013-2014 from one site, working to bring other labs on board and change regulation

Analysis

- Assess HIV drug resistance, evaluate HIV genetic diversity, and describe HIV transmission patterns
- Disseminate findings to physicians, HIV planning groups
Newly Diagnosed HIV Disease Cases in Virginia, 2004-2013

Number of Newly Diagnosed HIV/AIDS Cases

Year of Diagnosis

Data as of December 2014; Accessed March 2015, HIV Surveillance, Virginia Department of Health
# New HIV Diagnoses by Region, 2013

<table>
<thead>
<tr>
<th></th>
<th>Central (N= 207)</th>
<th>Eastern (N= 343)</th>
<th>Northern (N= 279)</th>
<th>Northwest (N= 87)</th>
<th>Southwest (N= 90)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>79.2% male</td>
<td>81.6% male</td>
<td>81.0% male</td>
<td>82.8% male</td>
<td>77.8% male</td>
</tr>
<tr>
<td></td>
<td>20.8% female</td>
<td>18.4% female</td>
<td>19.0% female</td>
<td>17.2% female</td>
<td>22.2% female</td>
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<tr>
<td><strong>Race</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>75.9% Black, NH</td>
<td>72.0% Black, NH</td>
<td>44.4% Black, NH</td>
<td>44.8% Black, NH</td>
<td>44.4% Black, NH</td>
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<tr>
<td></td>
<td>20.8% White, NH</td>
<td>21.9% White, NH</td>
<td>42.5% White, NH</td>
<td>42.5% White, NH</td>
<td>51.1% White, NH</td>
</tr>
<tr>
<td></td>
<td>2.4% Hispanic</td>
<td>4.4% Hispanic</td>
<td>18.6% Hispanic</td>
<td>11.5% Hispanic</td>
<td>3.3% Hispanic</td>
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<tr>
<td><strong>Age at Dx</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>34.8% 15-24</td>
<td>30.0% 15-24</td>
<td>13.6% 15-24</td>
<td>24.1% 15-24</td>
<td>23.3% 15-24</td>
</tr>
<tr>
<td></td>
<td>28.0% 25-34</td>
<td>31.5% 25-34</td>
<td>29.4% 25-34</td>
<td>20.7% 25-34</td>
<td>23.3% 25-34</td>
</tr>
<tr>
<td></td>
<td>13.5% 35-44</td>
<td>15.7% 35-44</td>
<td>25.5% 35-44</td>
<td>14.9% 35-44</td>
<td>20.0% 35-44</td>
</tr>
<tr>
<td></td>
<td>13.0% 45-54</td>
<td>12.0% 45-54</td>
<td>21.9% 45-54</td>
<td>24.1% 45-54</td>
<td>18.9% 45-54</td>
</tr>
<tr>
<td></td>
<td>10.6% 55+</td>
<td>9.6% 55+</td>
<td>9.0% 55+</td>
<td>16.1% 55+</td>
<td>11.1% 55+</td>
</tr>
<tr>
<td><strong>Risk</strong></td>
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<tr>
<td>HC</td>
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<td></td>
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</tr>
<tr>
<td>MSM</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>IDU/MSM-IDU</td>
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<td></td>
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<tr>
<td>NRR/NIR</td>
<td></td>
<td></td>
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</tbody>
</table>

Data as of December 2014; Accessed March 2015, HIV Surveillance, Virginia Department of Health

MSM- Men who have sex with men/ male-to-male sexual contact
IDU- Injection drug use
NRR/NIR- No reported or identified risk
HC- Heterosexual contact
Summary of Persons Living with HIV Disease in Virginia as of December 31, 2013

- Male: 74.2%
- Female: 25.8%

Transmission Risk Percent of PLWHA

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Percent of PLWHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men who have sex with men (MSM)</td>
<td>46.4%</td>
</tr>
<tr>
<td>No reported or identified risk</td>
<td>19.2%</td>
</tr>
<tr>
<td>Heterosexual contact</td>
<td>19.1%</td>
</tr>
<tr>
<td>Injection drug use</td>
<td>9.7%</td>
</tr>
<tr>
<td>MSM-IDU</td>
<td>4.0%</td>
</tr>
<tr>
<td>Other (pediatric and receipt of blood products)</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Data as of December 2014; Accessed March 2015, HIV Surveillance, Virginia Department of Health
Persons Living with HIV Disease as of December 31, 2013 by Locality in Virginia

Rate of living HIV disease cases per 100,000 population

- 19 - 105
- 106 - 201
- 202 - 347
- 348 - 695
- 696 - 1,191
- No reported cases

Data as of October 2014
What is the HIV Continuum of Care?

- A model used to assess health outcomes of persons living with HIV/AIDS (PLWHAs)
- A surveillance tool used to:
  - Evaluate program effectiveness
  - Identify potential gaps in services to facilitate better outcomes among subpopulations most in need
  - Assist PLWHAs to engage in and receive continuous care
  - Aid PLWHAs in achieving progress through the stages of engagement with the goal of viral suppression
Defining the HIV Continuum of Care

What’s considered a care marker?

- CD4 test
- Viral load test
- HIV medical care visit
- ART prescription

**Linkage**
- Evidence of a care marker within 90 days of initial HIV diagnosis

**Retention**
- 2 or more care markers in 12 months at least 3 months apart

**Viral Suppression**
- Last viral load <200 copies/mL in the time period being measured
HIV Continuum of Care in Virginia, 2013

- Persons living with HIV disease as of 12/31/2013: 24,887 (100%)
- Persons newly diagnosed with HIV in 2013 (N=1,006): 786 (78%)
- Evidence of a care marker in 2013: 12,453 (50%)
- Retained in care in 2013: 9,734 (39%)
- Virally suppressed in 2013: 9,310 (37%)

Data derived from eHARS, ADAP, VACRS, Medicaid as of December 2014; Accessed March 2015, HIV Surveillance, Virginia Department of Health
HIV Continuum of Care in Virginia by Health Region, 2013

- Persons diagnosed and living with HIV
- Newly diagnosed with HIV and linked to care within 90 days
- Evidence of a care marker in 2013
- Retained in care in 2013
- Virally suppressed in 2013

Data derived from eHARS, ADAP, VACRS, Medicaid as of December 2014; Accessed March 2015, HIV Surveillance, Virginia Department of Health
What is the Medical Monitoring Project (MMP)?

- Ongoing supplemental surveillance system assessing behaviors and clinical characteristics of persons living with HIV/AIDS (PLWHA) who have received outpatient HIV medical care
- To learn more about the experiences and needs of people who are receiving care for HIV
- Funded by Centers for Disease Control and Prevention (CDC)
- Conducted by state and local health departments
Goals of MMP

- Behaviors and clinical outcomes
- HIV-related Co-morbidities
- Access to/Use of Prevention Services
- HIV Care
- Support Services
- Met/Unmet Needs
Significance of MMP

• MMP is the most comprehensive project of its kind.

• MMP can provide valuable local and national estimates regarding health care utilization, quality of care, and met and unmet needs of PLWHA.

• Because of a nationally representative sample, information gathered from MMP can be used for care, prevention, and funding planning purposes groups by a wide variety of groups with different initiatives.
Current MMP Sampling Methods: 3-Stage Sampling Design

State Level
- 23 Project Areas
- 16 states, 1 U.S. territory, 6 separately funded cities

Health Care Facility Level
- Sample of HIV medical care facilities from each state (small, medium, and large)
- Sampling frame reconstructed every 2 years
- 25-50 facilities from each project area

Patient Level
- Sample of patients from each facility selected to participate
- Behavioral and clinical information to represent HIV+ patients in HIV medical care
- 400 sampled for Virginia; 100-800 for other project areas
MMP Data Collection - Interviews

Phone Interviews

In-person Interviews

OR
MMP Data Collection - Medical Record Abstractions (MRA)

- Diagnosis of opportunistic illnesses and other HIV-related conditions
- Non-HIV associated comorbid conditions
- Preventive care received
- Prescription of antiretroviral and other medications
- Laboratory results
- Health services utilization
Uses of MMP Data for Current Issues

• Contribution of MMP data to the HIV continuum of care
  • Can provide nationally and locally representative data to evaluate each stage of the HIV continuum of care, especially the “Prescribed ART”
    • Diagnosis, linked to care, retained in care, prescribed ART, virally suppressed
  • MMP data can provide information on how the Affordable Care Act (ACA) is affecting the National HIV/AIDS Strategy (NHAS)
    • Insurance status, met/unmet needs
Enhancing HIV Surveillance

- Sociodemographics
- Access to and utilization of care
- HIV treatment and adherence
- Insurance/ health coverage
- Substance use
- Mental health

- Met/unmet need for ancillary services
- Prevention activities
- Health Conditions and preventive therapy
- Sex behaviors
- Women’s health
Participation by Year and Region

Number of participants

MMP cycle year

2009 (n=125) 2010 (n=200) 2011 (n=217) 2012 (n=228) 2013 (n=210) 2014† (n=220)

Central  Eastern  Northern  Northwest  Southwest

† Participant count, to-date.
Selected Sociodemographic Characteristics, 2013†

- High school diploma/GED or higher: 76%
- Living above 2013 FPL: 63%
- Any public health coverage: 42%
- No health coverage: 19%
- Homeless in past 12 months: 10%

† Preliminary data.
Unmet Need for Ancillary Services, 2013†

Most frequently reported unmet needs for ancillary services*

- Dental care: 31%
- Meals/food assistance: 13%
- Transportation: 12%
- Public assistance: 11%
- Housing/shelter assistance: 10%

*Percentages calculated from entire 2013 study population (n=210); categories are not mutually exclusive.

† Preliminary data.
Treatment Adherence, 2013 †

If medication has special instructions, how often did you follow all special instructions in the past 3 days?

- Always: 71%
- Not always: 29%

How closely did you follow your specific medication schedule during the past 3 days?

- Always: 79%
- Not always: 21%

† Preliminary data.
Treatment Adherence, 2013 †

When was the last time you missed any of your antiretroviral medicines?

- Never: 38%
- > 3 mo.: 25%
- 1-3 mo.: 17%
- 3-4 wks: 8%
- 1-2 wks: 9%
- Within past week: 4%

† Preliminary data; Numbers do not add up to 100%, as 9% of respondents skipped this item.
Substance Use and Mental Health, 2013 †

Substance use within the past 12 months

- Daily smoking: 55%
- Non-IDU Marijuana use: 20%
- Binge drinking*: 15%
- IDU: 1%

Depression symptoms present (PHQ-8 score ≥ 10)?

- Yes: 29%
- No: 71%

† Preliminary data.

* Binge drinking refers to alcohol use in the past 30 days.
Discussion/Questions
New Sampling Methodology for MMP 2015

• New methods will transition to a Case Surveillance Based Sampling (CSBS) method
• MMP population of inference will now include all HIV-diagnosed persons (in and out of care)
• Data will be representative of full HIV population
• Will assist in addressing issues related to linkage and retention in care, as well as early initiation of antiretroviral therapy (ART)
MMP 2015 Sampling Method: 2-Stage Sampling Design

State Level
- Up to 26 Project Areas possible, contingent on resource availability
- Same 16 states, 1 U.S. territory, 6 separately funded cities as 2014
- Potential for 3 additional states

Patient Level
- Sample of patients selected to participate from HIV Surveillance database for Virginia (eHARS)
- 400 sampled for Virginia; 100-800 for other project areas
Inclusion Criteria for Sampling Frame

- Diagnosed with HIV as of 12/31/2014
- Meet the HIV case surveillance definition
- Age ≥ 18 years as of 12/31/2014
- Most recently reported address in VA
- Present in the national HIV case surveillance dataset
- No death documented as of 12/31/2014
Why the Change in Methodology??

Supplemental HIV Surveillance:

The Back Story
Estimated Number of AIDS Cases, Deaths, and Persons Living with AIDS, 1985-2003, United States

Note. Data adjusted for reporting delays.
Backstory (Continued)

• Comprehensive rosters of HIV-infected persons did not exist in 2004
• Name-based reporting was not legally mandated in all jurisdictions
• Facility-based sampling allowed for the collection of interview and medical record data
• The importance of ART for HIV was very clear but the role of ART in HIV prevention was not yet firmly established
Why the Change to CSBS?

• Address information gaps regarding progress with linkage and retention in care and enhance the value of the data collected

• Strong evidence has emerged showing that a reduction of HIV to undetectable levels through ART can sharply reduce the transmission of HIV
Why the Change to CSBS? (Continued)

- Expand the target population to all HIV-diagnosed persons regardless of their care status

- IOM recommendation

- NHAS - Increasing access to care

- Increase MMP’s capacity to monitor and guide efforts to prevent HIV infection
National HIV Care Continuum Indicators

HIV Care Continuum Shows Where Improvements are Needed

In the US, 1.2 million people are living with HIV. Of those:

- **DIAGNOSED**: 86%
- **ENGAGED IN CARE**: 40%
- **PRESCRIBED ART**: 37%
- **VIRALLY SUPPRESSED**: 30%

Sources: CDC National HIV Surveillance System and Medical Monitoring Project, 2011.

*Antiretroviral therapy*
Discussion/Questions
The Case-Surveillance-Based Sampling Demonstration Project:

Methods to Include those Not Receiving HIV Care in the Medical Monitoring Project

Mark Freedman, DVM, MPH
Virginia MMP Project Officer

Virginia MMP Stakeholder Webinar
April 20, 2014
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Caveats

• Unpublished data: please do not distribute

• Findings and conclusions are those of the speaker
  • Not formally cleared
Continuum of HIV Care: MMP’s Current Role

- Diagnosed: 86%
- Engaged in care: 40%
- Prescribed ART: 37%
- Virally suppressed: 30%
MMP Misses Persons Not in Care

Diagnosed: 86%
Engaged in care: 40%
Prescribed ART: 37%
Virally suppressed: 30%
Basic CSBS Procedures

• Persons sampled out of national case surveillance data
  • All living HIV-diagnosed adults are eligible
  • Oversampling of recently diagnosed persons

• Persons located through public health and other available data systems

• Like MMP, interview, medical record abstraction, and linked case surveillance data collected and weighted
Key Outcomes

• Interview response rate

• Inclusion of new population
Decision to Incorporate CSBS Methods into MMP

- Promising pilot experience
  - Comparable overall response rate
  - About ¼ of CSBS participants less engaged in care than MMP participants

- Compelling public health data needs

- MMP to adopt CSBS methods in 2015
Changes in Facility Involvement

**MMP Facility Sampling**

- **Sampling Frame**
  - Census of HIV-Care Facilities
- **Sample**
  - Participating Facilities
- **Sample of Participants**
  - Selected from participating facilities

**MMP CSBS**

- **Sampling Frame**
  - Cases in eHARS
- **Sample of Participants**
  - Selected from eHARS
- **HIV-Care Facilities**
  - Usual place of care
Changes in Provider Relationships

- Census of HIV-care providers in Virginia
- Reaching certain patients may require additional help from HIV-care facilities and foster a closer partnership with VDH
- The patients will be different
- VDH will no longer depend on facilities to get a sample of patients
- Participation is patient driven
HIV-Care Facility Perspective

- No staff time putting together list of patients seen at care facility
- Large facilities may see a decrease in the number of patients associated with their facility
- Initial contact most likely with patient
- Work closer with VDH to link some patients to care
VDH Perspective

- More HIV-care facilities involved
- Facility of care information will come from the patient or VDH registry
- Opportunity to assist with re-engagement activities
- MRA?
Challenges of Transition to CSBS

• Cross-jurisdiction data collection

• More “cold calling”

• Identifying MRA facilities

• Potential for sampled persons to be unaware of their status

• Incarcerated persons more likely to be sampled
Benefits of Transition to CSBS

• Connect with persons who are at various stages of the HIV care continuum
• Adhere to the NHAS and increase the proportion of persons linked to care
• Develop and build relationships with other care facilities
• Strengthen the partnership between VDH and providers of ancillary services
• Participant recruitment is direct
• No major changes with HIV-care facilities that are always sampled
Participant Privacy

- Division of Disease Prevention Security and Confidentiality Policies and Procedures

- VDH Confidentiality Policy

- VDH Information Security Policy

- VDH Information Security Standard

- OMB approval

- CDC non-research determination
MMP Resources

- CDC MMP website:
  http://www.cdc.gov/hiv/statistics/systems/mmp/

- VDH MMP website:

- Recent MMWR publication analyzing 2009 national weighted MMP data:
Thank you!

Any Questions??

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Discussion/Questions