HIV in CLE:
An Epidemiologic Profile of HIV/AIDS for Cuyahoga County and Cleveland

Prepared for World AIDS Day
December 1, 2014

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See final slide for formal citation.
Sources, and thanks

• 2013 Annual HIV/AIDS Surveillance Report
• Q3 2014 HIV/AIDS Surveillance Report, Both reports are available at www.clevelandhealth.org
• Ohio Department of Health (ODH) for Syphilis data
  – Amanda Dennison, STD Prev. Mgr., ODH
  – Scott Koprowski, DIS Supervisor, ODH
• CDPH
  – Uleta Carter, Local DIS Supervisor
  – Tammie Jones, Program Manager, Office of HIV Services
Mandated reporting to Public Health

- New HIV and AIDS diagnoses are reportable communicable diseases.
- Reporting is required
  - Ohio Administrative Code 3703-3-01 – 3703-3-31
    1. Any positive, confirmed HIV positive test
      - EIA “rapid test” + Western Blot
      - RNA quantitation by PCR
    2. Initial AIDS diagnosis
      - CD4<200 cells/ml or CD4%<14%
Reporting

CDC

Ohio Department of Health

CDCPH

Cleveland Department of Public Health

J. Glen Smith Health Center (East)  McCafferty Health Center (West)  Main Offices (downtown)

reporting by hospitals, clinics, labs
Why is surveillance important?

1. Public health essential service
2. Contact Tracing / Patient Notification
   - HIV/AIDS, Syphilis
3. Informs community Needs Assessment
   - Identifies target groups for prevention and services
4. Informs prevention and service agencies
5. Supports local grant applications
Tenets to HIV prevention

1. HIV testing is the foundation for both prevention and care efforts.

2. Early identification of infection empowers individuals to take action that benefits both their own health and the public health.

http://www.cdc.gov/hiv/prevention/research/tap/
3. Early treatment of infected persons substantially reduces their risk of transmitting HIV to others.

4. The prevention benefit of treatment can only be realized with effective treatment, which requires linkage to and retention in care, and adherence to antiretroviral therapy.

http://www.cdc.gov/hiv/prevention/research/tap/
Local HIV/AIDS Surveillance

- CDPH Confidential HIV/AIDS Surveillance Registry established August 1984
  - First reported diagnosis in May 1984.
  - First likely Ohio diagnosis in December 1976
  - This presentation reflects data up to Q3 2014 (Sept 30, 2014) collected up to Nov 25.

• Benefit: almost real time data
• Data are reported to ODH.
Prevalence Reports (quarterly)

Prevalence by Risk Exposure (quarterly)

City Council / Public Hearing reports

Special Public Interest & Community Reports

Annual Summary Reports
Public Health Response

CDC grants to ODH, awarded to CDPH:

1. HIV Prevention Grant
   - Funds nine local service agencies including MetroHealth for linkage-to-care services ($130K)
   - Supports evidence-based prevention approaches
   - Target groups: Black Afr. Am males and females/MSM+Bi males/Youth/ high-risk individuals

2. STD Control Prevention Grant
   - Disease Intervention Specialists (DIS)
Public Health Response

HUD grants to Cleve. Dept of Community Development, awarded to Cleve. Dept of PH:

3. HOPWA (Emergency housing assistance and case mgmt; nutrition; hygiene needs; utility payments)
   - $1.1M/yr., 3 agencies

4. City of Cleveland Block Grants (CDBG)
   - $317K/yr., 7 agencies
   - Supports faith-based approaches, CMSD Responsible Sexual Health program, program evaluation, teens, high risk individuals
Epi Profile: Prevalence
(as of Nov 25, 2014)

Prevalence: those living with HIV/AIDS

~4,919 in Cuyahoga County
~3,319 in Cleveland (67%; 71% in 2011)

• 48% have AIDS (↓)
  – approx. 2,384 have AIDS

• 77% male

• 58% African American (↑)

CDPH Surveillance Registry
## Prevalence (as of Nov 19, 2014)

<table>
<thead>
<tr>
<th></th>
<th>Cuyahoga County</th>
<th>Cleveland</th>
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</thead>
<tbody>
<tr>
<td><strong>Cases</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>3,800</td>
<td>2,480</td>
</tr>
<tr>
<td>Females</td>
<td>1,119</td>
<td>839</td>
</tr>
<tr>
<td><strong>% of total</strong></td>
<td>77%</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Rate/100K</strong></td>
<td>632.2</td>
<td>1,331.9</td>
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<td>50%</td>
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**Total**: 4,919 cases (100%)
# Prevalence (as of Nov 19, 2014)

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<td>2,384</td>
<td>1,648</td>
</tr>
<tr>
<td>Black/NH</td>
<td>2,857</td>
<td>762.2</td>
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<tr>
<td>White/NH</td>
<td>1,471</td>
<td>191.4</td>
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<tr>
<td>Hispanic</td>
<td>439</td>
<td>683.0</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>4,919</strong></td>
<td><strong>384.3</strong></td>
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<td>Black/NH</td>
<td>58%</td>
</tr>
<tr>
<td>White/NH</td>
<td>30%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Cuyahoga County 2013 population:**
- 29% Black/Af. Am (non-Hispanic)
- 61% White (non-Hispanic)
- 5.1% Hispanic/Latino

**Similar to the Cleveland 2013 population**
- 51% Black/Af. Am (non-Hispanic)
- 34% White (non-Hispanic)
- 10.5% Hispanic/Latino

**Cleveland 2013 population:**
- 849.0
HIV Prevalence Rates (cases per 100,000 population) as of December 31, 2013

Prevalence by ZCTA (zip code boundaries)
- 1 - 50 per 100,000 (0.05%)
- 51 - 250 per 100,000 (0.05% - 0.25%)
- 251 - 500 per 100,000 (0.25% - 0.5%)
- 501 - 1000 per 100,000 (0.5% - 1.0%)
- 1001 - 1500 per 100,000 (1.0% - 1.5%)
- 1501 - 2056 per 100,000 (1.5% - 2.06%)

CDPH
Cleveland Department of Public Health

File: HIVPrevbyZCTA07032014_zonemap.mxd
Date: July 7, 2014
Source data: CDPH Confidential Surveillance Registry
Scale: 1:125,000
New diagnoses

Incidence: measured as either

1. HIV-only
   - Includes acute cases with very high viral loads
   - Trend among younger cases

2. HIV-with-AIDS (AIDS diag’d within 3 months)
   - Seen often among new positives in females; older (+60y); and commercial sex workers
     • Diagnostic bias by indication
   - Co-infected with syphilis, systematic herpes, other STIs
Incidence trends

1. Annual Incidence
2. HIV-with-AIDS decreasing
3. Cleveland vs. Municipalities
4. Four Year Trends (2010-2013 data)
   - By exposure groups (highest risk)
   - By race, age and sex
   - Cases among teens
   - Injection drug use
   - Vertical transmission

Later, Syphilis and HIV/AIDS;

STIs by age groups

Lessons and recommendations
1. Annual Incidence

- **Cuyahoga Co**: Annualized to 191
- **Cleveland**: Annualized to 103
- **Actual**: 83
2. More testing, earlier presentation means fewer cases as HIV-with-AIDS

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
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<tbody>
<tr>
<td>1994</td>
<td>183</td>
</tr>
<tr>
<td>1995</td>
<td>199</td>
</tr>
<tr>
<td>1996</td>
<td>198</td>
</tr>
<tr>
<td>1997</td>
<td>146</td>
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<tr>
<td>1998</td>
<td>146</td>
</tr>
<tr>
<td>1999</td>
<td>146</td>
</tr>
<tr>
<td>2000</td>
<td>130</td>
</tr>
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<td>2001</td>
<td>124</td>
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<td>2002</td>
<td>123</td>
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</tr>
<tr>
<td>2011</td>
<td>115</td>
</tr>
<tr>
<td>2012</td>
<td>118</td>
</tr>
<tr>
<td>2013</td>
<td>115</td>
</tr>
<tr>
<td>2014</td>
<td>118</td>
</tr>
</tbody>
</table>

Source: Cleveland Department of Public Health
3. Cases from municipalities outside of Cleveland

- 1997: 25.7%
- Q3 2014: 45.8%

Graph showing trends from 1997 to Q3 2014.
HIV Incident Cases, 2012-2013 across Zip Codes (zip code tabulation areas)

New Cases, 2012-2013

- 1 - 3
- 4 - 7
- 8 - 11
- 12 - 18
- 19 - 25
- 26 - 38
- 0 cases

Cleveland

Lakewood

44107

44102

44111

Cleveland Heights

44103

East Cleveland

44112

Shaker Heights

44120

Maple Heights

44125

File: TwoYr_Incinc_byZCTA07142014.mxd
Date: July 14, 2014, rev Nov 25, 2014
Cleveland Department of Public Health
Source data: CDPH Confidential Surveillance Registry
Scale: 1:100,000
Age (Cuy. Co.)

- 33 mo Incidence
- Prevalence
Since 2012, Black/African American males represent 34 of 35, or 97% of teens age 13-19; 100 of 126, or 79% of youth age 20-24 newly diagnosed with HIV.
Annual Incidence (% race/eth)

Black/Af Am Males 65% (Q3 2014)
White Males 12%
Black Females 9%
Hispanic Males 5.2%
Hispanic Females 0.7%

White Females 3.3%
HIV Incident Cases of Black/African American males when diagnosed during 2012-2013, by zip code of residence

Incident Cases
- 0
- 1 - 3
- 4 - 6
- 7 - 10
- 11 - 14
- 15 - 16

File: TwoYr_IncId_BM_CDC11252014.mxd
Date: Nov 25, 2014
Cleveland Department of Public Health
Source data: CDPH Confidential Surveillance Registry
Scale: 1:150,000
Age at diagnosis among Black males

Percent, Black males by age when diagnosed

Year of diagnosis

Cuyahoga Co.
Q3 2014
Black males

47.5% 20-29y
18.2% 30-39y
13.1% 40-49y
11.1% 13-19y
10.1% 50+
HIV among teens continues

New Diagnoses Among Teens 13-19y

All of Cuyahoga Co.

Cleveland only

CDPH
Injection drug use cases <5%
Four-year incidence trends, 2010-13 across Cleveland & wards

- 78% Male
- ↑ 77% HIV-only vs. ↓ 23% HIV-with-AIDS ("late testers")
- 55% new cases are Black males
  - 58.8% in 2013 alone
  - ↑↑ Significant 10 yr. increase in BM age 13-29y
- HIV incidence among teens continuing
- IDU levels still low (<5%)
- No vertical transmission (one case in 2009)
Alone and with HIV co-infection

SYPHILIS
Total Syphilis across Ohio cities

- Akron
- Columbus
- Cincinnati
- Cleveland

Total syphilis rate per 100,000

Years: 2004 to Est'd. 2014
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Syphilis</th>
<th>Late/Unk Latent</th>
<th>Congenital</th>
<th>Primary and Secondary</th>
<th>Early Latent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>6</td>
<td>14</td>
<td>10</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>2007</td>
<td>23</td>
<td>59</td>
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<td>45</td>
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<td>2008</td>
<td>7</td>
<td>68</td>
<td>64</td>
<td>59</td>
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<td>2009</td>
<td>25</td>
<td>158</td>
<td>69</td>
<td>68</td>
<td>17</td>
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<td>2010</td>
<td>72</td>
<td>161</td>
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<td>10</td>
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<td>2011</td>
<td>72</td>
<td>142</td>
<td>72</td>
<td>1</td>
<td>10</td>
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<tr>
<td>2012</td>
<td>54</td>
<td>126</td>
<td>43</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>2013</td>
<td>62</td>
<td>84</td>
<td>54</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Q3 2014</td>
<td>0</td>
<td>119</td>
<td>0</td>
<td>37</td>
<td>20</td>
</tr>
</tbody>
</table>
Syphilis Cases by stage (Cuy. Co.)

Year | Early Latent | Primary and Secondary | Congenital | Late/Unk Latent | Total Syphilis
---|---|---|---|---|---
2006 | 6 | 14 | 0 | 10 | 30
2007 | 17 | 26 | 1 | 17 | 66
2008 | 45 | 59 | 7 | 45 | 111
2009 | 64 | 68 | 25 | 68 | 158
2010 | 17 | 69 | 72 | 72 | 161
2011 | 24 | 58 | 53 | 53 | 142
2012 | 10 | 43 | 72 | 72 | 126
2013 | 13 | 29 | 54 | 54 | 84
Q3 2014 | 37 | 37 | 62 | 62 | 119

Total Syphilis for Cuy Co.

Cuy Co.
2014 Ohio Congenital Syphilis Cases

15 cases so far:
- Hamilton - 3 cases
- Franklin - 7 cases
- Butler - 2 cases
- Warren - 1 case
- Columbiana - 1 case
- Fairfield - 1 case

Source: A. Dennison, ODH
2014 Ohio Congenital Syphilis Cases

Accessed prenatal care:
– Yes, for prenatal care = 12
– No, prenatal care = 3
– Average # of visits = 9

Maternal stage:
– Primary or secondary: 3 of 15
– Early latent: 12 of 15

* Prenatal care defined as at least 3 visits for total pregnancy

Source: A. Dennison, ODH
Local: Syphilis Q3 2014

• 119 Total syphilis cases in Cuyahoga Co.
  – Nearly all are male (92%)
  – 50% of males are HIV+
    – 83% MSM/Bisexual transmission risk
    – 16% Het. transmission risk
    – 2% unknown risk
  – 8% females, 1 (10%) is HIV+
    – All report high risk heterosexual transmission
  – 37/119 (31%) Primary & Secondary
Syphilis/HIV co-infection

• 68% of primary/secondary syphilis (P/S) cases diagnosed YTD in 2014 were also HIV positive.
  • 45% in 2011; 48% in 2010

• Co-infection in 67% of all MSM males with P/S syphilis
  • Evidence of sero-sorting; anonymous partners; multiple partners; internet; bath houses; clubs;

• Co-infection in 75% (3 in 4) reporting hetero. risk (M&F) with P/S syphilis
  • 20% in 2011
Symptoms at presentation (P/S)

Lesions: 27% lesions on penis; 10% lesions in mouth, anus/rectum, vagina/labium
Symptoms at presentation (P/S)

Non-itching rash: 45% on torso or extremities (arms, leg, feet, hands)

– Also reported on penis, anus, head/face/neck

CDC (PHIL)
Youth under 19

- 42% of all **Chlamydia** cases
- Almost a third of all **gonorrhea** cases
  - Oral, anal, vaginal
  - Dual diagnosis in ~8%, as high as 12%
- **HIV** is an ongoing threat, especially among Black/African American males.
- **Syphilis** is rare, but a standing risk among pregnant females.
Young adults 20-29

- >33% of Chlamydia and gonorrhea cases
- HIV is at highest risk for Black males.
  - Sex for cash/drugs; Grindr; bath house; couch surfing; isolated males; anonymous contacts
- Syphilis is occurring
  - Co-infection is common among HIV-positive MSM/Bisexual males.
  - Emergency departments are missing diagnoses
  - High risk among pregnant females.
    - Test in 1st and 3rd semesters.
Adults 30-49

- **Gonorrhea** is more common than Chlamydia

- **HIV**: MSM/Bisexual and Heterosexual transmission. Increased risk among women.

- **Syphilis** is occurring, mostly among males
  - Anonymous partners; Grindr; bath house
  - Co-infection is common among HIV-positive MSM/Bisexual males.
  - Risk among pregnant females with bisexual males. Test in 1st and 3rd semester if at risk.
Adults 49-65

• Unaware of need for barrier protection.

• **HIV**: MSM/Bisexual males
  – M/F Heterosexual transmission, especially females presenting with AIDS.

• **Syphilis**: strongly associated with anonymous partners
Adults 65+

- **STIs** have crossed into this group.
  - Anonymous partners
  - Travel
  - Communities; Institutionalization
- Unaware of need for barrier protection.
Take Away

• HIV incidence demographics are steady.
• HIV & syphilis are unrelenting.
  – Black/Afr Am males 13-29y are at highest risk of HIV transmission; 13-34y for syphilis.
  – Data provide guidance for prevention initiatives.
• Success of needle exchange legislation in Cleveland is apparent.
Recommendations

• HIV: Prevention is through screening and effective treatment
  – Earlier testing
  – Adherence to treatment

• Communication and trust
  – Talk to your patients about their sexual activity.
  – Complete STI screening

• Syphilis: 1\textsuperscript{st} & 3\textsuperscript{rd} trimester testing
Thank you

Email: dbruckman@city.cleveland.oh.us
Office: 664-4353

CDPH is responsible for the data and materials herein. Data used in this presentation, except when noted, are from the CDPH Confidential HIV/AIDS Registry, data up to Sept. 30, 2014, collected up to Nov. 25, 2014. Syphilis data are from ODH, up to Sept. 30, 2014.
Please cite this report using NLM style format as:


For questions, please contact David Bruckman at CDPH: 216-664-4353 or dbruckman @city.cleveland.oh.us