5. Conclusions

- The DC Cohort is a prospective observational cohort study of patients receiving HIV care at 14 clinical sites in Washington, DC.
- We previously demonstrated a high frequency of detectable viral load vii (VL) close to the time of STI diagnosis, 41.8%, and found that 14.6% of patients had a viral load >1500 (Lucar 2018).
- STI diagnosis predicts ongoing high risk behaviors. Therefore, we seek measures of HIV transmission over time among those with incident STIs.

6. Discussion

- Median follow up of 3.4 years, 768 with incident STI.
- 47.5% were 18-34 year olds, 45.4% were 35-54 year olds, 88% were male, 66.6% were non-Hispanic Black, and 75.6% were MSM.
- 769 with incident STI and at least 2 VL observations, 40.7% had two or more previous negative non-reactive NTr tests, OR new case.
- Therefore, we seek measures of HIV transmission over time among those with incident STIs.
- Among persons living with HIV (PLWH) with incident STIs, approximately one-third spent considerable time with a VL >1500 copies/ml, placing them at increased risk of transmitting HIV to others.
- HIV prevalence rates, currently 1.9%, as well as recent STI prevalence rates, are significantly lower than the baseline rates, indicating the impact of public health interventions.
- Among persons living with HIV (PLWH) with incident STIs, 34.8% were 18-34 year olds, 40.7% had two or more previous non-reactive NTr tests, OR new case.
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Table 1. Baseline characteristics of adult DC Cohort participants by incident STIs, 2011-2018

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Overall</th>
<th>18-34 years</th>
<th>35-54 years</th>
<th>55+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at enrollment (yrs)</td>
<td>2.4 (2.2, 2.6)</td>
<td>2.4 (2.2, 2.6)</td>
<td>2.4 (2.2, 2.6)</td>
<td>1.2 (1.0, 1.3)</td>
</tr>
<tr>
<td>MSM</td>
<td>4.3 (4.1, 4.4)</td>
<td>4.3 (4.1, 4.4)</td>
<td>4.3 (4.1, 4.4)</td>
<td>2.5 (2.2, 2.9)</td>
</tr>
<tr>
<td>Transgender</td>
<td>1.9 (1.8, 2.1)</td>
<td>1.9 (1.8, 2.1)</td>
<td>1.9 (1.8, 2.1)</td>
<td>1.5 (1.3, 1.7)</td>
</tr>
<tr>
<td>Transgender Female</td>
<td>2.3 (2.1, 2.5)</td>
<td>2.3 (2.1, 2.5)</td>
<td>2.3 (2.1, 2.5)</td>
<td>1.1 (0.9, 1.2)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>5.7 (5.5, 5.9)</td>
<td>5.7 (5.5, 5.9)</td>
<td>5.7 (5.5, 5.9)</td>
<td>3.2 (2.9, 3.6)</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>1.1 (1.0, 1.2)</td>
<td>1.1 (1.0, 1.2)</td>
<td>1.1 (1.0, 1.2)</td>
<td>0.9 (0.8, 1.1)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.4 (4.2, 4.6)</td>
<td>4.4 (4.2, 4.6)</td>
<td>4.4 (4.2, 4.6)</td>
<td>2.8 (2.5, 3.1)</td>
</tr>
<tr>
<td>Other</td>
<td>1.5 (1.3, 1.7)</td>
<td>1.5 (1.3, 1.7)</td>
<td>1.5 (1.3, 1.7)</td>
<td>0.9 (0.8, 1.1)</td>
</tr>
<tr>
<td>HIV risk behavior</td>
<td>3.4 (3.2, 3.6)</td>
<td>3.4 (3.2, 3.6)</td>
<td>3.4 (3.2, 3.6)</td>
<td>0.9 (0.8, 1.1)</td>
</tr>
</tbody>
</table>

1. Introduction

- The District of Columbia (DC) has one of the highest HIV prevalence rates, currently 1.9%, as well as recent increases in the incidence of sexually transmitted infections (STIs).
- The DC Cohort is a prospective observational cohort study of patients receiving HIV care at 14 clinical sites in Washington, DC.
- We previously demonstrated a high frequency of detectable viral load vii (VL) close to the time of STI diagnosis, 41.8%, and found that 14.6% of patients had a viral load >1500 (Lucar 2018).
- STI diagnosis predicts ongoing high risk behaviors. Therefore, we seek measures of HIV transmission over time among those with incident STIs.

2. Objectives

- Determine the rates of three major STIs by risk group.
- Examine percentage of time with VL above 1500.
- Determine the rates of three major STIs by risk group.
- To others.

3. Methods

- Conducted a retrospective cohort analysis measuring STI incidence (including syphilis, gonorrhea, and chlamydia) among all individuals in the DC Cohort from January 2011 – March 2018.
- Calculated incidence rates per 100 person-years (P-Y) of observation, using Rothman/Greenland estimation for 95% CIs (Table 1).
- Compared annualized rates by demographic subgroups using univariable Poisson regression (Figure 1).
- Estimated number of days with HIV VL >1500 copies/ml, relative to the total number of days of observation, among those with one or more incident STI over the period of observation (Figure 2).

4. Case Definitions

- Positive nucleic acid amplification test (NAAT) or culture on urogenital or extra-genital specimens.
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5. Results

- Median follow up of 3.4 years, 768 with incident STI.
- 47.5% were 18-34 year olds, 45.4% were 35-54 year olds, 88% were male, 66.6% were non-Hispanic Black, and 75.6% were MSM.
- 769 with incident STI and at least 2 VL observations, 40.7% had two or more previous non-reactive NTr tests, OR new case.
- Among persons living with HIV (PLWH) with incident STIs, approximately one-third spent considerable time with a VL >1500 copies/ml, placing them at increased risk of transmitting HIV to others.
- Public health interventions should focus on the risk of secondary transmission among PLWH, particularly among those engaging in risky behaviors as indicated by incident STIs.

6. Discussion

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