Pre-exposure prophylaxis (PrEP) has the potential to reduce new HIV transmission events. Identification of clients at greatest risk of acquiring HIV is critical for PrEP implementation. CDC issued clinical practice guidelines in 2014 to support broader implementation of PrEP with additional guidance provided by CDC’s 2012 HIV Incidence Index for MSM (HII-MSM) screening tool and Gilead’s TRUVADA for PrEP package insert.

### Background

- Pre-exposure prophylaxis (PrEP) has the potential to reduce new HIV transmission events.
- Identification of clients at greatest risk of acquiring HIV is critical for PrEP implementation.
- CDC issued clinical practice guidelines in 2014 to support broader implementation of PrEP with additional guidance provided by CDC’s 2012 HIV Incidence Index for MSM (HII-MSM) screening tool and Gilead’s TRUVADA for PrEP package insert.

### Objective

- To examine 3 published guidelines in identifying eligible PrEP candidates, including seroconverters, in a population-based cohort of Black men who have sex with men (YBMSM).

### Methods

#### Study population
- uConnect cohort included YBMSM aged 16-29 years during PrEP roll-out in Chicago from 2013-2016.
- Study included a baseline interview (wave 1) and two follow-up interviews (waves 2 and wave 3) 9-months apart over an 18-month period.
- Participants were included in analyses if HIV-uninfected at wave 1.

#### Definitions
- Table 1 shows PrEP Eligibility definitions for the three guidelines.

#### HIV seroconversion measurement
- Using 4th generation and NAAT testing at 3 time points.

### Results

#### Table 2. Predictors of incident HIV infection among uConnect cohort, Chicago, 2013-2016 (N=300)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>HIV positive</th>
<th>Ref</th>
<th>Incidence rate per 100 PT (95% CI)</th>
<th>Incidence rate per PY (95% CI)</th>
<th>Incidence rate per 365 days (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>91</td>
<td>1</td>
<td>9.2 (6.9, 12.3)</td>
<td>1.0 (0.6, 1.9)</td>
<td>0.0 (0.0, 0.0)</td>
</tr>
<tr>
<td>18-23</td>
<td>23</td>
<td>1</td>
<td>9.2 (6.9, 12.3)</td>
<td>1.0 (0.6, 1.9)</td>
<td>0.0 (0.0, 0.0)</td>
</tr>
<tr>
<td>≥24</td>
<td>68</td>
<td>1</td>
<td>9.2 (6.9, 12.3)</td>
<td>1.0 (0.6, 1.9)</td>
<td>0.0 (0.0, 0.0)</td>
</tr>
<tr>
<td>Male</td>
<td>119</td>
<td>1</td>
<td>9.2 (6.9, 12.3)</td>
<td>1.0 (0.6, 1.9)</td>
<td>0.0 (0.0, 0.0)</td>
</tr>
<tr>
<td>Female</td>
<td>31</td>
<td>1</td>
<td>9.2 (6.9, 12.3)</td>
<td>1.0 (0.6, 1.9)</td>
<td>0.0 (0.0, 0.0)</td>
</tr>
</tbody>
</table>
| Race/ethnicity
- Not Hispanic | 285          | 1   | 9.2 (6.9, 12.3)                   | 1.0 (0.6, 1.9)                  | 0.0 (0.0, 0.0)                    |
- Hispanic    | 15           | 1   | 9.2 (6.9, 12.3)                   | 1.0 (0.6, 1.9)                  | 0.0 (0.0, 0.0)                    |

#### Conclusion

- Low sensitivity of CDC guidelines and limited specificity of HIRI MSM and Gilead screening tools is of concern for PrEP implementation in most at risk populations.
- Consideration of local epidemiology and network factors may better guide identification of clients who could benefit the most from PrEP.

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### References