Preexposure Prophylaxis Awareness and Use in a Population-Based Sample of Young Black Men Who Have Sex With Men

In the United States, reducing new human immunodeficiency virus (HIV) infections will require a determined focus on primary HIV prevention among young black men who have sex with men (YBMSM), the only group in the United States where HIV incidence has increased over the past decade.\(^1\)

Methods | The south side of Chicago represents the largest contiguous black community in the United States. Despite the many assets of the south side, this community has a high HIV prevalence. uConnect is a population-based cohort study of YBMSM that examines how sociodemographic, health, behavioral, and social factors drive new methods of HIV prevention, including PrEP.

Using respondent driven sampling (RDS), 622 eligible YBMSM were recruited between June 2013, and July 2014. Study participants were eligible to be interviewed if they (1) self-identified as African American or black, (2) were born male, (3) were between 16 and 29 years of age, and (4) reported oral or anal sex with a male within the past 24 months. The sample was weighted using general probability estimates\(^2\) using the RDS package in R (R Foundation). We examined the relationship of a set of sociodemographic, health care engagement, behavioral, and social characteristics with PrEP awareness and uptake.

Results | A final analytic sample of eligible participants (n = 622) was generated through RDS chains of up to 13 waves in length and with a median of 2 recruits per participant. The mean (SD) age of the sample was 22.7 (3.2) years. Approximately 39% of participants had high school- or general education development-level terminal education, and 79.3% reported an income of less than $20 000 per year. Nearly half (48%) of HIV-negative (PrEP-eligible) individuals reported having either some government or private health coverage.

At baseline, PrEP awareness among uConnect participants was 40.5%, and 12.1% knew others who had used PrEP. PrEP awareness remained relatively stable over the recruitment period (Figure). Approximately 72.1% of the sample was not infected with HIV, 3.6% of whom had used PrEP. Having a primary care provider, participating in an HIV prevention program or research study, having had an anorectal sexually transmitted infection test, and membership in the House and Ball community, a national network of socially organized “houses” largely comprised of YBMSM and transgender women that has existed in Chicago since the 1930s, were significantly associated with PrEP awareness (Table). Additionally, among PrEP-eligible participants, meeting with an HIV outreach worker within 12 months of being recruited to our uConnect cohort was significantly associated with PrEP awareness (adjusted odds ratio [aOR], 2.02; 95% CI, 1.29-3.16).

Discussion | uConnect is the first study of diverse YBMSM-relevant characteristics and corresponding PrEP engagement from a population-based sample. Low PrEP awareness and uptake among YBMSM parallels earlier HIV treatment disparities. While PrEP is promising, this population-based cohort study illustrates that real-world PrEP use by those with the highest HIV incidence faces major implementation challenges that require purposeful and sustained engagement with black communities inclusive of their health care providers. We find that PrEP awareness is associated with a diverse range of clinical engagement activities among YBMSM. The Affordable Care Act (ACA) represents one potential opportunity to increase such clinical engagement. However, ACA benefits are not recognized in all regions of the United States, and in our cohort, only half of the participants had any type of health care coverage. Ongoing work

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Figure. uConnect Participants Recruited and Percent Aware of PrEP

<table>
<thead>
<tr>
<th>Month</th>
<th>No. of participants recruited</th>
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<tbody>
<tr>
<td>Jun 2013</td>
<td>16</td>
</tr>
<tr>
<td>Jul 2013</td>
<td>31</td>
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<tr>
<td>Aug 2013</td>
<td>31</td>
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<tr>
<td>Sep 2013</td>
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<td>Oct 2013</td>
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<td>Jan 2014</td>
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<td>Apr 2014</td>
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<tr>
<td>May 2014</td>
<td>44</td>
</tr>
<tr>
<td>Jun 2014</td>
<td>43</td>
</tr>
</tbody>
</table>

PrEP indicates preexposure prophylaxis.

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should include scientific assessment of strategies to mobilize networks of YBMSM around PrEP as part of a comprehensive health care program. Concomitantly, efforts to mitigate the structural barriers that prevent PrEP uptake among YBMSM may greatly improve the public health effect potential of this promising HIV prevention intervention.

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Abbreviations: AOR, adjusted odds ratios; HIV, human immunodeficiency virus; PrEP, preexposure prophylaxis.

a Bivariate models were used to select variables for the final multivariate model (α level = .05). Common confounders such as age, education, and employment status were adjusted for. Missing values for independent variables were imputed using the median for that variable to avoid the biases associated with a complete case analysis.

b The Brief Symptom Inventory 18 is used to assess the depression of respondent as a dichotomous variable.
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Obtained funding: Michaels, Schneider.

Administrative, technical, or material support: Michaels, Schneider.

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COMMENT & RESPONSE

Korean National Health Insurance Database

To the Editor We welcome a recent Invited Commentary in JAMA Internal Medicine, in which Hsing and Ioannidis highlight the usefulness of large population-based studies featuring the National Health Insurance (NHI) Research Databases of Taiwan, Sweden, and Korea. We would like, however, to correct some inaccuracies in the description of the Korean NHI Databases that undermine proper consideration of its full potential.

First, contrary to what is stated in the article, cross-linkage to cancer, disability, or other registry data is feasible and not through text mining. All Korean residents have unique personal identification numbers (13 digits), and the NHI database is linkable to almost all national databases. For example, the Korean Central Cancer Registry data was linked to NHI claims data to evaluate the association between delays in curative surgery and mortality in colorectal and breast cancers.

Second, the Korean NHI Corporation provides a free biennial cardiovascular health screening panel to all NHI members older than 40 years and to those who are employed regardless of age, as well as cancer screening to all older than 40 years free of charge or at minimal cost depending on income. Data generated in these screenings can also be linked to the NHI and the death registry databases. For instance, national data on cardiovascular screenings were linked to death registry data to evaluate the association between participation in the screenings, as well as total and cardiovascular mortality.

Finally, Hsing and Ioannidis indicate that multigeneration information and linkage to biobank materials were not available for Korean NHI data. The criteria used for these assessments are unclear, but multigeneration information can be obtained. The Korean government is funding a large biobank (https://koreabiobank.re.kr) with samples that can be potentially linked to NHI data.

The Korean NHI Corporation has established a research database with a 2% sample of the Korean population (>1 million people) that provides deidentified claims, health screening data, and mortality data to researchers at minimal cost. Additional use of the data are subject to review and approval. Similar to the Taiwanese or Swedish national databases, the Korean NHI database is a wonderful resource that may provide answers to multiple research questions that are difficult to address in ad hoc cohorts or clinical trials, such as effect of continuity of care on mortality or health care cost or antibiotic prescription rates for upper respiratory tract infections.

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In Reply We thank Shin et al for their letter providing additional valuable information on potential linkable databases or resources in Korea.