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Pre-exposure prophylaxis (PrEP) awareness and use in a population-based sample of young Black men who have sex with men

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To the Editor

In the United States, reducing new HIV infections will require a determined focus on primary HIV prevention among young Black men who have sex with men (YBMSM) who represent the only group in the United States where HIV incidence has increased over the past decade.[1] Through 2011, effective clinic-based HIV prevention interventions that target YBMSM have been virtually non-existent.[2] In 2012, Pre-exposure prophylaxis (PrEP), consisting of daily oral tenofovir disoproxil fumarate and emtricitabine was approved by the FDA. With an estimated efficacy of over 90% in persons adherent to treatment,[3] PrEP has HIV prevention impact potential for several domestic HIV epicenters.[4]

Methods

The South Side of Chicago represents the largest contiguous Black community in the US. Despite its many assets, this community is burdened a high HIV prevalence. uConnect is a population-based cohort study of YBMSM that examines how sociodemographic, health, behavioral and social factors drive new HIV prevention including PrEP.

Using Respondent Driven Sampling (RDS), a sample of 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[5] using the

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RDS package in R[6]. We examined the relationship of a set of sociodemographic, healthcare 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 age of the sample was 22.7 years (standard deviation 3.2 years). Approximately 39% had high-school/GED as terminal education, 79.3% reported an income of less than $20,000 per year. Nearly half (48%) of HIV-negative (PrEP-eligible) individuals reported having some health coverage (either government or private).

PrEP awareness was low at 40.5% which remained relatively stable over the recruitment period (Figure 1); and 12.1% knew others who had used PrEP. Approximately 72.1% of the sample was HIV-uninfected, 3.6% of whom had ever used PrEP. Having a primary care provider, participation in an HIV prevention program or research study, having had an anorectal STI test, and membership in the House/Ball community were significantly associated with PrEP awareness (Table 1). Additionally, among PrEP-eligible participants, meeting with an HIV outreach worker (<12 months) was also significantly associated with PrEP awareness (aOR 2.02; 95% CI: [1.29, 3.16]).

Comment

uConnect is the first examination of relevant drivers of PrEP engagement from a population-based sample of YBMSM. 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 utilization by those with highest HIV incidence, faces major implementation challenges that require purposeful and sustained engagement with Black communities and their healthcare 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 realized in all US regions and in our cohort, only half had any type of health care coverage. Ongoing work 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 impact potential of this promising HIV prevention intervention.

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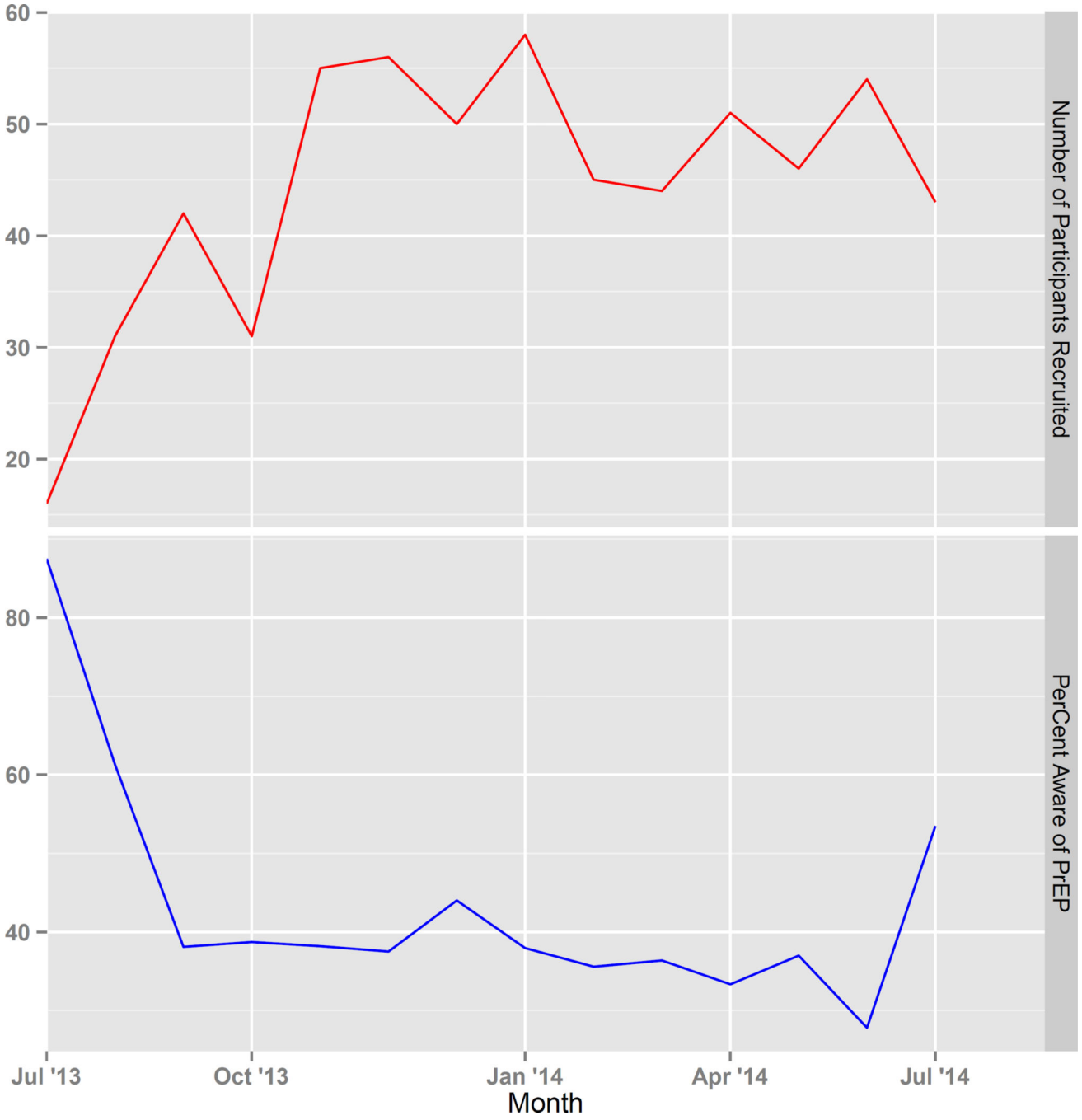

Figure 1.
Study respondent flow and PrEP awareness by month, UConnect, 2013–2014.

Table 1

Multivariable Logistic Regression of factors associated with PrEP awareness (n=622), uConnect Study, Chicago, 2014.[1]

	N (%)	Adjusted Odds Ratio	p-value
Clinical			
Has Primary Health Care Provider			
No	274 (44)	Ref.	
Yes	342 (55)	1.62 (1.17–2.53)	0.04*
Depressed[2]			
No	553 (88)	Ref.	
Yes	69 (11)	0.92 (0.49–1.71)	0.78
Conversation with HIV Outreach worker in past year			
No	331 (53)	Ref.	
Yes	277 (45)	1.39 (0.93–2.08)	0.12
Syphilis seropositive			
No	302 (49)	Ref.	
Yes	143 (23)	1.68 (0.91–3.10)	0.10
Ever participated in an HIV prevention program or research study			
No	446 (72)	Ref.	
Yes	172 (28)	3.93 (2.04–7.56)	<0.001*
Anorectal STI test (ever)			
No	458 (74)	Ref.	
Yes	158 (25)	1.85 (1.0–2.85)	0.01*
Behavioral			
Have a primary sex partner			
No	340 (55)	Ref.	
Yes	259 (42)	1.03 (0.69–1.36)	0.87
Group sex in past year			
No	488 (78)	Ref.	
Yes	128 (20)	1.54 (0.74–1.44)	0.12
One or more partners of HIV+ or unknown status			
No	349 (56)	Ref.	
Yes	255 (41)	1.41 (0.81–0.46)	0.23
Sex-drug use in past year			
No	432 (69)	Ref.	
Yes	149 (24)	1.33 (0.76–2.32)	0.32
Social			
Close to gay community			
Not close at all	78 (13)	Ref.	

	N (%)	Adjusted Odds Ratio	p-value
Not very/ somewhat close	404 (65)	0.71 (0.39–1.32)	0.29
Very Close	140 (23)	1.09 (0.55–2.20)	0.81
House Ball or gay family membership			
Neither	415 (67)	Ref.	
Ballroom	95 (15)	2.68 (1.63–4.42)	<0.001*
Gay family only	112 (18)	1.43 (0.86–2.38)	0.18

[1]Bivariate models were used to select variables for the final multivariate model (alpha-level = 0.05). 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.

[2]Brief Symptom Inventory (BSI)-18 to assess depression of respondent as a dichotomous variable.