



# High HIV and other STI prevalence among transgender, gay, bisexual and other men who have sex with men (GBMSM) in Nairobi, Kenya

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## Background

Gay, bisexual and other men who have sex with men are a key target population for HIV prevention and control in Kenya. Previous research in Nairobi has focussed upon GBMSM involved in sex work.

HIV prevalence amongst GBMSM is estimated to be 18.2% in Kenya<sup>1</sup> and is unknown for transgender persons.

### Study aim

This study set out to assess prevalence of HIV and other STIs in a representative sample of GBMSM in Nairobi.

## Methods

618 GBMSM and transgender persons enrolled via respondent-driven sampling in central Nairobi in 2017. Eligibility criteria were age 18+, male gender at birth/currently, Nairobi residence and consensual oral or anal intercourse with a man during the last year.

Consenting participants undertook a computer-assisted survey including current experience of anogenital STI symptoms (urethral or rectal pain, discharge or ulceration). Gender identity was established using a two step approach<sup>2</sup>.

After informed consent and pre-test counselling, participants tested for HIV [Determine™, First Response™ & Xpert™ HIV-Qual], syphilis [RPR/TPHA], hepatitis B and C [HBsAg and HCV ELISA]. Participants were offered Xpert™ CTNG testing for urethral and rectal chlamydia (CT) and gonorrhoea (GC). Participants were offered the choice of self- or clinician-collected rectal swabs. Samples were collected from the clinic each day for processing or storage at the laboratory.

Participants were offered syndromic STI treatment according to national guidelines and/or according to the laboratory results. Participants with HIV and hepatitis were referred to providers for care; HIV negative participants were offered referral to PrEP services.

Associations with prevalent HIV were assessed using multivariate logistic regression using forward stepwise model specification. Frequency and association measures were adjusted for RDS sampling using the RDS-II method, unless otherwise stated.

## Results

### Sociodemographic characteristics

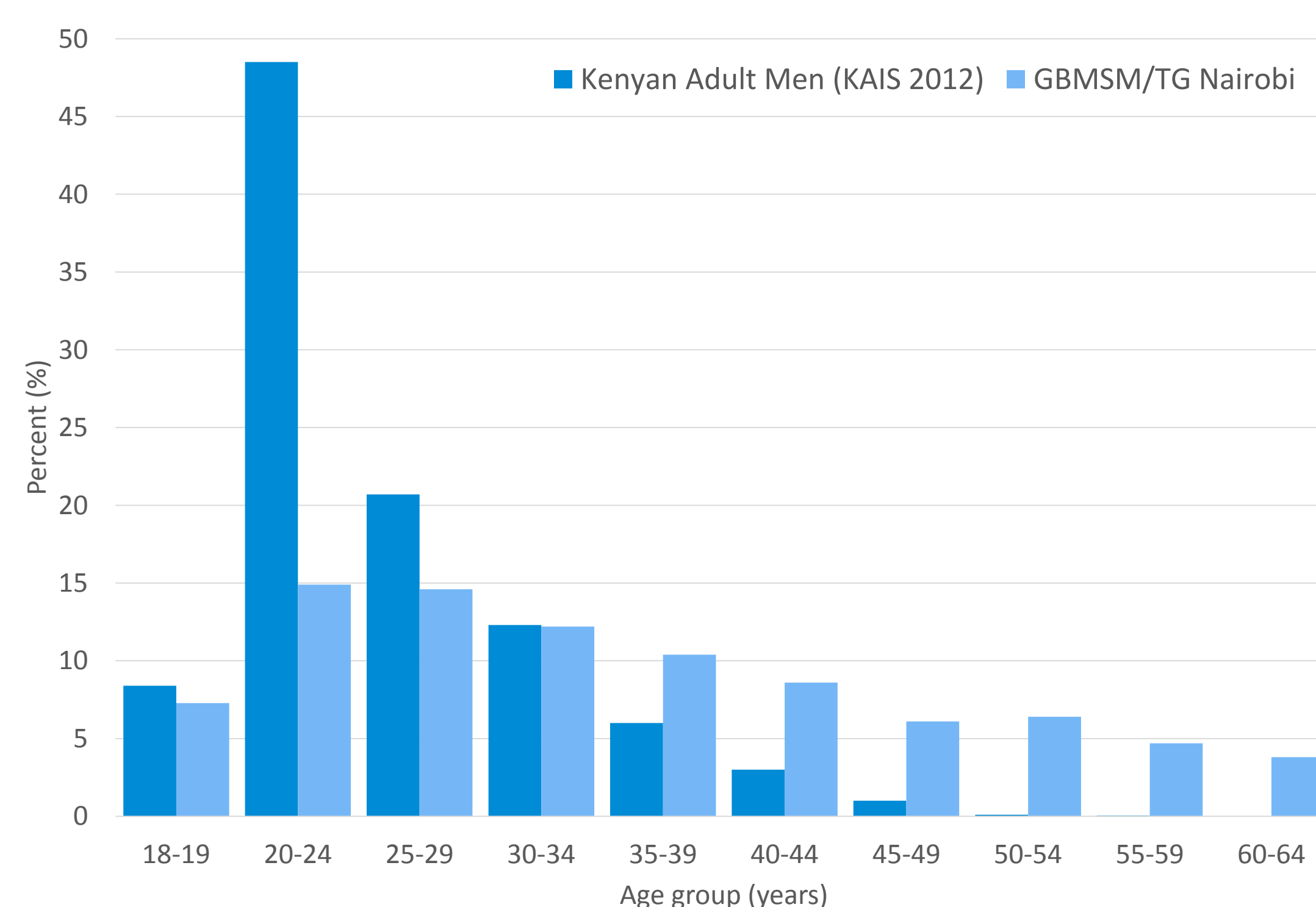
From 10 chains, average recruitment depth was 6.9 waves (range 2-19). Estimates converged on equilibrium for self-reported age, sexual- and gender-identity by study completion. Yet as in other RDS studies, the recruited sample was relatively young (figure 1)

The characteristics of the study sample are shown in the table and figure below. Less than half of participants reported transactional sex in the three months prior to the study, and only 35.7% (31.4-40.3, RDS-II) reported having accessed existing community-led LGBT-specific services in the previous year.

Table 1: Sociodemographic characteristics of the study sample (n=618)

	N	Unweighted		Weighted (RDS-II)	
		%	CI	%	CI
<b>Age</b>					
Years (mean)	-	25.9	25.4-26.4	25.7	25.1-26.3
<b>Highest education</b>					
Primary or none	111	18.2	15.3-21.4	18.1	14.8-21.9
Secondary	329	53.8	49.9-57.8	55.0	50.4-59.6
Higher	171	28.0	24.6-31.7	26.9	22.9-31.1
<b>Employment</b>					
Waged employment	179	29.4	25.9-33.2	28.1	24.1-32.4
Self-employed	159	26.2	22.8-29.8	27.4	23.5-31.8
Unemployed	247	40.6	36.8-44.6	41.7	37.1-46.3
<b>Income</b>					
KES/month (mean)	-	8,270	7,513-9,026	7,979	7,165-8,794
<b>Sexuality identity</b>					
Gay / Homosexual	448	73.6	69.9-76.9	73.2	68.9-77.2
Bisexual	143	23.5	20.3-27.0	23.4	19.7-27.6
Other	18	2.9	1.9-4.6	3.3	1.9-5.6
<b>Gender identity</b>					
Cisgender male	524	84.8	81.7-87.4	85.6	82.1-88.5
Transgender	77	12.5	10.1-15.3	12.3	9.6-15.6
Other	17	2.8	1.7-4.4	2.1	1.2-3.8
<b>Sold sex to another man (3 months)</b>					
Yes	297	48.5	44.5-52.4	43.8	39.3-48.4
No	316	51.5	47.6-55.5	56.2	51.6-48.4

Figure 1: Age distribution of study sample compared to Kenyan men (KAIS 2012)



### HIV

RDS-II weighted HIV prevalence was 26.4%: 95% CI 22.6-30.6 (unweighted 30.1% (26.6-33.9)). Three HIV positive participants (0.5% (0.2-1.5) RDS-II) were detected solely by 4<sup>th</sup> generation testing suggestive of acute HIV infection (see THPEC209).

The age-standardised HIV prevalence ratio compared to adult Kenyan men<sup>4</sup> was 7.0 (direct standardisation, 18-49 year age range only)

Prevalent HIV was independently associated with age, lower education, Kenyan birth, transgender identity and exclusive sex with men in the past 3 months (table 2).

### Syphilis

Five participants had active syphilis (positive RDR + TPHA): 1.1% (0.4-2.8) of whom three were also HIV positive.

### Hepatitis

Thirty participants had a positive HBsAg: 4.4% (3.4-6.9, RDS-II), including 2.6 % (1.4-4.6) dually infected with HIV and hepatitis B.

Three participants had positive HCV ELISA hepatitis C 0.5% (0.2-1.5), two of whom were also HIV positive.

Table 2: Associations with prevalent HIV infection: GBMSM in Nairobi, Kenya

	HIV positive		HIV association (all RDS-II adjusted)				
	N	%	Crude OR	p	Adjusted aOR	Adjusted CI	p
<b>Age</b>							
Per year	-	-	1.09	<0.001	1.12	1.07-1.16	<0.001
<b>Education</b>							
Primary	42/111	37.9					
Secondary	94/329	24.2	0.71	0.028	0.69	0.49-0.98	0.036
Higher	49/170	23.3					
<b>Country of birth</b>							
Kenya	163/483	29.3	2.67	0.002	3.06	1.57-5.97	0.001
Elsewhere	18/123	13.4	ref		ref		
<b>Sexual identity</b>							
Gay / Homosexual	140/447	27.3	ref				
Bisexual	37/143	21.7	0.74	0.242		Not significant	
Other	6/18	25.0	1.45	0.519			
<b>Gender identity</b>							
Cisgender male	151/523	24.4	ref		ref		
Transgender	29/77	39.3	2.00	0.018	2.20	1.21-3.97	0.009
Other	6/17	31.8	1.44	0.571	1.20	0.26-5.48	0.809
<b>Sexual contact with women (last 3 months)</b>							
Yes	45/174	22.5	0.75	0.220	0.48	0.28-0.82	0.008
No	141/443	28.0	ref		ref		
<b>Transactional sex (last 3 months)</b>							
Yes	107/297	31.1	1.51	0.050		Not significant	
No	78/315	23.0	ref		ref		

### Urethral STIs

6.4% (4.5-9.0) of participants reported current symptoms consistent with urethritis (discharge, burning or pain of micturition). Prevalence of urethral GC and CT were 4.4% (2.9-6.7) and 7.3% (5.2-10.3) respectively.

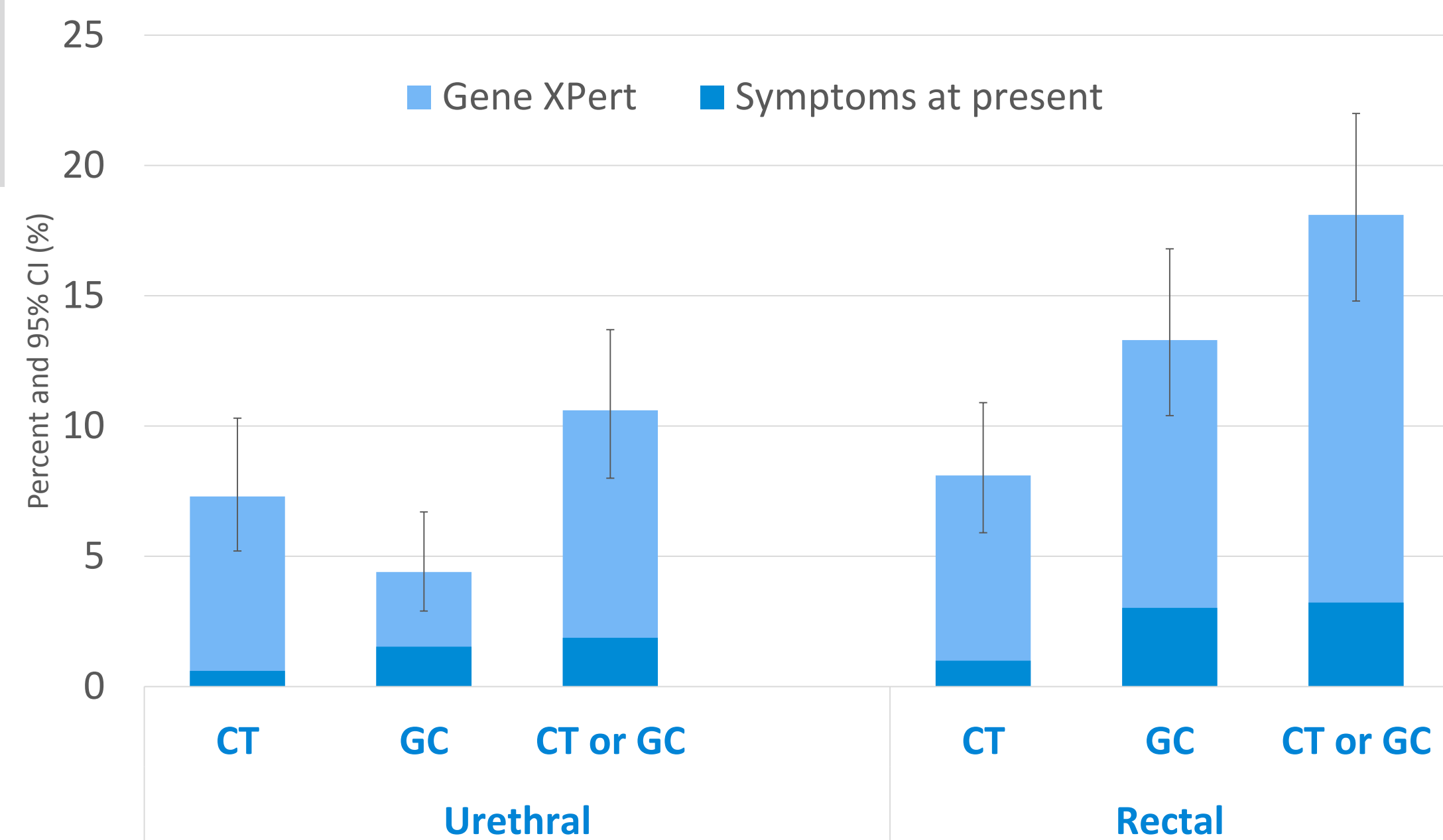
The correspondence between urethral symptoms and the presence of an underlying STI was weak: only 17.7% (9.2-31.2) with urethral CT/GC on PCR were presently symptomatic, although there was better correspondence for GC than CT (figure 2).

### Rectal STIs

8.6% (6.3-11.6) of participants reported symptoms consistent with proctitis (discharge, bleeding or pain during sex) The prevalence of confirmed rectal GC and CT were 13.3% (10.4-16.8) and 8.7% (6.7-11.2) respectively.

Again agreement between clinical symptoms and laboratory evidence of STIs was poor: only 17.8% (10.7-28.0) of participants with either rectal CT or GC reported symptoms consistent with proctitis.

Figure 2: Urethral & rectal STIs and associated current symptoms



## Conclusion

HIV prevalence among GBMSM in Nairobi is higher than previous estimates for this population (18.2%: 2016: NASCOP), and remains much higher than Kenyan men of similar ages.

The burden of HIV among transgender persons was higher still. Further research and sexual health needs assessment should be prioritised for transgender persons.

Chlamydia and gonorrhoea infections, particularly rectal, are common and frequently asymptomatic suggesting low sensitivity of syndromic STI management. Increasing the capacity of MSM-friendly and community-based providers to offer CT/NG testing and opportunistic screening should be explored.

<sup>1</sup> NASCOP. The Kenya HIV prevention roadmap 2014  
<sup>2</sup> The GenIUSS Group. Best practices for asking questions to identify transgender and other gender minority respondents on population-based surveys. In: Herman JL, ed. Los Angeles: Williams Institute, 2014.  
<sup>3</sup> Cepheid <http://www.cepheid.com>  
<sup>4</sup> Reference data from Kenya AIDS Indicator Survey 2012: Final Report. Nairobi, NASCOP, June 2014.

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