TABLES

Table legends:

Table 1. Summary of (a) HIV testing and treatment cascade outcomes, (b) participant characteristics; (c) stigma variables; (d) anti-LGBT legislation variables of studies included in the analyses, and (e) study characteristics and quality indicators.

Table 2. Pooled estimates of the proportions of African MSM accessing HIV testing and different stages of the treatment cascade.

Table 1.

	Total unique studies* (N_s=75)	References
a. Testing and Treatment Cascade Outcomes		
HIV testing		
Ever	54	32,43–95
Recently tested	33	
Past 12 months	28	32,46,48–51,62,73,78,82,85,96–107
Past 6 months	8	43,46,76,78,80,101,106,108
Past 3 months	4	46,62,106,109
HIV+ Aware	23	
Self-reported	23	32,43,48,51,58,62,68,87,88,110–122
Engagement in Care	5	
Ever	2	116,118
Currently	2	123,124
Linked within 30 days of diagnosis	1	68
ART use	13	
MSM living with HIV	12	
Ever	4	48,116,122,124
Currently	9	32,68,102,116,118,119,125,126
MSM HIV+ aware	8	
Ever	3	48,116,122
Currently	6	32,68,116,119,127,128
Viral suppression	5	
MSM living with HIV	4	32,122,125,129
MSM HIV+ aware	3	32,122,128
MSM currently on ART	4	32,116,125,130
b. Participant Characteristics		
Population		
General MSM	60	32,43–45,47–51,53,56–59,62–70,72–84,86,88–96,98–101,103, 104,106,107,109–120,122,123,127–130
High-risk MSM†	9	52,54,55,71,102,103,121,124–126
Low-risk MSM‡	1	85
MSM organisations§	2	46,87
NR	3	61,97
Region of Africa¶		
Central	7	43,62–64,98,99,126
Eastern	27	32,43–61,77,97,108–111,121,122,124,125
Northern	2	65,10
Southern	19	57,66–76,98,101–104,111–115,121,125,127
Western	23	78–82,84–95,97,105–107,116–120,123,128–130
Mean or median age¶		
≤25	40	32,46–48,50,52,53,55–57,60,61,63,64,66,67,69,73,76–80,82, 83,85,86,88–91,93,96,97,99,100,103,107,108,110–114, 116–120,126
>25	37	44,45,49,51,54,57–59,65,68,70–73,75,81,84,87,92,94,95,98,101,102,104,105,109,111,115,119, 121–125,127–130
NR	4	43,62,97
HIV prevalence¶		
≤20%	26	32,43,48–51,54,56,57,62,66,68,74,78,79,82–84,88,90,93,100,101,103,107,111–113,115,117,119,120,122
>20%	22	45,47,48,51,52,57,58,63,66–68,70,81,85,87,90,94,99,101, 102,105,110–112,114,116,118,126,128–130
NR	33	44,46,53,55,59–61,64,65,69,71–73,75–77,80,86,89,91,92, 95–98,104,106,108,109,121,123–125,127
Proportion ever sold sex¶		
≤35%	9	53,57,59,60,68,69,101,104,108,111,114,127
>35%	9	32,44,49,56,57,74,80,87,92,109,111,115
NR	58	43,45–52,54,55,58,61–67,70–73,75–79,81–86,88–91,93–100, 102,103,105–107,110,112,113,116–126,128–130
Proportion sold sex recently¶‖		
≤41%	12	50,53,66,72,82,88,91,93,97,100,102,103,107,112,113,117,122
>41%	10	44,49,50,54,58,90–92,105,109

NR	55	32,43,45–48,51,52,55–57,59–65,67–71,73–81,83–87,89,94–99, 101,104,106,108,110,111,114–116,118–121,123–130
c. Stigma Variables		
Proportion disclosed MSM status to healthcare workers[¶]		
≤20%	6	57,66,82–84,111,112,114,117,119
>20%	8	32,48,56,57,81,98,104,111,118,128-130
NR	62	43–55,58–65,67–80,85–103,105–110,113,115,116,120–127
Proportion disclosed MSM status to family[¶]		
≤20%	4	32,57,66,82,111,112,117
>20%	12	48,57,65,69,79,81,92,98,103,104,111,113,118,128–130
NR	60	43–56,58–64,67,68,70–78,80,83–91,93–97,99–102,105–109, 110,114–116,119–127
Proportion blackmailed because MSM[¶]		
≤20%	6	46,57,59,81,82,111,117,118,120,128–130
>20%	7	57,66,83,98,103,104,111–113,119
NR	63	32,43–45,47–56,58,60–65,67–80,84–102,105–109,110, 114–116,119,121–127
d. Anti-LGBT Legislation		
Same-sex relations illegal[¶]		
Yes	55	32,43–52,54–65,77–81,83,85–87,89–100,103,104,106,108–111, 113,116,118–125,128–130
No	21	53,66–76,82,83,88,101,102,105,107,112,114,115,117,119,121, 125–127
Repressive[¶]		
0	13	66–74,101,102,112,114,115,121,125,126
1	13	75,76,82,84,88,90–93,97,104,105,107,117,119
2	35	43,44,50–52,54,55,57,58,60,62–64,79,83,85–87,89,91,93–99, 103,106,108,109,111,113,116,119–125
3 – 5	20	32,43,45–49,56,57,59,61,65,77,78,80,81,97,100,110–111,118, 121,125,128–130
Indeterminable	1	127
Lack of Protective[¶]		
0	14	67–76,101,102,114,115,121,125
1 – 2	62	32,43–52,54–66,77–100,103–113,116–126,127–130
Indeterminable	1	127
Lack of Progressive[¶]		
0	11	67–74,101,102,114,115,121,125
1 – 2	64	32,43–66,75–100,103–113,116–126,128–130
Indeterminable	1	127
Penalties[¶]		
0	23	53,57,66–76,82,84,88,101,102,104,105,107,111,112,114,115,117,119, 121,125,126
1	3	43,50,62
2	39	44,46,51,52,54,55,57,58,63–65,78–81,83,85–87,89–100,103, 106,109,111,113,116,118–125,128–130
3 – 5	17	32,43,45,47–49,56,57,59–61,77,91,93,97,108,110,111,121,125
Indeterminable	1	127
Arrests 2014-2017[¶]		
Yes	43	32,43–45,47–49,51,52,54–61,63–65,77,78,80,81,87,90–94, 96–100,103,108–111,113,116,118,120–122,124,125,128–130
No	35	43,46,50,53,57,62,66–76,79,82,83–86,88,89,95,97,101,102, 104–107,111,112,114,115,117,119,121,123,125–127
Global score[¶]		
≤5	21	53,66–76,82,84,88,101,102,104,105,107,112,114,115,117,119, 121,125,126
6 – 8	37	43,44,50–52,54,55,57,58,62–64,83,85–87,89–99,103,106,109, 111,113,116,119–125
≥9	23	32,43,45–49,56,57,59–61,65,77,78,80,81,91,93,97,100,108, 110–111,118,121,125,128–130
Indeterminable	1	127
e. Study Characteristics and Quality Indicators		
Study year		
Pre-2011	30	49,51–55,57–60,64,70–76,90–94,97,100,104,108,111,114, 115,124
2011 onwards	41	32,43–50,56,62,63,65–69,77–89,96,98,99,101–103,105–107, 109–110,112,113,116–123,125,128–130

NR	4	61,95,126,127
Study design[¶]		
Cross-sectional	64	32,43–51,53,55–57,59–77,79,80,82–86,88–100,102–117,119, 120,123,126,127
Cohort – baseline	10	52,54,58,78,81,87,101,118,121,122,124,125,128–130
NR	2	97
Sampling method		
RDS	30	32,45,47–51,56,60,62,63,66,68,72,74,79,81–85,88,90,91,93, 97–101,103,105,107,108,110,112,113,115,117–119,128–130
Cluster/time-venue	3	43,44,55,108
Snowball	18	53,57,59,64,67,77,78,86,89,94,96,98,104,106,111,120–122, 124,125
Purposive/convenience	17	46,54,58,65,69–71,73,75,80,92,95,102,114,123,126,127
Mix	3	52,76,116
NR	4	61,87,97
Interview method[¶]		
FTFI	54	43,45,48–55,57–60,62–64,66–68,72,74,76–79,81–85,88,89, 91–105,107,108,110–120,123,126,128–130
Confidential[**]	16	32,44,46,47,56,65,69– 71,73,75,80,86,106,109,110,121,122,125,127
ACASI/FTFI mix	2	90,124
NR	4	61,87,97

ACASI, audio computer-assisted self-interview software; ART, anti-retroviral therapy; FTFI, face-to-face interview; LGBT, lesbian, gay, bisexual and transgender; MSM, men who have sex with men; MSW, male sex workers; NR, not reported; PBS, polling booth survey; PWID, people who inject drugs; RDS, respondent-driven sampling; SAQ, self-administered questionnaire

Continuous variables were dichotomised at the median value.

* number of referenced articles differs from the number of studies when multiple articles report on the same study and provide different estimates for different testing and/or cascade outcomes or a single article reports on multiple studies
† high-risk MSM includes male sex workers, people who inject drugs, MSM recruited from drinking venues and STI clinics, and MSM identified as high-risk by study authors
‡ low-risk MSM includes non-PWID and MSM self-reported to be HIV-negative
§ MSM organisations includes MSM recruited from MSM/LGBT organisations/prevention activities
¶ same study included in more than one subcategory when a study reports multiple estimates across different levels of the variable
|| proportion sold sex recently includes MSM who have sold sex in the past 12, 6 or 3 months
** confidential interview methods include ACASI (N=5), pooling booth surveys (N=1), and self-administered questionnaires (N=10). All continuous variables dichotomised at the median

Table 2.

Cascade outcome	N_e	Pooled estimate (%)	95% CI	I^2
HIV testing (among all MSM)	132			
Ever	81	61·0	56·2 – 65·7	98%
Recently	51			
past 12 months	39	46·2	39·6 – 52·9	97%
past 6 months	8	38·8	26·0 – 52·4	96%
past 3 months	4	44·9	11·3 – 81·3	99%
HIV+ aware	35			
Among MSM living with HIV	35	18·2	13·0 – 23·9	91%
Engagement in Care (among MSM living with HIV)	6			
Ever*	2	33·7	0·0 – 92·5	99%
Current†	2	40·4	0·9 – 91·0	97%
Linked within 30 days of diagnosis	2	15·3	9·3 – 22·3	26%
ART use	29			
Among MSM living with HIV	20			
Ever	6	2·0	0·0 – 6.9	91%
Current	14	23·9	15·7 – 33·1	90%
Among MSM HIV+ aware	9			
Ever	3	37·3	0·0 – 90·3	94%
Current	6	53·4	36·9 – 69·5	86%
Viral suppression	11			
Among MSM living with HIV	4	24·7	18·8 – 31·2	50%
Among MSM HIV+ aware	3	34·4	28·3 – 40·7	0%
Among MSM currently on ART	4	75·6	64·4 – 85·5	45%

ART, antiretroviral therapy; CI, confidence interval; HIV, human immunodeficiency virus; MSM, men who have sex with men; N_e, number of estimates

HIV status of MSM living with HIV and MSM HIV+ aware was confirmed in the studies with an HIV test.

* includes ever received a CD4 test
† includes currently using cotrimoxazole and engaged in care at the start of the study