

**Supplement Table 1: Database searching strategies**

Search terms	Search results
#1	"HIV"[Mesh] OR "HIV"[tiab] OR "HIV Infections"[Mesh] OR "HIV Antibodies"[Mesh] OR HIV-1[tiab] OR HIV1[tiab] OR HIV-2[tiab] OR HIV2[tiab] OR "HIV/AIDS"[tiab] OR "Sexually Transmitted Diseases, Viral"[Mesh:NoExp] OR "human immunodeficiency virus"[tiab] OR "human immunodeficiency virus"[tiab] OR "human immune deficiency virus"[tiab] OR "AIDS"[tiab] OR "acquired immunodeficiency syndrome"[tiab] OR "acquired immunodeficiency syndrome"[tiab] OR "acquired immune deficiency syndrome"[tiab]
#2	"Circumcision, Male"[Mesh] OR "Foreskin/surgery"[MeSH] OR circumcision[tiab] OR circumsie*[tiab] OR circumcis*[tiab]
#3	"Homosexuality, Male"[Mesh] OR "Bisexuality"[Mesh] OR "gay men"[tiab] OR "bisexual men"[tiab] OR (bisexual*[tiab] AND men[tiab]) OR MSM[tiab] OR "men who have sex with men"[tiab] OR "Transgendered Persons"[Mesh] OR "Transsexualism"[Mesh] OR transgender*[tiab] OR intersex*[tiab]
#4	#1 AND #2 AND #3
#5	Limit #4 to: Publication date from 1980/01/01
#6	newspaper article[pt] OR letter[pt] OR comment[pt] OR case reports[pt] OR practice guideline[pt] OR guideline[pt] OR news[pt] OR editorial[pt] OR historical article[pt] OR legal cases[pt] OR published erratum[pt] OR congresses[pt]
#7	#5 NOT #6

Supplemental Table 2: Summary of Studies of Male circumcision status and HIV risk among MSM (ABS indicates an abstract only)										
Characteristics of included studies							Total			
Sources	Study time and Location	Race/ethnicity	Age (yrs)	Participants: analytical/full sample	HIV assessment N (%)	Circumcision assessment N (%)	Circumcised N (%) [HIV+/circ+]	Uncircumcised N (%) [HIV+/circ-]	Study design	Sampling strategy
<b>Cross-sectional studies</b>										
<sup>10</sup> Qian, et al., 2016	Beijing, China, 2010-2011	Asian Chinese	Mean=31	1155	Lab: 290/1137(25.5%)	Genital exam: 79/964 (8.2%)	11/79 (13.9%)	263/1013 (26.0%)	Cross-sectional	Through a local community-based organization, advertisement on a website, outreach to gay-friendly venues, snowball-sampling
<sup>11</sup> Crosby, et al., 2015*	A mid-size southern city, US, 2011	Black	Mean=22.6 (SD=3.13)	400 recruited, 85 declined;	Lab: 106/384 (27.6%)	Self-report: 279/384 (72.7%)	76/279 (27.2%)	30/105 (28.6%)	Cross-sectional	Convenience sampling from a HIV/STD clinic
<sup>17</sup> Solomon, et al., 2014(ABS)*	12 cities, India, 2012-2013	Asian Indian	Median=25	12022	Lab: 838/12022 (7.0%)	Self-report: 1963/12022 (17%)	104/1963 (5.3%)	734/10059 (7.3%)	Cross-sectional	Respondent-driven sampling
<sup>12</sup> Zeng, et al., 2014*	Chengdu, China, 2009	Asian Chinese	Median=26.5 (Range 18-69)	570	Lab: 13.3%	Genital examination: all MSM (18.2%)	9/66 (13.6%)	67/504 (13.3%)	Cross-sectional	Stratified snowball sampling
<sup>20</sup> Doerner, et al., 2013	Britain, 2007-2008	White	Mean=36 (Range 18-75)	1521	Self-reported: 97/1097 (8.8%)	Self-report: 254/1521 (16.7%)	Not reported	Not reported	Cross-sectional	Convenience sampling via website and venues (e.g., sexual health clinics, bars, clubs and others)
<sup>13</sup> Pando, et al., 2013*	Buenos Aires, Argentina, Nov2007-July2009	Presumably Hispanic	Mean=30.5 (SD=11.5)	482/500 (96.4%)	Lab: 81/482 (16.8%)	Self-report: 64/482 (13.4%)	7/64 (10.9%)	74/418 (17.8%)	Cross-sectional	Respondent-driven sampling via website
<sup>14</sup> Zhou, et al., 2013	Chongqing, China, 2010	Asian Chinese	Median=24 (Range 18-65)	491/498 (98.6%)	Lab: All MSM (14.9%), bottom (14.9%), top (7.1%), versatile (16.7%)	Self-report: 88/498 (17.7%)	Not reported	Not reported	Cross-sectional	Respondent-driven sampling via a STD clinic
<sup>18</sup> Schneider, et al., 2012	South India, Aug 2008-June 2009	Asian Indian	Median=26 (Range 24-30)	387	Lab: 72/387(18.6%)	Self-report: 143/387 (36.9%)	16/143 (11.2%)	56/188 (29.8%)	Cross-sectional	Convenience sampling from drop-in centers
<sup>22</sup> Oster, et al., 2011	21 cities, US, 2008	White (61%), Black (39%)	White: Median=36, Black: Median=28	5855	Lab: White 561/3585 (45.6%), Black 619/2270 (27.3%), Overall 1180/5855(20.2%)	Self-report: 4270/5181 (82.4%)	401/4270 (9.4%)	107/911 (11.0%)	Cross-sectional	Venue-based, time-space sampling
<sup>25</sup> Thornton, et al., 2011	London, UK, 2008	Ethnic minority (17%)	Median=39, (Range 20-87)	653 /689 (94.8%)	Self-reported: 152/653(23.4%)	Self-reported: 188/653 (28.8%)	35/188 (18.6%)	117/465 (25.2%)	Cross-sectional	Venue-based convenience sampling
<sup>23</sup> Jozkowski, et al., 2010	US, 2009	Black (4%), White (82.1%), Hispanic (7.4%), Asian (2.9%),	25159 (18-23yr: 14.2%, 24-29:17.6%, 30-39: 22.9%,	25159/26257 (95.8%)	Lab: 14.1%	Self-reported: 21,312 (82.1%)	3012/21312 (14.3%)	543/3847 (14.3%)	Cross-sectional	Convenience sampling via email recruitment

		Others (3.1%)	40-49: 27.7%, 50-59: 13.2%, 60+: 3.4%)							
<sup>40</sup> Lane, et al., 2011	Soweto, South Africa, 2008	Black African	64% are younger than 24	363/387 (93.8%)	Lab: 69/363 (20.6%)	Self-report: 124/363 (33.6%)	Not reported	Not reported	Cross-sectional	Respondent-driven sampling
<sup>41</sup> McDaid, et al., 2010	Glasgow and Edinburgh, Scotland, 2008	White	Not reported	1405/1508 (93.2%)	Lab: 54/1405 (4.5%)	Self-report: 233/1405 (16.6%)	8/233 (4.2%)	46/1172 (4.6%)	Cross-sectional	Convenience sampling at gay venues
<sup>36</sup> Begley, et al., 2008	7 cities, US, 2006	White (55.9%), Black (25.4%), Hispanic (5.5%), Others (13.2%)	Median=32, 60% are older than 25	780/1050 (74.3%)	Self-report: 100/772 (13%)	Self-report 646/772 (84%)	81/646 (13%)	19/126 (15%)	Cross-sectional	Convenience sampling via gay pride events
<sup>27</sup> Calzavara, et al, 2007(ABS)	Ontario, Canada, 2001-2005	Native American (2%), Latino (4%), Others (9%), White (85%)	Not reported	165	Not reported	Self-report 11/15 (73%)	2/11 (18%)	2/4 (50%)	Cross-sectional	Convenience sampling
<sup>8</sup> Millett et al, 2007-Latino	3 cities, US, May 2005-Apr 2006	Latino (49%)	Median=33.1	957/1091 (87.7%)	Lab: 348/957 (36%)	Self-report: 317/957 (33%)	116/317 (37%)	232/640 (36%)	Cross-sectional	Respondent-driving sampling
<sup>8</sup> Millett, et al., 2007-Black	3 cities, US, May 2005-Apr 2006	Black (51%)	Median=42.5	1079/1154 (93.5%)	Lab: 563/1154 (52%)	Self-report: 794/1079 (74%)	425/794 (54%)	138/285 (48%)	Cross-sectional	Respondent-driving sampling
<sup>42</sup> Mor, et al., 2007	San Francisco, US, Jan1996-Dec 2005	White (66%), Latino (16%), Asian/PI (10%), Black (7%), 1% Other	Not reported	20 832	Lab: 14902 (72%)	Genital exam: 15207/20832 (73%)	8942/12 577 (71%)	5960/8255 (72%)	Cross-sectional	Electronic medical records review
<sup>44</sup> Reisen, et al.,2007	New York City, US	Latino (146 from Brazil, 169 from Colombia, 167 from Dominican Republic)	Brazil: Mean=37.5; Colombia: Mean=38.2; Dominican Republic: Mean=33.6	427/482 (88.6%)	Self-report: Brazilian (22.6%), Colombian (32.0%), Dominican (25.2%)	Self-report: All (25%) Brazilian (20.6%), Colombian (26.6%), Dominican (25.8%)	28/111 (25.3%)	101/336 (30.1%)	Cross-sectional	Convenience sampling
<sup>31,32</sup> Sanchez, et al., 2007;2009	3 cities in Peru, 1 city in Ecuador, Feb 2006-Jun 2006	Presumably Hispanic	Mean=26.4 (SD=6.7)	2884	Lab: 314 (11%)	Genital exam: 123/2884 (4%)	13/123 (1%)	301/2761 (11%)	Cross-sectional	Snowball sampling from Minister of Health clinics
<sup>28</sup> Lai, et al., 2004 (ABS)	Taipei, Taiwan, 2003	Presumably Asian Chinese	Not reported	556	Lab: 33/556 (6%)	Self-report: 154/556 (28%)	5/154 (3%)	28/402 (7%)	Cross-sectional	Not reported
<sup>29</sup> Kumta, et al., 2002 (ABS)	Mumbai, India, Mar 2001-Jul 2002	Presumable Asian Indian	Not reported	122	Lab: 21/122 (17%)	Genital exam: 27/122 (22%)	2/27 (7%)	19/95 (20%)	Cross-sectional	Not reported

<sup>45</sup> Tabet, et al., 2002	Lima, Peru, 1996	Presumable Hispanic	Mean=24	440/451 (97.6%)	Lab: 82/444 (18.5%)	Genital exam: 36/440 (8%)	Not reported	Not reported	Cross-sectional	Convenience sampling via street-outreach
<sup>43</sup> Reid, et al., 2001	England and Wales, 2001	White (93%), Asian (3%), Mixed (2%), Black (1%)	Mean=32.8 (SD=10.5)	13 851/14 616 (94.8%)	Self-report: 726 /13851(5%)	Self-report: 3089/13 851 (22%)	188/3089 (6%)	538/762 (5%)	Cross-sectional	Convenience sampling via gay-focused event, booklets, and website
<sup>39</sup> Kreiss & Hopkins, 1993	Seattle, US, Apr 1989-1991	White (90%), Black (4%), Latino (4%), Asian/PI (1%)	UMC: Mean=40.6, MC: Mean=34.5	499/502 (99.4%)	Lab: 313/499 (63%)	Self-report: 422/499 (85%)	254/422 (60%)	59/77 (77%)	Cross-sectional	Convenience sampling via AIDS clinics
<b>Studies with follow-up</b>										
<sup>19</sup> Koblin, et al., 2013	6 cities, US, 2009-2010	Black	HIV-negative: Mean=37	1164 at baseline, 935 at 6m, 872 at 12m	Lab: 28/1162 (2.4%)	Combination of genital exam and self-report: 881/ 1162 (75.8%)	21/881(2.4%)	7/281 (2.5%)	Cohort study with follow-up at 6m and 12m	Convenience sampling at gay community and via sex networkers; part of the HPTN061
<sup>16</sup> Chen, et al., 2011*	Taiwan, 2001-2005	Asian Chinese	mean=32.4, sd=8.1, range 17-81	1093	Lab: -all MSM (7.4%), -2001 (3.4%), -2002 (5.1%), -2003 (8.9%), -2004(8.5), -2005 (8.3%)	Self-reported: 266/1024 (26.0%)	13/266 (4.9%)	66/758 (8.7%)	Follow-up at 6m for HIV-neg MSM for 4 years	Convenience sampling; recruit from VCT programs via 5 gay-oriented-saunas
<sup>21</sup> Sanchez, et al., 2011	US and Peru, 2003-2007	Presumably Hispanic and White	US: MC: Mean=30, UMC: Mean=27; Peru: MC: Mean=41, UMC: Mean=37	1822/1824 (99.9%): 1360 (74.6%) from Peru, 462(25.4%) from US	Lab: 83/1822 (4.6%)	Genital exam: All MSM: 457/1822(25.7%), US (81.8%), Peru (5.8%),	18/457 (3.9%)	67/1365 (4.9%)	Follow up for 18m at every 3m	Part of a RCT for HSV-2 suppression for HIV prevention (HPTN039)
<sup>37</sup> Gust, et al., 2010	57 cities in US; 3 cities in Canada; 1 city in Netherlands	White (86%), Hispanic (6%), Black (4%), Asian (2%), Other (2%)	UMC=36.9, MC=36.6	4889/5417 (90.3%)	Lab: 342/488 (7.0%)	Self-report: 4209/4889 (86.1%)	299/4209 (7.1%)	43/680 (6.3%)	Follow up for 36m at every 6m	Part of a RCT for HIV vaccine
<sup>38</sup> Jameson, et al., 2010	US, Oct 2001-May 2006	Whites (75%), Hispanic (8%), Black (6%), Asian/PI (5.4%), Other (4.8%)	75.7% older than 25 years	3828/4749 (80.6%)	Lab: 1142/6924 (16.5%)	Genital exam : 3241/3828 (85%)	1016/5843 (17.4%)	181/1081 (16.7%)	Follow-up with 1-6 visits	Convenience sampling via STD clinics
<sup>15,24,30</sup> Buchbinder, 2007; Koblin et al., 2012; Barnabas, et al., 2011	North America, Caribbean, South America, Australia, 2004-2007	Black (10%), Latino (10%), Multiracial (25%), White (50%), Other (6%)	Median=30 (Range 18-45)	1787/1836 (97.3%)	Lab: 80 (5%)	Combination of self-report and genital exam: 999/ 1787 (56%)	52/999 (5%)	28/788 (4%)	Follow up at 12,30 and 52 w, and every 26w afterwards	Double-blind randomized selection (STEP study)

<sup>33,34</sup> Templeton, et al., 2009; Mao, et al., 2008	Sydney, Australia, 2001-2004	Anglo ethnicity (74%)	Median=35 (Range 18-75)	1426/ 1427 (99.9%)	Lab: 42 (3%) 0.8/100 pyr	Combination of self-report and genital exam: 938/1426 (66%)	29/938 (3%)	13/488 (3%)	Follow-up for 36m at every 6m; cohort study	Convenience sampling from community-based venues (HIM study);
<sup>35</sup> Bartholow, et al., 2006	US, Canada, Netherlands Jun 1998- Nov1999	Asian/PI (2%), Other (2%), Black (4%), Latino (6%), White (86%)	Not reported	5090/5095 (99.9%)	Lab: 2.8/100 pyr , 362/5095 (7%)	Self-report: 4381/5090 (86)	315/4381 (7%)	47/709 (7%)	Follow-up for 36m	Part of a RCT
<sup>49</sup> Buchbinder, et al., 2005	6 cities, US, Apr 1995- May 1997	White (76%), Latino (12%), Black (7%), Asian/PI (5%)	65.4% are older than 35	3257	Lab: 1.55/100 pyr	Self-report: 2866/3257 (88%)	Not reported	Not reported	Follow-up for 18m at every 6m	Recruit from HIVNET program

**Notes:**

ABS: abstract; MC: male is circumcised; UMC: uncircumcised ; RCT: Randomized Control Trials; HPTN: The HIV Prevention Trials Network; VCT: Voluntary Counselling and Testing ;

HSV-2: Herpes simplex virus type 2; PI: Pacific Islander

\*crude odds ratios were calculated by raw data