

Appendix 1: Questionnaire results summary

	<i>a priori</i> estimated % affirmative	Arm B survey estimated % affirmative	# (%) refusals
<i>Block 1 (training question)</i>			
I am currently wearing socks.	50%	15%	1 (0%)
I have blue hair.	0%	0%	1 (0%)
I went swimming at least once in the last 7 days.	20%	1%	1 (0%)
I ate beans yesterday.	20%	22%	1 (0%)
I brushed my teeth today.	70%	78%	0 (0%)
Non-sensitive question sum	0.90	0.38	1 (0%)
LR count sum	1.60	1.04	0 (0%)
<i>Block 2</i>			
I wore a red shirt at least once in the past 7 days.	40%	10%	1 (0%)
I prefer rice over pap.	40%	31%	0 (0%)
I played football yesterday.	20%	3%	1 (0%)
I prefer bananas over grapes.	50%	62%	0 (0%)
I used a condom during my last sexual encounter.	20%	54%	5 (2%)
Non-sensitive question sum	1.50	1.06	1 (0%)
LR count sum	1.70	1.65	1 (0%)
<i>Block 3</i>			
I am right-handed.	90%	92%	1 (0%)
I have a blue pair of shoes.	20%	6%	1 (0%)
It rained yesterday.	5%	45%	1 (0%)
I ate amasi yesterday.	20%	10%	1 (0%)
I am HIV negative.	30%	53%	6 (3%)
Sum non-sensitive questions	1.35	1.53	2 (1%)
List randomization count	1.65	2.10	4 (2%)
<i>Block 4</i>			
I have two arms.	99%	98%	0 (0%)
I prefer Maskandi over Isicathamiya music.	50%	73%	1 (0%)
I prefer aubergine over beet root.	50%	12%	0 (0%)
I wore a blue shirt at least once in the past 7 days.	20%	11%	0 (0%)
I have had anal sex within the last 12 months.	5%	2%	3 (1%)
Sum non-sensitive questions	2.24	1.94	1 (0%)
List randomization count	2.24	2.07	2 (1%)
<i>Block 5</i>			
I drank coffee today.	20%	9%	0 (0%)
My favorite color is blue.	60%	31%	1 (0%)
I prefer yam over sweet potato.	60%	53%	1 (0%)
Today is a Thursday.	20%	19%	1 (0%)
I refused the AHRI DSS HIV test this year.	70%	13%	0 (0%)
Sum non-sensitive questions	1.40	1.11	2 (1%)
List randomization count	2.10	1.66	1 (0%)

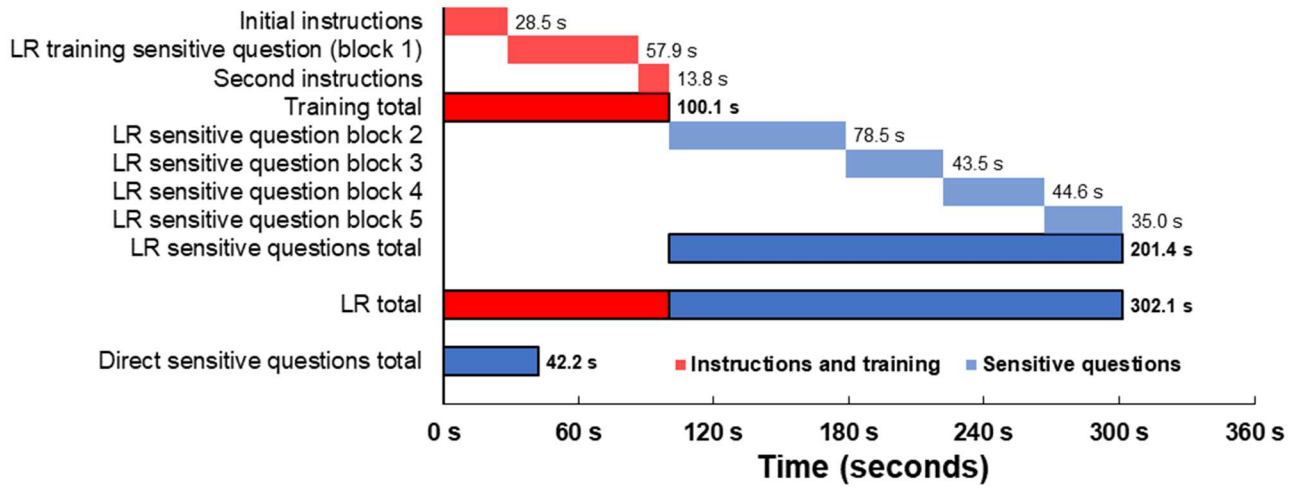
Appendix 2: Estimates by demographic group

Population	Estimates			Sample sizes		
	LR estimate (CI)	Direct estimate (CI)	Known truth estimate (CI)	LR total n (list block arm + direct arm)	Direct total n	Known truth total n
<i>Panel a: "I brushed my teeth today."</i>						
All	66% (54:78%)	78% (72:83%)		482 (262+220)	221	
Female	71% (56:85%)	82% (75:88%)		308 (172+136)	137	
Male	57% (37:77%)	71% (62:81%)		174 (90+84)	84	
Age 18-24	49% (28:71%)	74% (59:88%)		88 (51+37)	38	
Age 25-39	60% (41:80%)	82% (74:90%)		174 (91+83)	83	
Age 40-64	78% (57:98%)	78% (69:87%)		185 (100+85)	85	
Age 65+	77% (22:131%)	67% (42:91%)		35 (20+15)	15	
<i>Panel b: "I used a condom during my last sexual encounter."</i>						
All	59% (43:75%)	54% (48:61%)		481 (261+220)	216	
Female	65% (46:85%)	51% (42:59%)		307 (171+136)	136	
Male	47% (20:75%)	60% (49:71%)		174 (90+84)	80	
Age 18-24	58% (20:95%)	69% (53:84%)		88 (51+37)	35	
Age 25-39	73% (45:101%)	63% (53:74%)		173 (90+83)	82	
Age 40-64	61% (37:86%)	48% (37:58%)		185 (100+85)	84	
Age 65+	-17% (-68:34%)	7% (-6:20%)		35 (20+15)	15	
<i>Panel c: "I am HIV negative."</i>						
All	57% (42:71%)	53% (47:60%)	26% (22:30%)	477 (258+219)	215	412
Female	55% (37:74%)	48% (39:56%)	26% (21:31%)	304 (169+135)	134	269
Male	58% (33:83%)	63% (52:74%)	25% (18:32%)	173 (89+84)	81	143
Age 18-24	58% (25:91%)	86% (75:98%)	47% (36:59%)	88 (51+37)	36	72
Age 25-39	45% (18:71%)	53% (42:64%)	17% (11:23%)	171 (88+83)	81	147
Age 40-64	66% (42:89%)	36% (26:47%)	17% (11:23%)	184 (100+84)	83	164
Age 65+	65% (14:117%)	73% (50:96%)	66% (48:83%)	34 (19+15)	15	29
<i>Panel d: "I have had anal sex within the last 12 months."</i>						
All	13% (0:27%)	2% (0:4%)		480 (260+220)	218	
Female	15% (-2:32%)	1% (-1:2%)		307 (170+137)	136	
Male	11% (-10:33%)	4% (0:8%)		173 (90+83)	82	
Age 18-24	20% (-15:54%)	0% (0:0%)		88 (51+37)	36	
Age 25-39	10% (-12:32%)	4% (0:8%)		173 (90+83)	82	
Age 40-64	11% (-10:32%)	1% (-1:3%)		185 (100+85)	85	
Age 65+	23% (-34:80%)	0% (0:0%)		34 (19+15)	15	
<i>Panel e: "I refused the AHRI DSS HIV test this year."</i>						
All	55% (37:72%)	13% (8:17%)	15% (12:18%)	480 (261+219)	221	483
Female	58% (36:79%)	15% (9:21%)	13% (9:17%)	307 (171+136)	137	309
Male	51% (20:81%)	10% (3:16%)	18% (12:24%)	173 (90+83)	84	174
Age 18-24	37% (-5:79%)	8% (-1:17%)	19% (11:27%)	88 (51+37)	38	89
Age 25-39	45% (15:75%)	16% (8:24%)	16% (10:21%)	172 (90+82)	83	174
Age 40-64	71% (42:99%)	9% (3:16%)	11% (7:16%)	185 (100+85)	85	185
Age 65+	75% (18:132%)	27% (4:50%)	17% (5:30%)	35 (20+15)	15	35

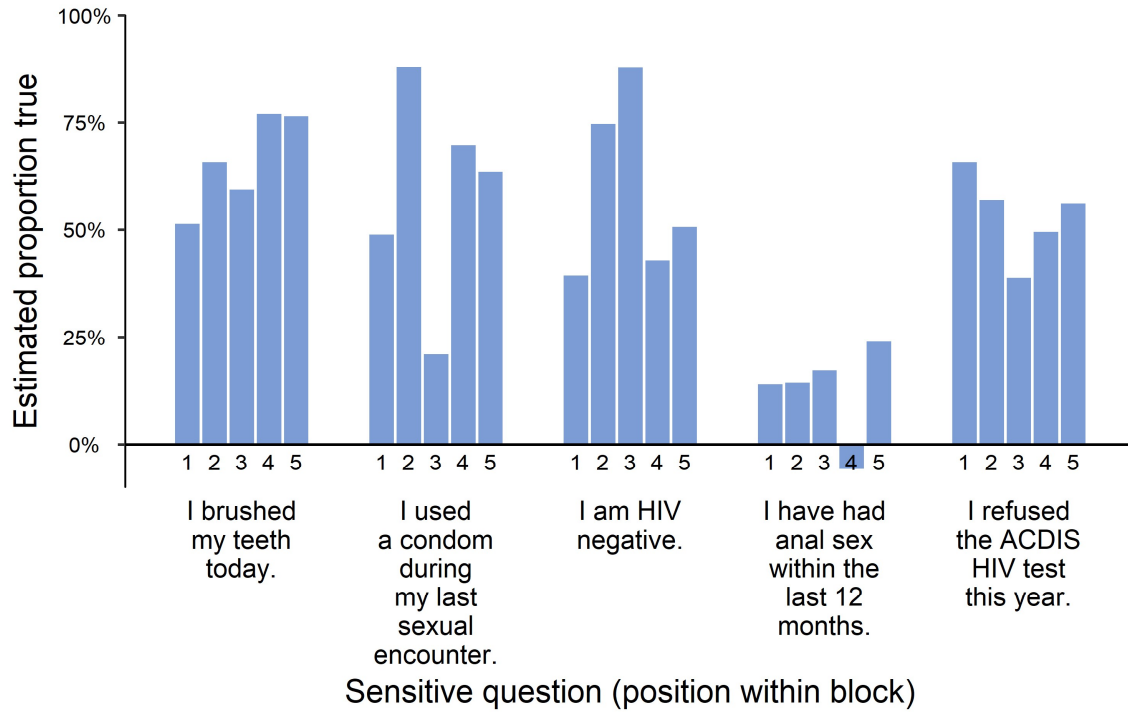
Appendix 3: Multivariate regression results for questions with no known truth

	I brushed my teeth today.			I used a condom during my last sexual encounter.			I have had anal sex within the last 12 months.		
Covariate:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.66** (0.06)	0.67** (0.08)	-0.24 (0.54)	0.59** (0.08)	0.67** (0.11)	0.65 (0.71)	0.13* (0.07)	0.18** (0.09)	1.43** (0.61)
HIV negative		0.00 (0.15)	0.08 (0.16)		-0.23 (0.19)	-0.07 (0.22)		-0.09 (0.18)	-0.19 (0.20)
HIV unknown (refused)		-0.11 (0.17)	-0.11 (0.18)		-0.29 (0.23)	-0.16 (0.25)		-0.26 (0.18)	-0.21 (0.20)
Male			-0.18 (0.13)			-0.13 (0.17)			0.00 (0.14)
Age			0.04 (0.02)			0.01 (0.03)			-0.05 (0.02)
Age ²			0.00 (0.00)			0.00 (0.00)			0.00** (0.00)
Years of education			0.01 (0.02)			0.00 (0.03)			-0.03 (0.02)
coefficient (SE). * p<.10, ** p<.05. Correlation with non-sensitive item component not shown.									
Residual SE	0.68	0.68	0.66	0.90	0.90	0.88	0.76	0.76	0.76
Observations									
<i>List block arm</i>	262	262	246	261	261	245	260	260	245
<i>Direct arm</i>	220	220	211	220	220	211	220	220	211
<i>Total</i>	482	482	457	481	481	456	480	480	456

Appendix 4: Time to completion of each survey section



Appendix 5: LR estimate by position of sensitive questions within block



Each bar represented the percentage of sums which are equal to 0, where each sum is the sum of the four non-sensitive question “true” (affirmative) answers associated with a given sensitive question item block.