

Salway T, Thomson K, Taylor D, et al. A post-test comparison of HIV test knowledge and changes in sexual risk behaviour between clients accessing HIV testing online versus in-clinic.

Supplementary Text S2. Details of pilot study: Development of a measure of HIV test knowledge

The pilot study was comprised of two phases: instrument development and instrument validation. The instrument was developed by identifying eight core informed consent concepts related to HIV testing[15] and then translating these concepts into multiple true/false statements, which were tested for face validity by asking content experts to review the items for relevance and wording. Twenty items—two to three per core concept—were then selected through a modified Delphi process.[23] Cognitive testing was conducted with five STI testing clients, and questions were revised accordingly.[24] The purpose of the cognitive testing was to determine whether a subsample of the target population found any of the items were confusing or ambiguous, whether clients understood what the questions meant, and whether they found any of the items offensive in any way.

We tested the psychometric properties of the twenty items (validation phase) by recruiting 242 STI clinic clients who received an HIV test and were able to read and understand English. Items that failed to meet the recommended 60% difficulty threshold were removed.[20] Ordinal *alpha* for the resultant 6-item questionnaire was 0.67, and the average inter-item correlation was 0.25.[21] Exploratory factor analysis supported a single factor solution with adequate root mean square residual and root-mean-square error of approximation fit measures (**Supplementary Table S1**).[22] Although these items showed marginal internal consistency based on *alpha*, the demonstrated construct validity of these items supported the use of an HIV test knowledge score, which was calculated by summing the number of correct responses.

Supplementary Table S1. HIV test knowledge item frequencies and psychometric properties: pilot study (2013) and client survey (2015-16)

	Pilot study N=242	Client survey N=371	
	Difficulty index*	Difficulty index*	Standardized loading [†] (6-items)
Difficulty index, by statement (correct response)			
1. If a person has a negative HIV test, then they do not have HIV. (F)	70%	68%	0.51
2. Six weeks after getting HIV most people will have a positive HIV test. (T)	57%	60%	0.26
3. There is an HIV test that takes a few minutes to give you a result. (T)	61%	62%	0.39
4. When blood is drawn for HIV testing, it is always tested for other infections. (F)	84%	80%	0.55
5. Any health care professional like a doctor, nurse or pharmacist can view your HIV test result (positive or negative). (F)	86%	70%	0.37
6. All positive test results are reported to the public health department.(T)	73%	79%	0.31
Reliability measures			
Kuder-Richardson (alpha)	-	-	0.52
Average inter-item correlation	-	-	0.16
Fit measures, factor analysis			
Root mean square of residuals (RMSR)	-	-	0.05
Tucker Lewis Index (TLI)	-	-	0.84
RMSEA, 90% CI	-	-	0.06 (0.03, 0.09)

Note. * recommended ‘difficulty’ range: 60-80%; [†] using *post-hoc* exploratory factor analysis