Supplementary material

Annex 1: Reasons for study exclusion (N=27)

- No active recall (N=5)
- Conference abstract (N=4)
- Qualitative study (N=3)
- Health promotion (N=2)
- Reviews (N=2)
- No reattendance outcome (N=1)
- Rescreening rates (N=1)
- Natural history of infection (N=1)
- Drivers and barriers to retesting not active recall (N=1)
- Factors associated with rescreening (N=1)
- Reminder to clinicians (N=1)
- Results for HIV (N=1)
- News article (N=1)
- Overview of prevention (N=1)
- Unable to obtain paper (N=1)
- Same study as an included paper (N=1)

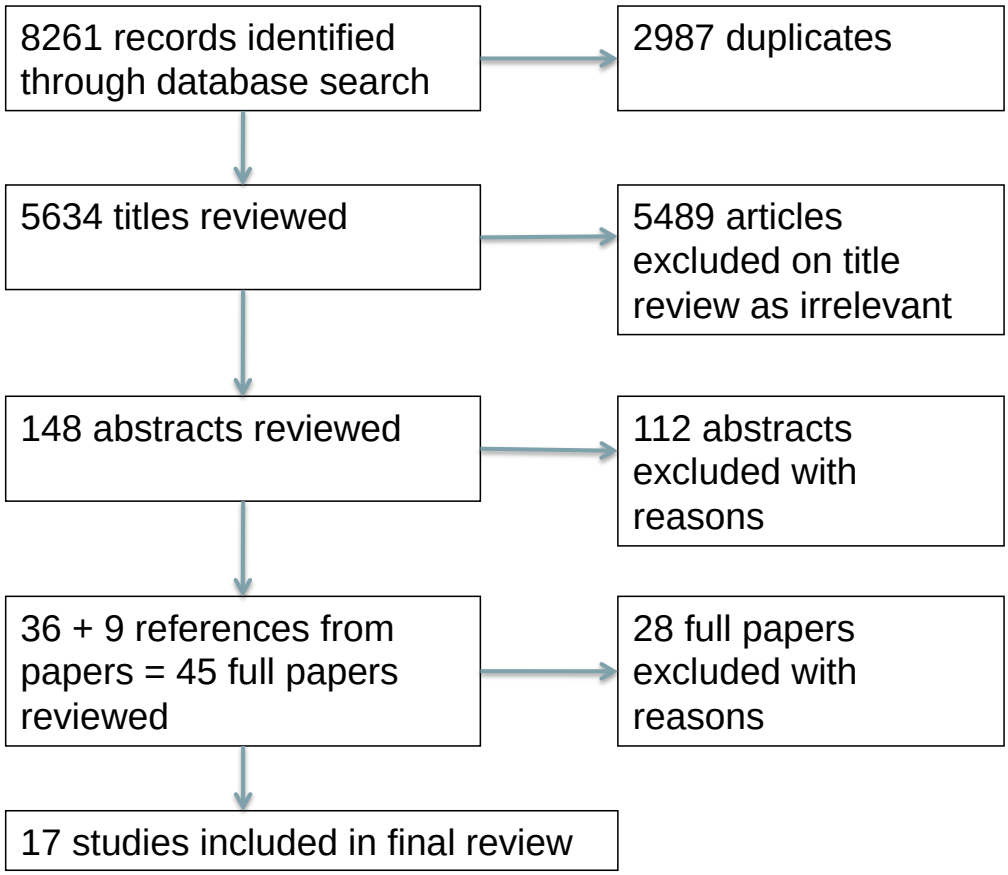


Figure 1: Flow diagram of review

Annex 2: Quality assessment of included studies

Table 1: Summary quality assessment of included studies

	Internal validity	External validity
RCT		
Cook	++	-
Downing	+	+
Gotz	+	-
Sparks	+	-
Xu	+	-
Malotte	+	-
Non-randomised before and after studies		
Burton	+	-
Bourne	+	-
Guy	+	-
Zu	+	-
Paneth-Pollack	+	-
Observational studies		
Gotz	++	-
Harte	+	-
LaMontagne	+	-
Walker	+	-
Bloomfield	+	-
Cameron	+	-

Key:

For individual criterion

++	For that particular aspect of the study design, the study has been designed in such a way as to minimise the risk of bias
+	the answer to the question is not clear from the way the study is reported or the study has not addressed all the potential sources of bias for that particular aspect of the study design
-	significant sources of bias may persist
NR	study has not reported how that question should have been considered
NA	not applicable for the given study design under review

For overall external validity/internal validity

++	All or most of the checklist criteria have been fulfilled. Where they have not been fulfilled, the conclusions are very likely to alter
+	some of the checklist criteria have been fulfilled. Where they have not been fulfilled or not adequately described, the conclusions are unlikely to alter
-	few or no checklist criteria have been fulfilled and the conclusions are likely or very likely to alter

Table 2: Detailed methodological quality assessment

INTERVENTIONAL STUDIES										
		Downing, STIJ 2013	Malotte STD 2004	Gotz BMC Infect Dis 2013	Sparks STD 2004	Xu Obstetr Gynacol 2007	Cook STIJ 2007	Bourne STIJ 2011	Zou PLoS One 2013	Guy STIJ 2013
	Study type	RCT	RCT	RCT	RCT	RCT	RCT	Non-randomised before and after	Non-randomised before and after	Non-randomised before and after
POPULATION	Source population	+	+	+	+	+	+	+	+	+
	Representativeness	+	+	+	+	+	+	+	+	+
	Method of selection of participants	+	+	++	+	+	++	+	-	+
ALLOCATION	Minimisation of selection bias	++	++	++	++	++	++	-	-	-
	Description of interventions and comparisons	++	+	+	++	++	+	++	++	++
	Allocation concealment	+	++	++	+	++	++	N/A	N/A	N/A
	Blinding	++	+	+	+	-	+	-	-	-
	Exposure	-	++	+	++	+	++	+	+	+
	Contamination	++	++	++	++	++	++	++	++	++
	Similar intervention in both groups	++	+	++	+	+	++	++	++	++
	Loss to follow up	++	++	++	++	+	++	++	++	++
	UK setting	+	+	+	+	+	+	+	+	+
	UK practice	++	+/-	+	++	+	-	+	-	+
OUTCOMES	Reliability	++	++	++	++	++	++	++	++	++
	Completeness	++	++	++	++	-	++	++	++	++
	Importance of outcomes	+	+	+	+	+	+	+	+	+

	Relevance of outcomes	++	++	++	++	++	++	++	++	++
	Similarity of follow up times	++	++	++	++	++	++	++	++	++
	Relevance of follow up times	++	++	++	++	+	+	++	++	++
ANALYSES	Confounding	++	+	+	+	++	++	++	++	++
	ITT	++	++	++	++	+	++	++	-	++
	Power	++	+	+	-	-	++	+	+	+
	Effect estaimtes	++	++	++	++	++	++	++	++	++
	Analytic methods	+	++	++	++	++	++	++	++	++
	Precision	+	+	++	-	-	++	++	++	++
SUMMARY	Internal validity	+	+	+	+	+	++	+	+	+
	External validity	+	-	-	-	-	-	-	-	-

OBSERVATIONAL STUDIES							
		Harte STIJ 2010	Bloomfield STIJ 2003	Gotz STIJ 2013	LaMontagne STIJ 2007	Walker PLoS One 2012	Cameron Human Reprod 209
POPULATION	Source population	+	+	+	+	+	+
	Representativeness	+	+	+	+	+	+
	Method of selection of participants	++	++	++	++	+	+
ALLOCATION	Minimisation of selection bias	+	-	++	++	++	+
	Explanatory variables based on theory	+	-	++	++	-	-
	Low contamination	N/A	N/A	N/A	N/A	N/A	N/A
	Confounders controlled/adjusted	N/A	N/A	N/A	N/A	N/A	N/A
	Applicable to UK setting	++	+	+	+	+	++
OUTCOMES	Reliability	++	+	++	++	++	++
	Completeness	++	++	++	++	++	++
	Importance of outcomes	+	+	+	+	+	+
	Similarity of follow up times	N/A	N/A	N/A	NA	N/A	N/A
	Relevance of follow up times	++	-	+	++	++	++
	Low withdrawal rate	++	++	++	++	++	++
ANALYSES	Power	-	-	-	++	++	++
	Multiple exlpanatory variables	+	-	++	++	+	+
	Analytic methods and adjust for confounders	++	++	++	++	++	++
	Precision	++	++	++	++	++	++
SUMMARY	Internal validity	+	+	++	+	+	+
	External validity	-	-	-	-	-	-

Annex 3: Full search strategy

Search terms

1. HIV
2. STI OR sexually transmit* infection OR sexually transmit* disease OR Chlamydia OR gonorrh*
3. test* OR screen*
4. remind* OR recall OR repeat* OR rescreen* OR text OR SMS OR short message service OR mobile OR email OR phone* OR mobile phone OR telephone
5. (1 OR 2) AND 3 AND 4

Annex 4: Funnel plots

Figure 2: Funnel plot of the log odds ratio of reattendance plotted against the standard error of the log odds ratio of reattendance for randomized control trials

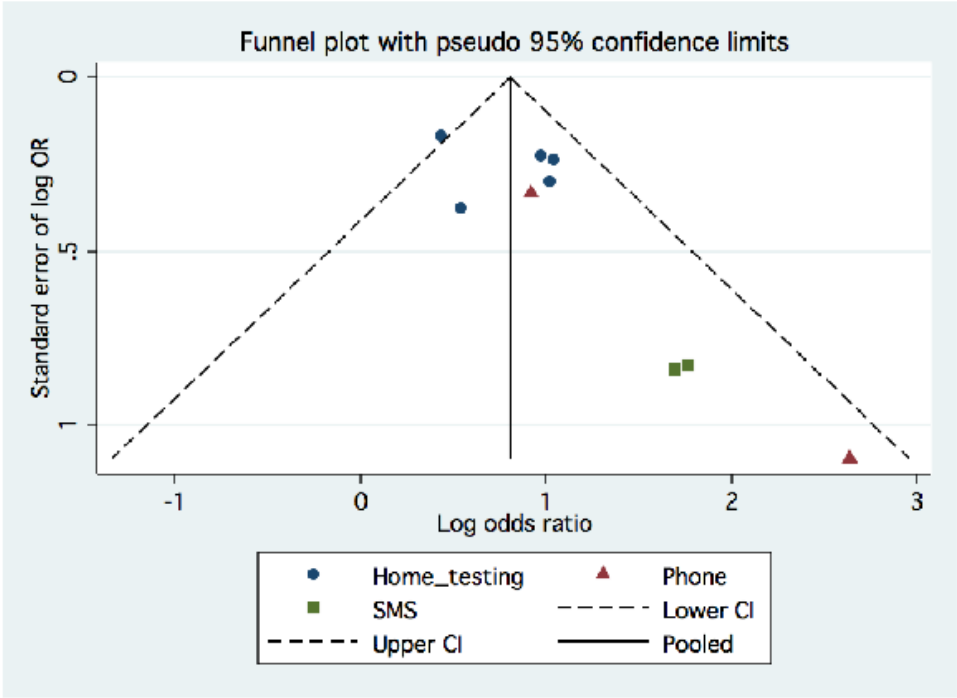
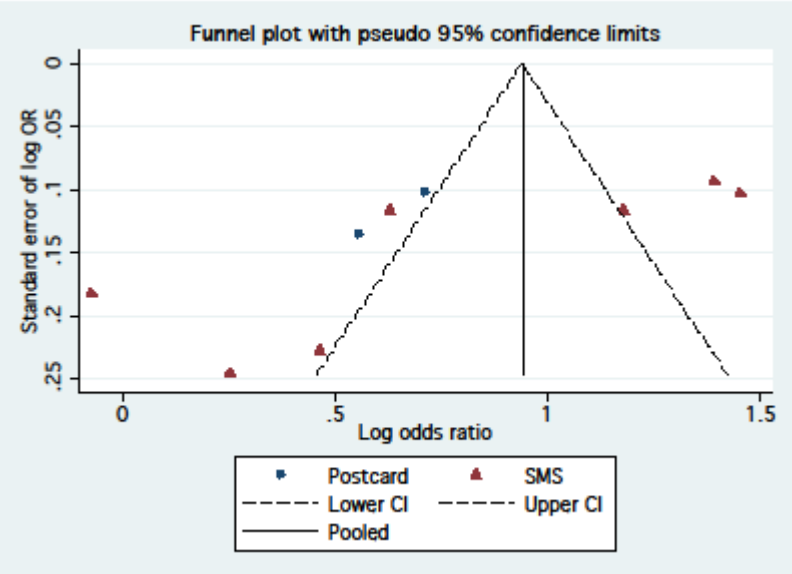

Funnel plot with pseudo 95% confidence limits
Standard error of log OR
0
.5
1
-1
0
1
2
3
Log odds ratio
Home_testing
Phone
SMS
Lower CI
Upper CI
Pooled

Figure 3: Funnel plot of the log odds ratio of reattendance plotted against the standard error of the log odds ratio of reattendance for observational studies



Annex 5: Clinical outcomes

Table 3: Clinical outcome for randomised control trials

STUDY	Number of new infection at retest (number of infections/number who retest)				Number of new infections at recall (number of infections/number who are recalled)		
	Clinical outcome	**Intervention group**	**Control group**	**Crude OR (95% CI), statistical finding [2]**	**Intervention group**	**Control group**	**Crude OR (95% CI), statistical finding[2]**
		n/N	**n/N**		**n/N**	**n/N**	
Type of intervention: SMS							
Downing et al STIJ 2013[1]	Chlamydia infection at retest	2/8 (25%)	0/2 (0%)	N/A	2/30 (7%)	0/32 (0%)	N/A
Type of intervention: Phone call/ letter							
Malotte et al STD 2004 USA	Chlamydia infection at second re-test (i.e. 4.5 months after baseline)	Not available for all patients	N/A	N/A	N/A	N/A	N/A
Type of intervention: send home sampling kit							
Gotz et al BMC Infect Dis 2013[1]	Chlamydia infection at retest	8/50 (16%)	5/25 (20%)	OR= 0.8 95% CI (0.2, 2.6)	8/109 (7%)	5/107 (5%)	Calc OR= 1.6 (Calc 95% CI 0.4, 6.5)
Sparks et al STD 2004	Chlamydia or gonorrhoea infection at retest	Not available for all patients	N/A	N/A	N/A	N/A	N/A

Xu et al Obstetr Gynacol 2011[1]	Chlamydia infection at retest	STI clinic recruits: 17/122 (13.9% ; 95% CI 8.3-21.4) FP recruits: 12/93 (12.9% ; 95% CI 6.9-21.5)	STI clinic recruits: 19/98 (19.4% ; 95% CI 8.3-21.4) FP recruits: 8/55 (14.6% ; 95% CI 6.5-26.7)	STI clinic group: calc OR= 0.7 (calc 95% CI 0.3, 1.5) FP group: calc OR= 0.9 (calc 95% CI 0.3, 2.6)	STI clinic recruits: 17/408 (4.2%) FP recruits: 12/196 (6.1%)	STI clinic recruits: 19/403 (4.7%) FP recruits: 8/208 (3.8%)	STI clinic group: calc OR= 0.9 (calc 95% CI 0.4, 1.8) FP group: calc OR= 1.6 (calc 95% CI 0.6, 4.7)
Cook et al STIJ 2007	STDs	20.4 per 100 py	24.1 per 100 py	N/A	N/A	N/A	N/A

1. Where number of new infections at retest is not provided by the paper, it has been calculated
2. OR and 95% CI is calculated where not provided in the paper and is specified as 'calc OR' or 'calc 95% CI'

Table 4: Clinical outcome for observational studies

STUDY	**Number of new infections at retest (number of infections/number who retest)**				**Number of new infections at recall (number of infections/number who are recalled)**		
	Clinical outcome	**Intervention group**	**Control group**	**Crude OR (95% CI), statistical finding**	**Intervention group**	**Control group**	**Crude OR (95% CI), statistical finding**
		n/N	**n/N**		**n/N**	**n/N**	
Type of intervention: SMS							
Bourne et al STIJ 2011	Not reported	N/A	N/A	N/A	N/A	N/A	N/A

Zou et al PLoS One 2013	Bacterial STI (chlamydia, gonorrhoea, syphilis), HIV	pharyngeal Gc: 16/885 (1.8%) Rectal Gc: 24/885 (2.7%) Urethral Ct: 26/885 (2.9%) Rectal Ct: 51/885 (5.8%) Early STS: 25/885 (2.8%) Early latent STS: 12/885 (1.4%) HIV: 7/885 (0.8%)	1. Concurrent control group: Pharyngeal Gc: 13/978 (1.3%) Rectal Gc: 12/978 (1.2%) Urethral Ct: 14/978 (1.4%) Rectal Ct: 27/978 (2.8%) Early STS: 15/978 (1.5%) Early latent STS: 4/978 (0.4%) HIV: 3/978 (0.3%) 2. Historic control group: Pharyngeal Gc: 11/1454 (0.8%) Rectal Gc: 14/1454 (1.0%) Urethral Ct: 14/1454 (1.0%) Rectal Ct: 22/1454 (1.5%) Early STS: 30/1454 (2.1%) Early latent	1. Concurrent control: Pharyngeal Gc: calc OR= 1.4 (calc 95% CI 0.6, 3.1) Rectal Gc: calc OR=2.2 (calc 95% CI 1.1, 5.0) Urethral Ct: calc OR=2.1 (calc 95% CI 1.0, 4.3) Rectal Ct: calc OR=2.2 (calc 95% CI 1.3, 3.6) Early STS: calc OR=1.9 (calc 95% CI 0.9, 3.8) Early latent STS: calc OR=3.3 (calc 95% CI 1.0, 14.3) HIV:calc OR=2.6 (calc 95% CI 0.6, 15.7) 2. Historical control: Pharyngeal GC: calc OR= 2.4 (calc 95% CI 1.0, 5.8) Rectal Gc: calc OR=2.9 (calc 95% CI 1.4, 6.0) Urethral Ct:calc OR=3.1 (calc 95% CI 1.6, 6.5) Rectal Ct: calc OR=4.0 (calc 95% CI 2.3, 6.9) Early STS: calc OR=1.4 (calc 95% CI 0.8, 2.4) Early latent STS: calc OR=1.3 (calc 95% CI 0.6, 3.0)	pharyngeal Gc: 16/997 (1.6%) Rectal Gc: 24/997 (2.4%) Urethral Ct: 26/997 (2.6%) Rectal Ct: 51/997 (5.1%) Early STS: 25/997 (2.5%) Early latent STS: 12/997 (1.2%) HIV: 7/997 (0.7%)	1. Concurrent control group: Pharyngeal Gc: 13/1382 (1.3%) Rectal Gc: 12/1382 (1.2%) Urethral Ct: 14/1382 (1.4%) Rectal Ct: 27/1382 (2.8%) Early STS: 15/1382 (1.5%) Early latent STS: 4/1382 (0.4%) HIV: 3/1382 (0.3%) 2. Historical control group: Pharyngeal Gc: 11/1800 (0.7%) Rectal Gc: 14/1800 (0.7%) Urethral Ct: 14/1800 (0.8%) Rectal Ct: 22/1800 (1.5%) Early STS: 30/1800 (0.8%) Early latent STS: 15/1800 (0.2%) HIV: 10/1800 (0.2%)	1. Concurrent control: Pharyngeal Gc: calc OR= 1.7 (calc 95% CI 0.8, 3.9) Rectal Gc: calc OR=2.8 (calc 95% CI 1.3, 6.2) Urethral Ct: calc OR=2.6 (calc 95% CI 1.3, 5.4) Rectal Ct:calc OR=2.7 (calc 95% CI 1.7, 4.5) Early STS: calc OR=2.4 (calc 95% CI 1.2, 4.8) Early latent STS: calc OR=4.2 (calc 95% CI 1.3, 17.9) HIV:calc OR=3.2 (calc 95% CI 0.7, 19.5) 2. Historical control: Pharyngeal GC calc OR= 2.7 (calc 95% CI 1.1, 6.3) Rectal Gc: calc OR=3.1 (calc 95% CI 1.6, 6.6) Urethral Ct:calc OR=3.4 (calc 95% CI 1.7, 7.1) Rectal Ct: calc OR=4.4 (calc 95% CI 2.6, 7.6) Early STS: calc OR=1.5 (calc 95% CI 0.8, 2.7) Early latent STS: calc OR=1.4 (calc 95% CI 0.6, 3.3) HIV: calc OR=1.3 (calc 95% CI 0.4, 3.7)

			STS: 15/1454 (1.0%) HIV: 10/1454 (0.7%)	HIV: calc OR=1.2 (calc 95% CI 0.4, 3.4)			
Burton et al STIJ 2013	All STIs	15/91 (17%)	13/90 (14%)	Calc OR = 1.2 (calc 95% CI 0.5, 2.9)	15/273 (5.5%)	13/266 (4.90%)	Calc OR= 1.1 (calc 95% CI 0.5, 2.6)
Guy et al STIJ 2013	Not reported	N/A	N/A	N/A	N/A	N/A	N/A
Type of intervention: Phone							
Harte et al STIJ 2011	Bacterial STI (chlamydia, gonorrhoea, syphilis, LGV), HIV	Acute bacterial STI: 15/206 (7.3%) HIV:5/168 (3.0%)	N/A	N/A	N/A	N/A	N/A
Type of intervention: Postcard/letter							
Paneth-Pollack et al STD 2010	Chlamydia and gonorrhoea infection at retest	22/179 (12.30%)	1. Non-intervention group: 58/288 (20.1%) 2. Historic control: 24/94 (25.5%)	1. Non- intervention group: calc OR= 0.6 (calc 95% CI 0.3, 1.0) 2. Pre-intervention group: calculated OR= 0.4 (calc 95% CI 0.2, 0.8)	22/1267 (1.70%)	1. Non-intervention group: 58/3861 (1.5%) 2. Historic control: 24/1092 (2.2%)	1. Non- intervention group: calc OR= 1.1 (calc 95% CI 0.7, 1.9) 2. Pre-intervention group: calculated OR= 0.8 (calc 95% CI 0.4, 1.5)
Type of intervention: send home sampling kit							
Bloomfield et al STIJ 2003	Chlamydia infection at retest	2/63 (3.2%)	N/A	N/A	2/399 (0.50%)	N/A	N/A
Gotz et al STIJ 2013	Chlamydia reinfection	242/2756 (8.8%)	n/a	n/a			

LaMontagne et al STIJ 2007	Chlamydia infection at retest	GP recruits: 29.9 (95% CI 19.7-45.4) per 100py FP recruits: 22.3 (95% CI 15.6-31.8) per 100 py	N/A	N/A	N/A	N/A	N/A
Walker et al PLoS One 2012	Chlamydia infection at retest	3 months: 7/40 (18%) 6 months: 25/884 (3%) 12 months: 15/874 (2%)	N/A	N/A	N/A	N/A	N/A
Cameron et al Hum Reprod 2009	Chlamydia infection at retest	32/215 (15%)	N/A	N/A	32/330 (9.70%)	N/A	N/A