

## Multimedia Appendix 1

Table S1: GUMCAD codes available from

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/420625/GUMCADv2\\_SHHAPT\\_Code\\_Look-up.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/420625/GUMCADv2_SHHAPT_Code_Look-up.pdf)

DIAGNOSIS, CONDITION OR DISEASE		SHHAPT	DIAGNOSIS, CONDITION OR DISEASE		SHHAPT	
Balanitis / vaginitis / vaginosis (other causes)		C6C	Other conditions requiring treatment		D2B	
BV* & anaerobic balanitis		*Bacterial vaginosis C6B	Pediculosis pubis		C9	
Candidosis		C7	PID & epididymitis		C5A	
Cervical cytology	Minor abnormality	P4A	Pregnant	1st trimester (1-12 weeks)	PR1	
	Major abnormality	P4B		2nd trimester (13-28 weeks)	PR2	
Chancroid		C1		3rd trimester (29 weeks - full term)	PR3	
Chlamydia		C4	Scabies		C8	
Donovanosis		C3	Sexual assault	Acute - medical exam within 7 days	40	
Gonorrhoea		B		Non-acute - medical exam more than 7 days	41	
Hepatitis	A - acute infection	C15	Shigella	Flexneri	SG1	
	B - 1st diagnosis	C13		Sonnei	SG2	
	C - 1st diagnosis	C14		Other / unspecified	SG3	
Herpes (genital)	1st episode	C10A	Syphilis	Primary	A1	
	Recurrent episode	C10B		Secondary	A2	
HIV	Known positive	H		Early latent	A3	
	New diagnosis	H1		Cardiovascular	A4	
	New diagnosis – acute infection	H1A		Neurosyphilis	A5	
	New diagnosis – AIDS defined	H1B		Other late and latent	A6	
HIV related care	H2	Congenital		A7A		
LGV	Lymphogranuloma venereum	C2	Trichomoniasis		C6A	
Molluscum contagiosum		C12	UTI	Urinary tract infection	D2A	
Mycoplasma genitalium		C16	Warts (genital)	1st episode	C11A	
NSGI		Non specific genital infection C4N		Recurrent episode	C11D	
Ophthalmia neonatorum		C5B				
SERVICES PROVIDED		SHHAPT	SERVICES PROVIDED		SHHAPT	
Cervical cytology done		P4	Patient type	Prisoner	Z	
Contraception		P3		Sex worker	SW	
Hepatitis B immune		P2I		Sexual & reproductive health	SRH	
Hepatitis B vaccination	1 <sup>st</sup> dose	P2A	PEPSE	Post exposure prophylaxis sexual exposure	PEPS	
	2 <sup>nd</sup> dose	P2B		Referral type	from NCSP	REF1
	3 <sup>rd</sup> dose	P2C			to GUM (Level 3)*	REF2
	4 <sup>th</sup> dose	P2D	from home testing / sampling	REF3		
	Booster	P2E	Testing -	HIV	HIV antibody test	P1A
HPV vaccination	1 <sup>st</sup> dose	W1			HIV test offered & refused	P1B
	2 <sup>nd</sup> dose	W2			HIV test not appropriate	P1C
	3 <sup>rd</sup> dose	W3		STIs	Chlamydia only	T1
No service and/or no treatment required		D3			Chlamydia & gonorrhoea	T2
Partner notification	Initiated*	PN			Chlamydia, gonorrhoea & syphilis	T3
	Chlamydia contact	PNC			Chlamydia, gonorrhoea, syphilis & HIV	T4
	Gonorrhoea contact	PNG			HSV (herpes simplex virus)	T5
	HIV contact	PNH			Hepatitis A / B / C	T6
	NSGI contact	PNN			Syphilis & HIV	T7
	PID / epididymitis contact	PNP	Self sampling (no HCW consultation)	T8		
Syphilis contact	PNS	STI tests not required	T9			
Trichomoniasis contact	PNT	Rapid testing (same day results)	T10			
			Microscopy	TS		
			3 site testing	TT		
SUFFIX NAME	VALID SHHAPT CODE	SUFFIX	SUFFIX NAME	VALID SHHAPT CODE	SUFFIX	
Diagnosed previously elsewhere	A1, A2, A3, A4, A5, A6 A7A, B, C4, C6A, H1, H1A, H1B	X	Pharyngeal infection	B, C2, C4	O	
			Quadrivalent HPV vaccine	W1, W2, W3	Q	
Medication given*	B, C4, C10A, C10B, C11A, C11D	M	Rectal infection	B, C2, C4, C4N	R	

\*For use in Level 2 (non-GUM) services. © Crown copyright 2015

Table S2: Use of GUMCADv2 codes to categorise sexual health attendances

	GUMCAD codes			
Label	SHHAPT	SHRAD	Contraception	Description
<i>Simple service use e.g. STI testing / contraception / advice</i>				
<b>STI test (simple)</b>	T1, T2, T3, T4, TT, T8, T7, P1A			Chlamydia, gonorrhoea, syphilis, HIV, Syphilis, self-sampling
<b>Other (simple)</b>	P3, A1, A2, A3, A5, A6, B (O,R), C4 (O,R), H, H1, H1B, H1A, D3, PN, PNC, PNG, PNS, P1B, P1C, P3, SW,SRH, T9	1	5, 6, 7, 8, 12	Simple contraception STI diagnosis: (Chlamydia, gonorrhoea, syphilis, HIV) Advice / health promotion / partner notification
<i>Complex visit (requiring face-face clinic visit or physical exam/intervention)</i>				
<b>Complex visit</b>	T5, T6, T10, TS, C6C, C6B, C7, C1, C3, C15, C13, C14, C10A(M), C10B(M), C2, C12, C16, C4N(R), C5B, D2B, C9, C5A, C8, SG1, SG2, SG3, A7A, C6A, D2A, C11A(M), C11D(M), C2R, C4N(R), C6A, P4A, P4B, P2A, P2B, P2C, P2D, P2E, W1(Q), W2(Q), W3(Q), PEPS, H2, P4, (P2I), PR1, PR2, PR3, 40, 41, PNN, PNT, REF1, REF2, REF3	34,19, 20, 21, 22, 23, 35, 36, 29L, 29C, 11, 14, 15, 16,17, 18, 24, 25,26, 37, 38, 39, (29G, 29D), 4, 5, 6, 7, 8, 9, 10, 2, 3, 27, 28, 29, 12, 13, 30, 31, 32, 33,	1, 2, 3, 4, 9, 10, 11, 13	Other STI test: HSV, Hepatitis (A,B or C), Microscopy, symptoms/ Diagnosis/ conditions other than above, Other contraception e.g intrauterine device insertion or removal, Other interventions /vaccination /surgical, Abortion & related, Pregnancy & related, Other services e.g. Sexual assault, referral, to psychosexual counselling

#### Equation E1: Positivity definition

STI diagnosis was extracted based on the GUMCAD codes. Positivity is calculated as follows

$$\text{Positivity} = \frac{\text{Number positive}}{(\text{Number positive} + \text{Number negative})}$$

For SH24 data each line includes the STI test and the result of that test, so positivity calculation is straightforward. In clinic settings positive results and treatment codes are assigned to the original test record, however diagnosis codes may also appear without associated test records (e.g. if an individual has been diagnosed elsewhere). This could include individuals who had been diagnosed via the online service and referred to clinic for treatment. We therefore calculate clinic positivity as number of positive diagnoses/total test records.

## Supplementary analysis

Supplementary analysis of those who did and did not complete online testing following triage and signposting in Q3 2016.

Complete information on age, gender, sexual orientation and ethnicity were available for 1240/1266 individuals who were directed to online testing via triage and signposting. We used logistic regression to identify any differences in completion rate according to these factors.

Table S3 Supplementary comparison of individuals who received triage and signposting to use online testing who did and did not complete the testing process

	Completed test (n=1,240)	Adjusted Odds Ratio (AOR)	p value	95% Conf. Interval	
Gender	Male	REF			
	Female	0.66	.002	0.51	0.86
Ethnic group	White	REF			
	Mixed	1.02	0.93	0.67	1.55
	Asian	1.61	0.35	0.60	4.36
	Black or black British	0.97	0.83	0.73	1.29
	Other	0.83	0.55	0.45	1.53
Sexual orientation	Heterosexual	REF			
	Homosexual	0.71	0.14	0.46	1.12
	Bisexual	1.50	0.18	0.83	2.71
	age	1.00	0.87	0.99	1.02
	Constant	2.94	0	1.82	4.76

Women appeared less likely to complete the testing process than men (AOR 0.66, CI 0.51 to 0.86), but there was no statistically significant effect of age, ethnic group or sexual orientation.