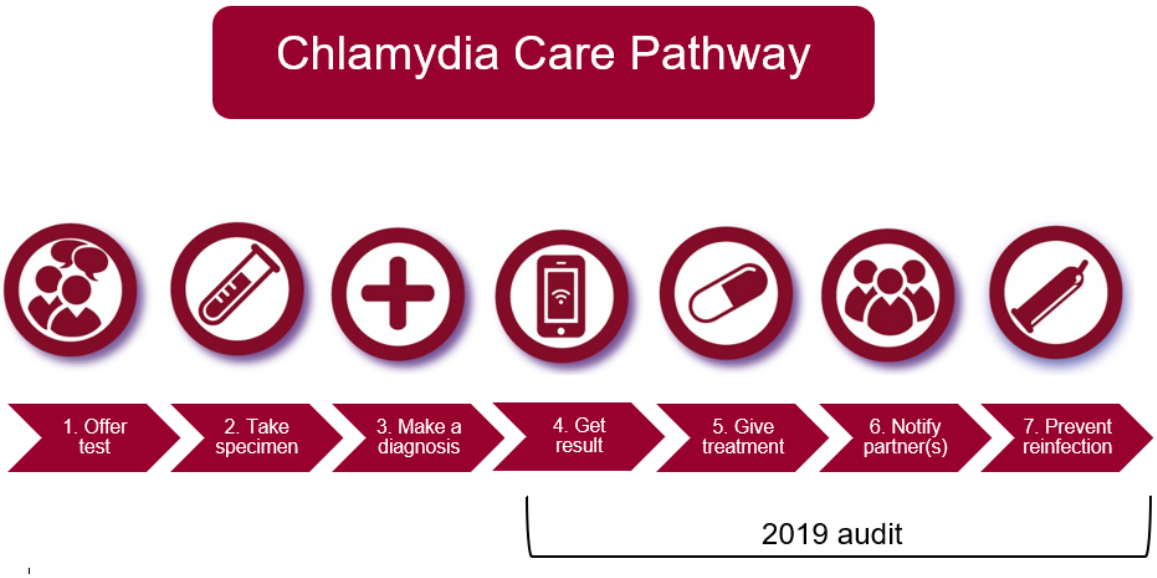
Public Health England

Protecting and improving the nation's health

National Chlamydia Screening Programme

2019 report on audit of turnaround times, partner notification and re-testing standards



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Executive summary

This report contains the findings of the 2019 National Chlamydia Screening Programme (NCSP) audit of time to result notification and treatment, partner notification and re-testing against the NCSP's Standards (National Chlamydia Screening Programme standards (seventh edition) updated November 2019). The standards for time to result notification, time to treatment and partner notification (PN) have not been met (Table 1) and are worse compared to the 2017 audit findings. The proportion of patients re-tested for chlamydia around 3 months after treatment has increased from 7% in 2017 to 10% in 2019.

Table 1. NCSP 2019 audit results England

Component	Auditable Outcome Measure	Standard	Previous audit results (year of audit)	2017	2019
Result notification	Proportion of those tested that received their result within 10 workings from date of test	95%	94% (2014)	90%	89% ↓
Time to treatment	Proportion of young people found to be positive that received treatment within 6 working weeks from date of test	95%	91% (2014)	92%	91% ↓
Partner notification	The proportion of index cases that were offered a PN discussion	97%	92% (2015)	94%	93% ↓
Partner notification	The number of contacts per index case that were reported as having attended a sexual health service within 4 working weeks of date of PN discussion	0.6	0.53 (2015)	0.42	0.32 ↓
Re-testing	The proportion of young people with chlamydia that re-turned for a re-test around 3 months after treatment	NA	8% (2015)	7%	10% ↑

It is important that providers and commissioners review their local data as well as these national results to help drive service improvement. Where results appear good, please share these and the practice behind the data via local networks. To support service improvement, recommendations across the standards are set out below.

The audit results and recommended actions pre-date COVID-19 response, which saw an unprecedented changed in service provision for sexual health services. However, they are still valid and providers and commissioners of chlamydia screening are encouraged to consider them and implement as appropriate. Further support can be provided through the regional sexual health facilitator.

Summary of recommendations

Turnaround times

The following recommendations apply to turnaround times:

- ensure that the date of result notification is recorded and that services do not use a 'no news is good news' policy (in line with NCSP and BASHH standards)
- ensure systems are in place to record dates for date of test, result notification and treatment to allow standards to be measured
- services with longer turnaround times review systems and processes in place in those services with shortest turnaround times
- improve result notification and treatment turnaround times in general, and for patients with a positive test result in particular

Partner notification

Implementation of the following recommendations will help to improve partner notification:

- strengthen partner notification as this is effective at finding people at risk of infection - the audit data show that 75% of contacts that went on to have a chlamydia test tested positive
- ensure that record keeping in clinics is fit for purpose including at least 2 methods of contacting young people
- ensure record keeping is accurate and retains relevant information on PN
- services with lower PN rates review systems and processes in place in those services with higher PN rates
- ensure pathways are in place from settings such as outreach and online services to enable effective provision of PN for example through linking with local GUM or Integrated Sexual Health Services

Re-testing

To further improve re-testing rates, the following recommendations are relevant:

- improve uptake of offer to re-test, for example services with lower re-test rates can learn from systems and processes in place in those services with higher retest rates
- consider using low or no additional costs recall methods such as automated SMS messages, re-testing conversations at result notification and treatment
- evaluate local recall methods to inform which ones are most effective to increase re-testing
- agree local re-testing targets between commissioners and providers

Introduction

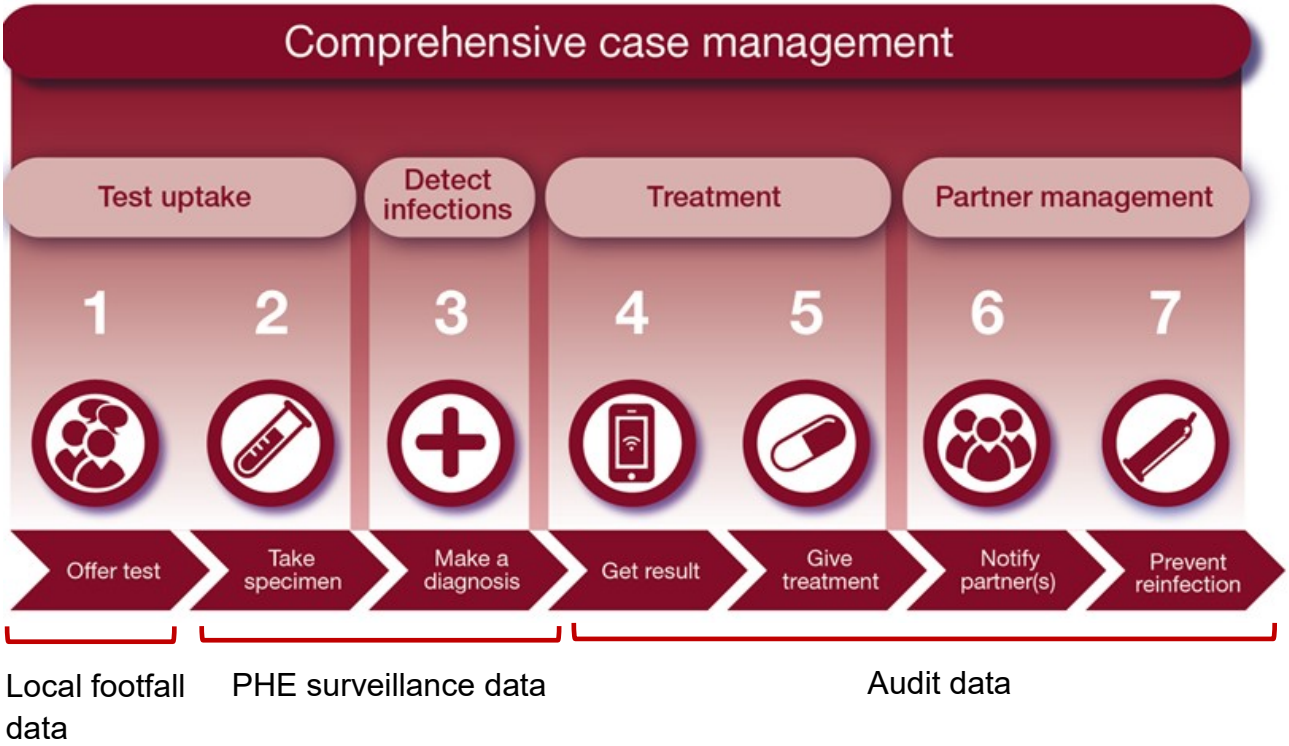
This report contains the findings of the 2019 audit that measured performance against the following 4 standards:

1. result notification
2. time to treatment
3. partner notification (PN)
4. re-testing.

PHE wishes to acknowledge and thank sexual health services providers for their cooperation and submitting data returns for this audit. Due to the COVID-19 response, the publication of these national audit results was delayed. The audit took place in 2019 and therefore pre-date the unprecedented changes in service delivery and provision in response to the pandemic. However, the recommendations are still valid.

PHE supports local areas to review their local chlamydia screening activities and improve the quality of care throughout the NCSP care pathway. Figure 1 shows how a complete dataset can be created through combining 3 data sources to review the entire local chlamydia care pathway, consisting of local, surveillance and audit data. This helps to identify what works well locally and develop action plans to address any bottlenecks in the care pathway. Figure 1 presents the 7 components of the chlamydia care pathway and shows that the audit data presented in this report relate to components 4 to 7.

Figure 1. NCSP Chlamydia Care Pathway



Audit methodology

To obtain the audit data that inform components 4 to 7 of the care pathway, an online audit tool was developed, which was piloted with 3 providers and amended according to their feedback. More details on the audit tool and the audit process are presented in Appendix 1. The audit tool collected data on each of the auditable outcomes (from: National Chlamydia Screening Programme standards (seventh edition) updated November 2019, BASHH Standards for the management of STIs, 2019, and NCSP Guidance on re-testing, 2013) in components 4 to 7 of the care pathway (table 1).

Table 1. Auditable outcome measures

Component	Auditable outcome measure	Standard
Result notification	Proportion of those tested that receive their result within 10 working days from the date of the test	95%
Time to treatment	Proportion of young people found to be positive that received treatment within 6 working weeks from the date of the test	95%
Partner notification	Proportion of index cases that were offered a partner notification (PN) discussion	97%
Partner notification	The number of contacts per index case that were reported as having attended a sexual health	0.6
Re-testing	Proportion of young people with chlamydia that re-turned for a re-test around 3 months after treatment	NA

Invitations to participate were emailed on 3 June 2019 to a distribution list of providers of chlamydia screening through PHE's network of sexual health facilitators across England. The invitation was also copied to sexual health commissioners to enable them to forward it to providers they have contracted to provide chlamydia screening. In addition, the British Association of Sexual Health and HIV (BASHH) National Audit Group members also distributed the invitation across its network of regional audit chairs.

After registration of those who wished to take part, audit data was collected between 11 September and 23 October. Providers were asked to submit a total of 50 records, comprising 40 consecutive positive patients and 10 consecutive negative patients (for whom not all data fields were required) from 31 March 2019, going back in time until 50 records were found using a case note review or analysing electronic patient record (EPR) systems. Using the report function of the online tool, local audit results could be downloaded from March 2020.

The following points are worth noting. As a consequence of the audit sample comprising of 40 patients found to be positive and 10 patients found to be negative, the results are biased toward patients with a positive test result. Services screening for chlamydia will typically have more

young people with a negative test result than a positive test result. If local result notification is reported using all young people testing in a certain period, the outcomes are likely to be different.

This is confirmed by the finding in this audit that turnaround time performance was better for those with a negative result compared to those with a positive result. From a public health perspective, prompt result notification is essential for those found to be positive for chlamydia to help reduce onward transmission and provide timely treatment.

Where result notification dates were missing in the audit data set, it was assumed that the standard was not met. This therefore includes missing notification dates due to not being able to contact the young person, operating a telephone result notification system or using a ‘no news is good news’ policy.

To calculate the PN standard, contacts were counted if they attended a sexual health service within 20 days following the date of PN discussion with the index patient. Any contacts seen before the PN discussion date, or after 20 days, are excluded as meeting the standard. Therefore, a number of contacts may in fact be accessing sexual health services, either before the date of PN discussion with the index patient, or after the 20 days period, but these are not counted as meeting the standard for the PN ratio of 0.6 in this audit (same approach as in the 2017 audit).

Findings

This section reports on the response rate and the performance against the auditable outcome standards. It presents the results against the standards and compares these to previous audit findings.

Response rate

It is unknown how many commissioners or BASHH members may have forwarded the invitation to take part and to how many providers this may have been sent. Out of 152 upper tier local authorities (UTLAs), audit returns that were included in the national data set covered just over half (52%) of UTLAs (51% in 2017). A total of 47 providers participated, resulting in 4200 patient records (as some providers cover more than one UTLA). Table 2 shows the variation in local authority (LA) coverage by PHE Centre, ranging from 98% in Yorkshire and Humber to 24% in London.

Table 2. Audit participation by PHE Centre

PHE Centre	No of LAs	No of LAs in audit	Proportion participating	No of providers	No of patient records
Yorkshire & Humber	15	13	87%	8	650
East of England	11	9	82%	4	450
South East	18	13	72%	8	650
North West	23	15	65%	7	1000
East Midlands	9	4	44%	3	200
North East	12	5	42%	2	250
South West	16	6	38%	6	300
West Midlands	14	5	36%	4	300
London	33	8	24%	5	400
England	151	78	52%	47	4200

Appendix 2 contains the proportions of the records by testing service type.

Overall results

The audit results show that the standards of the auditable outcome measures have not been met. When compared to the previous audit results, performance against the standards have deteriorated across the 4 standards (time to result notification, time to treatment standard, proportion of index cases offered a PN discussion and the number of contacts per index case that attended a sexual health service). The only improvement was in the proportion of young people with chlamydia that returned for a re-test after the recommended 3 months after treatment which increased from 7% to 10%. This has been presented in table 3.

Table 3. NCSP 2019 audit results

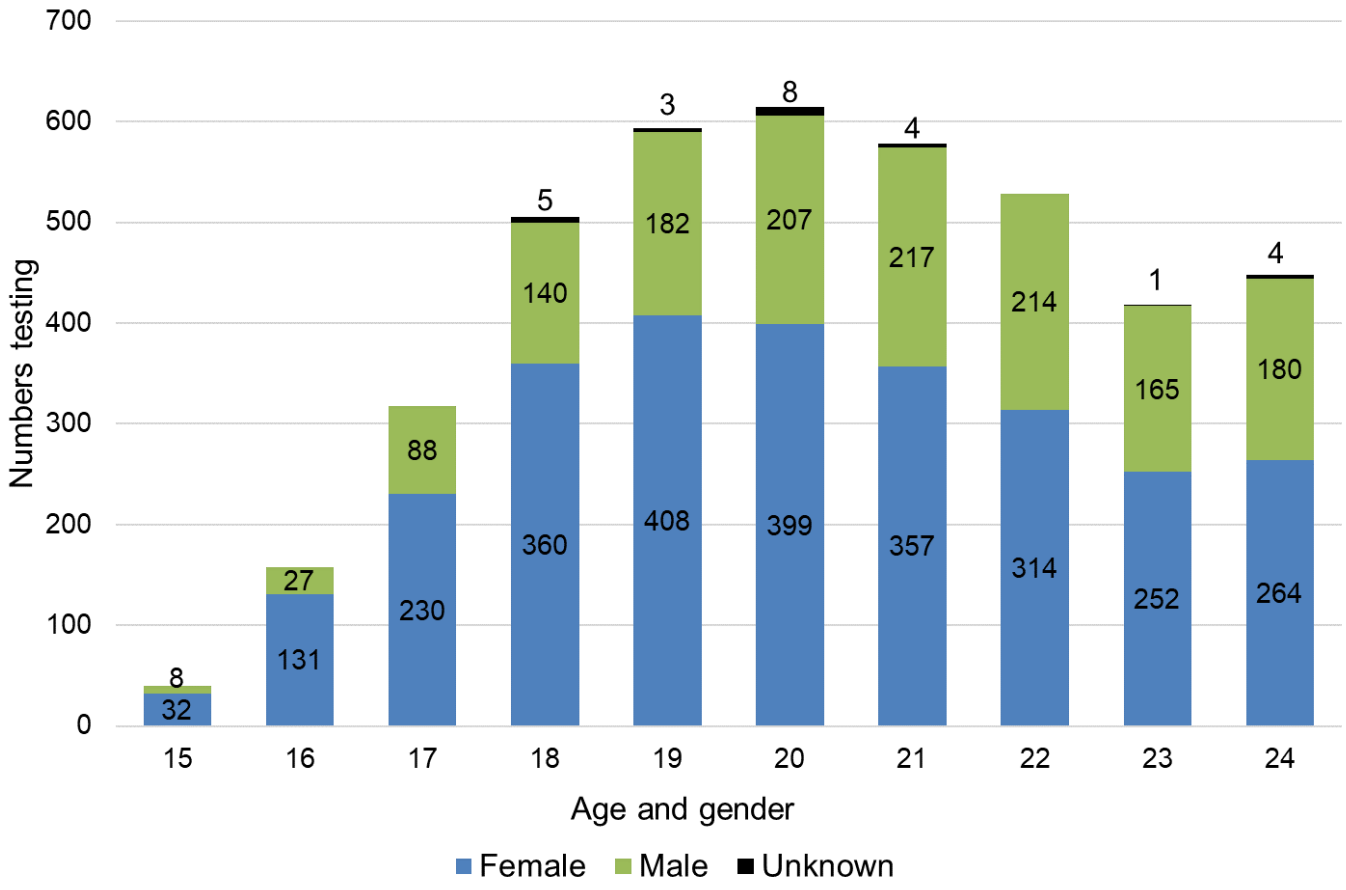
Component	Auditable Outcome Measure	Standard	Previous audit results (year of audit)	2017	2019
Result notification	Proportion of those tested that received their result within 10 workings from date of test	95%	94% (2014)	90%	89% ↓
Time to treatment	Proportion of young people found to be positive that received treatment within 6 working weeks from date of test	95%	91% (2014)	92%	91% ↓
Partner notification	The proportion of index cases that were offered a PN discussion	97%	92% (2015)	94%	93% ↓
Partner notification	The number of contacts per index case that were reported as having attended a sexual health service within 4 working weeks of date of PN discussion	0.6	0.53 (2015)	0.42	0.32 ↓
Re-testing	The proportion of young people with chlamydia that re-turned for a re-test around 3 months after treatment	NA	8% (2015)	7%	10% ↑

The audit sample of 4,200 cases contains 3,360 (80%) young people who tested positive for chlamydia and 840 (20%) who tested negative. For result notification, all 4,200 records have been used for the analysis, whereas for the time to treatment, partner notification and re-testing, where available the data relating to young people with chlamydia (3360) have been used.

Audit sample: Demographics

Like the previous audit, the audit sample comprises nearly twice as many tests from females (2747, 65%) as males (1428, 34%) with 25 (1%) with unknown or not recorded gender. The distribution of age and gender split in the audit sample is presented in chart 1, showing that the majority of tests are in the 18 to 22 age bracket.

Chart 1. Young people testing by age and gender



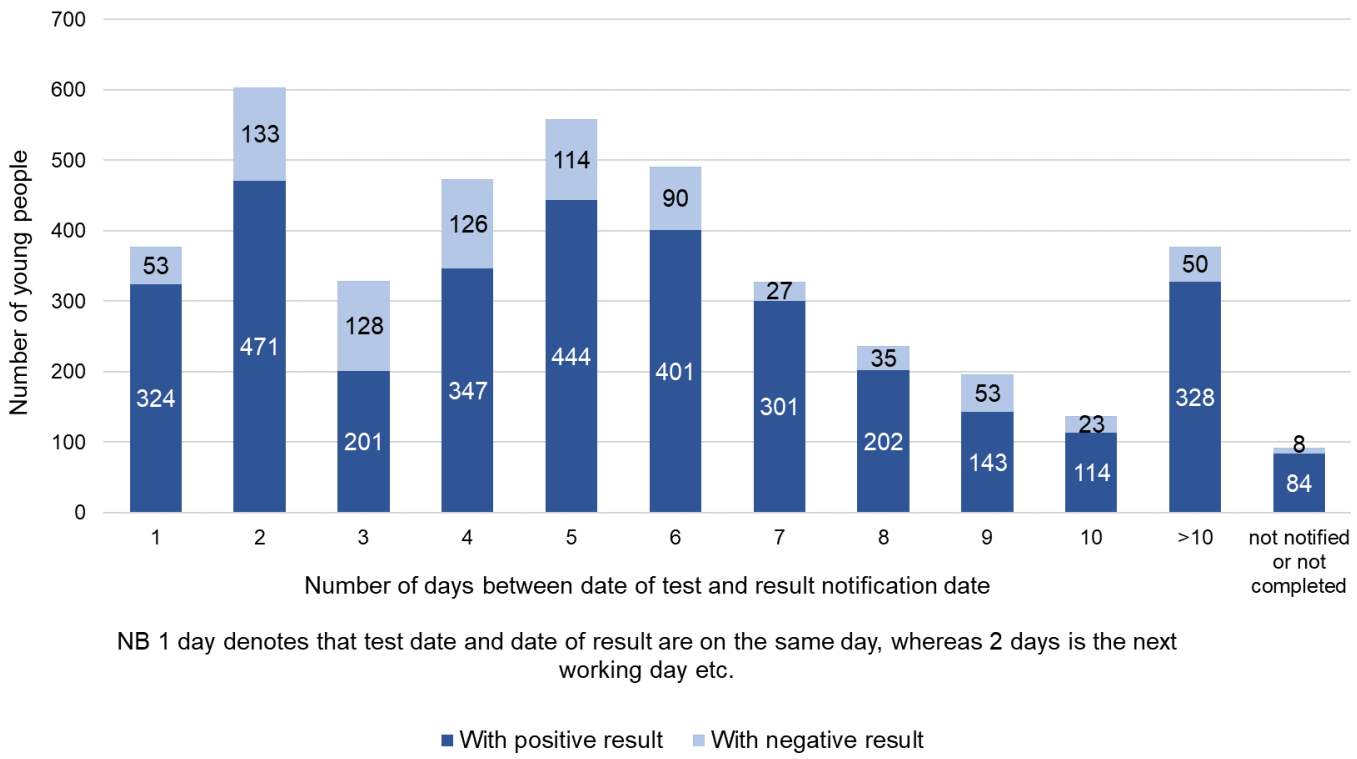
In the following 3 sections, more detailed analyses are presented for each of the standards around turnaround time (result notification and time to treatment), partner notification and re-testing.

Turnaround time standards

Result notification

89% of young people received their result within 10 working days of the test being taken. This does not meet the NCSP standard of 95% and represents a slight deterioration compared to previous audit results (90% in 2017). Of all patients, nearly 380 young people received their result after 10 days (9%), an increase compared to 7% in 2017. For 92 young people (2%), the result notification date was missing, these were considered as 'standard not met'. These numbers are shown in Chart 2 as the frequency distribution in number of days between date of test and date of result notification.

Chart 2. Frequency distribution in number of days to result notification



There was a difference between young people with a positive and negative test result for this indicator. Of those with a negative result, 93% were notified within 10 working days, compared to 88% of those with a positive result. 328 young people (10%) of patients with a positive result received their result after more than 10 days, for those with a negative result this was 6%.

Fast result notification is essential to enable quicker access to treatment and minimise the time the infection can be transmitted. Clinics need to ensure they can record the date of result notification and that results can be notified within 10 working days.

Time to treatment

3,060 young people (3,060/3,360, 91%) of individuals testing positive for chlamydia were treated within 6 weeks (30 working days) of the test date. This is below the standard of 95% and a slight deterioration compared to the last audit result of 92%. This is predominantly due to an increase in the proportion of patients that did not receive or accept treatment from 4% in 2017 to 7% in 2019. The proportion of patients out of all positive patients that received treatment after 30 days went down slightly from 3% in 2017 to 2% in 2019. The calculation has been shown in figure 2.

Figure 2. Proportion of young people treated within 6 working weeks

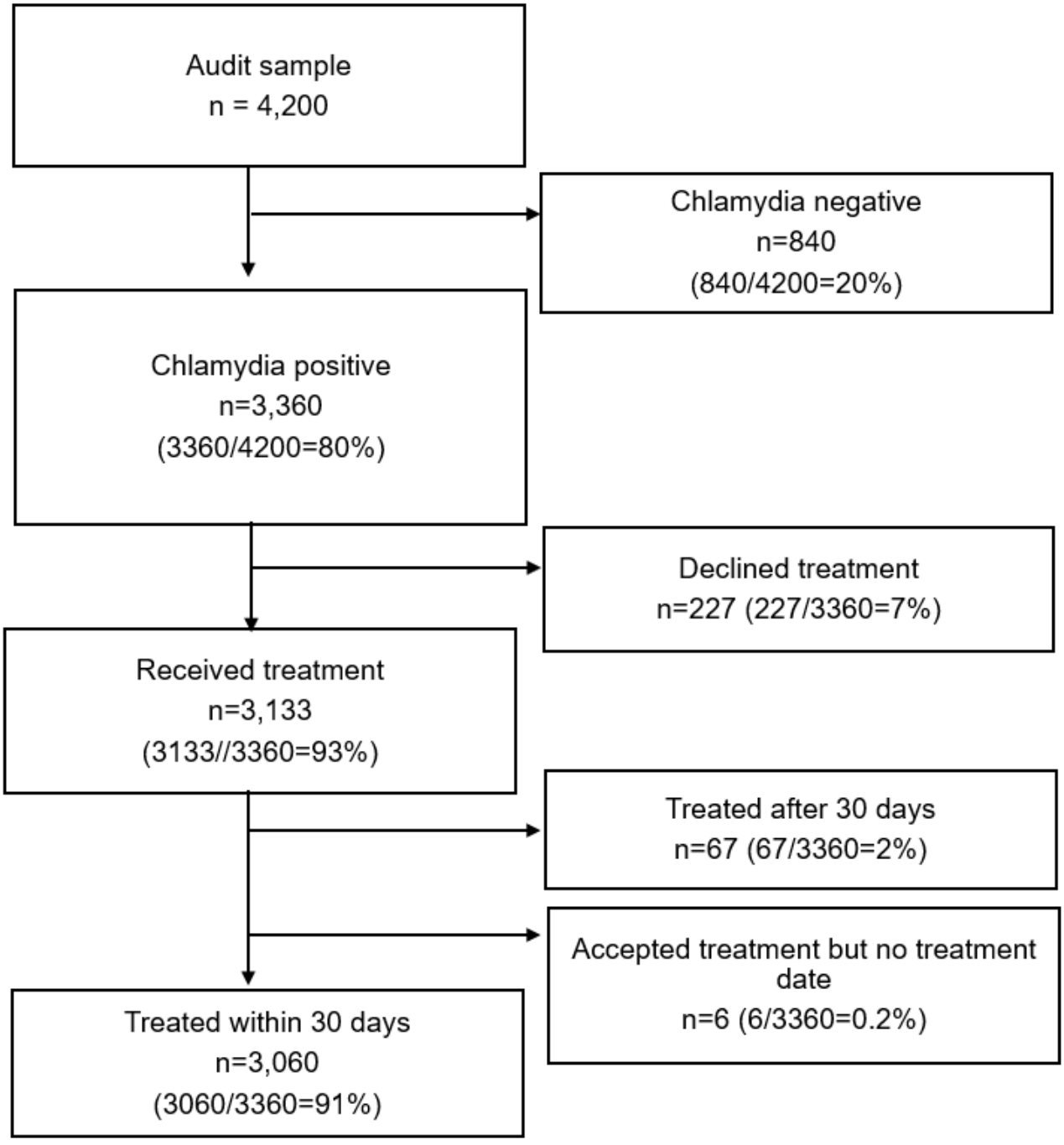
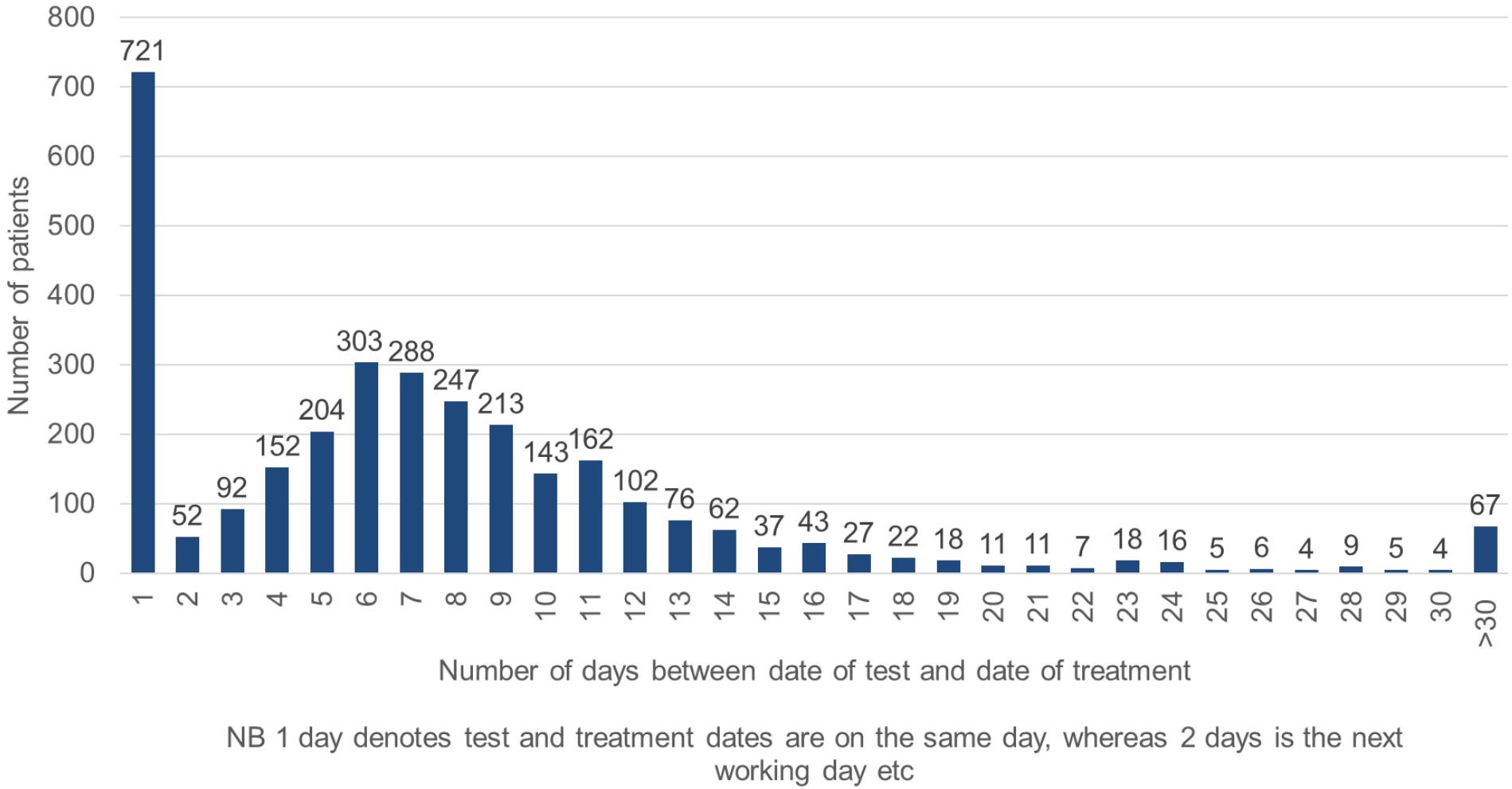


Chart 3 shows the frequency distribution of patients treated by number of working days. Those with '1' day were treated on the day of the test (likely representing epidemiological treatment, n=721).

Chart 3. Frequency distribution in number of days between test and treatment



The number of patients successfully treated may be higher than could be calculated in the audit as nearly 7% (227/3,360) of positive patients were not treated at their testing service type. (For 87 of these it was reported that they were treated elsewhere, for 44 out of these this had been confirmed but no treatment date was available.) It is not known if all were in fact treated or how timely this treatment was.

Turnaround times by testing and treatment service type

The proportion of young people that received their results within 10 days is highest when they test through CASH/SRH clinics (96%) and lowest when tests are undertaken in GUM clinics (75%). The proportion of young people that accepted treatment and that were treated within 6 working weeks is highest when they were treated through a chlamydia screening office and Outreach and education (both 100%, but low in numbers at 54/54 and 16/16 respectively), followed by 99% at SRH/CASH clinics (327/329), and 98% at integrated sexual health clinics (1,631/1,671), and GUM clinics (590/600). Table 4 contains the data for all testing and treatment service types.

227 out of the 3,360 positive young people had not accepted treatment at the service where they had their initial test (and not known if patient was treated elsewhere). This means that the overall percentage of young people being treated within 6 working weeks is 91% (3,060/3,360). The main reasons for not accepting treatment are lost to follow up (107), and young people reported they were treated elsewhere (87, combination of ‘confirmed’ by the service (44), ‘unconfirmed’ by the service (43)).

Table 4. Turnaround standards by test result and testing or treatment service type

	Number of young people tested (a)	**Number notified within 10 days (b)**	**% (b/a)**	**Number of young people treated/not treated (c)**	**Number treated within 30 days (d)**	**% (d/c)**
Audit sample:	4,200	3,730	89			
Negative result	840	782	93			
Positive result	3,360	2,948	88			
Audit sample:	4,200	3,730	89	3,360	3,060	91
ISH service	1,919	1,686	88	1,671	1,631	98
Remote testing/postal treatment	910	853	94	26	25	96

SRH/CASH clinic	379	365	96	329	327	99
GUM clinic	296	222	75	600	590	98
CSO	203	172	85	54	54	100
GP	179	152	85	167	161	96
Other*	173	158	91	87	79	91
Outreach and education	97	84	87	16	16	100
Community pharmacy	44	38	86	183	177	97
Treatment not accepted				227	NA	

*'Other' comprises: prison or YOI, military, ToP, gynae, A&E or MIU, antenatal and so on.

Partner notification

The sixth component of the chlamydia care pathway comprises indicators relating to partner notification. The results show that the standards (BASHH Standards for the management of STIs, 2019) are not met and have deteriorated compared to the 2017 results. 94% of individuals who tested positive for chlamydia had the offer of PN discussion documented in their records, not meeting the standard of 97%. The number of contacts per index case that were reported as having attended a sexual health service within 4 working weeks of the date of PN discussion was 0.32, see table 5.

Table 5. Partner notification standards measured in this audit

Measure	Standard	Previous audit result (2015)	2017 result	2019 result
The proportion of index cases that were offered a PN discussion	97%	92%	94% ↑	93% ↓
The number of contacts per index case that were reported as having attended a sexual health service within 4 working weeks of date of PN discussion	0.6	0.53	0.42 ↓	0.32 ↓

Offer of PN

Out of all index cases, 3,120 (3,120/3,360, 93%) had a documented offer of PN, not meeting the standard of 97%. Table 6 presents the results by testing service type.

Table 6. Proportion of index cases that were offered PN discussion by testing service type

Testing service type	No of index cases (a)	Documented offer of a PN discussion (b)	% (b/a)
GUM clinic	244	213	87
SRH/CASH clinic	322	296	92
Integrated sexual health service	1,553	1,478	95
GP	151	131	87
Community Pharmacy	31	27	87
Remote testing	680	629	93
Outreach and education	77	74	96
CSO	153	144	94
Other*	149	128	86
Total	3,360	3,120	93

*'Other' comprises: prison or YOI, military, ToP, gynae, A&E or MIU, antenatal and so on.

208 were not offered PN (208/3,360, 6%), and for a further 32 index cases (32/3,360, 1%) this field was left blank. The main reasons for not offering PN were 'no documented evidence of PN' (90/208, 43%), 'Other' (40/208, 19%), followed by 32 cases (32/208, 15%) where no reason was given, and 'Lost to follow up before PN initiated' (13/208, 13%).

PN standard

There were a total of 3,849 contacts for the 3,360 young people with chlamydia, of whom 2,938 (76%) were contactable. For 262 young people out of the 3,360 (12%) patients with a positive chlamydia result, there was no PN discussion date. As the standard requires to calculate the time difference between date of PN with the index case, and date of attendance of a contact, it can not be established whether the PN standard was met.

1,084 contacts (28% of all contacts and 37% of contactable contacts) had an attendance at a sexual health service within 4 weeks following the PN discussion date with the index patient, a PN ratio of 0.32 contacts (1,084/3,360) per index case. If the 262 index cases for which no PN date was provided are excluded from the denominator, the ratio is 0.35 (1,084/(3,360-262). Neither meet the standard of 0.6 and have deteriorated compared to previous audits in 2015

and 2017. Appendix 3 contains more detail on how the data has been used to measure against the PN standard.

Table 7 shows the PN rate by testing service type, calculated using all 3,360 positive index cases in the denominator. The PN rate ranged from 0.27 contacts per index case in SRH/CASH clinics, to 0.42 contacts per index case in GPs and Outreach and education.

Table 7. PN standard of contacts per index case by testing service type

	No of index cases (a)	Contacts attending SHS within 4 weeks of PN discussion (b)	PN Ratio (b/a)
Audit sample	3,360	1,084	0.32
Testing service type			
GP	151	63	0.42
Outreach and education	77	32	0.42
GUM clinic	244	90	0.37
Remote testing	680	243	0.36
Community Pharmacy	31	11	0.35
Other*	149	52	0.35
CSO	153	51	0.33
Integrated sexual health service	1,553	454	0.29
SRH/CASH clinic	322	88	0.27

*'Other' comprises prison or YOI, military, ToP, gynae, A&Eor MIU, antenatal and so on

Those contacts that have an attendance date at a sexual health service within 4 working weeks, usually attend within one week of the PN discussion with the index patient: the average number of working days between date of PN discussion with the index and date of attendance of the contact is 4.1 days.

Out of all contacts, 1563 (1,563/3,849, 41%) attended a sexual health at any time, which represents 53% of contactable contacts (1,563/2,938).

PN outcomes and positivity of contacts

For 67% of all contacts a PN outcome had been recorded (2,572/3,849), as a proportion of all contactable contacts this was 88% (2,572/2,938). This is presented in table 8 in decreasing order. The most frequent was 'recorded that contact informed of risk of chlamydia infection, but not known to have had a chlamydia test' (674/2,572, 26%), followed by 'contact had a positive test in the same service' as the index patient 528/2,572, 21%).

Table 8. PN outcomes of the contacts

PN outcome	Number	Proportion
Recorded that contact informed of risk of chlamydia infection, but not known to have had a chlamydia test	674	26%
Contact had a positive test in the same service (a)	528	21%
Contact not known to have been informed of risk of chlamydia infection	413	16%
Contact already known to have chlamydia infection	320	12%
Contact had a positive test in another service (b)	238	9%
Contact treated but not tested	147	6%
Contact had a negative test in the same service (c)	141	5%
Contact had a negative test in another service (d)	62	2%
Contact had a chlamydia test, but result not known (e)	49	2%
	2,572	100%

From the above table, it can be deducted that a total of 766 new positive contacts (a+b) were found, out of a total of 1,018 (a+b+c+d+e) that proceeded to have a test as a result of PN, a positivity of 75%, indicating that partner notification is effective at finding people at high risk of infection.

Re-testing

While there is no standard for re-testing (component 7 of the chlamydia care pathway), the NCSP recommends that all young people with a positive test have a re-test around 3 months (calculated as 10 to 13 weeks incl) after the date of treatment due to the high rates of re-infection (NCSP Re-testing recommendation 2014).

Offer of a test

Nearly 3 quarters of young people with chlamydia (2,405/3,360,72%) were offered a re-test which is lower compared to the 77% in the 2017 audit. 28% (n=929) were not offered a re-test (17% in 2017, n=477) and for 26 cases (1%) (6% in 2017, n= 185) this was unknown or not recorded.

Re-testing rates and positivity

The re-testing results are presented over 3 time periods:

- around 3 months after treatment (NCSP recommendation, 10 to 13 weeks incl)
- 3 to 6 months after treatment (BASHH recommendation, 10 to 26 weeks incl)
- at any time after treatment

The calculation takes the number of days difference between date of treatment and date of re-test. If treatment date is missing (n=71, 2%), then the difference between date of test and date of re-test has been used. For 4 patients, the re-test date had been entered as before the treatment date, these have not been included in the calculations.

Table 9 shows that the proportion of patients re-testing around 3 months after treatment has increased from 7% in 2017 to 10% in 2019, a smaller increase is also found in the proportion of patients re-testing in those re-testing between 3 and 6 months.

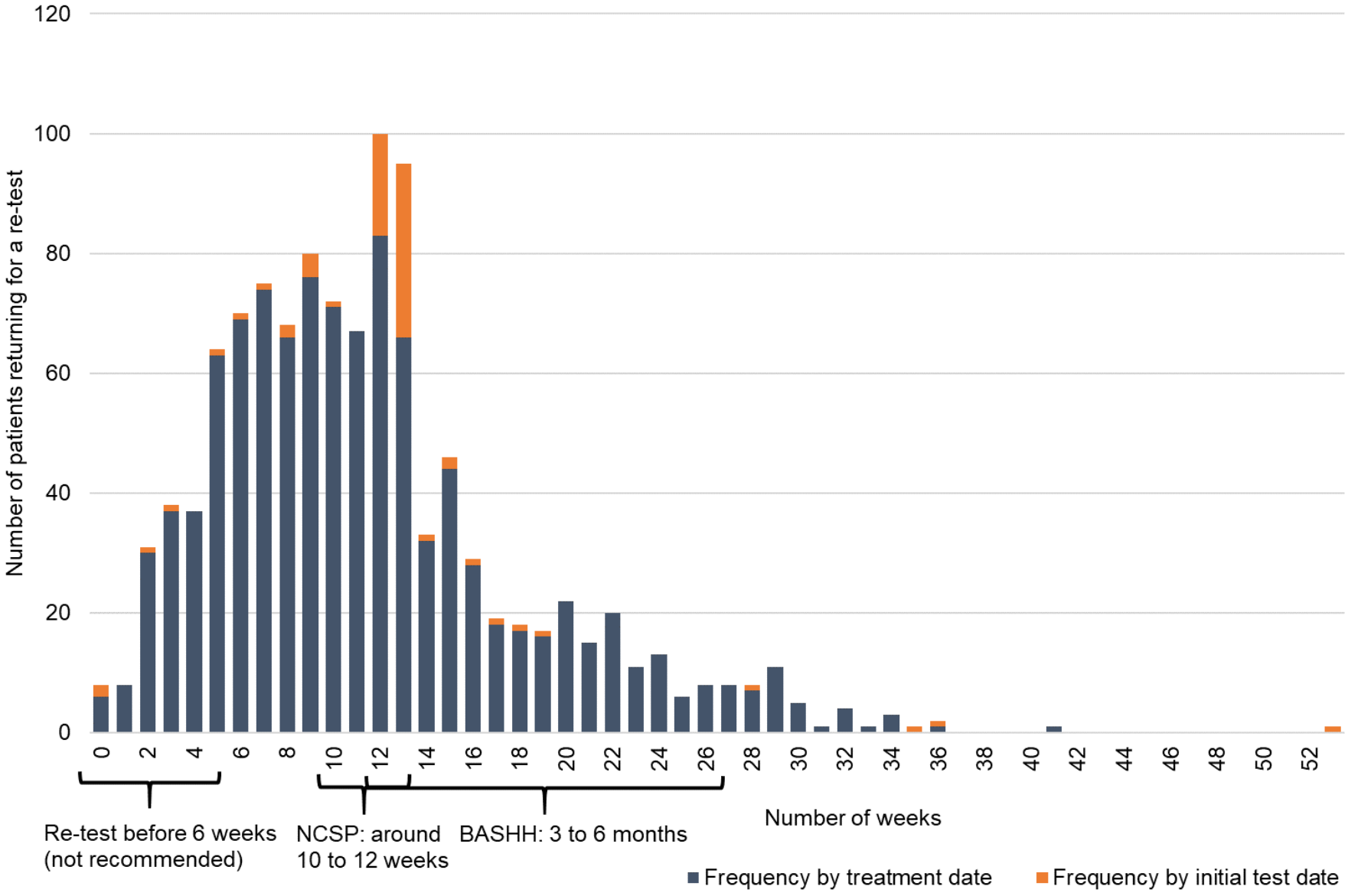
The positivity of those re-testing around 3 months after treatment has reduced from 14% in 2017 to 5% in the 2019 audit results. For those re-testing between 3 and 6 months following treatment, the positivity was 10% and for those re-testing at any time following treatment it was 20%, see table 9. This positivity appears low, it is lower than the 2017 figure of 14% and is lower compared to a national positivity rate of 10.1% for all tests. In addition, PHE's analysis of re-testing data following initial test (as opposed to treatment) showed that positivity at re-test was consistently higher in both specialist SHSs (15.9% to 18.7%) than in non-specialist SHSs (10.2% to 14.1%) (NCSP: chlamydia re-testing following a positive diagnosis January 2017 to June 2018), indicating that re-testing is an effective way of identifying new infections. As most young people return to their initial testing site, there are good opportunities to stress the importance of re-testing.

Table 9. Re-testing by time after treatment

	Re-test around 3 months (NCSP) 2017	**Re-test around 3 months (NCSP) 2019**	**Re-test between 3 and 6 months (BASHH) 2017**	**Re-test between 3 and 6 months (BASHH) 2019**	**Re-test at any time 2017**	**Re-test at anytime 2019**
Number re-testing (% of all positive patients in audit sample)	210 (7%)	334 (10%)	502 (17%)	591 (18%)	991 (34%)	1116 (33%)
Positive at re-test (% of those re-testing in that period)	30 (14%)	17 (5%)	79 (16%)	57 (10%)	147 (15%)	109 (10%)

Chart 4 shows the frequency distribution in the number of weeks that a patient returned for a re-test, either from date of treatment (n=1,045) or date of test (n=71). 186 re-tests were done before 6 weeks (17%). These tests may result in a positive test result from the initial infection, not a re-infection and are not recommended.

Chart 4. Frequency distribution of number of weeks to re-test



Re-testing rates by testing service type and recall method

Integrated sexual health services and those using online or remote testing had the largest proportions of young people with chlamydia returning for a re-test around 3 months at 34% and 40% respectively. For online or remote testing, this was an increase compared to 2017. In SRH/CASH and GUM clinics the re-testing rate was 10% and 6% respectively. For the remaining testing service types, the re-testing rates were below 3%.

A number of different methods were used to recall young people for re-testing. As in 2017, text messaging was most frequently used (60% of all recall methods), and 18% of these came back around the recommended 3 months. Another quarter of those testing positive were informed of the need for a re-test at the time of result notification without a further reminder 11% of these came back around 3 months after treatment, similar to 2017. While the return rate of being invited by phonecall is higher at 24%, the number of times that this method is used is 6% of all the recall methods, and relatively low in absolute numbers. Table 10 presents the numbers re-testing around 3 months by testing service type and by recall method, as a proportion of all re-tests at 3 months (n=210) and as a return rate by testing service type.

These audit data show that there are relatively low or no additional cost recall methods that have higher return rates than other methods. For example, text messaging has a return rate 18%, and a conversation about re-testing at time of result notification with no further reminder had a return rate of 11%. These can easily be implemented in a range of services. Further analysis on testing venue loyalty (those returning to their initial testing venue) is presented in Appendix 4.

Table 10. Re-testing around 3 months by testing service type and recall method

Testing service type (TST)	Number of positive index cases (a) (% of positive cases)	Number re-testing around 3 months (b)	% of total re-tests	Return rate by TST (%) (b/a)
Audit sample	3,360 (100)	334	(n=334)	
Integrated sexual health service	1,553	115	34%	7%
SRH/CASH clinic	322	34	10%	11%
Remote testing	680	135	40%	20%
GUM clinic	244	19	6%	8%
GP	151	7	2%	5%
CSO	153	9	3%	6%
Outreach and education	77	6	2%	8%
Community pharmacy	31	1	<1%%	3%
Other (incl prison/YOI, military, ToP, gynae, A&E/MIU, antenatal and so on)	149	8	2%	5%

Recall method	(a)	(b)	% of all recall methods	Return rate by recall method % (b/a)
Audit sample	3,360 (100)	334		
Sent text message when you should test again	1,153 (34)	202	60%	18%
Conversation about re-testing when given your test result and no further reminder	767 (23)	86	26%	11%
Retesting advised at follow up call - text message will be sent at 3 months	265 (8)	20	6%	8%

Invited by phonecall when you should test again	80 (2)	19	6%	24%
Appointment to be re-tested made when given your result	26 (1)	1	<1%	4%
Given testing kit when given your test result and later reminded when you should test again	38 (1)	1	<1%	3%
Given testing kit when given your test result and no further reminder	12 (0)	1	<1%	8%
Other (4 other methods, <5 each)	8 (<1)	2	1%	<1%
Method not recorded:	1,011 (30)	2	1%	8%
Of those not recorded, those not offered a re-test	929			
Of those not recorded, offer of re-test left blank	26			
Those offered a re-test but recall method not recorded	56	2		

Appendix 1: Audit methodology

The following data items were required for the audit sample. The first 10 items were required on the total sample of 10 patients found to be negative and 40 patients found to be positive per provider. The remaining data times from ‘treatment accepted’ were for the sample of 40 patients found to be positive. The audit period started from 31 March 2019, going back in time until the required sample was reached.

The following data items were required for all 50 patients (10 negative and 40 positive) in the audit sample:

- name of commissioning authority
- name of service provider
- type of service provider (choice of GUM clinic, SRH/CASH clinic, Integrated sexual health service, GP, Community Pharmacy, remote testing, CSO, outreach and education, 'other' (including prison or YOI, military, ToP, gynae, A&E or MIU, antenatal clinic and so on))
- index patient number (1 to 50)
- date of test
- gender
- age
- type of test site (choice of GUM clinic, SRH/CASH clinic, Integrated sexual health service, GP, Community Pharmacy, remote testing, CSO, outreach and education, 'other' (including prison or YOI, military, ToP, gynae, A&E or MIU, antenatal clinic and so on))
- date of result notification
- test result (positive, negative)

These data items were required for the 40 positive cases in the audit sample:

- treatment accepted
- date of treatment
- type of treatment site (choice of GUM clinic, SRH or CASH clinic, Integrated sexual health service, GP, Community Pharmacy, remote testing, CSO, outreach and education, 'other' (including prison or YOI, military, ToP, gynae, A&E or MIU, antenatal clinic and so on))
- offered PN? (yes, no, unknown)
- date of PN discussion
- if no PN offered, why not? The drop down offered the following choices:
- no documented evidence of PN
- patient routinely seen for SH care elsewhere
- patient transferred care
- documented that PN performed elsewhere

- lost to follow up before PN initiated
- other
- total number of contacts
- total number of contactable contacts
- date of index patient or HCW reported attendance for testing and treating contact 1, up to 5 contacts
- PN outcome, drop-down list offered one of the following choices:
  - contact already known to have chlamydia infection
  - contact had a negative test in your service
  - contact had a negative test in another service
  - contact had a positive test in your service
  - contact had a positive test in another service
  - contact had a chlamydia test, but result not known
  - record made that contact informed of risk of chlamydia infection, but not known to have had a chlamydia test
  - contact not known to have been informed of risk of chlamydia infection
  - other
- offered re-test? (yes, no, unknown)
- method used to re-call patient, drop down list offered one of the following choices:
  - a. Conversation about re-testing when given your test result and no further reminder
  - b. Reminder card when given your test result and no further reminder
  - c. Appointment to be re-tested made when given your test result
  - d. Given testing kit when given your test result and no further reminder
  - e. Given testing kit when given your test result and later reminded when you should test again
  - f. Sent text message when you should test again
  - g. Invited by phonecall when you should test again
  - h. Invited by post when you should test again
  - i. Sent email when you should test again
  - j. Testing kit posted to an address of your choice when you should test again
  - k. Retesting advised at follow up call - text message will be sent at 3 months
- date of re-test
- re-testing service type (choice of GUM clinic, SRH or CASH clinic, Integrated sexual health service, GP, Community Pharmacy, remote testing, CSO, outreach and education, 'other' (including prison or YOI, military, ToP, gynae, A&E or MIU, antenatal clinic and so on))
- result of re-test (positive, negative, equivocal/inhibitory, insufficient, unknown)

An initial email was sent to a range of chlamydia screening providers and commissioners on 3 June 2019 to invite them to take part in the audit. Participants had to register with PHE's HIV/STI online portal to enable either uploading a file that contained the audit data or enter the required data online. After registration of those who wished to take part, the audit data was

collected between 11 September and 23 October. The response rates have been reported in the main body of the report.

To calculate whether a standard was met that involved a time period (such as in result notification within 10 working days, treatment within 30 working days, or partners attending a sexual health service within 20 working days), the following excel formula was used:

=networkdays(date of test, date of result notification)

Towards the end of the data collection period, due to technical difficulties the online option was no longer available and providers were asked to email their returns to the NCSP's Head of Quality Assurance and Standard to be uploaded into the database. Using the report function of the online tool, the results could be downloaded in each of the areas of turnaround time, partner notification and re-testing from March 2020. The results were presented on the main auditable outcome measures in a 'Results overview' sheet, and in more detail for each of the 3 standards.

Appendix 2: Audit data set by testing service type

The majority of audit records (46%) originated from integrated sexual health services (ISH), followed by those testing online (22%). Those testing at contraceptive and sexual health services/sexual and reproductive health (CASH or SRH) services Level 3 genito-urinary medicine (GUM) services comprise 9% and 7% of the audit data respectively. The remaining testing service types account for 5% or less each of the audit data set.

Compared to the number of chlamydia tests taken in England in 2018 (n=1,304,113), the main differences are in the proportion of tests from GPs (4% in the audit v 18% nationally), and those tests requested online (22% in the audit v 17% nationally)(Chlamydia Testing Activity Dataset (CTAD) 2018). The other categories are broadly similar in proportion. The overview is presented in table 1.

Table 1. Proportion of patient records in audit data set by testing service type of index patient

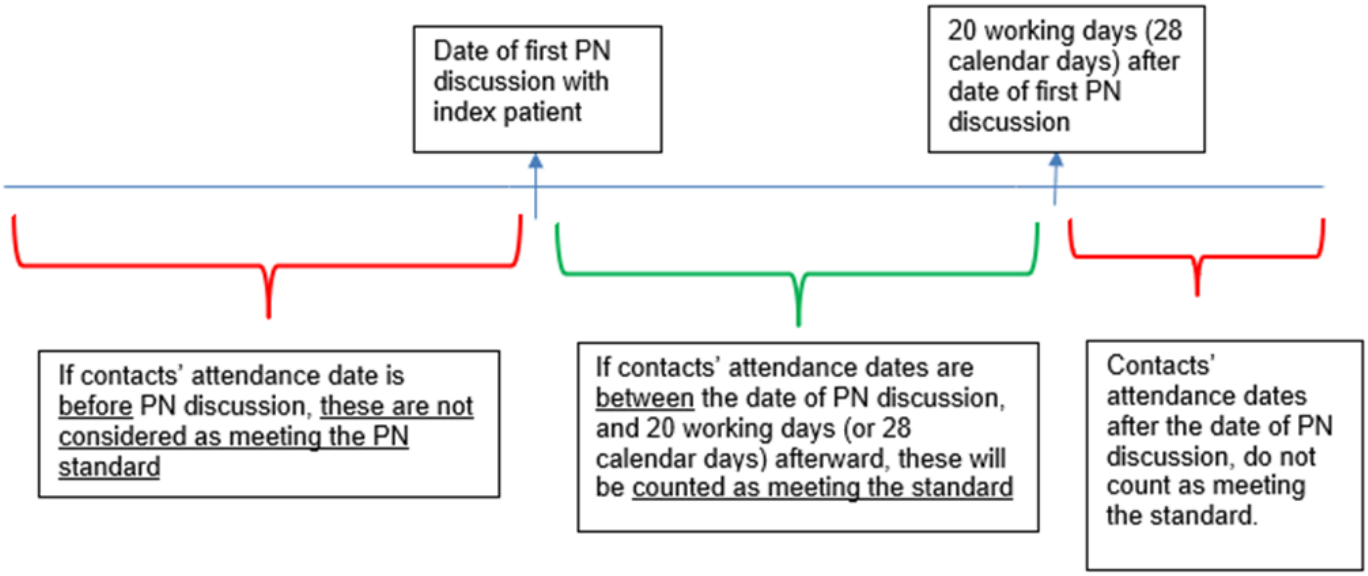
Testing service type	Turnaround time audit 2014 (n=54,488)	Re-testing audit 2015 (n=2,853)	PN audit 2016 (n=2,439)	Combined audit 2017 (n=3,600)	Combined audit 2019 (n=4,200)	chlamydia tests England 2018 (n=1,304,113)
SRH or CASH clinic	23	29	34	14	9	6
GUM clinic	2	10	7	13	7	44
ISH clinic	Not a separate category	Not a separate category	6	27	46	
Remote or online testing	7	13	15	14	22	17
GP	13	12	11	10	4	18
Community pharmacy	3	4	7	3	1	1
CSO	5	8	2	4	5	

Outreach and education	27	12	9	9	2	13
Other	8	8	8	6	4	
Blank or not recorded	12	4	1	<1	0	12
SRH or CASH clinic	23	29	34	14	9	6

Appendix 3: PN standard calculation

For the 2017 audit, guidance was sought from the BASHH Clinical Effectiveness Group on how to calculate the PN standard. Following that guidance, the diagram below shows how this has been implemented in the NCSP audits. This Partner Notification diagram shows how the standard of the number of contacts that attend a sexual health services within one month of the date of the PN discussion with the index patient has been calculated in this audit.

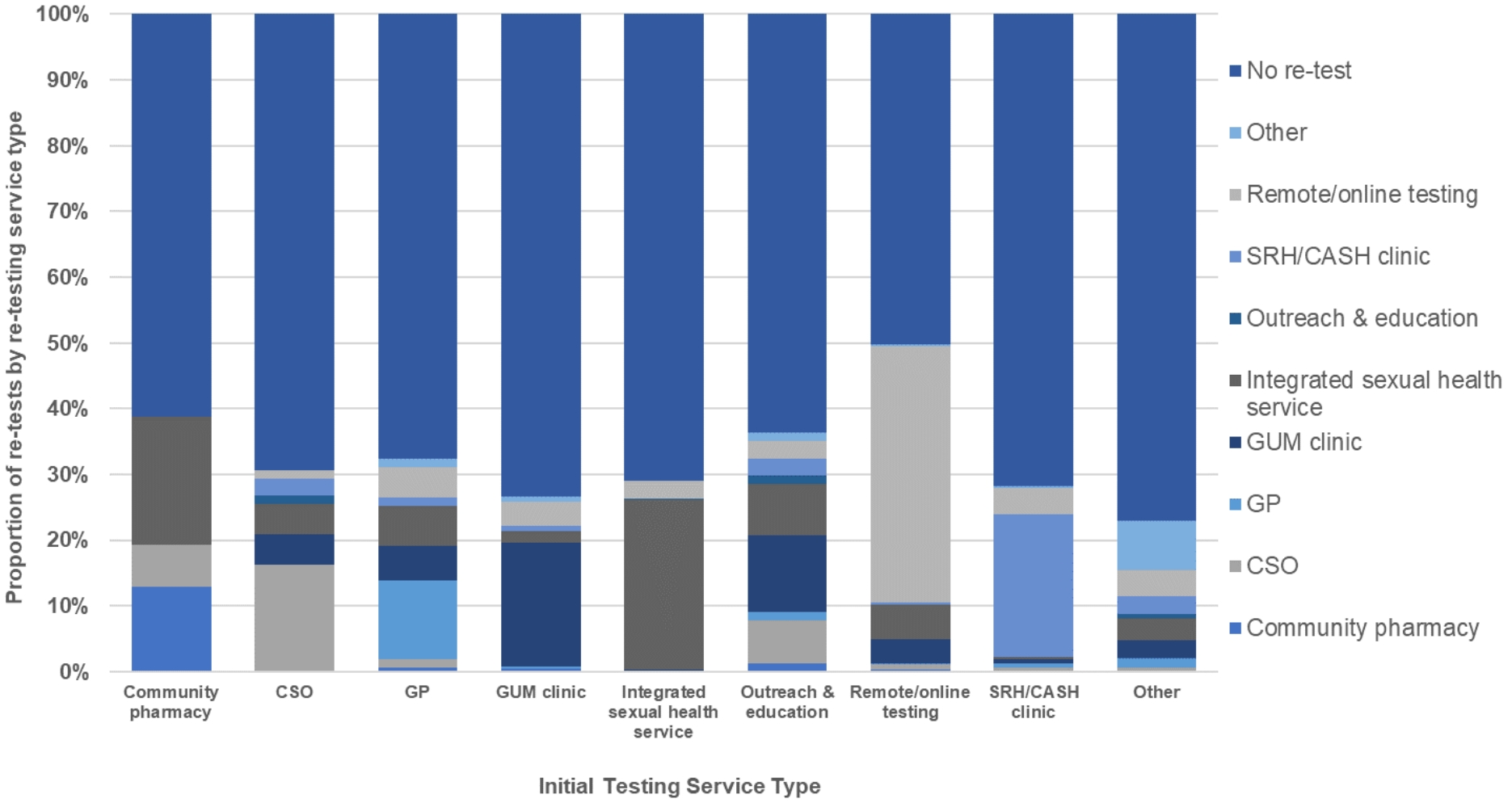
Diagram: PN measurement of number of contacts with attendance (at Level 1, 2, 3 service) within 4 weeks of PN discussion



Appendix 4: Testing venue loyalty

For integrated sexual health services, SRH or CASH clinics, GUM clinics, remote testing, GPs and CSOs, most young people with chlamydia return to their initial testing service type, whereas for the remaining testing service types, the return testing service types are more varied. This is shown in chart 5, the grey areas show the proportions and numbers of positive patients that did not return for a re-test for their initial testing service type.

Chart 5. Testing venue loyalty at re-test (n=3,360, all positive patients)



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