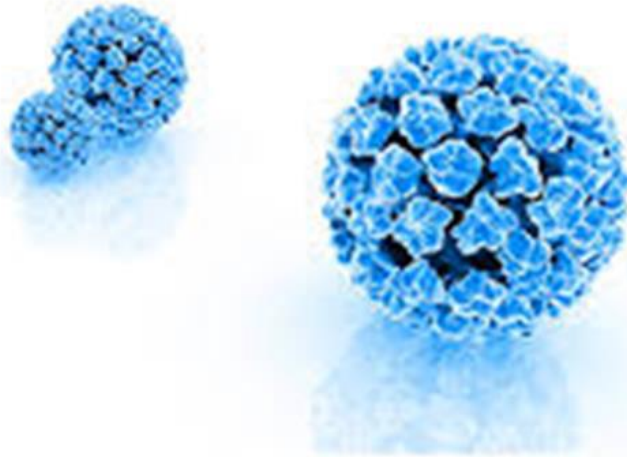


STI surveillance in Northern Ireland 2022

An analysis of data for the calendar year 2021



STI surveillance in Northern Ireland

An analysis of data for the calendar year 2021

<http://www.publichealthagency.org/directorate-public-health/health-protection/sexually-transmitted-infections>

Surveillance arrangements and sources of data

GUMCAD collects anonymised patient-level data on all STI tests and diagnoses made in Genitourinary Medicine (GUM) clinics in Northern Ireland.

Laboratory data represent an important complementary source to clinician-initiated surveillance arrangements.

Enhanced syphilis surveillance for infectious syphilis in Northern Ireland have been in place since 2001.

Data from home STI testing (SH24).

Interpretation of data

The numbers of STI diagnoses are influenced by access to services.

The COVID-19 pandemic caused major service disruptions, therefore caution is required in making any comparisons between different time periods. The services are still in recovery mode.



STI surveillance in Northern Ireland

Summary Points

- In 2021 the number of STI tests within GUM Clinics increased by 31% when compared to 2020. This follows the 69% decrease in STI testing in 2020 when compared with 2019.
- There was a 45% increase in home STI testing in 2021 when compared with 2020.
- There was a 5% increase in the number of new STIs reported through Northern Ireland GUM clinics in 2021 when compared with 2020.
- Within GUM clinics decreases were seen in new diagnoses of chlamydia and genital warts; there were increases in infectious syphilis, gonorrhoea and genital herpes (first episode).
- When combining the number of chlamydia diagnoses made in SH24 with the diagnoses made in GUM there has been an increase of 35% when comparing 2021 to 2019 pre-pandemic. A small number of the people tested via SH24 may also attend GUM.

STI surveillance in Northern Ireland GUM Clinics

Summary Points

- New diagnoses of chlamydia decreased by 3%; 750 diagnoses in 2021 compared with 775 in 2020. However, taking into account diagnoses made via SH24 there has been an overall 35% increase in chlamydia.
- New diagnoses of gonorrhoea increased by 43%; 652 in 2021 compared with 455 in 2020.
- New diagnoses of genital herpes simplex (first episode) increased by 19%; 348 in 2021 compared with 293 in 2020.
- There has been no significant change in the new diagnoses of genital warts (first episode) in 2021 compared with 2020.
- New diagnoses of infectious syphilis increased by 1%; 75 in 2021 compared with 76 in 2020.

STI surveillance in Northern Ireland GUM Clinics

Summary Points

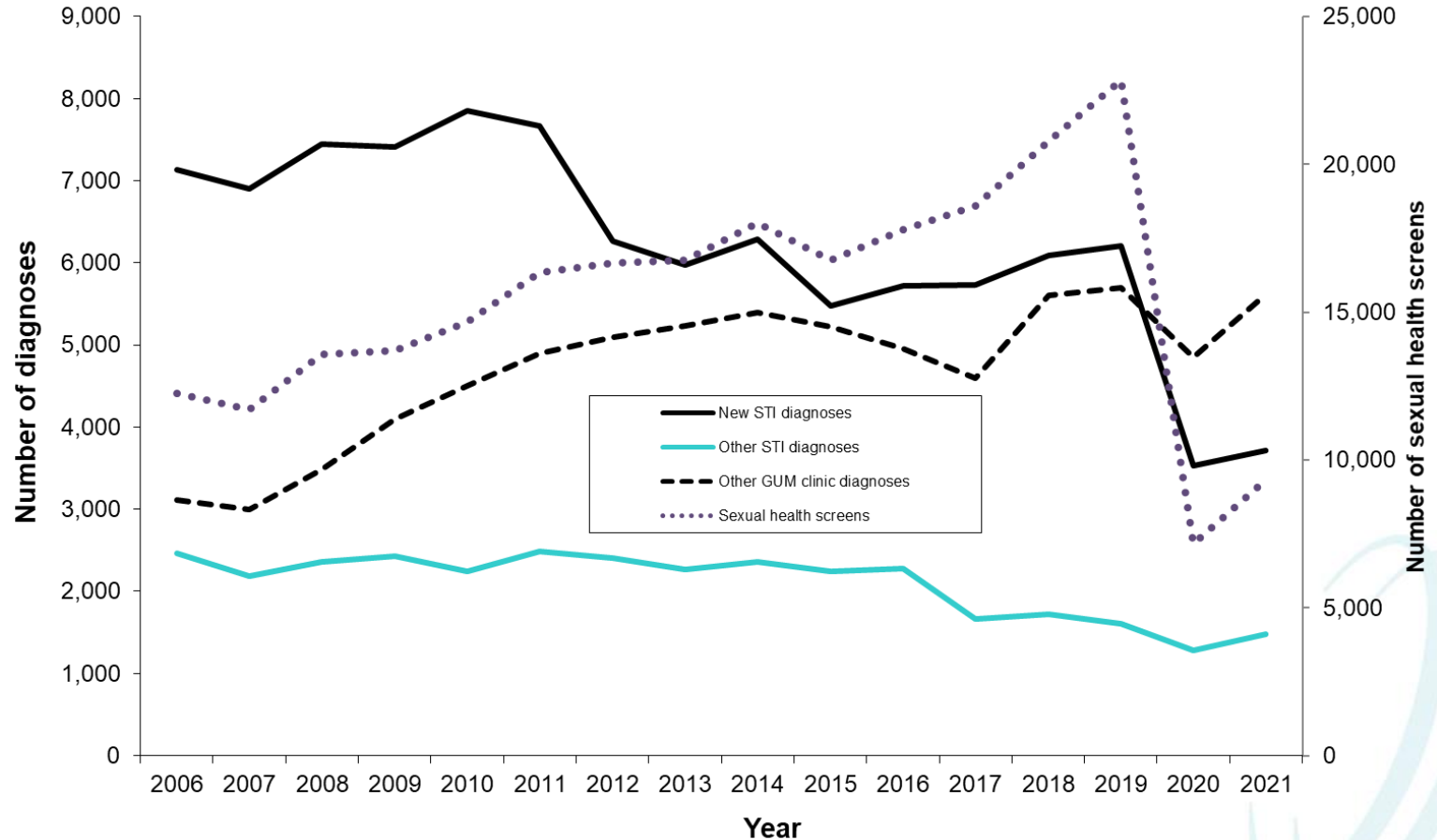
- Enhanced syphilis forms were completed for 123 cases.
- 83% (102/123) acquired the infection within Northern Ireland.
- 21% (26/66) also reported being HIV positive.
- Diagnosed co-infections included gonorrhoea and chlamydia.
- The number of sexual partners ranged from 1-50 in the preceding three months.



Trends : 2006-2021

- Between 2006 and 2011 the number of **new STI diagnoses** remained relatively stable. Between 2011 and 2017, the numbers have decreased reflecting a steep decline in new diagnoses of complicated and uncomplicated non-specific genital infection (NSGI) (figure 2). This decrease is likely to be due to the change in test technology within GUM clinics, whereby the more sensitive dual platform PCR test for gonorrhoea and chlamydia has largely replaced the invasive urethral culture in asymptomatic patients. This has resulted in more detections of organisms with proven pathogenicity, particularly gonorrhoea and thus NSGI diagnoses have fallen (figure 2). However, diagnoses of new STIs have been increasing again since 2017, with a further 2% increase in 2019 when compared to 2018 (figure 1), (table 1).
- In 2021 the number of new STIs increased 5%, other STIs increased by 15% and other diagnoses increased by 16% (figure 1), (table 1).

Figure 1: Trends in diagnoses and sexual health screens made in Northern Ireland GUM Clinics, 2006-2021



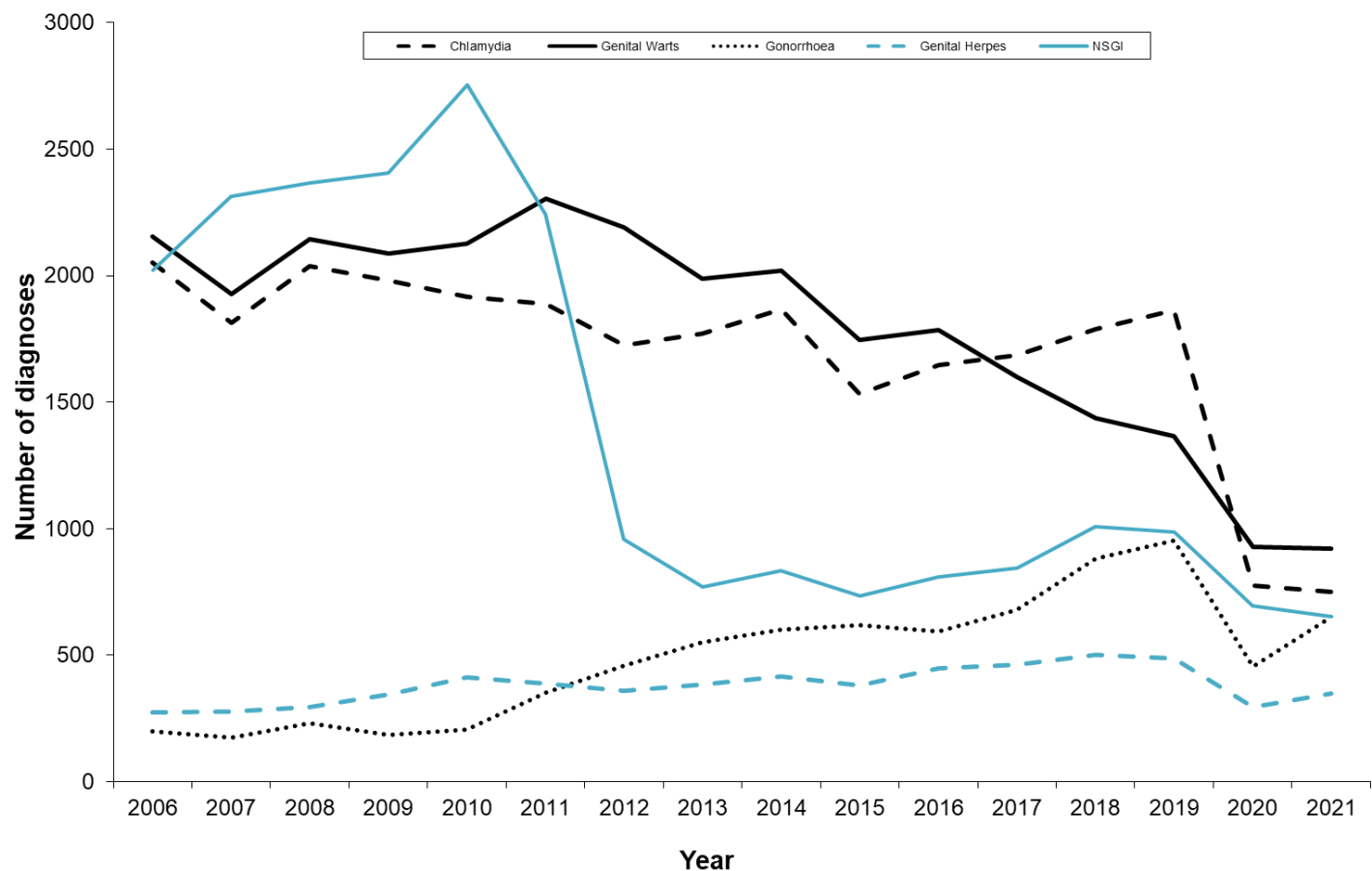
Source: NI GUM Clinics (GUMCAD)

Table 1: Trends in diagnoses made in GUM clinics in Northern Ireland, 2006-2021

	New STI diagnoses	Other STI diagnoses	Other GUM clinic diagnoses
2006	7,129	2,464	3,110
2007	6,897	2,187	2,991
2008	7,452	2,355	3,480
2009	7,417	2,426	4,094
2010	7,850	2,245	4,507
2011	7,661	2,485	4,900
2012	6,267	2,410	5,095
2013	5,977	2,260	5,233
2014	6,292	2,363	5,400
2015	5,477	2,242	5,224
2016	5,719	2,279	4,953
2017	5,726	1,663	4,600
2018	6,086	1,725	5,600
2019	6,208	1,610	5,693
2020	3,534	1,282	4,845
2021	3,718	1,474	5,617

Source: NI GUM Clinics (GUMCAD)

Figure 2: Trends in new diagnoses of STIs in Northern Ireland GUM clinics, 2006-2021



Source: NI GUM Clinics (GUMCAD)

Sexual health screens

In 2021 the number of sexual health screens in GUM clinics increased 31% when compared to 2020.

In October 2019 SH24 online home testing was launched giving greater access to testing. In 2021 the number of home STI tests returned to SH24 increased by 45% (22,856) when compared to 2020 (15,738). Combining the number of tests carried out within GUM clinics with those via SH24 the number of sexual health tests increased by 41% between quarter ending Dec 2019 and Dec 2021 Table 2.

Asymptomatic service users are directed to home testing (SH24), including those on PrEP.

Home testing kits had a 10% positivity rate, with 1 in 10 samples having a reactive result for chlamydia, gonorrhoea, syphilis or HIV.

The positivity rate in GUM clinics is higher at 40%, with 4 in 10 samples being positive for a new STI. The higher test positivity rate is because patients attending GUM clinics have symptoms (figure 6).

Table 2: Number of tests carried out via GUM clinics in Northern Ireland and SH24 on line testing, Dec 2019 to Dec 2021

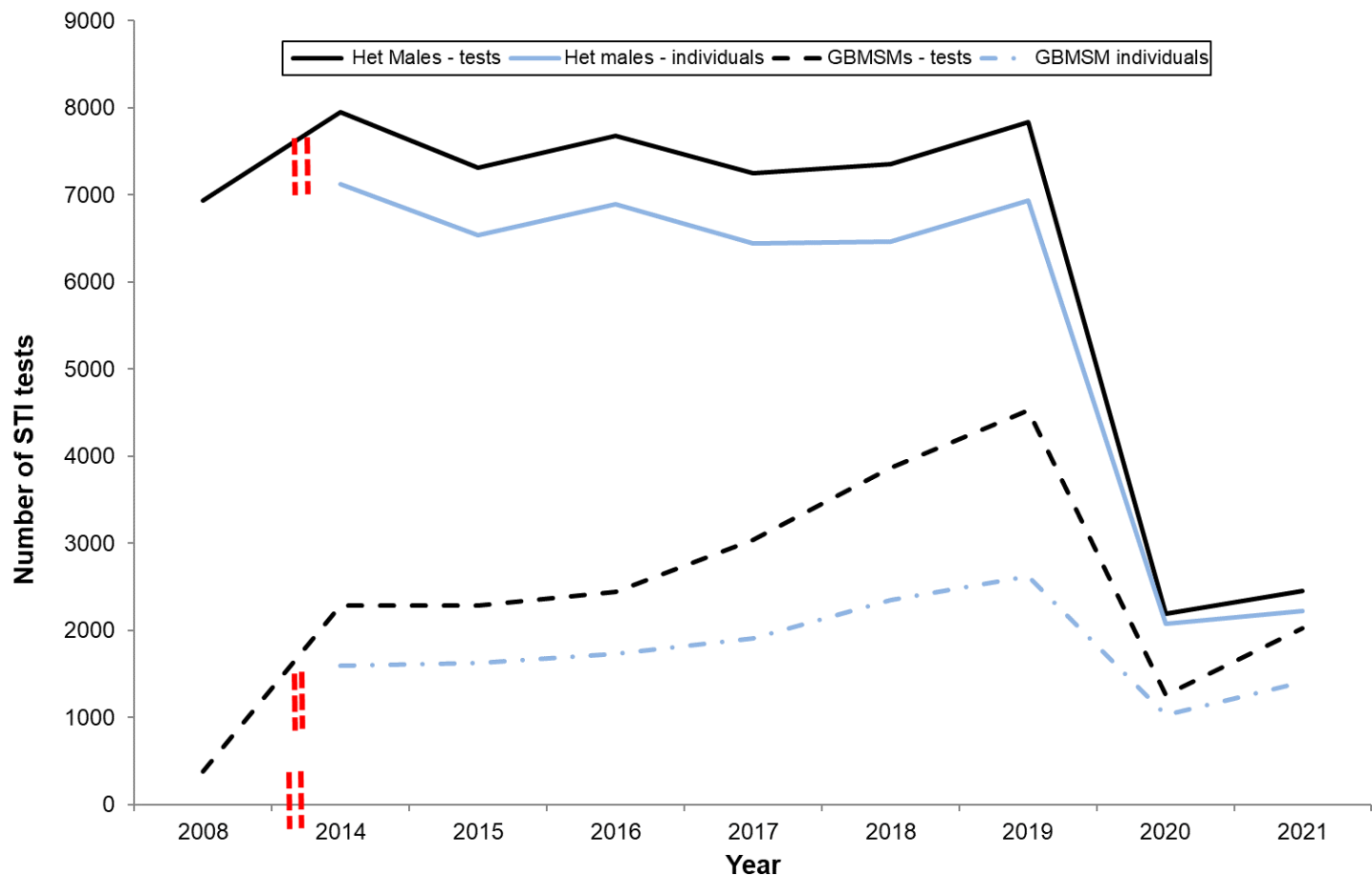
Quarter ending	GUM Clinic STI Tests	SH24 tests	All tests
Dec-19	4920	1483	6403
Mar-20	4121	2689	6810
Jun-20	323	3499	3822
Sep-20	1132	4517	5649
Dec-20	1574	5033	6607
Mar-21	1379	6119	7498
Jun-21	1916	4863	6779
Sep-21	2977	5934	8911
Dec-21	3062	5940	9002

GUM Clinic testing SHHAPT Codes: P1A, T1, T2, T3, T4, T7, TT

SH24 data commenced Nov 2019 and is based on the number of tests returned

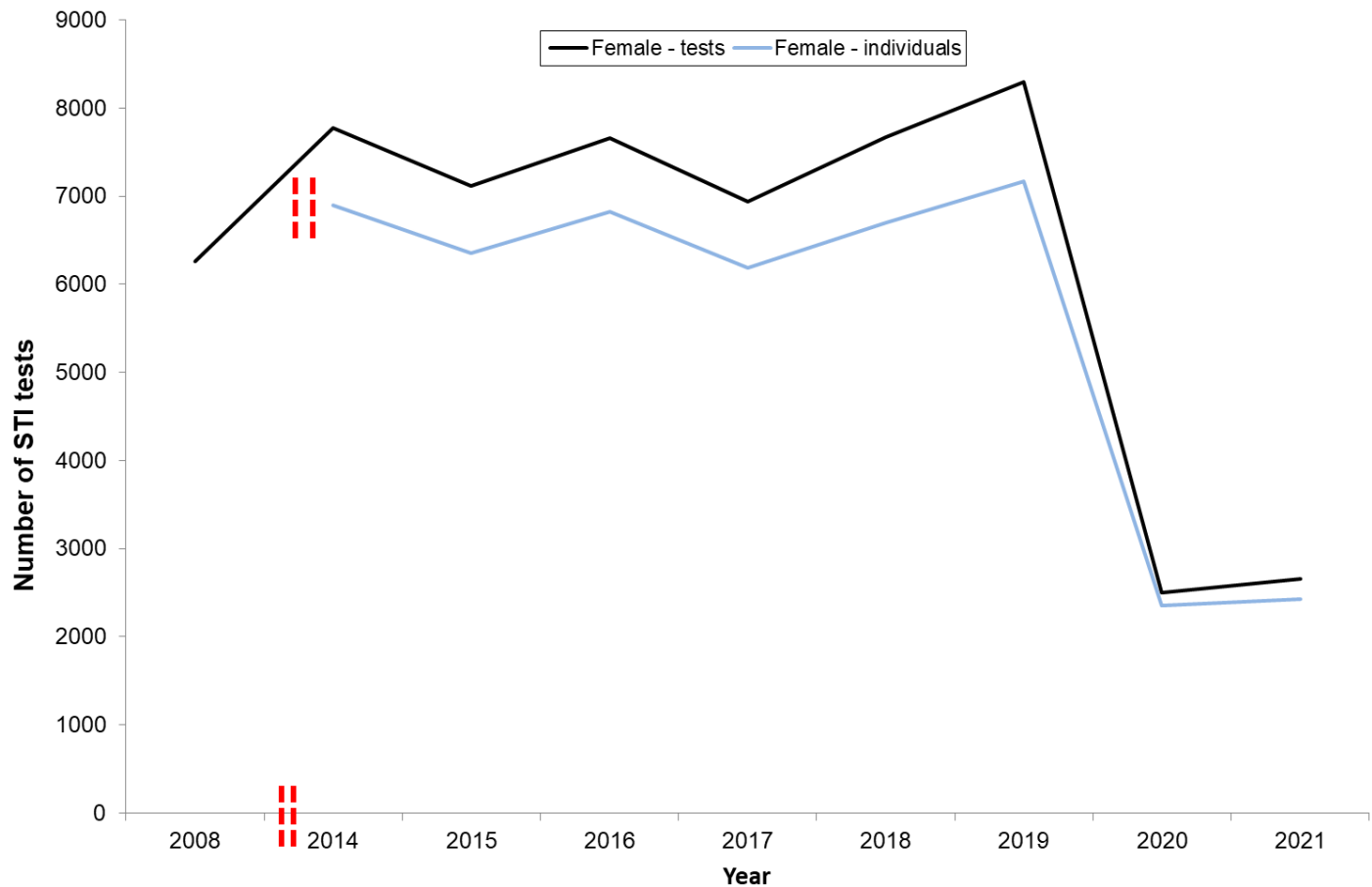
*Data presented is based on tests and not individuals; a person may have been tested via SH24 and had subsequent test carried out in GUM Clinic

Figure 3a: Trends in sexual health screen activity in Northern Ireland GUM clinics, by male sexual orientation, 2008, 2014-2021



Source: NI GUM Clinics (GUMCAD)

Figure 3b: Trends in sexual health screen activity in Northern Ireland GUM clinics, by females, 2008, 2014-2021

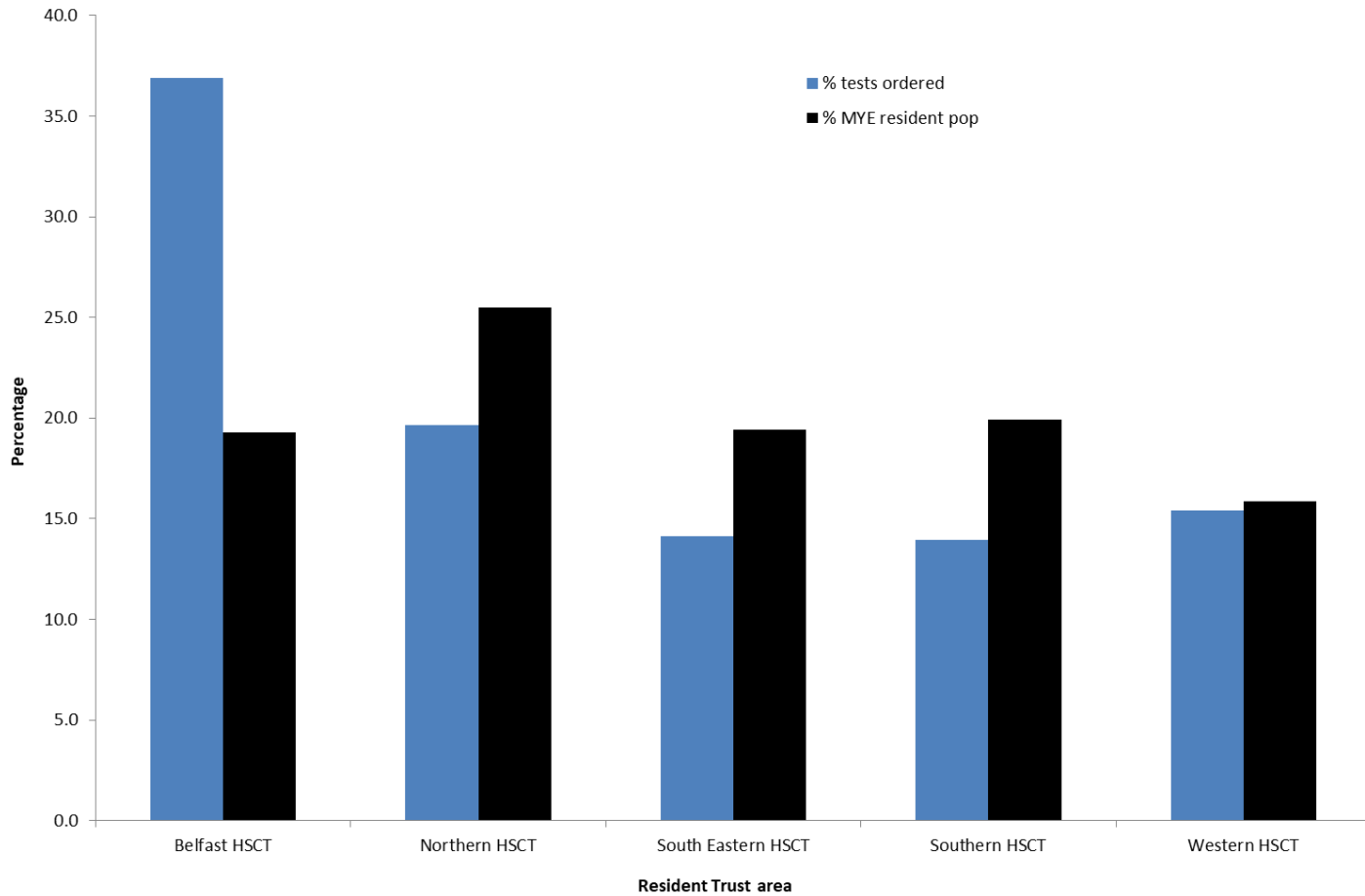


Source: NI GUM Clinics (GUMCAD)

SH24 : Home testing

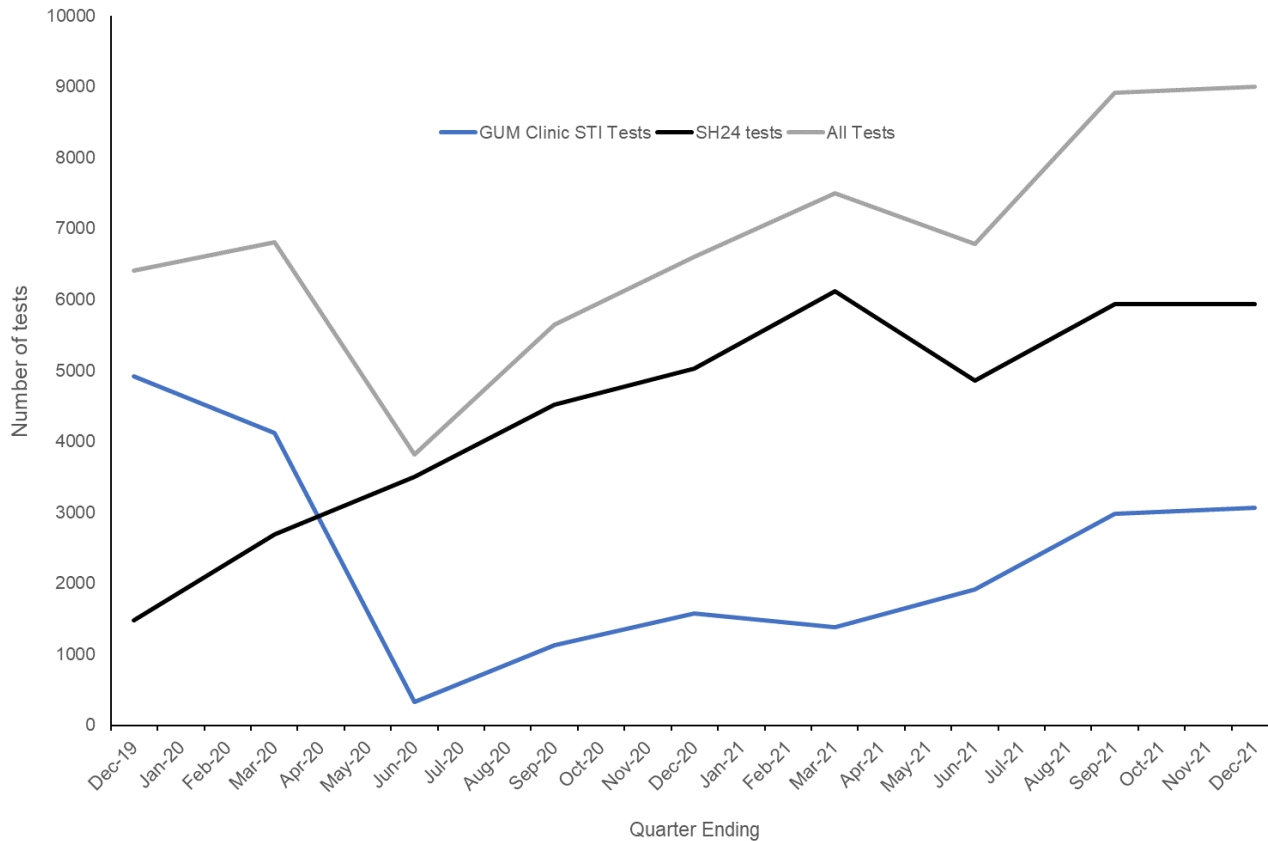
- SH24 is a sexual health testing service that provides confidential home-testing for chlamydia, gonorrhoea, syphilis and HIV. The service became available to residents in Northern Ireland in October 2019. It is targeted at people who are asymptomatic, and is free at the point of delivery.
- The number of STI and HIV tests issued increased by 45% in 2021 (32,361) compared to 2020 (22,288).
- People aged between 20-29 years of age accounted for 57% of tests issued.
- SH24 is used across all Trust areas, with residents of Belfast Trust accounting for over one third of all test kits issued (figure 4).

Figure 4: Percentage of home tests issued by SH24 and population mid year estimates by HSC Trust, 2021



Source: SH24 & NISRA MYE (mid year estimates)

Figure 5: Number of SH24* and GUM clinic STI and HIV tests Northern Ireland, March 2019 - December 2021

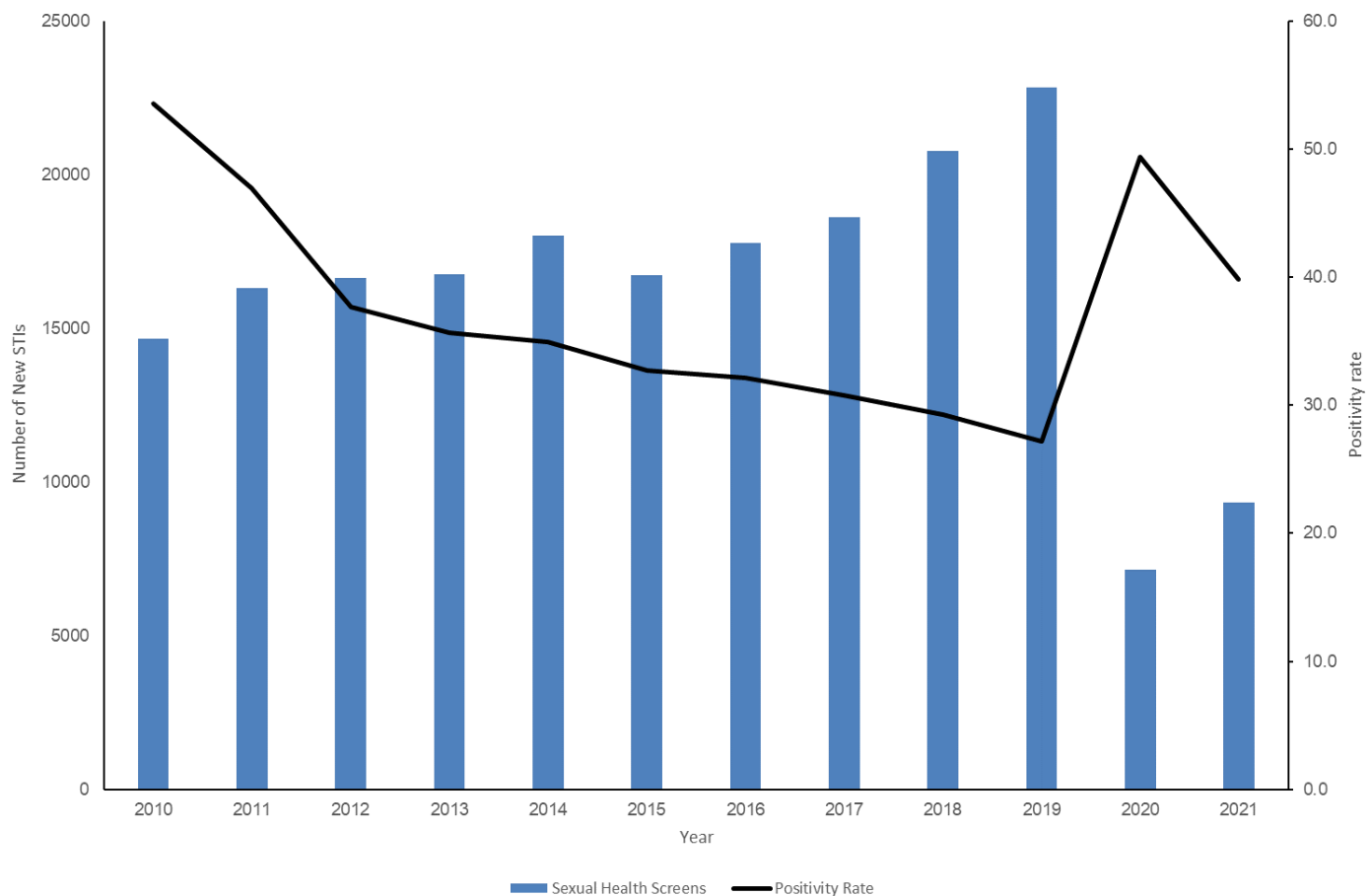


Source: GUMCAD & SH24

Notes: * Number of tests is based on the number of tests returned
 For further information on SH:24 testing: <https://sh24.org.uk/about-sh24>

GUM Clinic testing SHHAPT Codes: P1A, T1, T2, T3, T4, T7, TT

Figure 6: Number of STI screens* in GUM clinic and new STI positivity rates Northern Ireland, 2010 - 2021



Source: NI GUM Clinics (GUMCAD)

STI Screens S1, S2 (KC60) P1A, T1, T2, T3, T4, T7 & TT (SHHAPT)

Table 3: SH24 testing results 2021

Positive Results	Jan	Feb	Mar	April	May	June	July	August	Sept	Oct	Nov	Dec	Total
Chlamydia	181	140	149	154	109	119	144	143	136	169	178	141	1763
Diagnostic Rate	8.5	6.7	7.8	8.8	7.2	7.4	8.0	6.8	6.7	8.5	7.9	8.3	7.7
Gonorrhoea	23	20	15	18	16	24	29	34	22	32	49	44	326
Diagnostic Rate	1.1	1.0	0.8	1.0	1.1	1.5	1.6	1.6	1.1	1.6	2.2	2.6	1.4

Source: SH24

There is a 10% overall diagnostic rate, that is 1 in 10 samples sent have a reactive result for chlamydia, gonorrhoea, syphilis or HIV.

There were 1,763 diagnoses of chlamydia made by SH24 during 2021 an increase of 27% when compared to 2020 (1391). There were 326 diagnoses of gonorrhoea made in SH:24 during 2021 an increase of 75% compared to 186 in 2020.

Service users with uncomplicated chlamydia infection are offered treatment with Doxycycline by postal delivery. Approximately 96% of those with chlamydia opt for postal treatment, and therefore do not attend GUM clinics, and are not represented in the GUM surveillance data.

SH24 – Testing

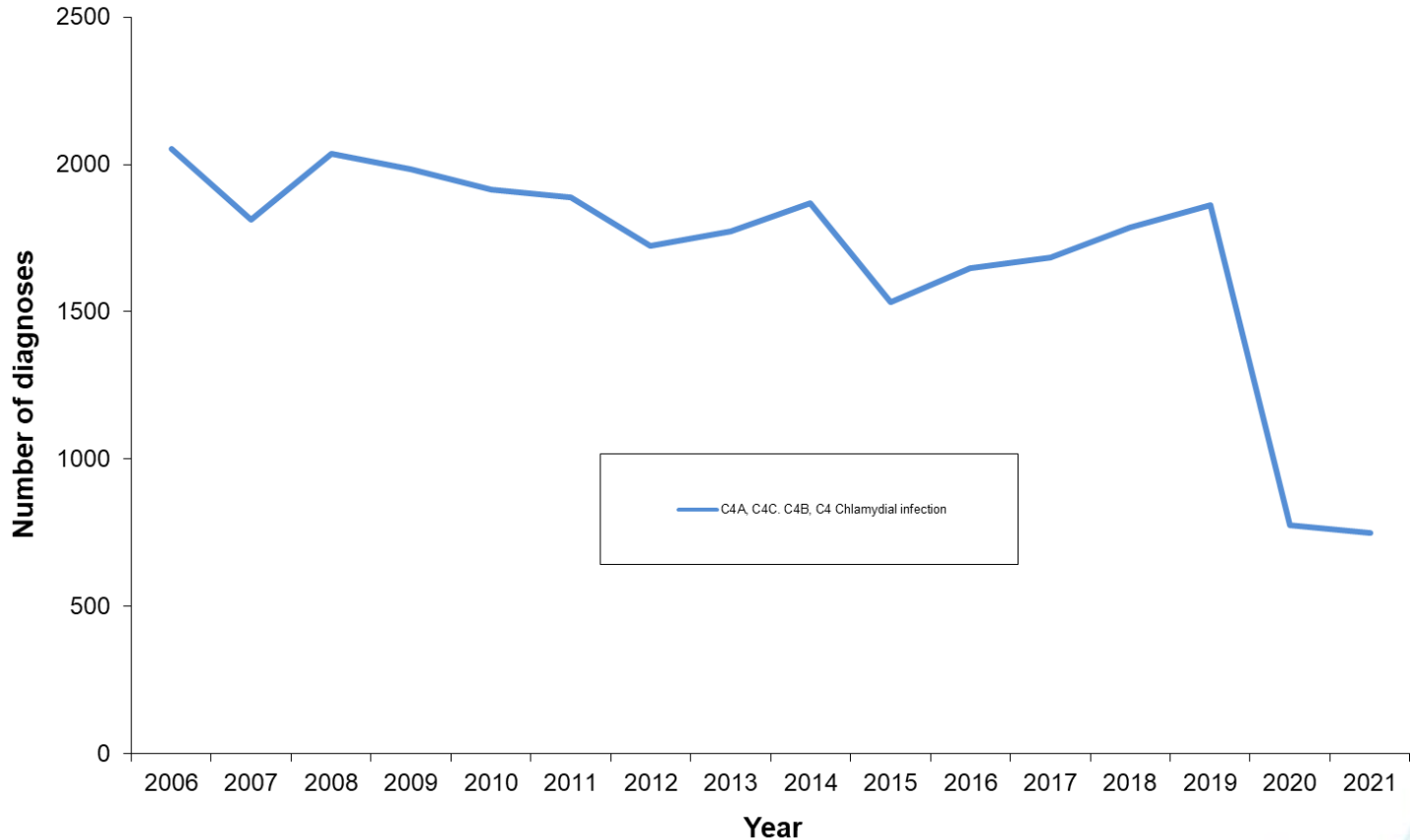
- Service users who receive a positive gonorrhoea result from SH24 should attend GUM for treatment, and therefore should be represented in the GUM surveillance data.
- Service users with a reactive result for HIV are advised to attend GUM for further testing. If they are confirmed to have HIV, they will be represented in the annual HIV report.
- A minority of syphilis reactive results represents true untreated syphilis. The remainder of the reactive results do not confirm on further testing, or represent past treated syphilis. The true untreated syphilis should be represented in the GUM surveillance data.

Diagnoses provided in Northern Ireland GUM clinics in 2021

During 2021:

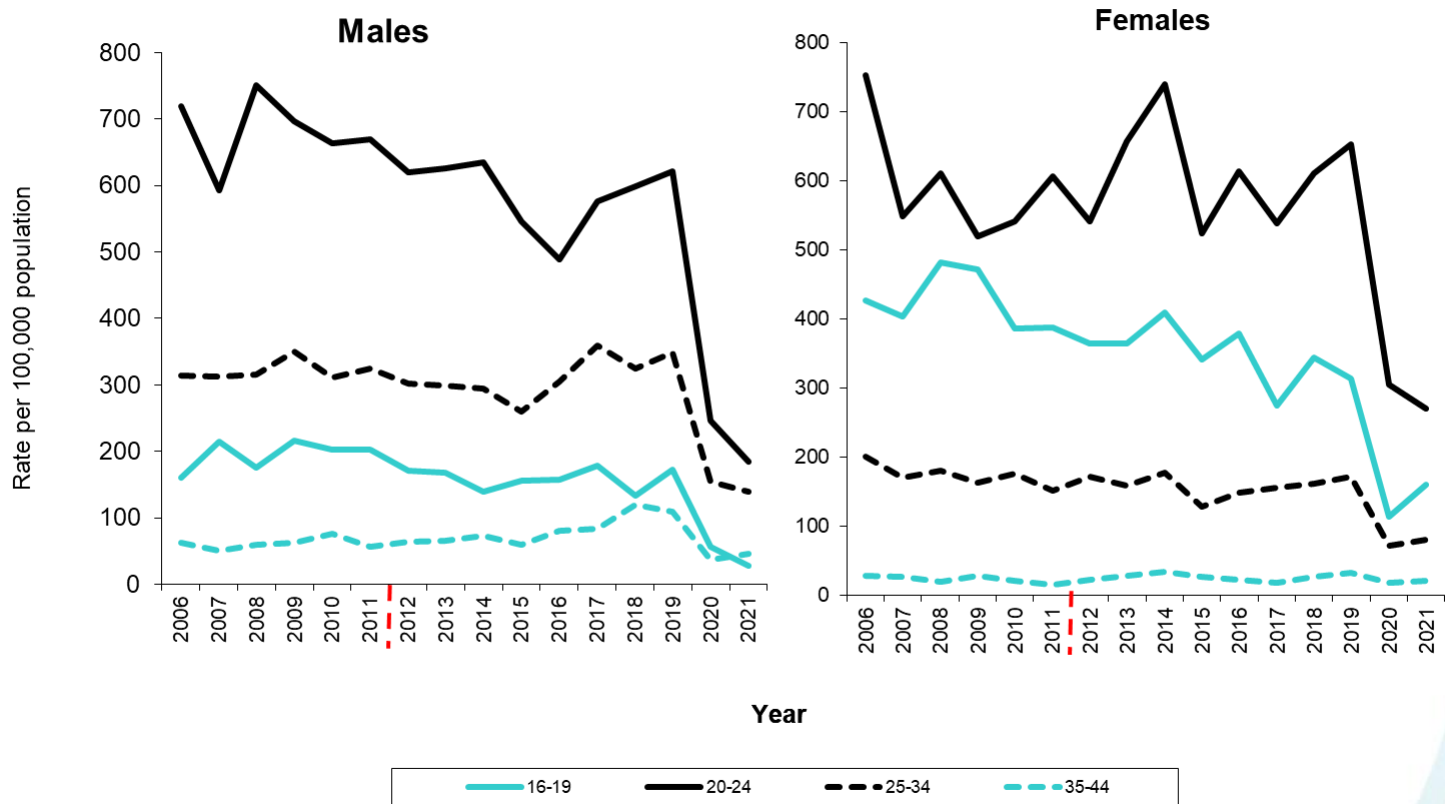
- 3,718 new STI diagnoses were made, an increase of 5% compared with 2020 (3,534);
- 65% (2,400/3,718) of new STI diagnoses were in males;
- Three types of infection accounted for 63% of **new STI diagnoses** – chlamydia (20%), genital warts (first episode) (25%) and non-specific genital infection (18%);
- 1,474 other STI diagnoses were made;
- 5,617 other diagnoses made at GUM clinics.

Figure 7: Diagnoses of chlamydial infection in Northern Ireland GUM clinics, 2006-2021



Source: NI GUM Clinics (GUMCAD)

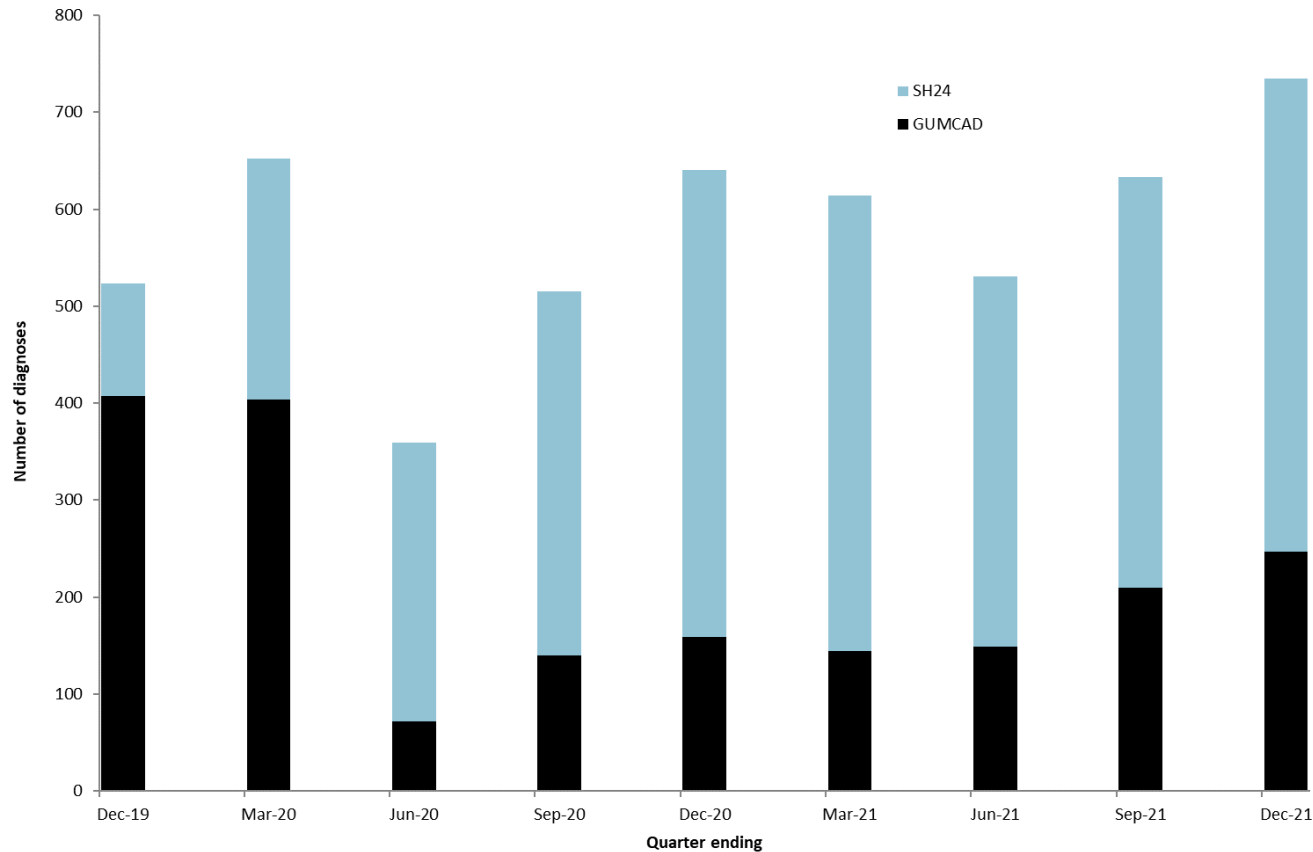
Figure 8: Rates of diagnosis of chlamydial infection in Northern Ireland GUM clinics by gender and age group, 2006-2021



Source: NI GUM Clinics (GUMCAD)

Rates have been recalculated from 2012 as a result of new coding within GUM clinic

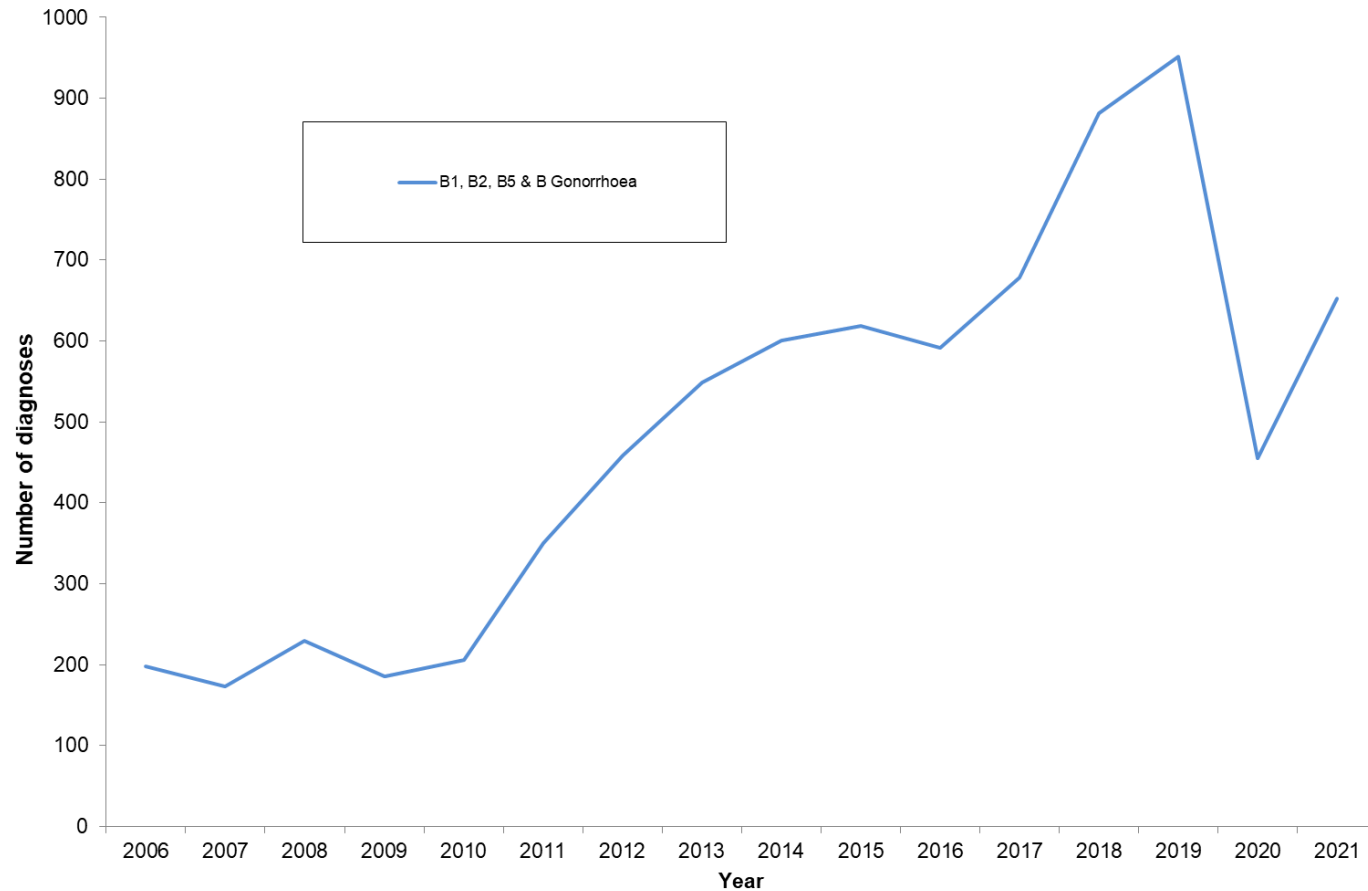
Figure 9: Diagnosis of chlamydial infection in Northern Ireland GUM clinics and SH24, 2019-2021



Source: NI GUM Clinics (GUMCAD) & SH24 online testing

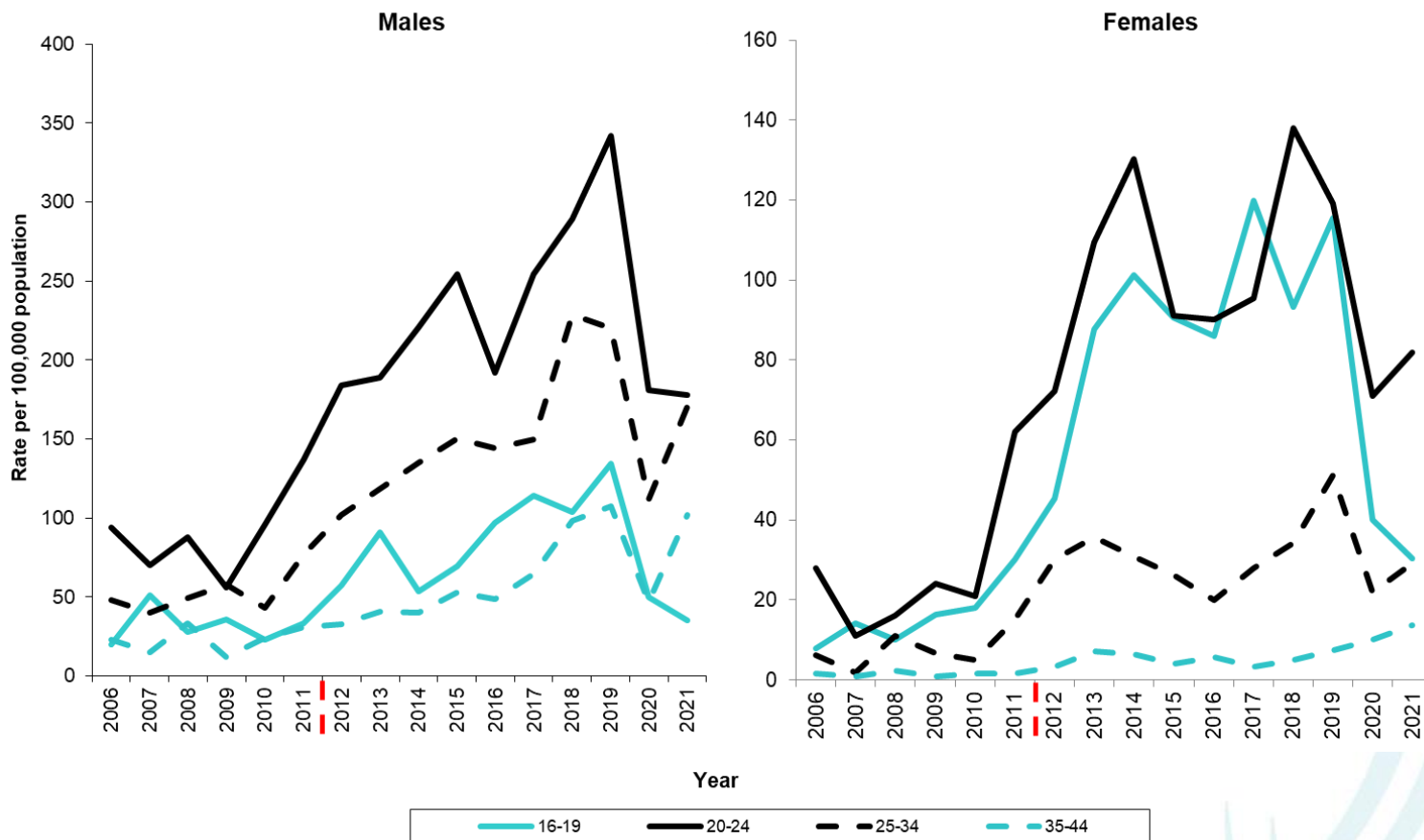
Note: Over 90% of diagnoses made via SH24 receive treatment and therefore may not attend GUM clinics. Cases that do attend GUM are unable to be identified.

Figure 10: Diagnoses of gonorrhoea in Northern Ireland GUM clinics, 2006–2021



Source: NI GUM Clinics (GUMCAD)

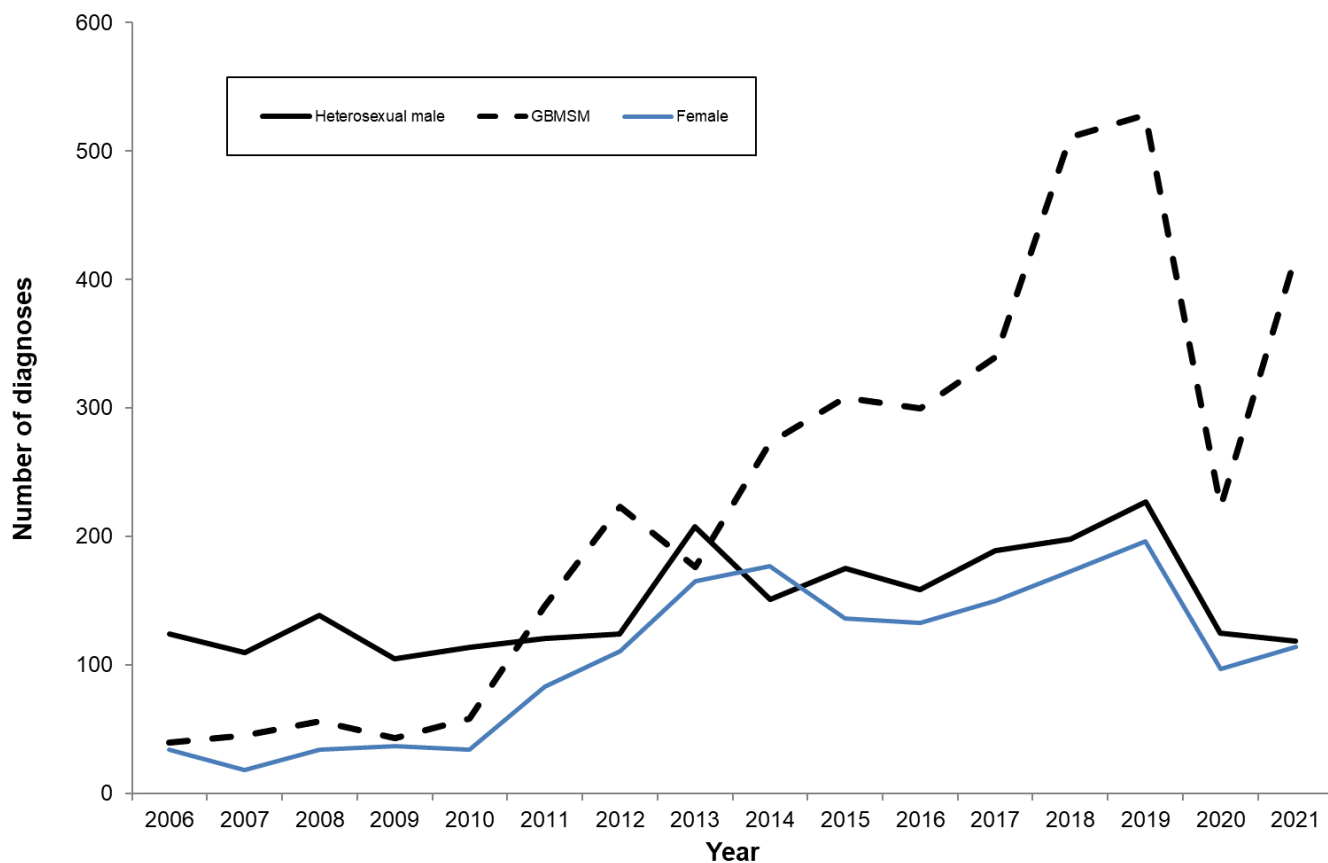
Figure 11: Rates of diagnosis of gonorrhoea in Northern Ireland, GUM clinics by gender and age group, 2006–2021



Source: NI GUM Clinics (GUMCAD)

Rates have been recalculated from 2012 t as a result of new coding within GUM clinic

Figure 12: Number of diagnoses of gonorrhoea by sexual orientation in Northern Ireland GUM clinics, 2006-2021



Source: NI GUM Clinics (GUMCAD)

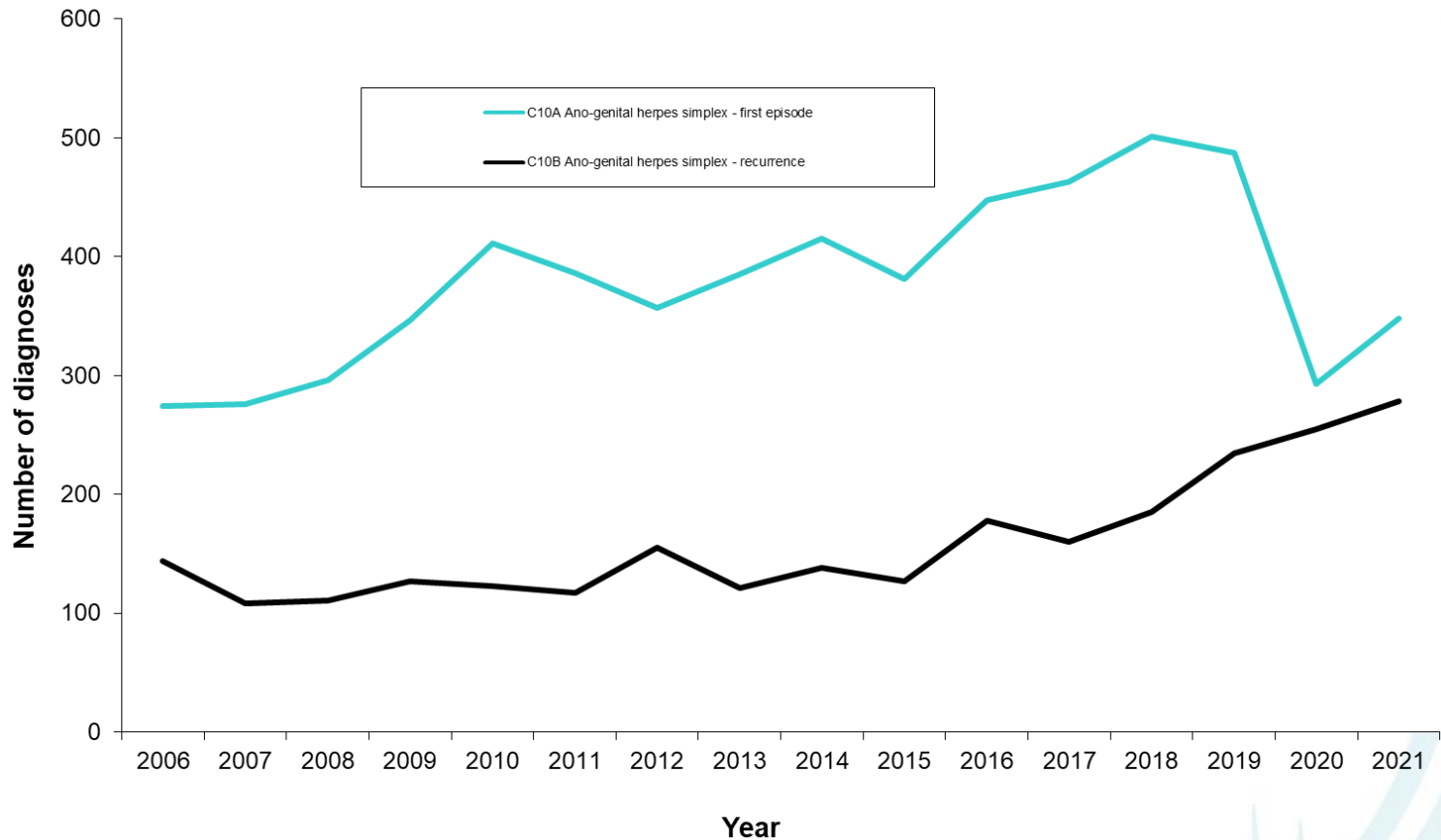
Table 4: *Neisseria gonorrhoeae* antibiotic susceptibility reported activity for antibiotics, 2021

Antibiotics	Susceptible		Resistant		Intermediate		Total specimens Reported	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Azithromycin	139	77.7	40	22.3	0	0.0	179	100
Ceftriaxone	228	100.0	0	0.0	0	0	228	100
Ciprofloxacin	171	75.3	56	24.7	0	0.0	227	100
Doxycycline	96	66.2	37	25.5	12	8.3	145	100
Penicillin	21	11.1	41	21.7	127	67.2	189	100

Source: Northern Ireland Laboratory Information System (NILIS)

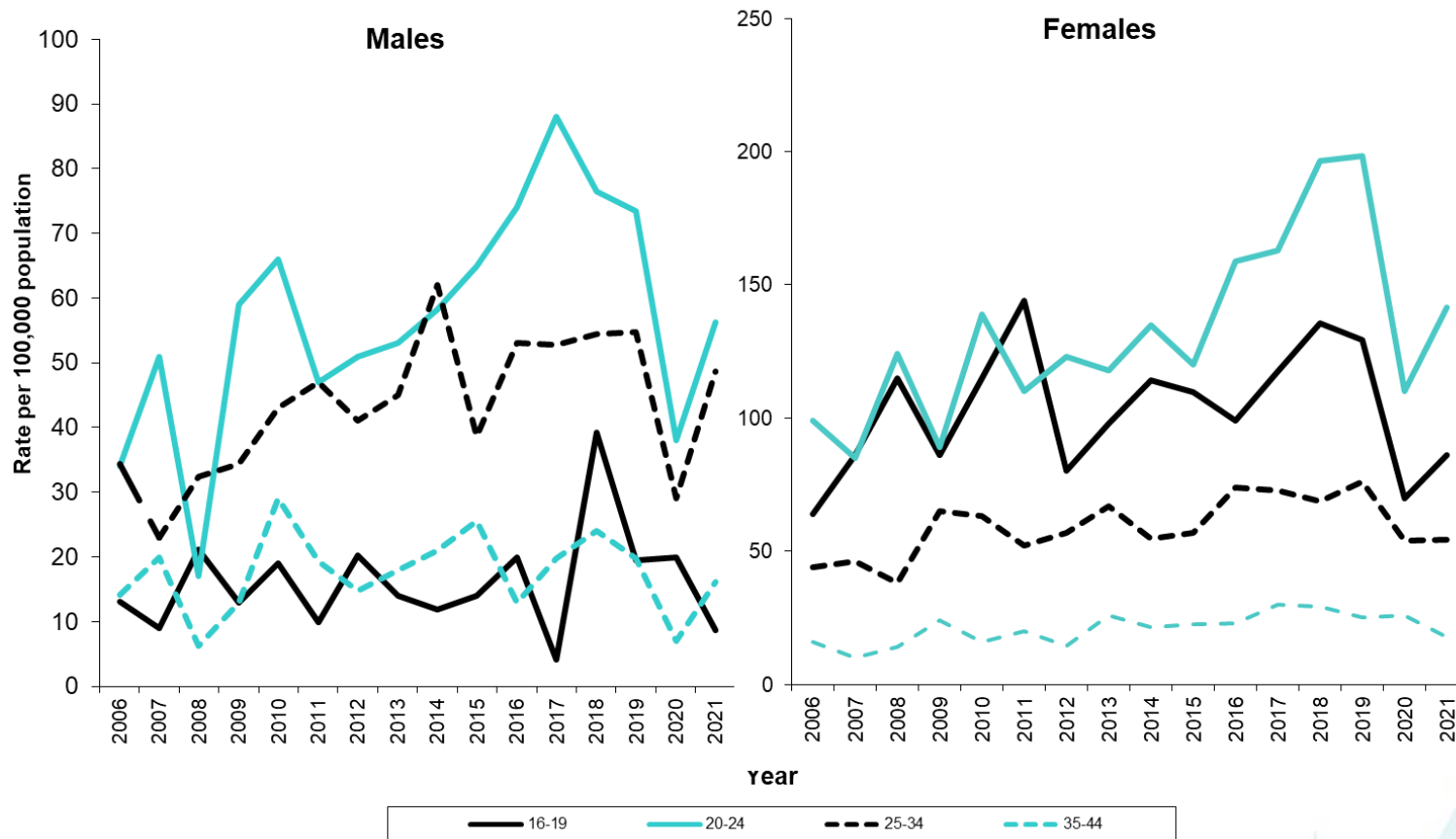


Figure 13: Diagnoses of genital herpes in Northern Ireland GUM clinics, 2006–2021



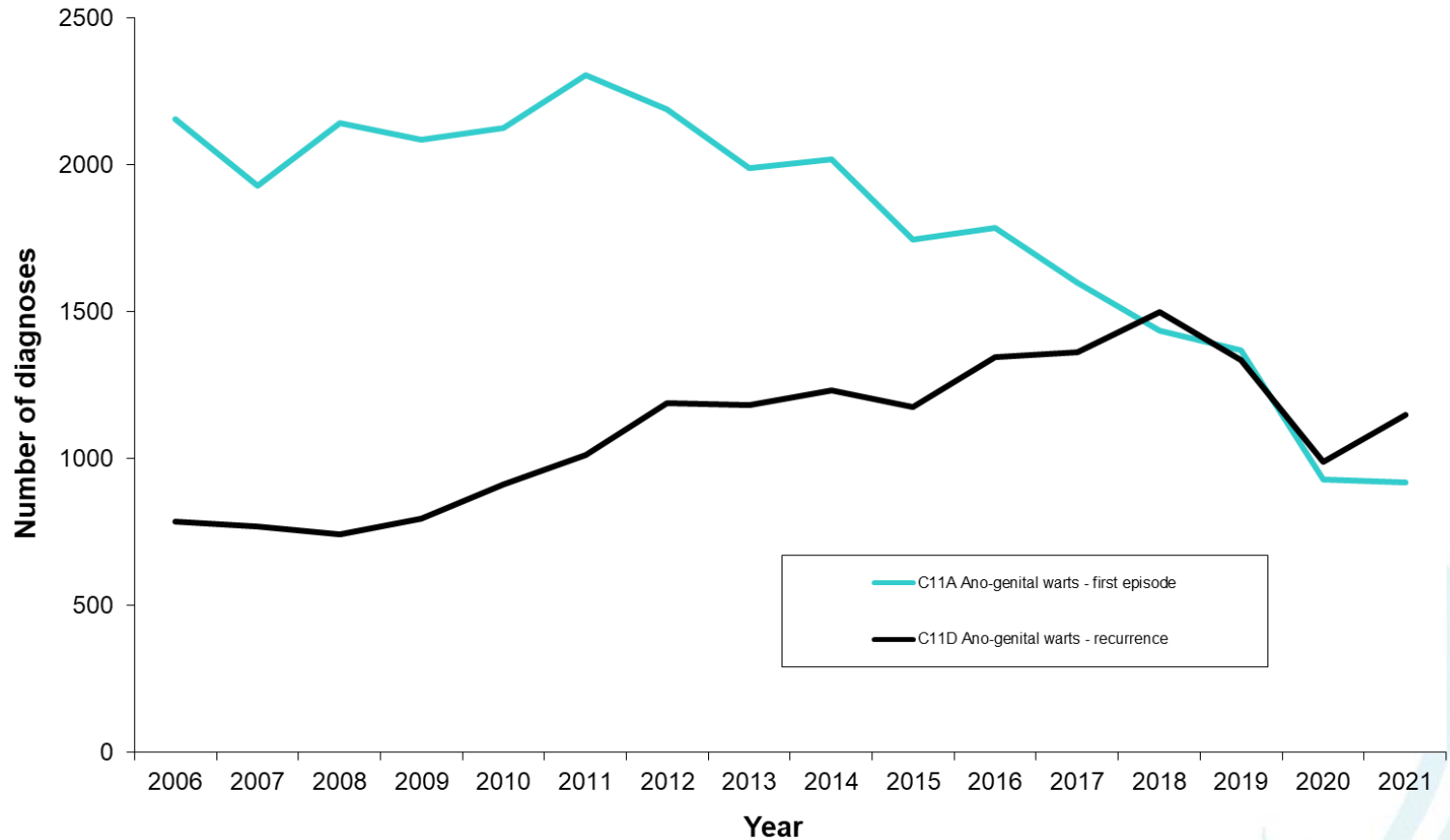
Source: NI GUM Clinics (GUMCAD)

Figure 14: Rates of diagnosis of genital herpes (first episode) in Northern Ireland GUM clinics, by age and gender, 2006–2021



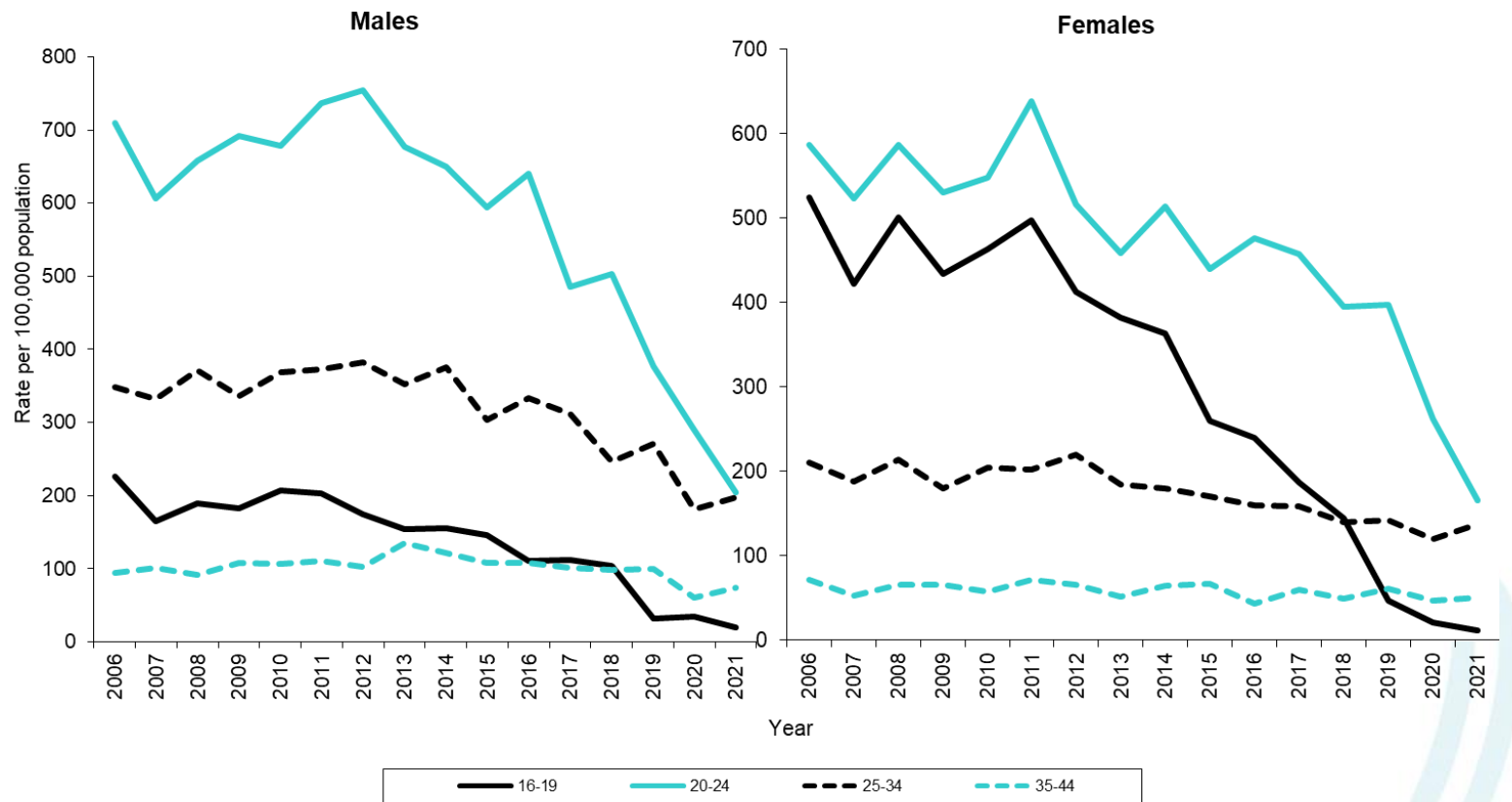
Source: NI GUM Clinics (GUMCAD)

Figure 15: Diagnoses of genital warts in Northern Ireland GUM clinics, 2006–2021



Source: NI GUM Clinics (GUMCAD)

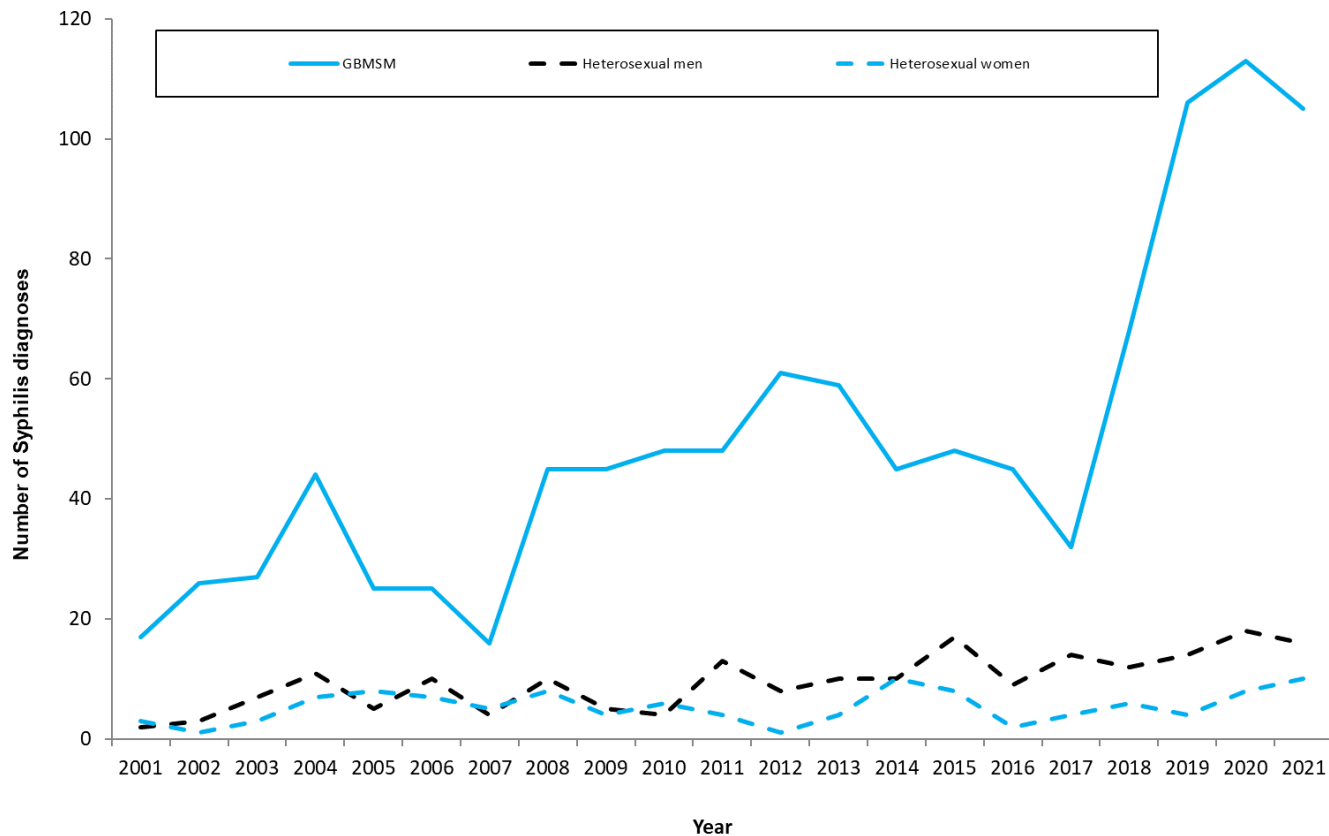
Figure 16: Rates of diagnosis of genital warts (first episode) in Northern Ireland GUM clinics, by age and gender, 2006–2021



Source: NI GUM Clinics (GUMCAD)

This sustained decline is seen in young females, due to the human papilloma virus (HPV) vaccine, and a similar but smaller effect seen in similar aged males due to herd immunity.

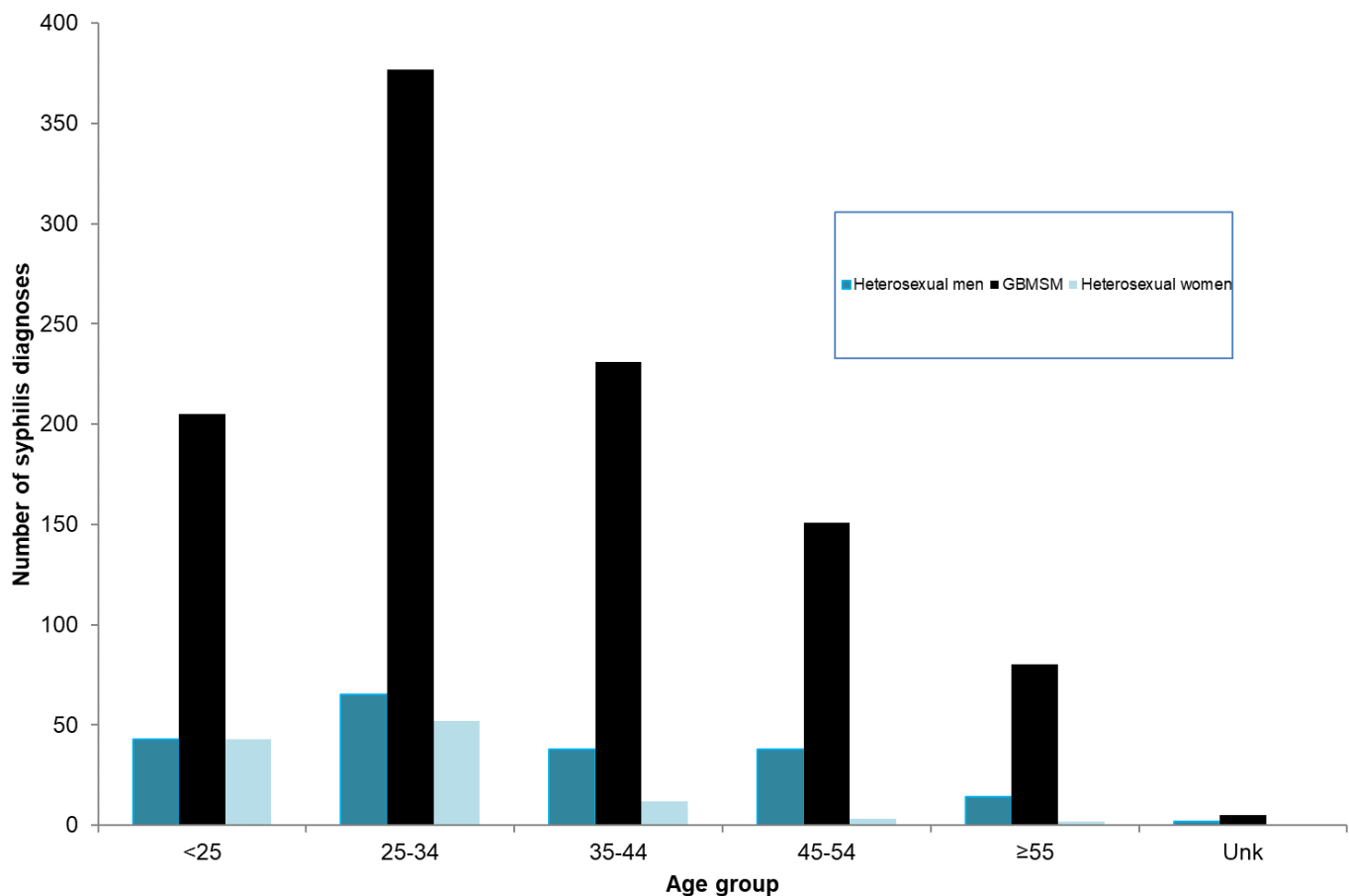
Figure 17: Number of syphilis* diagnoses in Northern Ireland GUM clinics, by gender and sexual orientation, 2001-2021



Source: NI GUM Clinics (GUMCAD)

*Primary, secondary and early latent syphilis

Figure 18: Age distribution of syphilis* diagnoses in Northern Ireland GUM clinics, by gender and sexual orientation, 2001–2021



Source: NI GUM Clinics (GUMCAD)

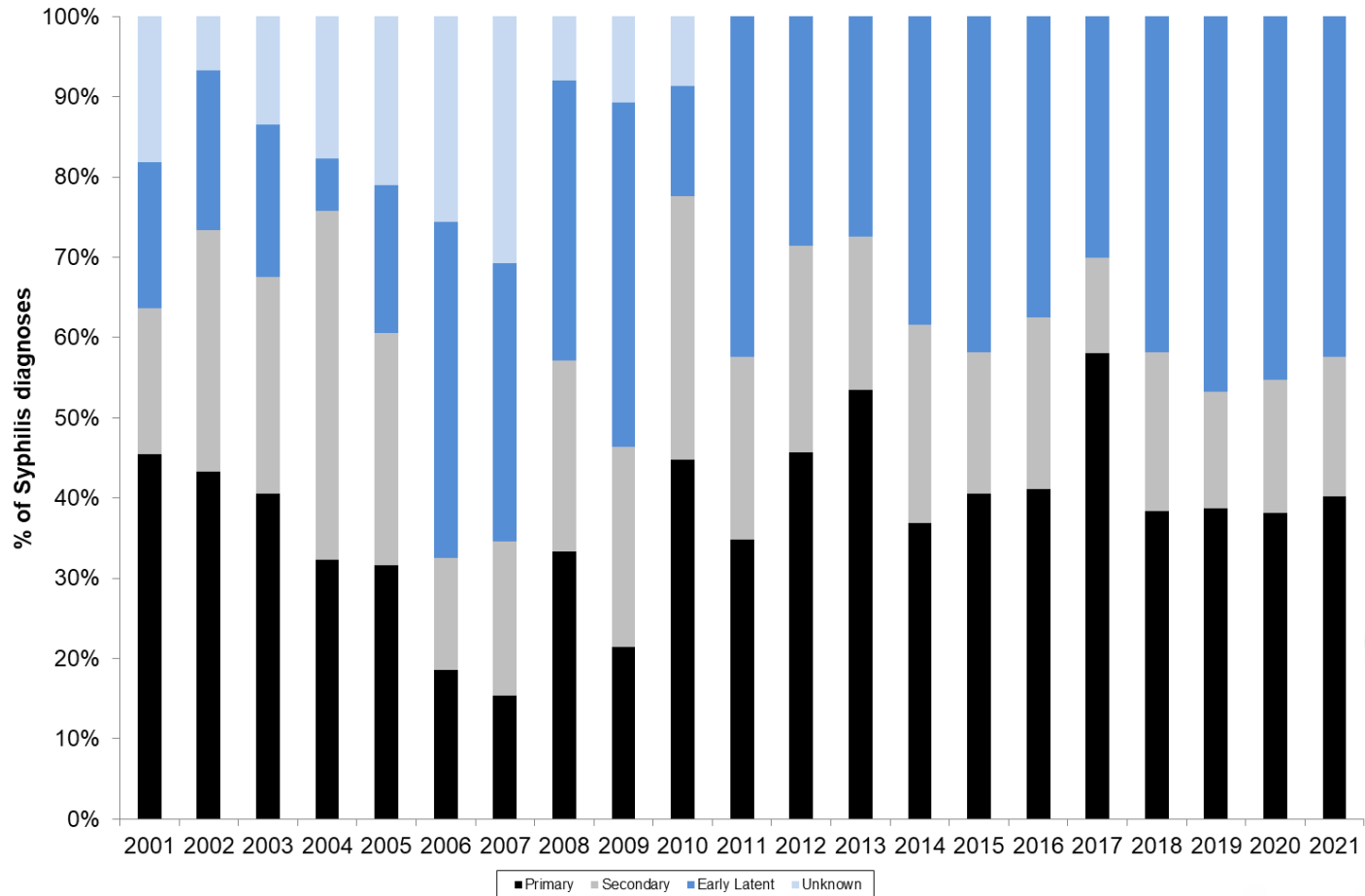
*Primary, secondary and early latent syphilis



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Figure 19: Stage of disease, by year of diagnosis, 2001-2021



Source: NI GUM Clinics (GUMCAD)

Summary and conclusions

- There have been significant changes in testing patterns, with a shift to home testing. More STI testing was done in GUM clinics and home settings in 2021 compared to 2020.
- There has been an increase in the number of new STIs reported from both GUM clinics and home testing in 2021 compared to 2020.
- There continues to be a rise in certain STIs in gay, bisexual and other men who have sex with men (GBMSM), in particular syphilis from 2017 and gonorrhoea from 2020.

Summary and conclusions

- There was a 5% increase in the number of new STIs reported through NI GUM Clinics in 2021 when compared to 2020.
- Testing increased by 31% in 2021 after a significant decrease (69%) in 2020 during the pandemic.
- Home self-testing for STIs (SH24) was an important route for testing, with a large number of individuals using the service, and a 10% diagnostic rate.
- There were 1,763 diagnoses of chlamydia made by SH24, and 750 made via GUM clinics (not de-duplicated).

Summary and conclusions

- The highest diagnostic rates of the common STIs occur in 16-24 year old females and 20-34 year old males.
- People aged 16-34 year old account for approximately 80% of new STIs.
- GBMSM are at disproportionate risk of contracting some STIs accounting for 89% of male infectious syphilis, 78% of male gonorrhoea, 23% of male herpes and 40% of male chlamydia infections.
- GBMSM have accounted for the majority of the increase seen in syphilis and gonorrhoea diagnoses during 2021.

Summary and conclusions

- There was a 43% increase in the number of gonorrhoea diagnoses made in 2021 when compared to 2020.
- There was a further 1% decline in first episodes of genital warts in 2021 when compared with 2020.
- This sustained decline is seen in young females, due to the human papilloma virus (HPV) vaccine, and a similar but smaller effect seen in similar aged males due to herd immunity.
- Genital herpes simplex (first episode) increased by 19% in 2021 when compared to 2020.
- There was a 3% decrease in the number of chlamydia diagnoses made in GUM clinics. However when combining the number of diagnoses made in SH24 there has been an increase of 35% when comparing 2020 to 2021.

Recommendations

- Safer sex messages should continue to be promoted to the general population, young people and GBMSM.
- The risks to health of unprotected casual sex, both within and outside Northern Ireland, need to be reinforced.
- There should be communications encouraging STI testing to the general population, young people and GBMSM.



Recommendations

Individuals can reduce their risk of acquiring or transmitting an STI by:

- Always using a condom when having sex with casual and new partners;
- Getting tested if at risk, as these infections are frequently asymptomatic;
- GBMSM having unprotected sex with casual or new partners should have an HIV/STI screen at least annually, and every three months if changing partners regularly;
- Reducing the number of sexual partners and avoiding overlapping sexual relationships.

Recommendations

- Commissioners should continue to seek to expand access to STI testing opportunities. Home self-testing offers an opportunity to expand access to testing to under-served areas, and higher risk populations.
- The increase in infectious syphilis and gonorrhoea requires further investigation.



Appendix 1: STI groupings

New STI diagnoses
Chlamydial infection (uncomplicated and complicated)
Gonorrhoea (uncomplicated and complicated)
Infectious and early latent syphilis
Genital herpes simplex (first episode)
Genital warts (first episode)
New HIV diagnosis
Non-specific genital infection (uncomplicated and complicated)
Chancroid/lymphogranuloma venereum (LGV)/donovanosis
Molluscum contagiosum
Trichomoniasis
Scabies
Pediculus pubis
Other STI diagnoses
Congenital and other acquired syphilis
Recurrent genital herpes simplex
Recurrent and re-registered genital warts
Subsequent HIV presentations (including AIDS)
Ophthalmia neonatorum (chlamydial or gonococcal)
Epidemiological treatment of suspected STIs (syphilis, chlamydia, gonorrhoea, non-specific genital infection)
Other diagnoses made at GUM clinics
Viral hepatitis B and C
Vaginosis and balanitis (including epidemiological treatment)
Anogenital candidiasis (including epidemiological treatment)
Urinary tract infection
Cervical abnormalities
Other conditions requiring treatment at a GUM clinic



Appendix 2: References

- <https://www.gov.uk/government/publications/syphilis-public-health-england-action-plan>