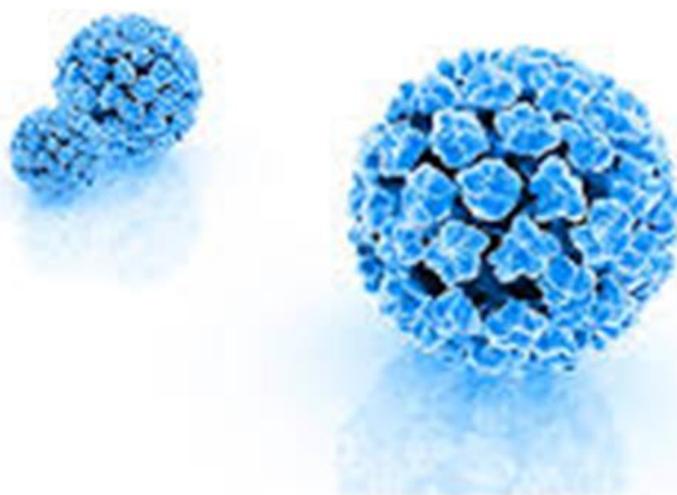


Sexually Transmitted Infection Surveillance in Northern Ireland 2019

An analysis of data for the calendar year 2018



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This report aims to provide an overview of STI epidemiology in Northern Ireland by collating and analysing information from a number of sources. Although it reflects epidemiological trends over time, its main focus will be on data collected in 2018.

In order to prevent possible disclosure, where the number of any category of episodes in any one year is between one and four, this is reported either within a cumulative figure, or as an asterix. In addition, where the anonymised figure can be deduced from the totals, the next smallest figure will also be anonymised.

Summary points

In Northern Ireland Genito-Urinary Medicine (GUM) clinics in 2018

- New diagnoses of chlamydia increased by 6%; 1,787 diagnoses in 2018 compared with 1,684 in 2017.
- New diagnoses of gonorrhoea increased by 30%; 882 in 2018 compared with 679 in 2017.
- New diagnoses of genital herpes simplex (first episode) increased by 8%; 501 in 2018 compared with 463 in 2017.
- New diagnoses of genital warts (first episode) decreased by 10%; 1,436 in 2018 compared with 1,600 in 2017.
- New diagnoses of infectious syphilis increased by 72%; 86 in 2018 compared with 50 in 2017.

Surveillance arrangements and sources of data

GUMCAD

GUM clinics in Northern Ireland have upgraded the reporting software used for recording attendances to GUMCAD v2. GUMCAD collects anonymised patient-level data on all STI tests and diagnoses in Northern Ireland.

GUMCAD data reflect only those diagnoses made in GUM clinics. It follows that accessibility of those services to the public, as measured by service capacity and geographic location of services, may influence the diagnostic rate of STIs. Thus, direct comparison of different regions, or indeed different time periods within the same region if service access should change, must be interpreted with caution.

Given that the majority of new diagnoses originate from the GUM clinic at the Royal Victoria Hospital (the clinic that provides greatest access), the clinic location is not a useful proxy for patient residence.

As a result of the changes gonorrhoea and chlamydia are no longer categorised as complicated and uncomplicated. Therefore the way gonorrhoea and chlamydia are presented within the report has been amended and some figures are not directly comparable to data from previous years as annotated in the relevant figures.

Laboratory reporting

Laboratory data represent an important complementary source to clinician-initiated surveillance arrangements. Laboratory reporting of *Chlamydia trachomatis* in Northern Ireland is provided for 2006–2018. Antibiotic susceptibility information for *Neisseria gonorrhoeae* isolates is provided for 2018.

Enhanced syphilis surveillance

Enhanced surveillance arrangements for infectious syphilis in Northern Ireland have been in place since syphilis first re-emerged in September 2001. Based on anonymised, confidential reporting by GUM clinicians to the Public Health Agency (PHA), a range of demographic, clinical and risk factor data are collected on cases of primary, secondary and early latent stage syphilis.

1: Diagnoses provided in Northern Ireland GUM clinics in 2018

During 2018:

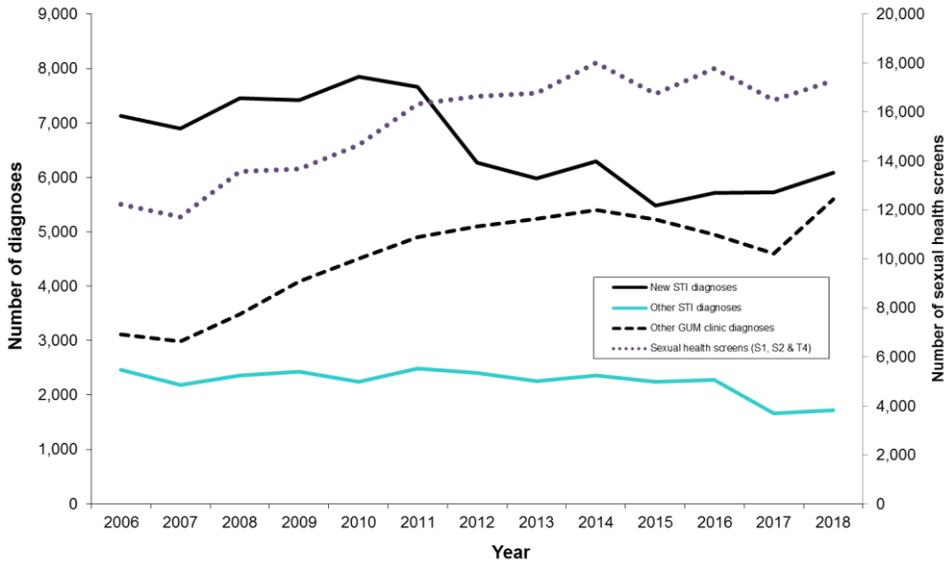
- 6,086 new STI diagnoses were made, an increase of 6% compared with 2017 (5,726);
- 65% (3,970/6,086) of new STI diagnoses were in males;
- three types of infection accounted for 70% of **new STI diagnoses** – chlamydia (29%), genital warts (first infections) (24%) and non-specific genital infection (17%);
- 1,725 **other STI diagnoses** were made;
- 5,600 **other diagnoses made at GUM clinics**.

Trends: 2006–2018

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 1.2). 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 patients¹. This has resulted in more detections of organisms with proven pathogenicity, particularly gonorrhoea and thus NSGI diagnoses have fallen (Figure 1.2). However, diagnoses of new STIs have been increasing again since 2015, with a further 6% increase in 2018 when compared to 2017 (Figure 1.1).

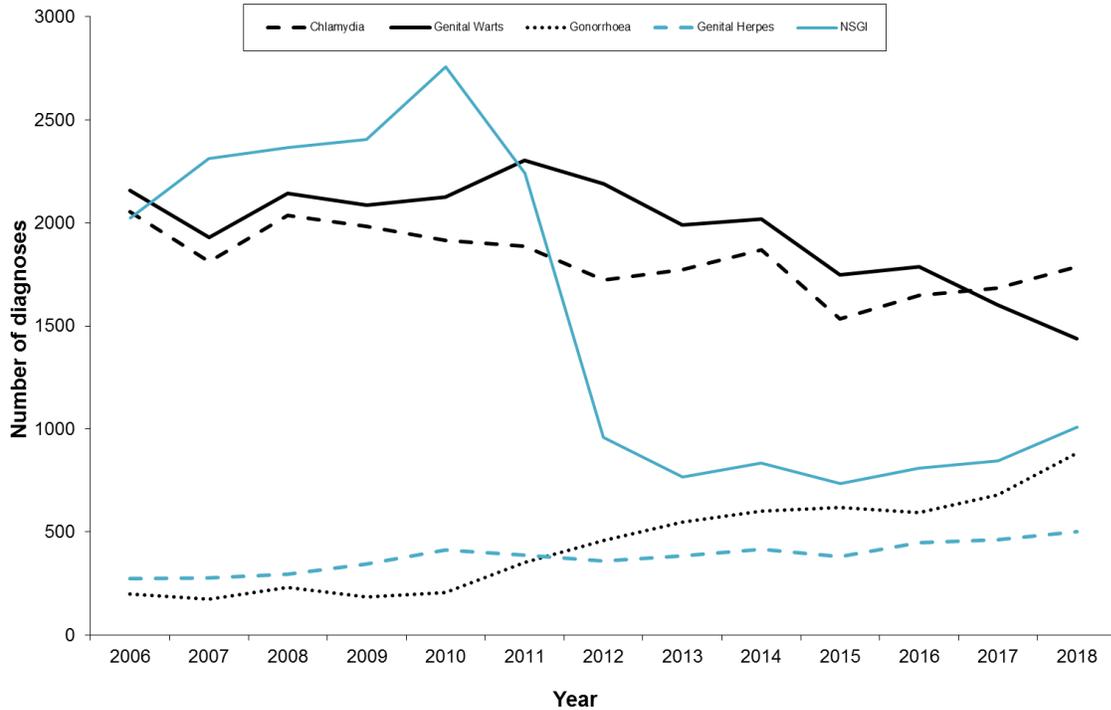
The number of **other STI diagnoses** has remained largely stable since 2006. An explanation of STI categories is provided in Appendix 1.

Figure 1.1: Trends in diagnoses and sexual health screens made in Northern Ireland GUM clinics, 2006–2018



During 2006–2018, chlamydia infection, non-specific genital infection (NSGI) and genital warts (first infections) accounted for the highest proportion of new STI diagnoses (70%) made in Northern Ireland GUM clinics (Figure 1.2). Specific disease trends will be examined in chapters 2 to 6.

Figure 1.2: Trends in new diagnoses of STIs in Northern Ireland GUM clinics, 2006–2018

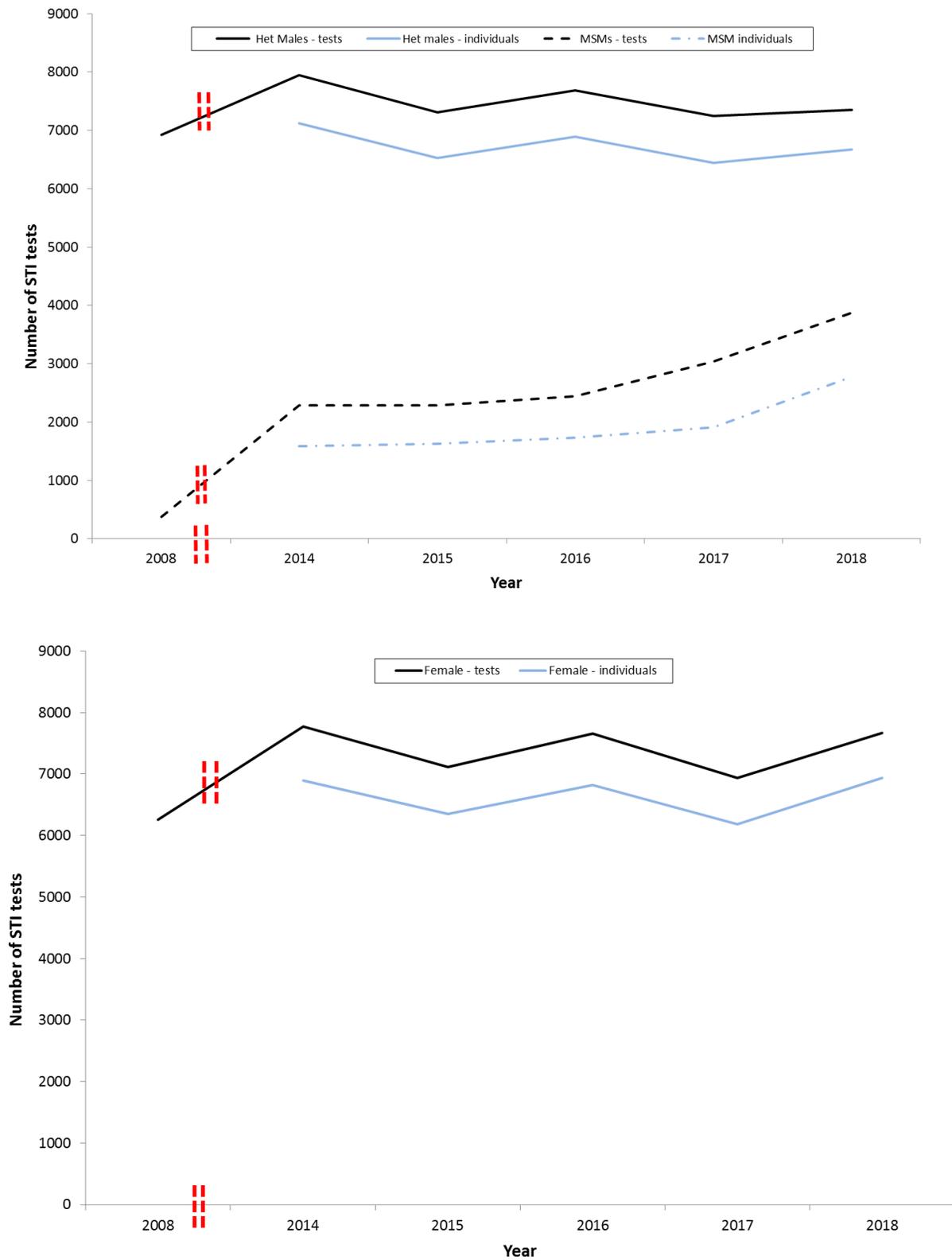


Sexual health screens

The number of sexual health screens performed annually has increased significantly since 2008, but has reached a plateau since 2014 reflecting a capacity ceiling within GUM clinics. This, however, masks an increase in test activity in MSM. There has been a particular increase in MSM testing since 2017, likely to represent increasing attendance at GUM clinics by those seeking HIV pre-exposure prophylaxis (PrEP), as well as the more frequent routine testing in those being prescribed PrEP.

Since July 2018, HIV PrEP has been available, through the Risk Reduction Clinic in Belfast Trust to those meeting certain risk criteria. At each clinic attendance, patients are offered a sexual health screen.

Figure 1.3: Trends in sexual health screen activity in Northern Ireland GUM clinics, by gender and male sexual orientation, 2008, 2014-2018



2: Chlamydia

Genital chlamydia is a bacterial infection caused by *Chlamydia trachomatis*. The infection is asymptomatic in at least 50% of men and 70% of women. In women, untreated infection can cause chronic pelvic pain and lead to pelvic inflammatory disease (PID), ectopic pregnancy and infertility. An infected pregnant woman may also pass the infection to her baby during delivery. Complications in men include urethritis, epididymitis and Reiter's Syndrome.

Consistent with elsewhere in the UK, chlamydia is the most common bacterial STI diagnosed in Northern Ireland GUM clinics.

Although there is no organised regional chlamydia testing programme in Northern Ireland, symptomatic and asymptomatic testing of those at risk is undertaken within primary care and sexual health services.

Diagnoses made in GUM clinics during 2018

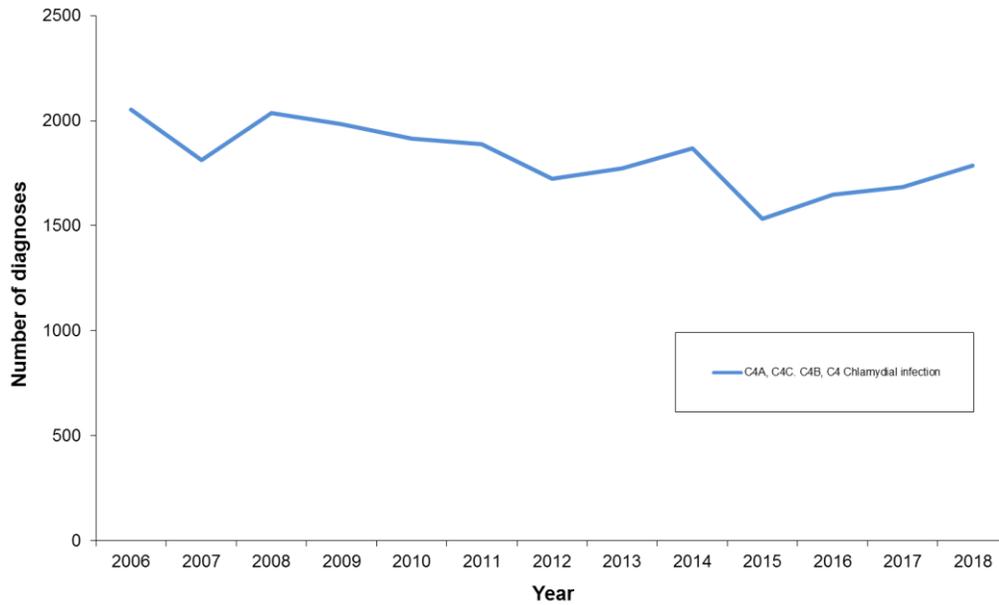
Chlamydial infection accounted for 29% (1,787/6,086) of all new STI diagnoses made in Northern Ireland GUM clinics during 2018.

- There were 1,787 new episodes of chlamydial infection diagnosed in Northern Ireland GUM clinics in 2018, compared with 1,684 in 2017.
- 1,035 (58%) of these were diagnosed in males.
- The highest rates of infection in both males and females were in the 20–24 years age group, accounting for 35% of male and 46% of female diagnoses.
- The rate of diagnoses in the 16–19 years age group is more than double in females as in males.
- 29% (303/1,035) of the total male diagnoses occurred in men who have sex with men (MSM).

Trends: 2006–2018

Between 2006 and 2015, diagnoses of chlamydial infection decreased by 25%, from 2,053 diagnoses in 2006 to 1,534 in 2015, however diagnoses have increased each year from 2016 to 2018 (Figure 2.1).

Figure 2.1: Diagnoses of chlamydia in Northern Ireland, 2006–2018



Age and gender trends: chlamydia

From 2012–2018, diagnostic rates in females were consistently highest in the 16–24 years age group, peaking between 20 and 24 years (Figure 2.2). In males, the highest rates were in the 20–34 years age group, again peaking between 20 and 24 years.

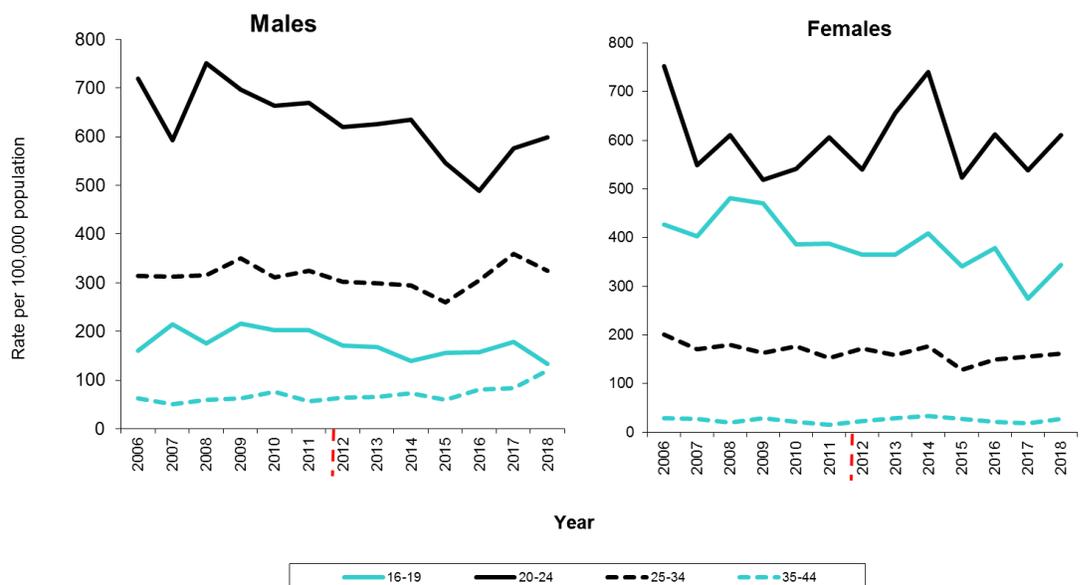
Diagnostic rates in those under 25 years of age were consistently higher in females, with rates in those aged 25 years and over consistently higher in males. Diagnostic rates in females aged over 24 years decrease due to changes in sexual behaviour, as well as decreased susceptibility.

Diagnoses in those under 16 years of age accounted less than 1% (35/12,013) of all diagnoses made during the period 2012–2018.

Diagnoses in the 45+ years' age group accounted for 3% (404/12,003) of all diagnoses made during the period 2012–2018.

The proportion of male chlamydia diagnoses attributed to MSM has ranged from 6% in 2006 to 29% in 2018.

Figure 2.2: Rates of chlamydial infection in Northern Ireland, by gender and age group, 2006–2018



Footnote: Rates have been re-calculated from 2012 to include KC60 code C4B – Complicated chlamydia

Genital chlamydia trachomatis laboratory reporting, 2006–2018

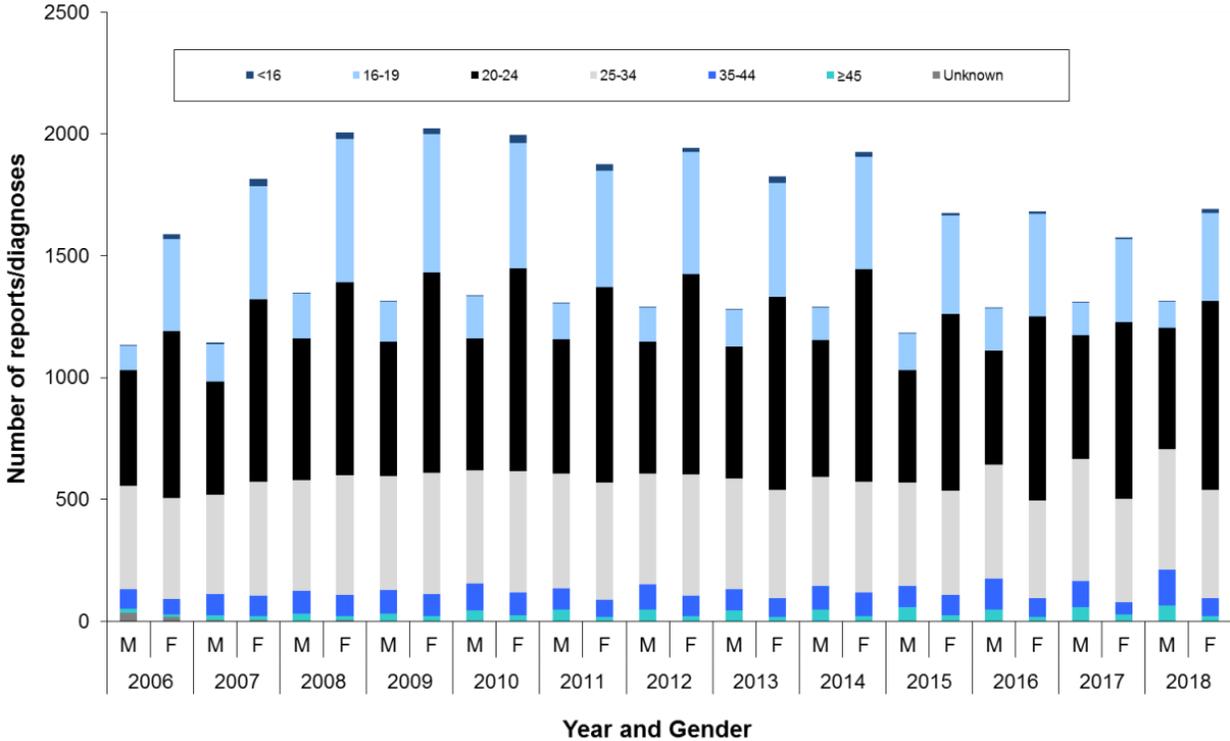
During 2018, 3,063 laboratory confirmed cases of genital chlamydia trachomatis were reported, an increase of 6% compared with 2017. GP specimens accounted for 30% (911/3,063) of cases reported during 2018 (Table 2.1). Between 2006 and 2018, confirmations from GP specimens increased by 27%.

Table 2.1: Referral source of genital *Chlamydia trachomatis* specimens, 2006–2018

Referral Source	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	TOTAL
GP Number (%)	720 (26.1)	894 (29.7)	979 (29.0)	1025 (30.3)	1124 (33.5)	1096 (34.3)	1207 (37.1)	1102 (35.2)	1093 (33.9)	1028 (35.8)	977 (32.8)	968 (33.5)	911 (29.7)	13,124
Other	2,036	2,121	2,396	2,353	2,231	2,104	2,044	2,023	2,130	1,836	1,998	1,921	2,152	27,345
Total	2,756	3,015	3,375	3,378	3,355	3,200	3,251	3,125	3,223	2,864	2,975	2,889	3,063	40,469

Higher numbers of diagnoses are consistently reported in females, accounting for 55% (1,691/3,063) of all cases reported by laboratories during 2018. The majority (68%; 16,102/23,620) of female cases reported in the period 2006–2018 were aged between 16 and 24 years. Between 2006 and 2018 females accounted for 79% of the diagnoses made by a GP. Males accounted for between 38% and 45% of cases reported annually since 2006. The majority of male cases reported since 2006 were in the 20–34 years age group (Figure 2.3). Information on gender was missing for 1% of cases reported during the period 2006–2018.

Figure 2.3: Laboratory reports of genital *Chlamydia trachomatis*, by age and gender, 2006–2018



3: Gonorrhoea

Gonorrhoea is a bacterial STI caused by *Neisseria gonorrhoeae*. Untreated, gonorrhoea can enter the bloodstream or spread to the joints, and in women it can cause pelvic inflammatory disease, ectopic pregnancy and infertility. An infected pregnant woman may pass the infection to her baby during delivery.

Diagnoses made in GUM clinics during 2018

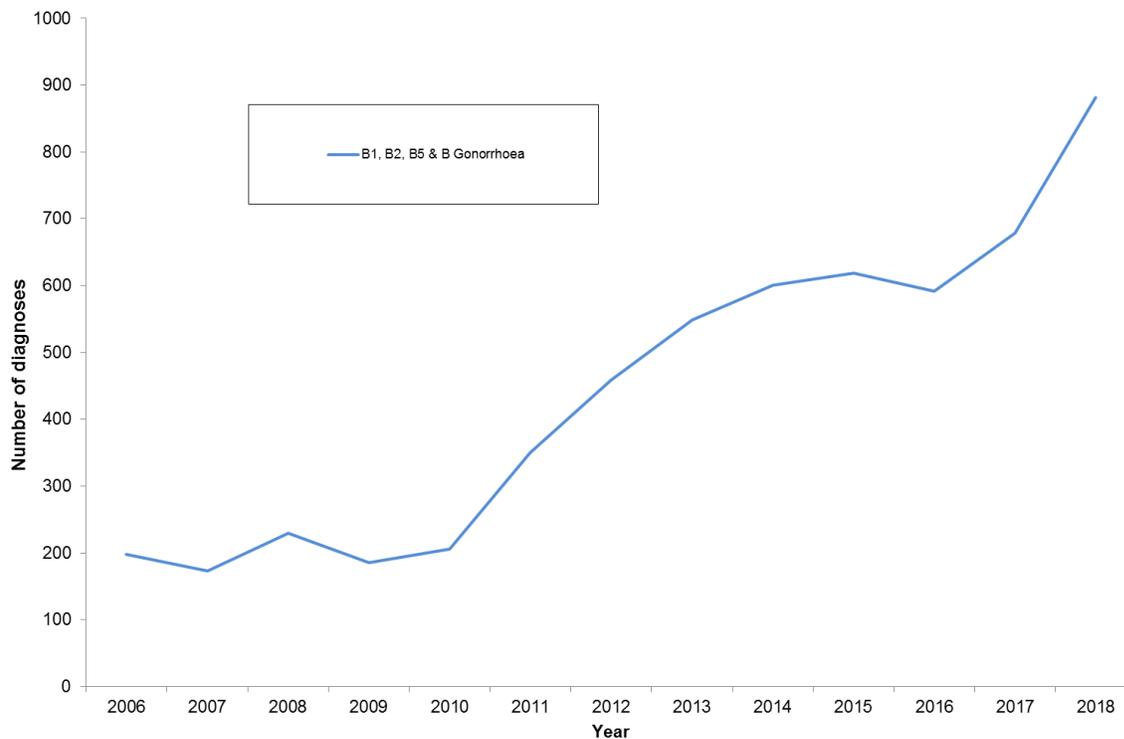
Gonorrhoea accounted for 14% (882/6,086) of all new STI diagnoses made in Northern Ireland GUM clinics during 2018.

- There were 882 new episodes of gonorrhoea diagnosed in Northern Ireland GUM clinics in 2018, compared with 679 in 2017, an increase of 30%.
- 709 (80%) of these were diagnosed in males.
- The highest diagnostic rates in both men and women were in the 20–24 years age group.
- 69% of female diagnoses were in the 16–24 years age group and 25% were in the 25–34 years age group.
- 32% of male diagnoses were in the 16–24 years age group and 40% were in the 25–34 years age group.
- 72% (511/709) of male diagnoses were attributed to MSM.

Trends: 2006–2018

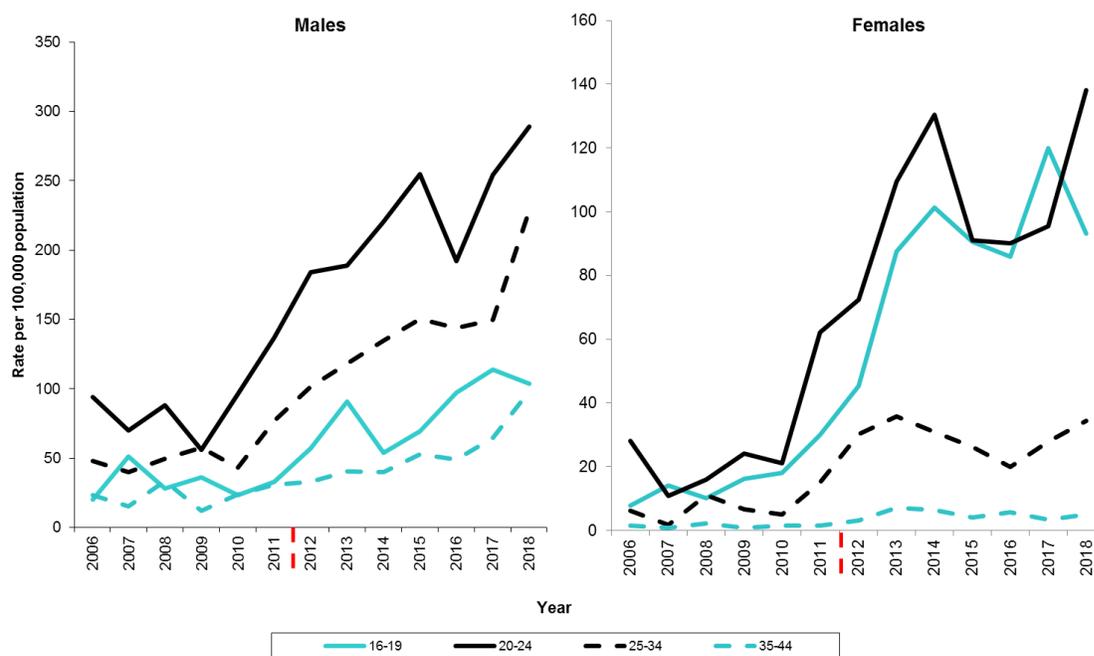
The annual number of diagnoses of gonorrhoea has shown very little change between 2006 and 2010. However diagnoses rose dramatically between 2010 and 2015 with a 200% increase; 619 diagnoses in 2015 compared with 204 in 2010 (Figure 3.1). The number of diagnoses increased again in 2018 (882), the highest ever recorded in Northern Ireland. The proportion of male diagnoses attributed to MSM ranged from 24% in 2006 to 65% in 2016, with 72% in 2018.

Figure 3.1: Diagnoses of gonorrhoea in Northern Ireland, 2006–2018



Age, gender and sexual orientation trends: gonorrhoea

Figure 3.2: Rates of gonorrhoea in Northern Ireland, by age group, 2006–2018

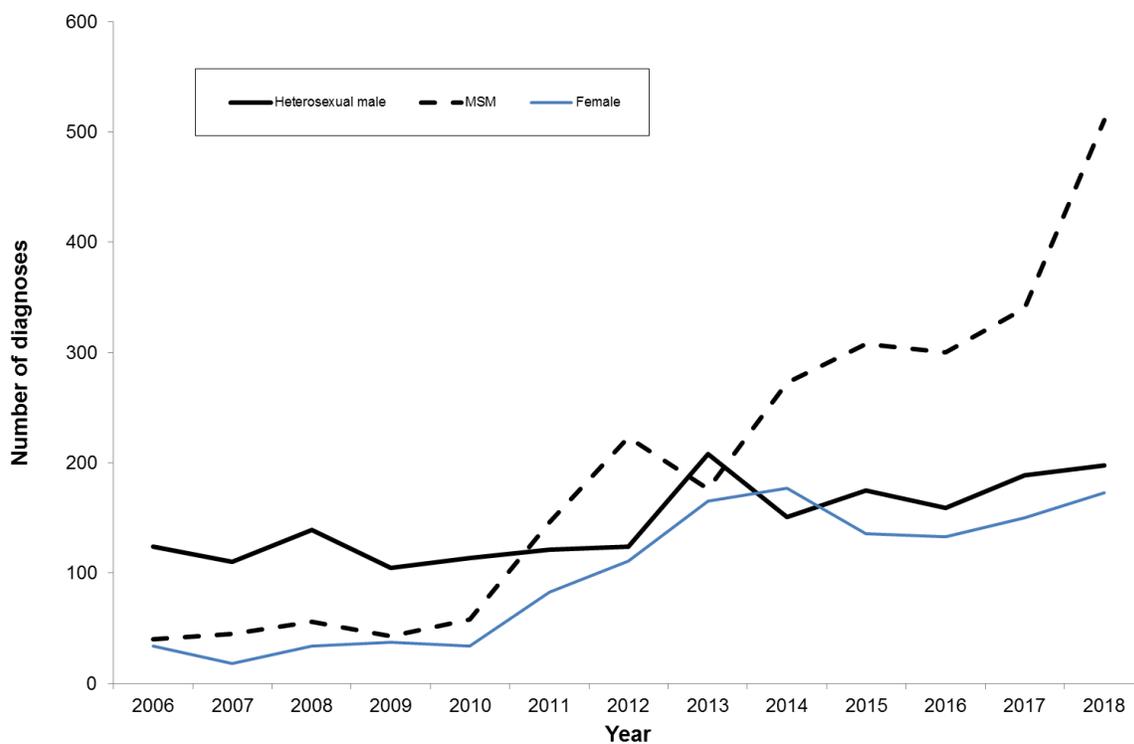


Footnote: Rates have been re-calculated from 2012 to include KC60 code B5 Complicated gonorrhoea

In males there has been an increased trend in diagnostic rates across all age groups since 2011. The largest increases and highest diagnostic rates have consistently been in the 20–24 years age groups, followed by the 25-34 years age group (Figure 3.2). From 2012–2018, fewer than 10 diagnoses were made annually in males aged under 16 years. Males aged 45 years and over accounted for 11% (372/3,335) of all male diagnoses during the period 2012–2018.

In females, the increases since 2011 have mostly affected the 16-19, and 20-24 age groups (Figure 3.2). In 2018, the number of diagnoses in females has increased by 15% when compared to 2017.

Figure 3.3: Diagnoses of gonorrhoea by sexual orientation in Northern Ireland, 2006-2018



The increase in diagnoses since 2010 has largely affected MSM and females. The number of MSM diagnoses continue to increase with 511 diagnosis made in 2018, the highest number recorded in Northern Ireland to date. There has been a much smaller though still generally upward trend in heterosexual males. While diagnoses in females stabilised after 2013, there have been consecutive annual increases in 2017 and 2018.

The increase in diagnoses of gonorrhoea seen between 2010 and 2013 is likely to largely reflect the introduction across Northern Ireland of combined chlamydia and gonorrhoea PCR testing in both GUM and community settings at this time. This dual platform test has increased the numbers of people tested for gonorrhoea, and is more sensitive compared with traditional culture methods, particularly at extra genital sites.

The further large increase in MSM seen in 2018 may be at least partly due to increased testing in MSM as a result of increased attendance by those seeking PrEP.

Neisseria gonorrhoeae antimicrobial susceptibility reporting 2018

Gonorrhoea is of particular concern due to its ability to develop resistance to successive antimicrobial agents. Treatment guidelines during 2018 continued to recommend the use of a combination of oral azithromycin and intra-muscular ceftriaxone, and that treatment should be followed by a test of cure. By combining antibiotics in this way it was hoped to slow the development of resistance to each component.

In 2019, however, in the context of continuing low level resistance to azithromycin and the spread of high-level azithromycin resistant (HL-AZiR) *Neisseria gonorrhoeae* (minimum inhibitory concentration (MIC) >256 mg/l), new UK guidance was issued to recommend IM ceftriaxone as monotherapy².

Neisseria gonorrhoeae antimicrobial susceptibility in Northern Ireland is monitored through a combination of routine diagnostic laboratory surveillance and, since 2015, participation in the European Gonococcal Surveillance Project (Euro-GASP). This sentinel programme tests a small number of isolates using PHE reference lab methodology, and allows comparison (as part of an overall UK sample) with countries elsewhere in Europe.

During 2018, laboratories reported antibiotic susceptibility data for 387 isolates as part of routine laboratory surveillance. Ninety eight percent of isolates were tested against azithromycin and 99% tested against ceftriaxone. 9% (33) were identified as resistant to azithromycin and all were susceptible to ceftriaxone (Table 3.1).

From 2016 to the end of 2018, the reference laboratory has confirmed 16 HL-AZiR cases in Northern Ireland, affecting mostly young heterosexuals. While to date there is no evidence of widespread transmission, enhanced surveillance will continue.

During 2018, 30 isolates were tested within the Euro-GASP programme. Seven percent of isolates showed resistance or high level resistance to azithromycin. All were susceptible to ceftriaxone.

Table 3.1: *Neisseria gonorrhoeae*: local Trust reported antibiotic susceptibility data, Northern Ireland, 2018

Antibiotics	Susceptible		Resistant		Intermediate		Total specimens Reported	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Azithromycin	305	80.1	33	8.7	43	11.3	381	100
Cefotaxime	1	100	0	0	0	0	1	100
Ceftriaxone	385	100	0	0	0	0	385	100
Ciprofloxacin	214	60.8	138	39.2	0	0.0	352	100
Doxycycline	169	57.1	114	38.5	13	4.4	296	100
Penicillin	68	20.1	131	38.8	139	41.1	338	100

Key recommendations to reduce the spread of antimicrobial-resistant *Neisseria gonorrhoeae* are:

- all primary diagnostic laboratories should test gonococcal isolates for susceptibility to first line antimicrobials and refer azithromycin and/or ceftriaxone resistant isolates to the PHE reference laboratory for confirmation;
- all cases of gonorrhoea should be treated and managed within GUM services;

- GUM services should ensure all patients with gonorrhoea are treated and managed according to national guidelines and be alert to changes in antimicrobials recommended for front line use;
- anyone having sex with new or casual sexual partners should be advised to use condoms consistently and correctly and test regularly for sexually transmitted infections.

4: Genital herpes

Genital herpes is caused by the herpes simplex virus (HSV), of which there are two distinct subtypes. HSV2 is almost exclusively associated with genital infection. Historically, HSV1 has mainly been associated with oral infection, but the proportion of genital herpes attributed to HSV1 in the UK is increasing. Genital herpes infection may facilitate HIV transmission, can cause severe systemic disease in those with impaired immunity, and can be potentially fatal to neonates.

Diagnoses made in GUM clinics during 2018

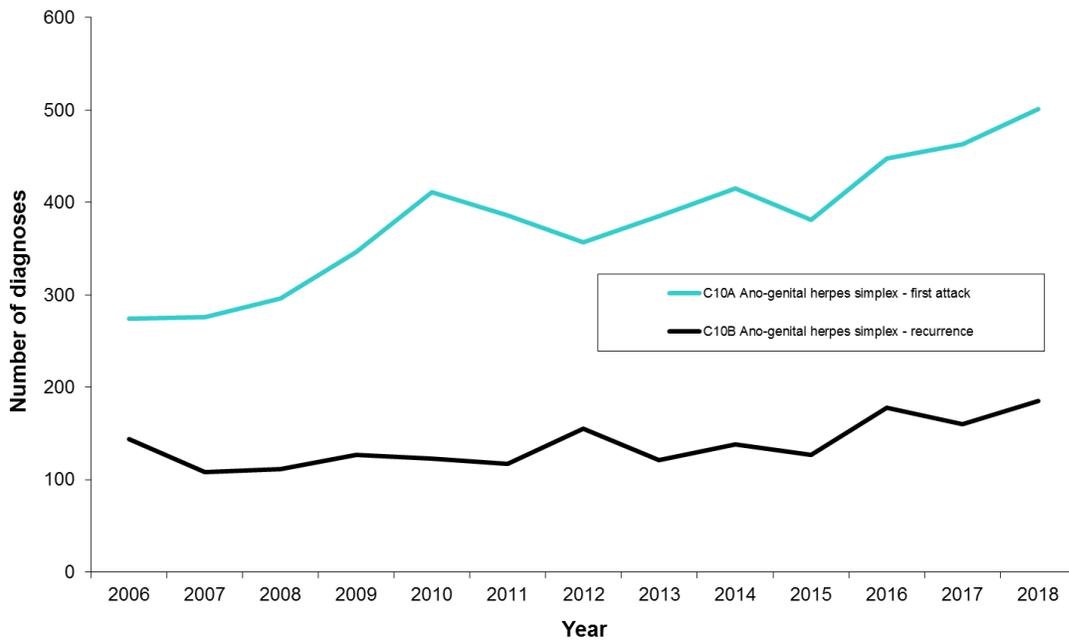
Genital herpes (first episodes) accounted for 8% (501/6,086) of all new STI diagnoses made in Northern Ireland GUM clinics during 2018.

- There were 686 episodes (first infections and recurrent infections) of genital herpes diagnosed in Northern Ireland GUM clinics in 2018.
- 434 (63%) of these were diagnosed in females.
- 501 (73%) of the total attendances for herpes in 2018 were for treatment of first infection and 185 (27%) were for treatment of recurrent infection.
- 27% of male diagnoses (68/252) and 27% (117/434) of female diagnoses were recurrent infections.
- The highest diagnostic rates of first infection in men were in the 20-34 years age group and in women were in the 16-24 years age group.
- Diagnostic rates of first infection in most age groups were higher in females, but most particularly in the 16-19 age group.
- 18% (34/184) of male first diagnoses occurred in MSM.

Trends: 2006–2018

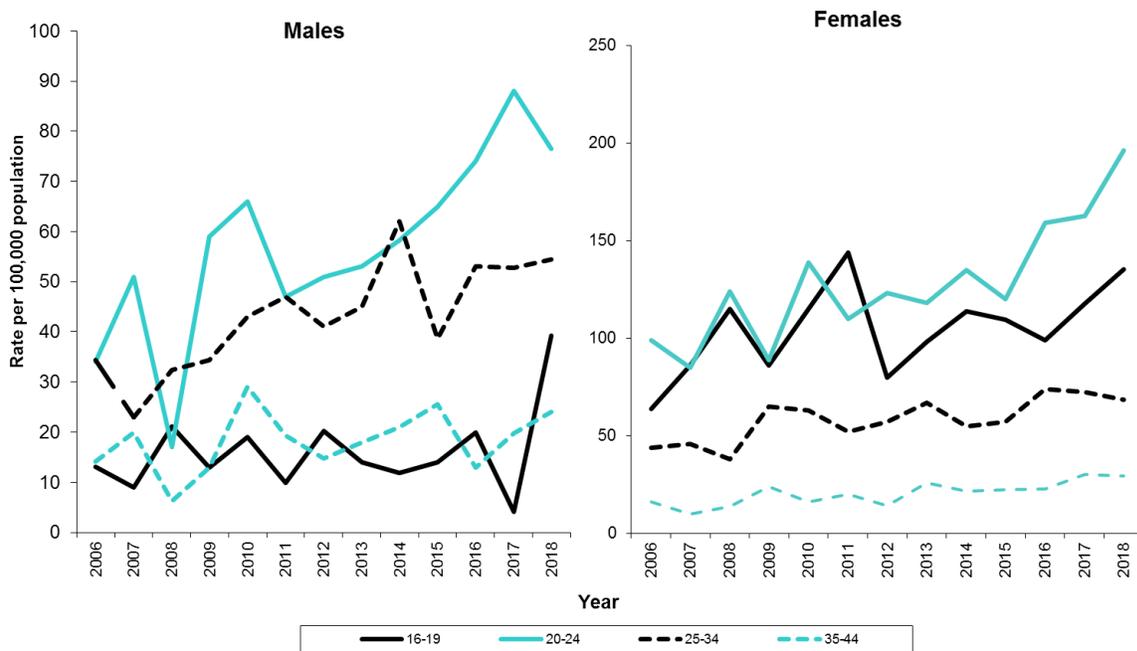
Annual numbers of first diagnoses of genital herpes increased each year between 2008 and 2010 with numbers remaining similar between 2011 to 2015. However, figures have increased by 31% in 2018 (501) when compared with 2015 (381). (Figure 4.1)

Figure 4.1: Diagnoses of genital herpes in Northern Ireland, 2006–2018



Age and gender trends: genital herpes (first episode)

Figure 4.2: Rates of diagnosis of genital herpes (first episode) in Northern Ireland, by age and gender, 2006–2018



Diagnostic rates in females were consistently highest in the 16–24 years age group. In males, the highest diagnostic rates were in the 20–34 years age group (Figure 4.2). The figures in the 20-24 age band in males have almost doubled since 2011.

Males under 20 years of age accounted for 6% (108/1,736) of all male diagnoses of genital herpes (first episode) made during the period 2006–2018, with diagnoses in the 45+ years age group accounting for 12% (203/1,736).

Females under 16 years of age accounted for 1% (43/3,203) of all female diagnoses made during the period 2006–2018, with diagnoses in the 45+ years age group accounting for 7% (224/3,203).

5: Genital warts

Genital warts are caused by human papillomavirus (HPV). There are approximately 100 types of HPV, of which about 40 infect the genital tract. HPV types 6 and 11 cause the majority of genital warts. Persistent HPV infections can also lead to cancers – anal, throat and penile cancers in men, and vaginal, vulval and cervical cancers in women. The majority of HPV related cancers are associated with types 16 and 18.

HPV vaccine for girls was introduced as a school based programme in Northern Ireland in 2008/09. Until September 2012 the vaccine used protected against the oncogenic types 16 and 18, but not those types causing genital warts³. From September 2012 onwards, the vaccine used also contains additional protection against types 6 and 11 which account for 90% of genital warts. In September 2014 the HPV immunisation programme changed from a three dose to a two dose schedule for those starting the course under the age of 15, in line with national recommendations.

From October 2016, the same quadrivalent HPV vaccine was introduced for MSM aged up to 45 years attending GUM clinics. Evidence suggests MSM attending GUM, sexual health and HIV treatment services bear a significantly increased burden of HPV related disease and adverse outcomes compared to heterosexual men. HPV type 16-associated anal cancers in particular are more common in MSM compared to heterosexual men. This is even more marked in those with HIV infection.

Diagnoses made in GUM clinics during 2018

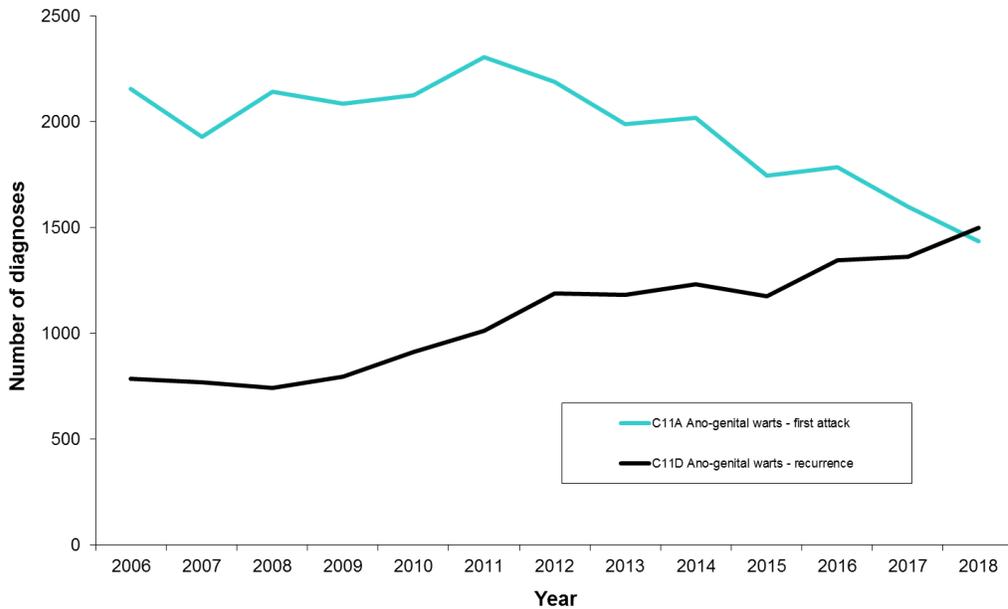
Genital warts (first episodes) accounted for 24% (1,436/6,086) of all new STI diagnoses made in Northern Ireland GUM clinics during 2018.

- There were 2,936 episodes (first infections and recurrent infections) of genital warts diagnosed in Northern Ireland GUM clinics in 2018.
- 1,792 (61%) of these were diagnosed in males.
- 1,436 (49%) of the total attendances for genital warts in 2018 were for treatment of first infection and 1,500 (51%) were for treatment of recurrent infection.
- 53% of male diagnoses (943/1,792) were recurrent infections, compared with 49% (557/1,144) of female diagnoses.
- The highest diagnostic rates of first infection in both men and women were in the 20–24 years age group.
- 36% of male diagnoses and 38% of female diagnoses of first infection were in the 20–24 years age group.
- The diagnostic rate in females aged 16–19 years (144/100,000) is higher than that of males the same age (104/100,000). However, diagnostic rates in those aged over 19 years were higher in males.
- 10% (82/849) of male first diagnoses occurred in MSM.

Trends: 2006–2018

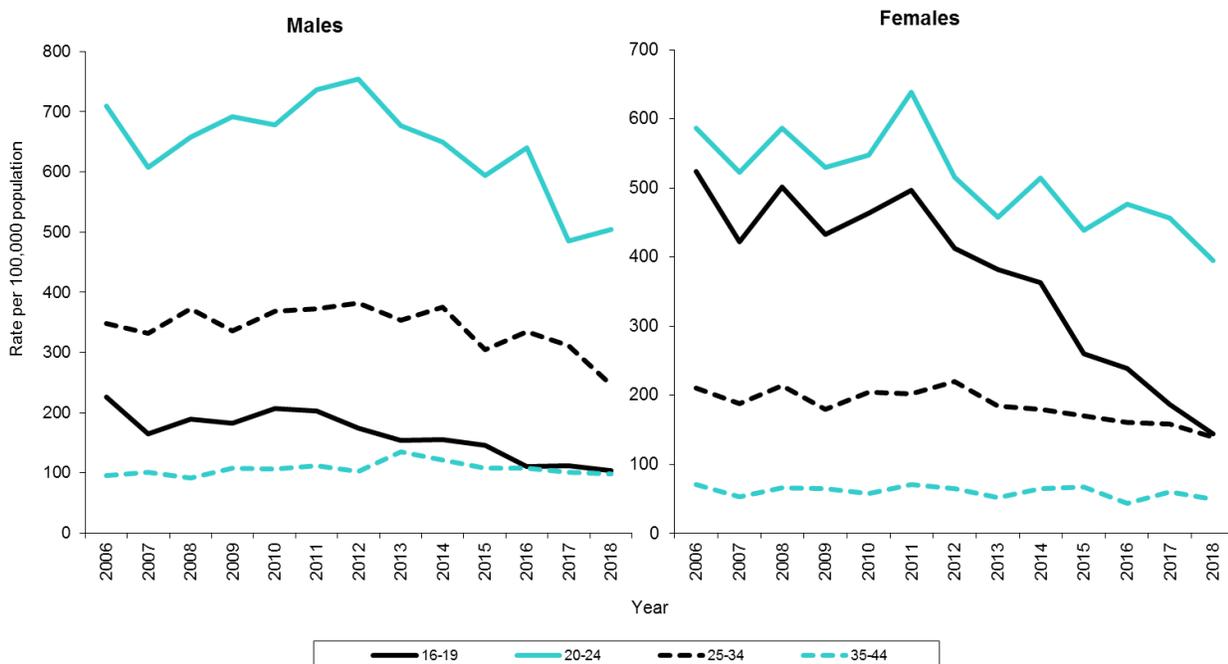
The number of annual diagnoses of first infections of genital warts has shown little variation between 2006 and 2011. There has been a 38% decrease in first episodes of infection since 2011 (Figure 5.1).

Figure 5.1: Diagnoses of genital warts in Northern Ireland, 2006–2018



Age and gender trends: genital warts (first episode)

Figure 5.2: Rates of diagnosis of genital warts (first episode) in Northern Ireland, by age and gender, 2006–2018



Between 2006 and 2018, diagnostic rates have been consistently highest in 20-24 year old males and females, followed by 16-19 year old females and 25-34 year old males. Individuals under 16 year old accounted for 0.4% (98/25,512) of diagnoses (first episode) made during 2006-2018, while the 45+ year age group accounted for 7% (1,674/25,512).

During 2006-2018, the proportion of male diagnoses attributed to MSM ranged from 2% in 2006 to 10% in 2018.

The decline in diagnostic rates from 2011 has been greatest in females aged 16-19 years (71%) and in males in the same age group (49%).

6: Syphilis

Syphilis is a bacterial infection caused by the spirochete *Treponema pallidum*. Its importance lies in its ability to promote both the acquisition and transmission of HIV, and in the potential for serious or even fatal consequences if left untreated. Late syphilis can cause complications of the cardiovascular, central nervous and mucocutaneous systems. Infectious syphilis in pregnant women can cause miscarriage, stillbirth or congenital infection.

Northern Ireland has, in common with elsewhere in the UK and Europe, experienced a marked increase in infectious syphilis since 2000. In the decade prior to 2000, on average only one case of infectious syphilis per year was reported.

Diagnoses made in GUM clinics 2018

During 2018:

- 50 new episodes of primary and secondary syphilis were reported;
- 36 additional episodes of early latent syphilis were also reported;
- 79% (68/86) were diagnosed in MSM.

Enhanced surveillance 2018

Information from enhanced surveillance arrangements is available for 66 cases:

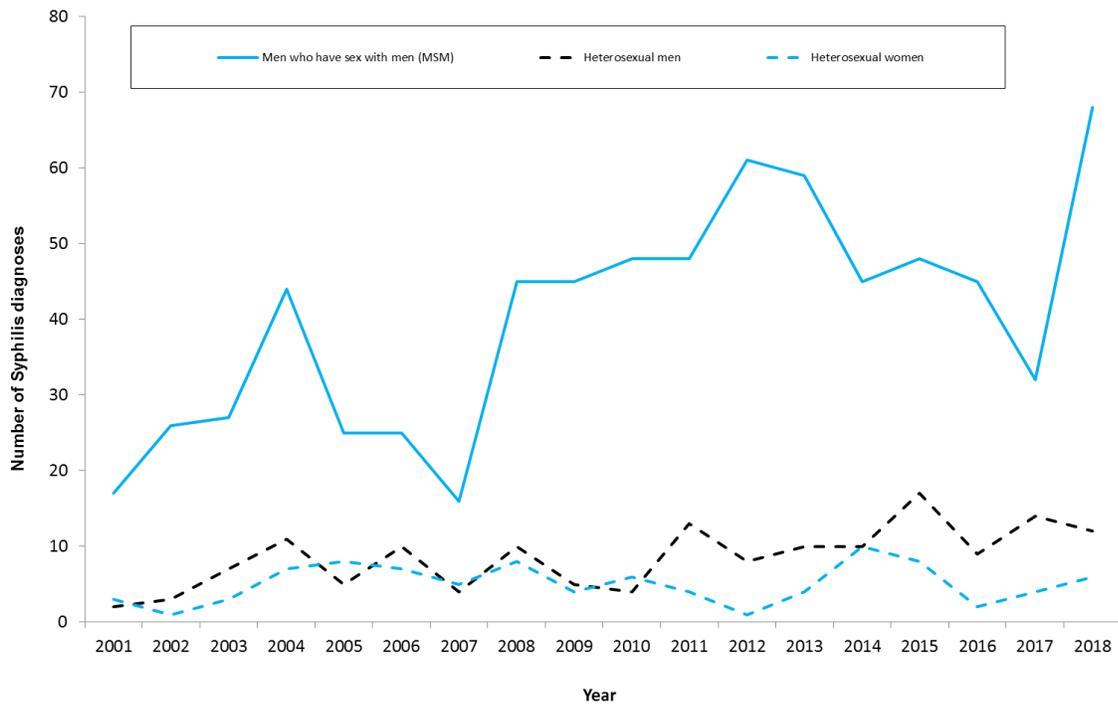
- 62 episodes occurred in Northern Ireland residents and, in 50 episodes, syphilis was likely to have been acquired through exposure within Northern Ireland;
- 21% (14/66) also reported being HIV positive;
- diagnosed co-infections also included chlamydia, gonorrhoea, herpes and warts;
- 14% (9/66) reported having had two sexual partners in the three months preceding diagnosis.

Trend information

Infectious syphilis is now endemic within Northern Ireland. Annual numbers of new diagnostic episodes have been consistently highest in MSM (Figure 6.1). Following an annual decrease from 2004 to 2007, numbers had increased from 2008 to 2016. 2018 saw the annual number of diagnoses in MSM increase to 68, the highest recorded in Northern Ireland. Numbers in females have remained relatively constant, while there is an upward trend in heterosexual males.

As is the case with gonorrhoea, the large increase in MSM seen in 2018 may be at least partly due to increased testing in MSM as a result of increased attendance by those seeking HIV PrEP.

Figure 6.1: Number of infectious syphilis diagnoses in Northern Ireland, by gender and sexual orientation, 2001-2018

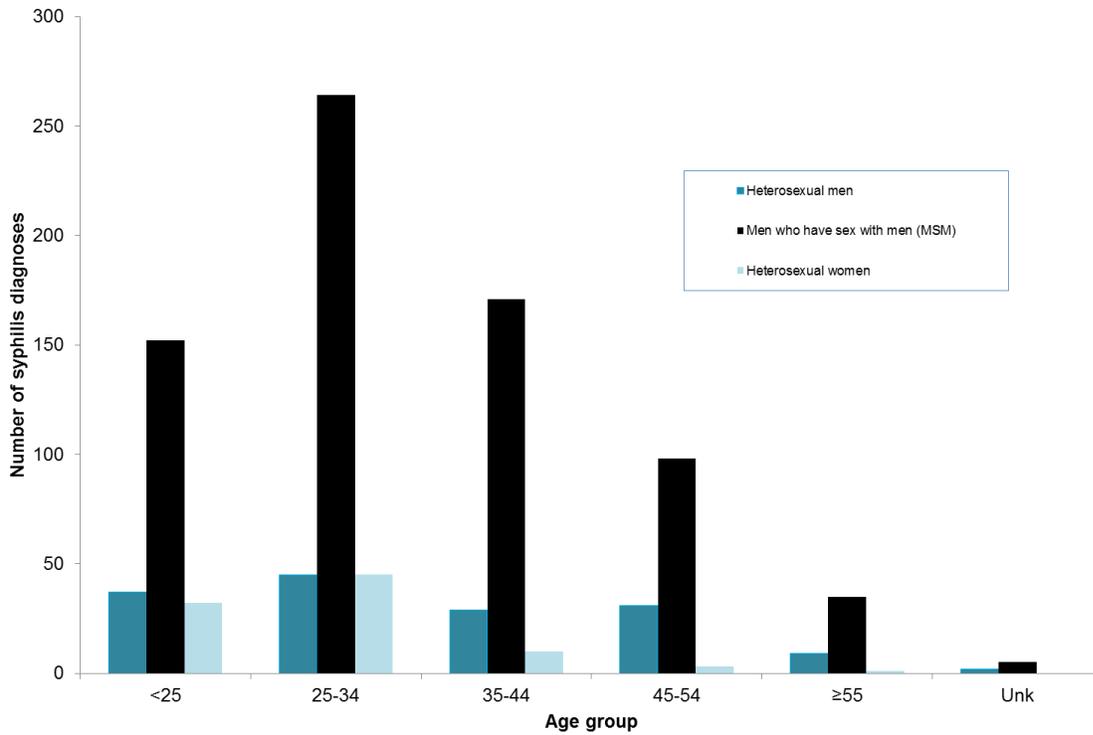


Note: Data derived from enhanced syphilis arrangements from 2001-2010 and from GUMCAD for 2011- 2018

Age and sexual orientation

Analysis of cumulative data by age and sexual orientation shows the highest number of episodes in heterosexual females was in the 25–34 years age group (49%; 45/91). In MSM, the highest number of episodes was in the 25–44 years age group (60%; 435/725). In heterosexual males, diagnoses were more evenly spread across the age bands, with those aged 25+ years accounting for 75% (114/153) of diagnoses. Information on age was missing for seven episodes (Figure 6.2).

Figure 6.2: Age distribution of syphilis diagnoses in Northern Ireland, by gender and sexual orientation, 2001–2018

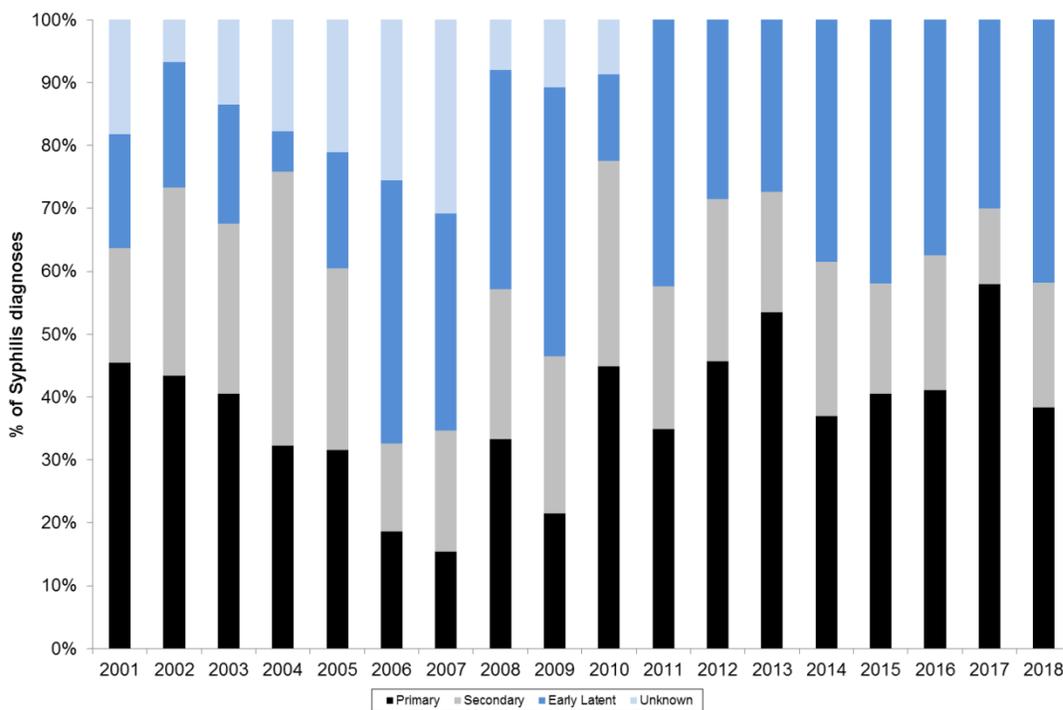


Note: Data derived from enhanced syphilis arrangements from 2001-2010 and from GUMCAD for 2011 -2017

Stage of disease

Since 2001 the majority of diagnoses have been made at the primary or secondary stage of disease, although there has been some significant year to year variation. Interpretation of data prior to 2011 is difficult due to variation in the extent to which stage is unknown. Over the past 5 years the percentage of diagnoses made during the (symptomatic) primary stage of syphilis has ranged from 37% to 58%. This suggests there is still a significant lack of awareness of the signs and symptoms of infectious syphilis in the affected population.

Figure 6.3: Infectious syphilis - stage of disease, by year of diagnosis, Northern Ireland, 2001-2018



Note: Data derived from enhanced syphilis arrangements from 2001-2010 and from GUMCAD for 2011-2018

7: Summary and conclusions

There was a 6% increase in the number of new STIs reported through Northern Ireland GUM clinics in 2018 when compared with 2017. Increases were noted in infectious syphilis (72%), gonorrhoea (30%), genital herpes (8%) and chlamydia (6%).

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 approximately 80% of new STIs.

MSM are at disproportionate risk of contracting some STIs accounting for 79% of male infectious syphilis, 72% of male gonorrhoea, 18% of male herpes and 29% of male chlamydia infections. It follows that MSM have accounted for the majority of the increase seen in syphilis and gonorrhoea diagnoses during 2018. This may be due at least in part to significantly increased STI testing levels among MSM during 2018, coinciding with the introduction of HIV PrEP through the Risk Reduction Clinic in Belfast Trust. A direct association with taking PrEP cannot be ruled out, however, and this will continue to be monitored.

While MSM account for the majority of the increase in gonorrhoea diagnoses, there are smaller but still important upward trends among heterosexuals. Gonorrhoea continues to give particular concern due to its potential to show resistance to antibiotics. As elsewhere in the UK, analysis of antimicrobial sensitivity patterns has shown a significant level of resistance to azithromycin, including the emergence of high-level azithromycin resistant disease. This has led to a change in UK treatment guidelines such that azithromycin is now no longer recommended first line treatment. This highlights the importance of culturing specimens for antibiotic susceptibility, adhering to current treatment guidelines, and performing a test of cure for all cases of gonorrhoea. All cases of gonorrhoea should be managed within the GUM service.

There is now a sustained decline in first episodes of genital warts in young females, due to the impact of the human papilloma vaccine, first introduced (as a bivalent vaccine) in 2009, and (as a quadrivalent vaccine) in 2012. A smaller effect due to herd immunity is seen in similar aged males.

Recommendations

Safer sex messages should continue to be promoted to the general population, young people and MSM. The risks to health of unprotected casual sex, both within and outside Northern Ireland, need to be reinforced.

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;
- MSM 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.

Commissioners should continue to seek to expand access to STI testing opportunities.

References

1. British Association for Sexual Health and HIV. UK National guideline for the management of gonorrhoea in adults 2011. Available at: www.bashh.org/guidelines
2. British Association for Sexual Health and HIV national guideline for the management of infection with Neisseria gonorrhoeae (2019). Available at : www.bashguidelines.org/media/1208/gc-2019.pdf
3. Howell Jones R et al (2013). Declining genital warts in young women in England associated with HPV 16/18 vaccination: an ecological study. J Infect Dis. 1;208(9): 1397-403

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: Number of new episodes of selected diagnoses by gender and age group, Northern Ireland, 2010-2018

	2010			2011			2012			2013			2014			2015			2016			2017			2018				
	M	F	Total																										
Chlamydia	<16	*	*	11	0	9	9	0	*	*	*	8	0	6	6	*	*	*	5	*	*	*	0	*	*	11			
	16-19	105	192	297	104	191	295	87	177	264	85	175	260	70	194	264	78	162	240	78	176	254	86	124	210	64	155	219	
	20-24	423	338	761	424	374	798	390	329	719	387	396	783	391	443	834	336	309	645	298	354	652	346	304	650	360	345	705	
	25-34	373	220	593	390	191	581	366	217	583	362	200	562	359	223	582	318	162	480	374	187	561	441	195	636	400	202	602	
	35-44	96	28	124	71	20	91	77	29	106	78	35	113	85	42	127	70	34	104	94	27	121	97	22	119	139	33	172	
	45+	*	*	46	47	9	56	39	*	*	*	*	44	45	9	54	*	*	*	60	*	*	*	55	*	*	*	*	78
Total	1,036	796	1,832	1,036	794	1,830	959	764	1,723	946	824	1,770	950	917	1,867	856	678	1,534	891	757	1,648	1,025	659	1,684	1,036	751	1,787		
% in MSM	14%			15%			10%			12%			17%			14%			21%			24%			29%				
Gonorrhoea*	<16	0	*	*	*	*	0	*	*	*	*	*	5	*	*	0	*	*	0	*	*	0	0	0	0	0	*	*	
	16-19	12	9	21	17	15	32	29	22	51	46	42	88	27	48	75	35	43	78	48	40	88	55	54	109	50	42	92	
	20-24	61	13	74	87	38	125	116	44	160	117	66	183	136	78	214	157	54	211	117	52	169	153	54	207	174	78	252	
	25-34	51	6	57	93	19	112	123	38	161	143	45	188	164	39	203	183	33	216	176	25	201	184	35	219	281	43	324	
	35-44	*	*	32	*	*	40	*	*	44	48	9	57	47	8	55	*	*	67	57	*	*	*	*	79	*	*	*	120
	45+	*	*	*	*	*	*	*	*	*	*	*	49	*	*	*	*	*	*	61	7	68	*	*	65	*	*	*	
Total	172	32	204	259	77	336	347	111	458	384	165	549	424	177	601	483	136	619	459	133	592	529	150	679	709	173	882		
% in MSM	34%			56%			64%			46%			64%			64%			65%			64%			72%				
Syphilis	<16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16-19	0	0	0	*	*	*	0	*	*	*	0	*	*	*	*	*	*	*	0	*	*	0	0	0	0	0	0	0
	20-24	*	*	12	5	0	5	15	0	15	*	*	13	*	*	13	8	0	8	*	*	9	6	0	6	*	*	8	
	25-34	18	0	18	11	0	11	18	0	18	*	*	19	*	*	13	*	*	16	*	*	14	*	*	16	*	*	17	
	35-44	6	0	6	*	*	*	8	0	8	*	0	*	*	*	*	*	*	*	*	0	*	7	0	7	7	12	0	12
	45+	*	*	10	10	0	10	*	0	*	10	0	10	5	0	5	9	0	9	7	0	7	*	0	6	13	0	13	
Total	*	*	46	*	*	38	50	0	50	*	*	52	34	7	41	40	5	45	*	*	35	*	*	35	*	*	50		
% in MSM	75%			78%			90%			83%			76%			75%			88%			61%			79%				
Herpes	<16	*	*	*	0	6	6	0	5	5	0	0	0	0	*	*	*	*	0	7	7	0	*	*	*	*	*	9	
	16-19	10	57	67	5	71	76	10	39	49	7	47	54	6	54	60	7	52	59	10	46	56	*	*	55	19	61	80	
	20-24	42	87	129	30	68	98	32	75	107	33	71	104	36	81	117	40	71	111	45	92	137	53	92	145	46	111	157	
	25-34	52	79	131	56	65	121	50	72	122	55	85	140	76	69	145	47	71	118	65	93	158	65	91	156	67	86	153	
	35-44	36	21	57	24	26	50	18	18	36	21	32	53	24	27	51	30	28	58	15	28	43	23	37	60	28	36	64	
	45+	*	*	*	14	21	35	17	21	38	14	20	34	14	*	*	17	*	*	23	24	47	*	*	*	*	*	38	
Total	153	258	411	129	257	386	127	230	357	130	255	385	156	259	415	141	240	381	158	290	448	165	298	463	184	317	501		
% in MSM	12%			11%			10%			23%			16%			14%			14%			16%			18%				
Warts	<16	*	*	11	*	*	10	0	10	10	0	6	6	0	*	*	*	*	0	*	*	0	*	*	*	*	*	8	
	16-19	107	230	337	104	245	349	88	200	288	78	183	261	78	172	250	73	123	196	55	111	166	54	85	139	50	65	115	
	20-24	432	342	774	467	394	861	475	314	789	419	276	695	401	308	709	365	259	624	390	275	665	292	258	550	303	223	526	
	25-34	442	255	697	448	254	702	462	278	740	427	232	659	456	226	682	371	214	585	409	200	609	384	198	582	303	175	478	
	35-44	135	74	209	138	91	229	124	82	206	160	64	224	142	81	223	126	83	209	126	53	179	117	73	190	114	61	175	
	45+	*	*	98	*	*	154	99	58	157	89	55	144	100	*	*	*	*	*	62	*	*	52	*	*	*	*	134	
Total	1,179	947	2,126	1,237	1,068	2,305	1,248	942	2,190	1,173	816	1,989	1,177	843	2,020	1,016	730	1,746	1,085	701	1,786	935	665	1,600	849	587	1,436		
% in MSM	8%			8%			10%			9%			9%			9%			8%			9%			10%				
Total diagnoses	7,304	5,222	12,526	7,046	5,729	12,775	6,117	5,000	11,117	5,728	4,752	10,480	5,953	4,937	10,890	5,481	4,186	9,667	5,692	4,375	10,067	5,341	3,888	9,229	5,728	4,206	9,934		
Total workload	13,242	10,542	23,784	14,035	11,704	25,739	16,140	11,887	28,027	15,720	11,381	27,101	16,955	12,129	29,084	15,446	10,842	26,288	16,811	11,403	28,214	21,148	11,835	32,983	26,252	15,941	42,193		

Notes on using these tables:

% in MSM represents the proportion of the total male diagnoses attributed to men who have sex with men (MSM)

It is likely that the use of more sensitive Nucleic Acid Amplification Tests (NAATs) has contributed to the increase in gonorrhoea.

* Data is confidential

Following recent ONS guidance on data disclosure, the rules on publication of STI data with small cell sizes have changed. Cells with a value between 1 and 4 will now be anonymised with an asterisk. In addition, where the anonymised cell can be deduced from the totals, the next smallest cells will also be anonymised.

Due to a GUM clinic migrating to new GUMCAD software using SHHAPT codes figures from 2012 have been recalculated to include B5 (complicated gonorrhoea) and C4B (complicated chlamydia)

Definitions of selected conditions:

Chlamydia	chlamydial infection, KC60 code C4a, C4c, SHHAPT code C4
Gonorrhoea	gonorrhoea, KC60 code B1, B2, SHHAPT code B
Syphilis	primary and secondary infectious syphilis, KC60 code A1, A2
Herpes	anogenital herpes simplex (first attack), KC60 & SHHAPT code C10a
Warts	anogenital warts (first attack), KC60 & SHHAPT code C11a
Total diagnoses	all diagnoses made, includes all A, B, C and E KC60 and SHHAPT codes
Total workload	all workload not requiring a diagnosis, includes all D, P and S KC60 codes, SHHAPT T codes

Appendix 3: Rates of new episodes of selected diagnoses by gender and age group, Northern Ireland, 2010-2018

	2010			2011			2012			2013			2014			2015			2016			2017			2018			
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	
Chlamydia	<16	*	*	14.9	0.0	25.0	12.2	0.0	*	*	*	11.2	0.0	17.7	8.6	*	*	*	7.4	0.0	*	*	*	0.0	*	*	16.1	
	16-19	203.0	386.2	292.8	203.1	387.7	293.6	171.6	364.3	265.9	167.9	365	263.8	139.0	409	269.9	155.8	342.3	246.4	155.8	371.8	260.8	178.1	275.2	225	135.5	349.8	239.2
	20-24	663.5	540.7	602.7	669.5	606.0	638.2	619.1	540.5	580.4	625.3	656.6	640.8	634.2	739.8	686.2	546.5	523.2	535.1	484.7	599.4	540.9	575.3	537.9	557.2	598.6	617.7	607.8
	25-34	311.0	176.3	242.3	324.6	152.1	236.4	302.4	172.0	235.9	299.1	158.5	227.3	295.0	176.9	234.9	260.2	128.8	193.6	306.0	148.7	226.3	358.4	155.6	256.1	323.8	161.5	242.1
	35-44	76.2	21.4	48.3	57.3	15.5	36.0	63.3	22.9	42.7	65.6	28.1	46.4	72.5	33.9	52.7	59.9	27.5	43.3	80.4	21.9	50.3	83.5	17.9	49.8	119.7	26.8	71.9
	45+	*	*	6.6	14.0	2.4	7.9	11.4	*	*	*	*	6	12.7	2.3	7.2	*	*	7.9	*	*	*	14.8	*	*	*	*	9.8
	Total	117.1	86.5	101.5	116.5	85.8	100.9	107.2	82.2	94.5	105.4	88.4	96.7	105.2	97.8	101.4	94.2	71.9	82.8	98.0	80.3	89.0	111.4	69.3	90.0	111.9	78.6	95.0
Gonorrhoea	<16	0.0	*	*	*	*	0.0	*	*	*	*	*	*	*	7.2	*	0	*	0.0	*	*	0.0	0	0	0.0	*	*	
	16-19	23.2	18.1	20.7	33.2	30.4	31.9	57.2	45.3	51.4	90.9	87.6	89.3	53.6	101.2	76.7	69.9	90.8	80.1	95.8	84.5	90.3	113.9	119.9	116.8	105.8	94.8	100.5
	20-24	95.7	20.8	58.6	137.4	61.6	100.0	184.1	72.3	129.2	189.1	109.4	149.8	220.6	130.3	176.1	255.3	91.4	175	190.3	88.1	140.2	254.4	95.5	177.4	289.3	139.7	217.3
	25-34	42.5	4.8	23.3	77.4	15.1	45.6	101.6	30.1	65.1	118.2	35.7	76	134.7	30.9	81.9	149.7	26.2	87.1	144	19.9	81.1	149.5	27.9	88.2	227.5	34.4	130.3
	35-44	*	*	12.5	*	*	15.8	*	*	17.7	40.4	7.2	23.4	40.1	6.5	22.8	*	*	27.9	48.7	*	*	*	*	*	33.0	*	50.2
	45+	*	*	*	*	*	*	*	*	*	*	*	*	*	*	6.5	*	*	16.9	1.8	8.9	*	*	8.3	*	*	*	
	Total	19.4	3.5	11.3	29.1	8.3	18.5	38.8	11.9	25.1	42.8	17.7	30.0	47.0	18.9	32.7	53.1	14.4	33.4	50.5	14.1	32.0	57.5	15.8	36.3	76.5	18.1	46.9
Syphilis	<16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16-19	0.0	0.0	0.0	*	*	*	0.0	*	*	*	0.0	*	*	*	*	*	0.0	*	0.0	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20-24	*	*	9.5	7.9	0.0	4.0	23.8	0.0	12.1	*	*	10.6	*	*	10.7	13.0	0.0	6.6	*	*	14.6	10.0	0.0	5.1	*	*	6.9
	25-34	15.0	0.0	7.4	9.2	0.0	4.5	14.9	0.0	7.3	*	*	7.7	*	*	5.2	*	*	6.5	*	*	11.5	*	*	6.4	*	*	6.8
	35-44	4.8	0.0	2.3	*	*	*	6.6	0.0	3.2	*	0.0	*	*	*	*	*	0.0	*	6.0	0.0	2.9	6.0	0.0	2.9	10.3	0.0	5.0
	45+	*	*	1.4	3.0	0.0	1.4	0.0	0.0	*	2.9	0.0	1.4	1.4	0.0	0.7	2.5	0.0	1.2	1.9	0.0	1.9	*	*	0.8	3.4	0.0	1.6
	Total	*	*	2.5	*	*	2.1	5.6	0.0	2.7	*	*	2.8	3.8	0.7	2.2	4.4	0.5	2.4	*	*	3.8	*	*	1.9	*	*	2.7
Herpes	<16	*	*	*	0.0	16.7	8.1	0.0	14.0	6.8	0.0	0.0	0.0	0.0	*	*	0.0	*	0.0	21.3	10.3	0.0	*	*	*	*	*	13.2
	16-19	19.3	114.7	66.1	9.8	144.1	75.6	19.7	80.3	49.4	13.8	98.0	54.8	11.9	113.8	61.3	14.0	109.9	60.6	20.0	97.2	57.5	*	*	58.9	40.2	137.7	87.4
	20-24	65.9	139.2	102.2	47.4	110.2	78.4	50.8	123.2	86.4	53.3	117.7	85.1	58.4	135.3	96.3	65.1	120.2	92.1	73.2	155.8	113.7	88.1	162.8	124.3	76.5	198.7	135.4
	25-34	43.4	63.3	53.5	46.6	51.8	49.2	41.3	57.1	49.4	45.4	67.3	56.6	62.4	54.7	58.5	38.5	56.5	47.6	53.2	74.0	63.7	52.8	72.6	62.8	54.2	68.7	61.5
	35-44	28.6	16.1	22.2	19.4	20.2	19.8	14.8	14.2	14.5	17.7	25.6	21.8	20.5	21.8	21.2	25.7	22.7	24.1	12.8	22.7	17.9	19.8	30.1	25.1	24.1	29.2	26.8
	45+	*	*	*	4.2	5.6	4.9	5.0	5.5	5.3	4.0	5.2	4.6	3.9	*	*	4.7	*	*	6.4	6.0	6.2	*	*	*	*	*	4.8
	Total	17.3	28.0	22.8	14.5	27.8	21.3	14.2	24.8	19.6	14.5	27.3	21.0	17.3	27.6	22.5	15.5	25.5	20.6	17.4	30.8	24.2	17.9	31.3	24.7	19.9	33.2	26.6
Warts	<16	*	*	14.9	*	*	13.6	0.0	27.9	13.6	0.0	17.2	8.4	0.0	*	*	*	*	0.0	*	*	*	0.0	*	*	*	*	11.7
	16-19	206.9	462.7	332.3	203.1	497.3	347.4	173.6	411.6	290.1	154.1	381.7	264.8	154.9	362.6	255.6	145.8	259.9	201.2	109.8	234.5	170.4	111.8	186.4	147.8	105.8	146.7	125.6
	20-24	677.6	547.1	613.0	737.4	638.4	688.5	754.0	515.8	637	677.0	457.6	568.8	650.4	514.3	583.4	593.6	438.6	517.7	634.3	465.7	551.7	485.5	456.5	471.5	503.8	399.3	453.5
	25-34	368.6	204.3	284.8	372.8	202.3	285.7	381.7	220.4	299.4	352.8	183.8	266.5	374.7	179.2	275.2	303.6	170.2	235.9	334.7	159.0	245.6	312.1	158.0	234.3	245.3	139.9	192.3
	35-44	107.1	56.6	81.4	111.4	70.6	90.6	102.0	64.7	83	134.6	51.3	91.9	121.1	65.4	92.5	107.7	67.2	86.9	107.7	42.9	74.5	100.8	59.4	79.5	98.2	49.6	73.1
	45+	*	*	14.1	*	*	21.7	28.9	15.2	21.7	25.5	14.2	19.6	28.2	*	*	*	*	*	15.5	*	*	12.7	*	*	*	*	16.9
	Total	133.3	102.9	117.8	139.1	115.5	127.0	139.5	101.4	120.1	130.7	87.5	108.7	130.4	89.9	109.8	111.8	77.5	94.3	119.3	74.4	96.5	101.6	70.0	85.5	91.7	61.4	76.3

Notes on using these tables:

Diagnoses are calculated on GUM clinics in the region, rates are calculated for the region's resident population

Diagnostic rates for specific age groups were estimated by dividing the annual number of diagnoses in each age bracket by the estimated mid-year resident population of Northern Ireland for each age group. The denominators used to calculate rates in people under 16 and over 44 years of age were the population aged 13 to 15, and the population aged over 44 years respectively. The total population was used for the calculation of overall rates.

2001-2011 rates have been revised using revised mid year estimates to take into account the 2011 Census

2018 rates calculated using 2018 mid year estimates

* Data is confidential

Following recent ONS guidance on data disclosure, the rules on publication of STI data with small cell sizes have changed. Cells with a value between 1 and 4 will now be anonymised with an asterisk. In addition, where the anonymised cell can be deduced from the totals, the next smallest cells will also be anonymised.

Definitions of selected conditions:

Chlamydia	chlamydial infection, KC60 code C4a, C4c, SHHAPT code C4
Gonorrhoea	gonorrhoea, KC60 code B1, B2, SHHAPT code B
Syphilis	primary and secondary infectious syphilis, KC60 code A1, A2
Herpes	anogenital herpes simplex (first attack), KC60 & SHHAPT code C10a
Warts	anogenital warts (first attack), KC60 & SHHAPT code C11a



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