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Annual Epidemiological Report

September 2019

Chlamydia and Lymphogranuloma venereum (LGV) in Ireland, 2018

Key Facts

Chlamydia

- *Chlamydia trachomatis* is the most commonly reported STI in Ireland, with rates increasing in recent years
- There were 7,932 cases of *Chlamydia trachomatis* infection notified in Ireland in 2018 (166.6 per 100,000 population), a 7% increase on the number of cases notified in 2017
- The increase was higher in males (+11%) than in females (+4%), and the rate in males (167.9/100,000) exceeded the rate in females (164.4/100,000) for the first time
- The median age was 25 years (26 years in males and 23 years in females)
- The highest sex and age-specific notification rates were among females aged 20-24 years (1384.8/100,000), and among males aged 20-24 years (937.6/100,000)
- Young people are disproportionately affected by chlamydia; just under half (49%) of cases were in young people aged 15-24 years, females accounted for the majority (62%) of cases in young people
- Over half (53%) of cases were reported by HSE East

LGV

- There were 28 cases of lymphogranuloma venereum (LGV) notified in 2018, up from 20 cases in 2017
- All cases were among men who have sex with men (MSM)
- The median age was 36 years
- Sixty-four percent of cases were HIV positive
- Seventy-one percent of cases had symptoms of LGV infection, 29% did not have symptoms
- The majority (86%) of cases were reported by HSE East

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Introduction

Chlamydia is a common sexually transmitted infection (STI) caused by the bacterium *Chlamydia trachomatis*, it is the most common STI in Ireland and is usually transmitted via unprotected vaginal, anal, or oral sex. Mother to child transmission is also possible during vaginal childbirth. Most people who have chlamydia do not know they are infected. Untreated chlamydia can cause serious, permanent damage to a woman's reproductive system [1].

Lymphogranuloma venereum (LGV) is a systemic STI caused by a specific type of *C. trachomatis* (serovars L1 , L2, and L3), and has a variety of acute and late manifestations. In contrast to other *C.trachomatis* serovars, which remain confined to the mucosa, serovar L strains disseminate via underlying connective tissue and spread to regional lymph nodes. LGV was not common in the Western world, however since 2003 a series of outbreaks have been reported in large European cities among men who have sex with men (MSM) [2].

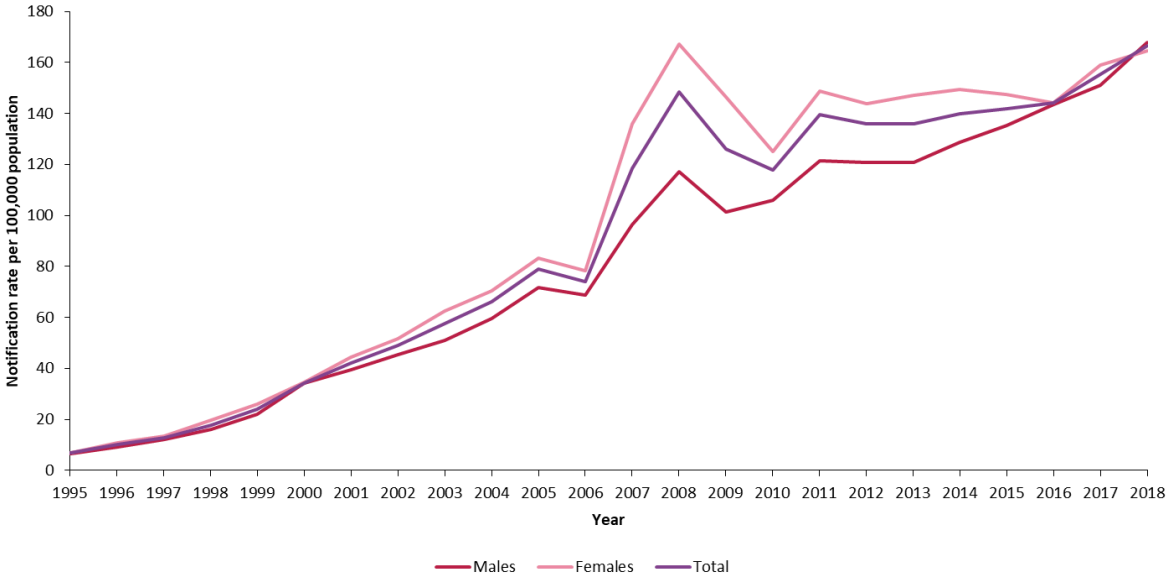
In Ireland, since 2013 all laboratories report cases of chlamydia and LGV to the national Computerised Infectious Disease Reporting (CIDR) system [3]. Enhanced epidemiological data are requested for all cases of LGV, including mode of transmission, probable country of infection, symptoms, and HIV status. The case definition for chlamydia and LGV is available on the HPSC website at https://www.hpsc.ie/a-z/sexuallytransmittedinfections/chlamydia/casedefinitions/.

Epidemiology - Chlamydia

Cases and notification rates

There were 7,932 cases of chlamydia notified in Ireland in 2018 (notification rate (NR) of 166.6 per 100,000 population), a 7% increase on the number of cases notified in 2017 (Figure 1).

Figure 1 Notification rate of chlamydia by sex, 1995-2018, Ireland



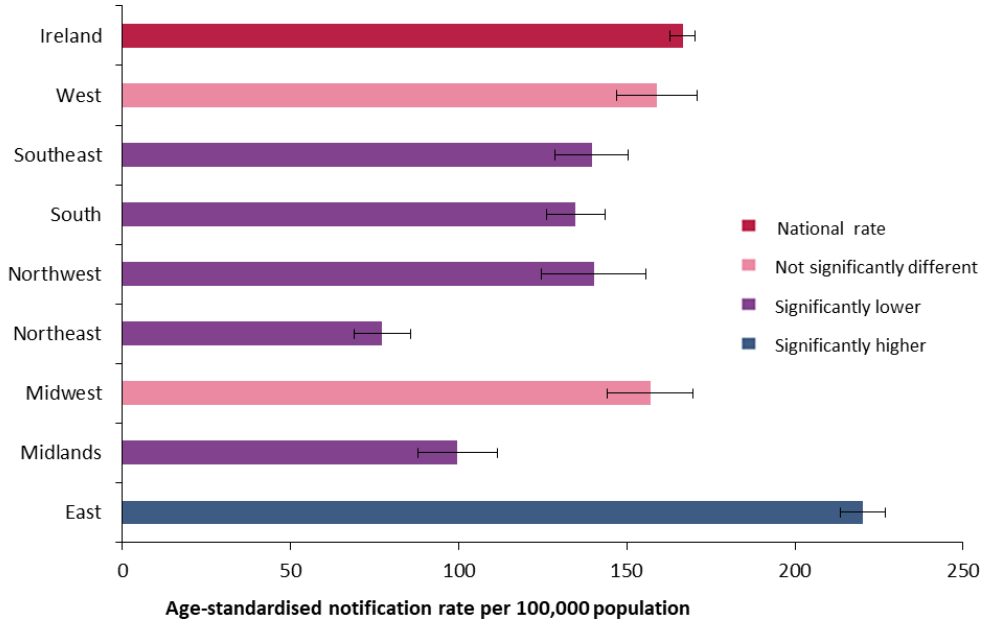
Geographic variation

Cases of chlamydia were notified by all HSE areas in 2018. See Technical Note 6 for the counties covered by each HSE area. The highest proportion of cases was notified by HSE East (53%; n=4220), followed by HSE South (11%; n=904).

Rates and numbers by HSE area should be interpreted with caution; HSE area is based on the clinic location if the patient's address is not available. Consequently, rates and numbers of cases by HSE area may reflect the location of STI services and as well as differences in reporting practices by clinics and clinicians from one area to another (a list of STI clinics is available at https://www.sexualwellbeing.ie/sexual-health/hse-sti-services-in-ireland.html). Furthermore, numbers and rates of chlamydia notifications in HSE East may be overestimated due to use of an automated notification system which does not allow for deduplication of chlamydia cases notified more than once.

The age-standardised notification rate (ASNR) of chlamydia in HSE East (220.3/100,000) was significantly higher than the national rate (166.6/100,000) (Figure 2). The rates in HSE West (159.0/100,000) and HSE Midwest (156.9/100,000) were not significantly different to the national rate. Rates in all other areas were significantly lower than the national rate.

Figure 2 Age-standardised notification rate (with 95% confidence intervals) of chlamydia by HSE area, 2018, Ireland*†

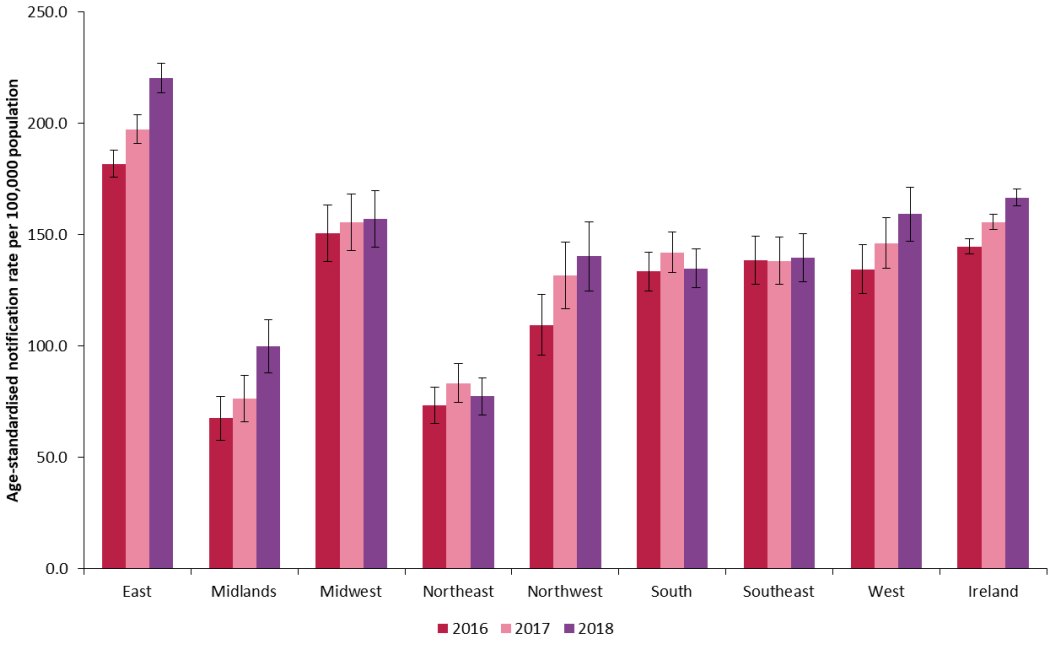


*Excludes one case of unknown age

†See Technical Note 6 and 7 for details on the counties covered by each HSE area, and details on ASNR calculation methodology.

When compared to the rates in 2017, there was a significant increase in ASNR for two areas; HSE East (from 197.2/100,000 in 2017 to 220.3/100,000 in 2018), and HSE Midlands (from 76.2/100,000 in 2017 to 99.7/100,000 in 2018) (Figure 3).

Figure 3 Age-standardised notification rate (with 95% confidence intervals) of chlamydia by HSE area, 2016-2018, Ireland*†



*Excludes one case of unknown age

†See Technical Note 6 and 7 for details on the counties covered by each HSE area, and details on ASNR calculation methodology.

Age and sex

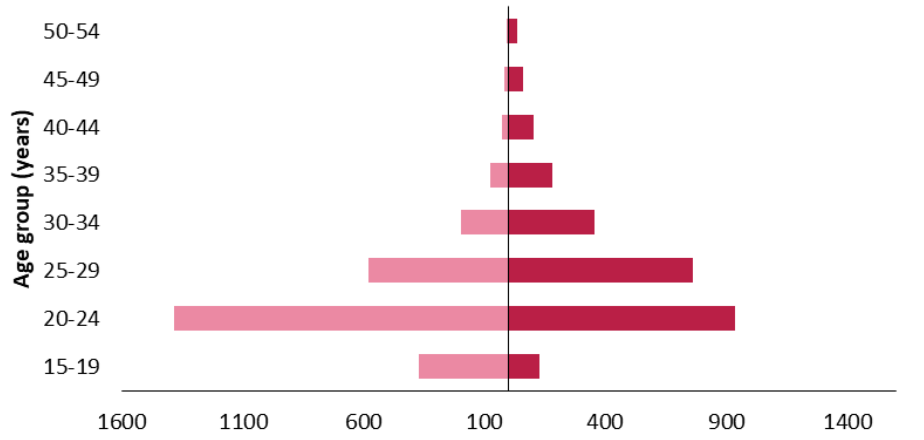
By sex, 3,958 (50%) chlamydia cases were female, 3,954 (50%) were male, and sex was unknown for 20 cases (<1%). The notification rate increased for both sexes, by 11% for males (from 151.0/100,000 in 2017 to 167.9/100,000 in 2018) and by 4% for females (from 158.9/100,000 in 2017 to 164.4/100,000 in 2018). In males the rate has increased since 2009, whereas in females the rate was steady between 2011 and 2016, and increased in 2017 and 2018 (Figure 1). The rate in males exceeded the rate in females for the first time in 2018.

Excluding individuals who were aged less than 14 years, the median age was 25 years (range: 14-76 years), among males it was 26 years (range: 15-76 years) and among females it was 23 years (range: 14-74 years).

Sex and age-specific notification rates were highest among females aged 20-24 years (1384.8/100,000), and among males aged 20-24 years (937.6/100,000) (Figure 4). Just under half of cases were in young people aged 15-24 years (49%; n=3,922), a notification rate of 680.4 per 100,000 population. Females were disproportionately affected, accounting for 62% of cases diagnosed in young people.

When compared to 2017, the rate did not increase in younger males aged 15-19. The rate of increase was 6% in males aged 20-24 years, and was higher in older males (25-29 years (+16%), 30-34 years (+11%), 35-39 years (+20%), 40-44 years (+21%), 50-54 years (+34%) and 55 years or older (+27%)). Among females, the notification rate increased for three age groups only; 15-19 years (+6%), 20-24 years (+6%), and 25-29 years (+3%).

Figure 4 Notification rate of chlamydia by sex and age group, 2018, Ireland*



	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Males	127.8	937.6	759.5	353.4	181.1	102.5	56.5	34.4
Females	371.9	1384.8	580.8	196.0	76.6	29.4	19.0	11.2

Rate per 100,000 population

*Excludes one male case of unknown age, 20 cases of unknown sex, 13 cases aged 14 years or younger, and 83 cases over 55 years of age.

In total, there were ten cases of *C. trachomatis* infection in young infants, aged between two weeks and one month. All ten cases were reported as mother to child transmission, and all were conjunctivitis. The rate of *C. trachomatis* infection in young infants was 0.16 per 1,000 live births, double the rate in 2017 (0.08/1,000) but equal to the rate in 2016 (0.16/1,000). Data on births registered in Ireland in 2018 were taken from the Central Statistics Office.

Patient type

Patient type (reflecting the service at which the patient was diagnosed) was recorded for 43% (n=3442) of cases. The highest proportion of cases (27%; 61% where patient type was known) was diagnosed in general practice, the second highest was an STI clinic (16%; 37% where patient type was known) (Table 1).

Table 1. Number and percentage of chlamydia cases by patient type and sex, 2018, Ireland

Setting where patient was diagnosed	Male		Female		Sex unknown		Total	
	N	%	N	%	N	%	N	%
GP	812	20.5	1302	32.9	2	10.0	2116	26.7
STI clinic (hospital outpatient)	645	16.3	623	15.7	0	0.0	1268	16.0
Emergency dept.	4	0.1	15	0.4	0	0.0	19	0.2
Hospital (day patient)	0	0.0	12	0.3	0	0.0	12	0.2
Hospital (inpatient)	6	0.2	21	0.5	0	0.0	27	0.3
Other/Unknown setting	2487	62.9	1985	50.2	18	90.0	4490	56.6
Total	3954	100.0	3958	100.0	20	100.0	7932	100.0

Other STIs

There were 656 other STIs notified in 2018 among individuals diagnosed with chlamydia in 2018. The commonest other STI was gonorrhoea (n=514), followed by syphilis (n=79), herpes simplex (genital) (n=56), LGV (n=6), and trichomoniasis (n=1). There were also 31 diagnoses of HIV, and 10 diagnoses of hepatitis A, B or C, in 2018 among individuals diagnosed with chlamydia in 2018.

Data on other STIs should be interpreted with caution as they may be underestimated. Since 2013, case-based data on notifiable STIs (except anogenital warts and non-specific urethritis) have been reported via CIDR from all HSE areas. Different incidents of infection in the same person can be linked if full patient identifiers are provided in CIDR, however incidents cannot be linked if full patient identifiers are not provided.

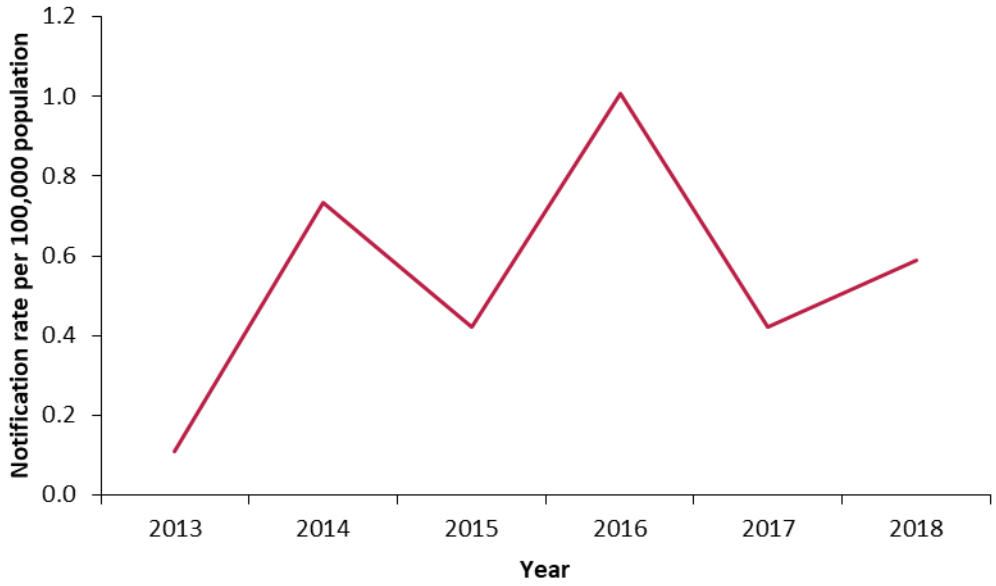
Epidemiology - Lymphogranuloma venereum (LGV)

Cases and notification rates

There were 28 cases of lymphogranuloma venereum (LGV) notified in Ireland in 2018 (0.6 per 100,000 population), a 40% increase on the number of cases notified in 2017 (n=20), but a decrease on the number notified in 2016 (n=48) (Figure 5).

Trends have been unstable since 2014, due to an LGV outbreak in the greater Dublin area, which started mid-2014, affecting men who have sex with men (MSM). The outbreak was closed towards the end of 2016 by a multidisciplinary LGV outbreak control team convened by the Department of Public Health HSE East. Management of the outbreak included investigation and implementation of control measures including active case finding, partner notification and development of information materials designed to reach men at risk of LGV infection [4].

Figure 5 Notification rate of LGV by year, 2013-2018, Ireland



Geographic variation

In 2018, the majority (n=24; 86%) of LGV cases were reported by HSE East, there were two cases reported by HSE West and there was one case each reported by HSE Northeast and HSE Southeast.

Country of birth

Country of birth was known for all cases; 50% were born in Ireland (a decrease from 55% in 2017), 36% were born in a country in Latin America (an increase from 20% in 2017), and 14% were born in another European country.

Age and sex

All LGV cases occurred in males aged between 22 and 58 years, the median age was 36 years. The notification rate among males was 1.2 per 100,000 population.

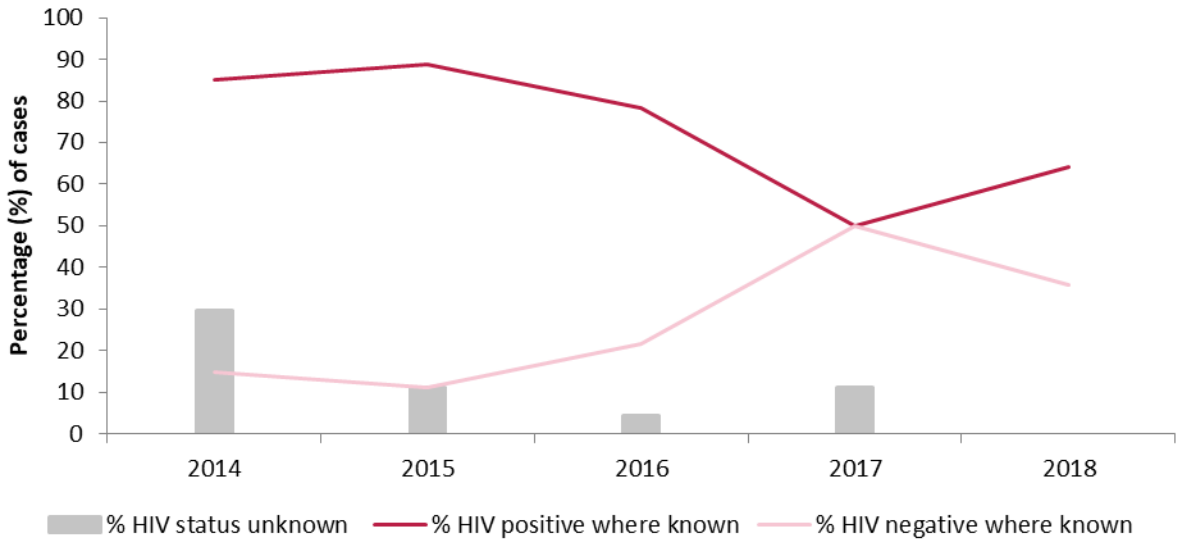
Mode of transmission

All LGV cases were in men who have sex with men.

HIV status

HIV status was known for all LGV cases in 2018, an increase on data completeness in 2017 when HIV status was known for 90% of cases. In total, 64% (n=18) were HIV positive, an increase from 50% (where HIV status was known) in 2017, and 36% (n=10) were HIV negative, a decrease from 50% (where known) in 2017 (Figure 6).

Figure 6 HIV status of LGV cases, 2014-2018, Ireland



Symptoms

Whether or not a patient was symptomatic was reported for all cases; 20 (71%) had symptoms of LGV infection and eight (29%) did not have symptoms. In those that did not have symptoms, LGV was detected either through routine STI screening (n=7) or through testing during post-exposure prophylaxis (PEP) follow up (n=1).

Of those who had symptoms of LGV infection by HIV status, 14 individuals were HIV positive, and six were HIV negative.

Patient type

Ninety-three percent of LGV cases were diagnosed in STI clinics, and 7% were diagnosed in primary care.

Other STIs

There were 28 other STIs notified in 2018 among individuals diagnosed with LGV in 2018. The commonest other STI was gonorrhoea (n=17), followed by chlamydia (n=8) and syphilis (n=3). One person diagnosed with LGV in 2018 had a previous diagnosis of LGV in 2017. Data on other STIs should be interpreted with caution as they may be underestimated.

Discussion

Chlamydia

The rate of chlamydia notifications in Ireland was fairly steady between 2011 and 2016, but increased by 8% between 2016 and 2017, and by a further 7% between 2017 and 2018.

The rate increased for both sexes between 2017 and 2018, with a higher increase in males (+11%) than in females (+4%). In 2018, for the first time, the rate was higher in males than in females.

For both sexes, the highest proportion of cases were notified in individuals aged 20-24 years, however among females the rate of increase between 2017 and 2018 was highest in younger age groups (those aged 15-24 years) and among males the rate of increase was highest in older age groups (those aged 25 years or older). In the absence of data on mode of transmission, which are not currently requested for cases of chlamydia, it is not possible to determine whether the increases among older males are due to increased transmission of chlamydia among key population groups such as MSM. A report by the Gay Men's Health Service (GMHS) in 2018 shows a 35% increase in chlamydia infections among attendees to GMHS over 2017, highlighting the need for ongoing support for health protection campaigns for MSM [5].

The rate of chlamydia in young people aged 15-24 years increased by 5% between 2017 and 2018. Young people continue to be the group most affected by chlamydia and accounted for just under half (49%) of cases in 2018. Females accounted for the majority (62%) of chlamydia diagnoses in young people.

Similar to Ireland, data for England show a 6% increase in chlamydia diagnoses between 2017 and 2018, and a higher increase in males (+9%) than in females (+4%) [6]. Data from

the National Chlamydia Screening Programme in England show a 2% increase in chlamydia diagnoses in people aged 15-24 years between 2017 and 2018, despite a 1% decrease in chlamydia tests carried out in young people during that period [7]. In Ireland, it is not possible to determine whether increases in chlamydia diagnoses are due to increased testing, as the number of tests carried out are not monitored nationally. Furthermore, there is no national chlamydia screening programme.

Most people who have chlamydia do not know they are infected [1]. The increasing number of chlamydia notifications in Ireland, particularly among young females and older males, highlights the importance of awareness campaigns targeting key populations. In 2018, the HSE Sexual Health and Crisis Pregnancy Programme (SHCPP) launched a safer sex social media campaign (#respectprotect), which encourages people who are thinking of having sex or are sexually active, to think ahead, access correct information and to practice safer sex, and it continues to focus on the importance of using condoms to protect against STIs and as a form of contraception. In July 2019, the Minister for Health in Ireland launched a public consultation on increasing access to contraception, starting this work in 2019 through the expansion of free access to condoms to the groups most at risk, and within the youth sector, including third level facilities [8].

LGV

The rate of LGV notifications in Ireland peaked in 2016 (1.0/100,000), more than halved in 2017 (0.4/100,000), and increased again in 2018 (0.6/100,000). All 28 cases in 2018 were MSM and nearly two thirds were HIV-positive. Most (86%) cases continue to be notified by HSE East, and 29% of cases did not have symptoms of LGV infection.

Annual data on LGV in other countries are limited. Latest data from the European Centre for Disease Prevention and Control (ECDC) are for 2016. Compared with 2015, the number of cases reported in Europe in 2016 increased by 15%, with higher increases in some countries [9]. Where HIV status was known, 78% of LGV cases notified to ECDC in 2016 were HIV positive. A study of LGV genotypes among MSM in Sweden between 2004 and 2016 shows a changing genotype distribution linked to increased LGV spread in Europe, suggesting continued LGV transmission mainly among HIV positive MSM engaging in high-risk practices [10].

Transmssion of chlamydia and LGV can be prevented by promoting the correct use of condoms for all vaginal, oral and anal sex. Regular testing is important, particularly when changing sexual partners or following sexual contact with multiple overlapping partners.

Technical notes

1. Data were analysed by date of notification to CIDR.
2. Data for this report were extracted from CIDR on 1 July 2019, and were correct at that time.
3. Information is updated on an ongoing basis in CIDR, and may not correspond exactly with what was reported in previous annual reports. Similarly, data for 2018 may be updated in future annual reports.
4. While efforts are made to remove duplicate records from these data it is not always possible to link and remove all duplicate records and some patients or disease events may be counted more than once.
5. Percentages are rounded to the nearest whole number in the text and are provided to one decimal place in the tables.
6. The counties covered by each HSE area are as follows: HSE East: Dublin, Kildare & Wicklow; HSE Midlands: Laois, Longford, Offaly & Westmeath; HSE Midwest: Clare, Limerick & Tipperary North; HSE Northeast: Cavan, Louth, Meath & Monaghan; HSE Northwest: Donegal, Leitrim & Sligo; HSE South: Kerry & Cork; HSE Southeast Carlow, Kilkenny, Tipperary South, Waterford & Wexford; HSE West: Galway, Mayo & Roscommon.
7. Age-standardised notification rates were calculated using the direct method in which the national population was taken as the standard population. Population data were taken from Census 2016 from the Central Statistics Office (www.cso.ie). Data were aggregated into the following age groups for analysis: 0-4 years, 5-9 years, 10-14 years, 15-19 years, 20-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years and ≥65 years.

Further information

Further information on free sexual health services can be found at:

- https://www.sexualwellbeing.ie/sexual-health/hse-sti-services-in-ireland.html

Information on LGV for MSM can be found at:

- www.man2man.ie (resource for gay and bisexual men)
- https://www.sexualwellbeing.ie/sexual-health/sexually-transmitted-infections/types-of-stis/lymphogranuloma-venereum-lgv-.html

Previous reports on chlamydia and LGV can be found on the HPSC website at:

- https://www.hpsc.ie/a-z/sexuallytransmittedinfections/chlamydia/surveillanceanddiseasereports/

Keep up to date with STI reports on the HPSC website at:

- https://www.hpsc.ie/a-z/sexuallytransmittedinfections/publications/stireports/
- https://www.hpsc.ie/a-z/sexuallytransmittedinfections/publications/stireports/stiweeklyreports/

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Report prepared by: **Melissa Brady and Derval Igoe, HPSC**

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