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Annual Epidemiological Report

October 2018

Chlamydia and Lymphogranuloma venereum (LGV) in Ireland, 2017

Key Facts

Chlamydia

- Chlamydia is the most frequently reported STI in Ireland, with 7,408 notifications in 2017
- The notification rate increased by 8% in 2017 to 155.4 per 100,000 of the population compared to 144.2 per 100,000 in 2016
- The notification rate increased by 6% among males (to 151.0/100,000) and increased by 11% among females (to 158.9/100,000) in 2017 compared to 2016
- The age-standardised notification rate in HSE East (197.2/100,000 population) was significantly higher than the national notification rate and represents a 9% increase compared to 2016
- Over half of the cases were reported among young people, aged 15-24 years (age-specific notification rate 644.6 per 100,000 population)

LGV

- There were 20 cases of LGV in 2017, a decrease compared to 48 cases in 2016
- All LGV cases were among males and all were reported in men who have sex with men (MSM)
- Where HIV status was known, half of the cases were among HIV positive MSM, a reduction from the proportion HIV positive in previous years
- LGV cases were older than non-LGV chlamydia cases (median age 36 years compared to 24 years)
- Among those diagnosed with LGV in 2017 there were 13 additional STIs (excluding HIV) diagnosed in 2017

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Introduction

Background

Chlamydia, caused by the bacterium, *Chlamydia trachomatis*, is the most common curable bacterial sexually transmitted infection (STI) in the western world. Chlamydia has two routes of transmission; sexual transmission, which accounts for the vast majority of cases, and vertical transmission from mother to child during vaginal childbirth. Approximately half of all males with chlamydia and seven out of 10 females with chlamydia don't experience any symptoms. If not treated, chlamydia can cause infertility in females.

Lymphogranuloma venereum (LGV) is an invasive form of *Chlamydia trachomatis*, caused by one of three *Chlamydia trachomatis* serovars (L1, L2 or L3), which target the lymphatic system and the lymph nodes. LGV is a chronic disease that has a variety of acute and late manifestations.

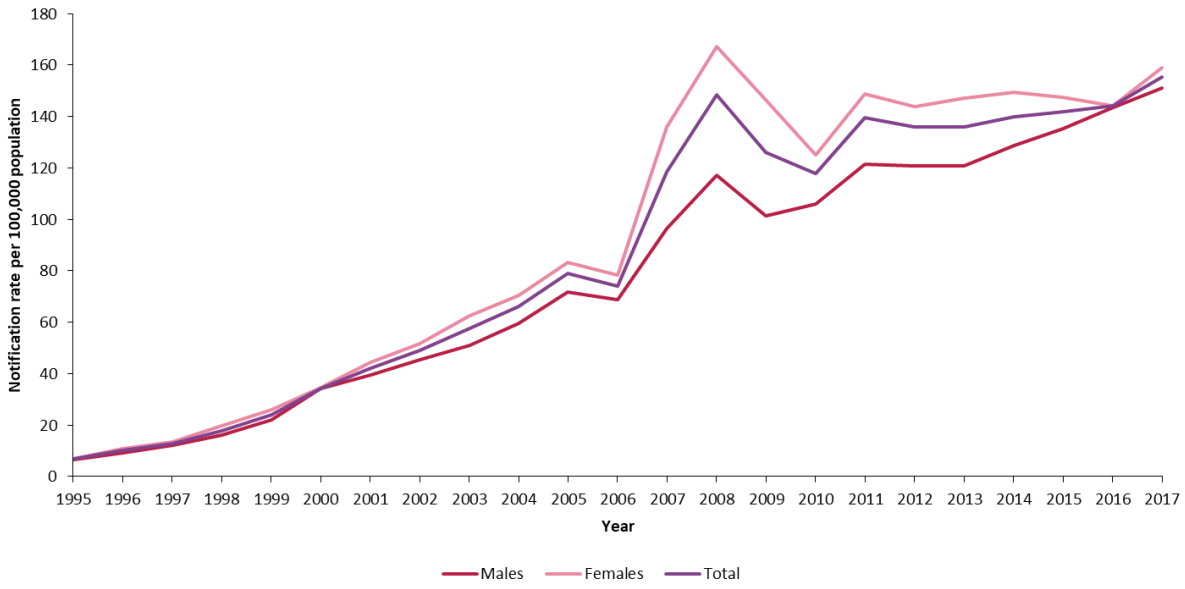
Since 2013, all laboratories report cases of *Chlamydia trachomatis* infection and LGV to the national Computerised Infectious Disease Reporting (CIDR) system (1). Enhanced information is sought on all cases of LGV including demographic information, mode of transmission, symptoms, HIV status, co-infection and probable country of infection.

Epidemiology

Chlamydia

There were 7,408 notifications of chlamydia in 2017, an increase of 8% compared with 2016 when 6,884 cases were notified. The notification rate (NR) increased to 155.4 per 100,000 population in 2017 from 144.2 per 100,000 population in 2016 (Figure 1).

Figure 1. Trend in notification rate of *Chlamydia trachomatis* infection in Ireland by sex, 1995-2017

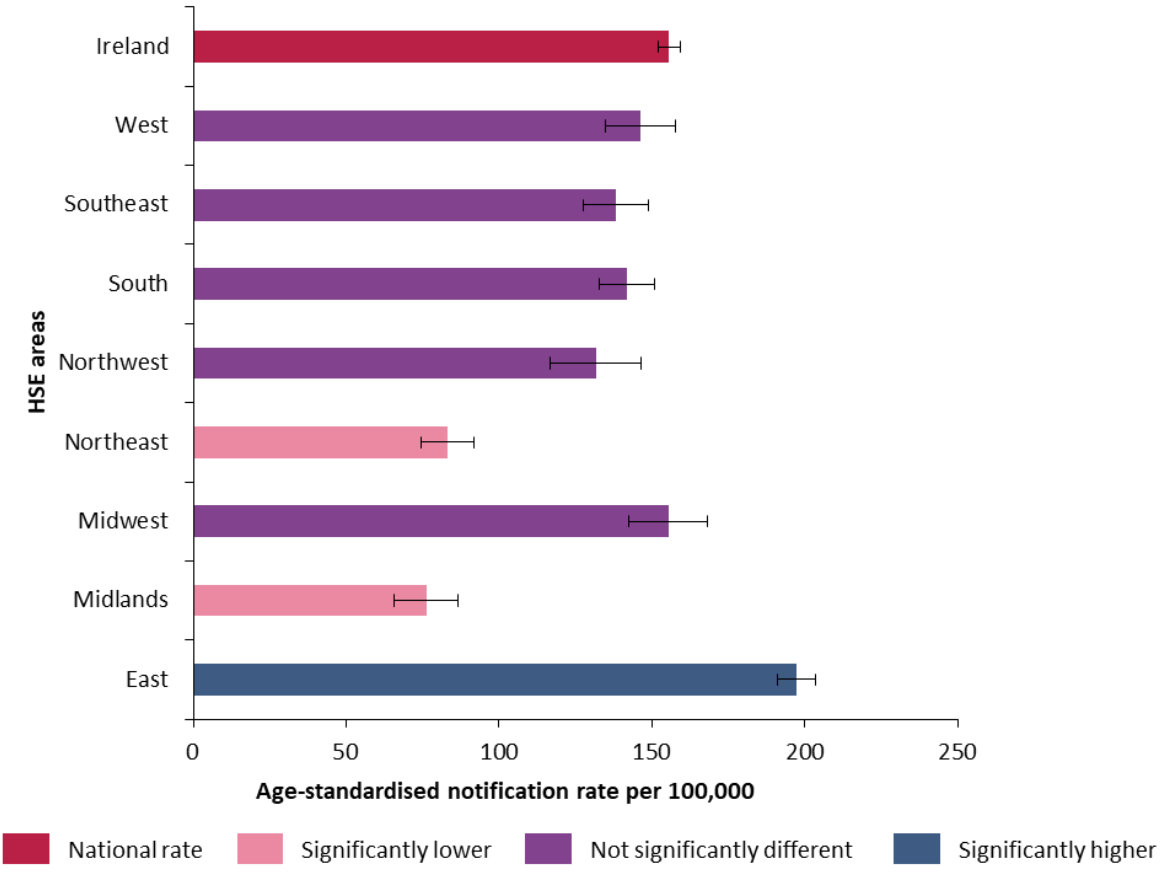


Geographical distribution

Cases of chlamydia were reported from all HSE areas with just over half (51%, n=3,773) reported from HSE East. The age-standardised notification rate (ASNR) in HSE East (197.2/100,000) was significantly higher than the national rate, while the rates in HSE Northeast (83.1/100,000) and the Midlands (76.2/100,000) were significantly lower than the national rate (Figure 2). There was no significant difference in the notification rates in the other HSE areas, compared to the national rate.

Figure 2. Age-standardised notification rate and 95% confidence intervals of chlamydia notifications by HSE area compared with the national rate, 2017 (n=7,407*)

*Excludes cases of unknown age (n=1)

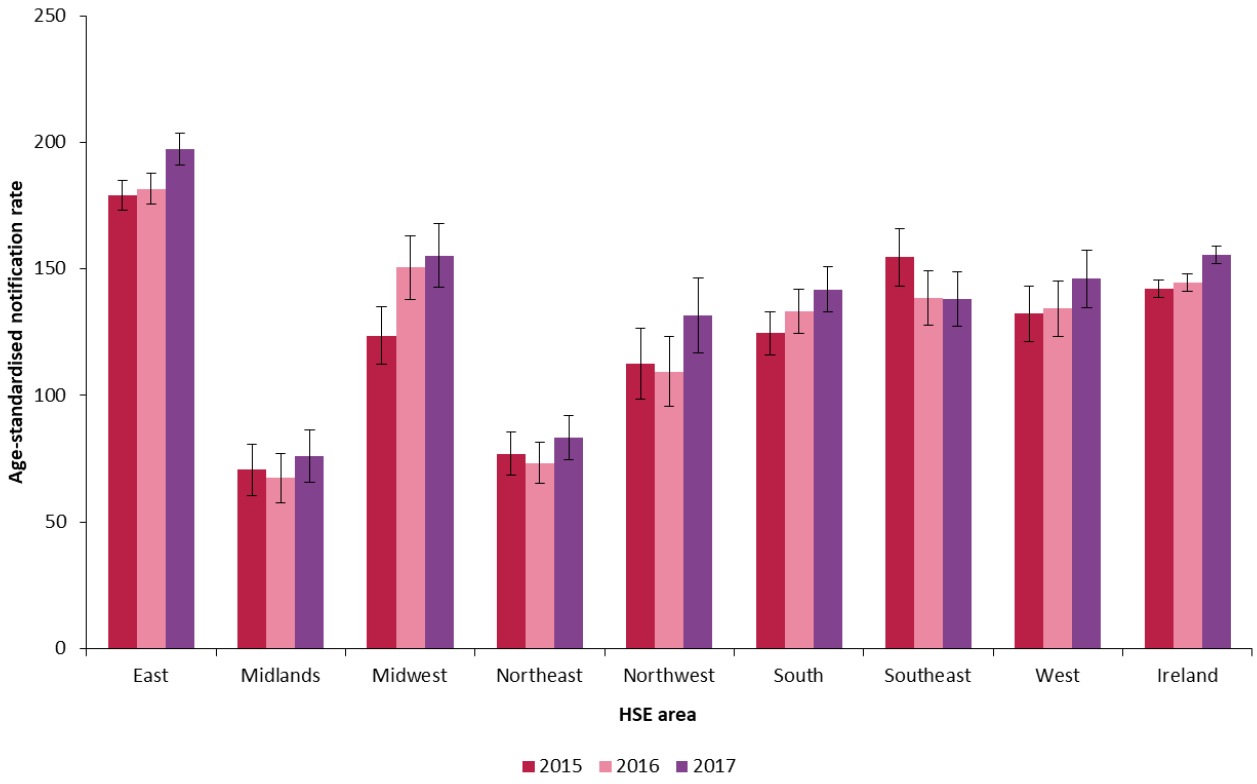


The ASNR in HSE East increased significantly in 2017 compared with 2016 (181.7/100,000). This significant increase in HSE East contributed to the overall significant increase in the national rate in 2017 compared with 2016 as the ASNR did not change significantly in any other HSE area in 2017 compared with 2016 (Figure 3).

The use of a more automated system for processing notifications from HSE East in CIDR since 2013, which does not allow for de-duplication of cases reported more than once, may have contributed to an overestimate of cases of chlamydia in HSE East.

It is also important to note that a patient's area of residence was not provided for all cases reported through CIDR. For laboratory notifications uploaded to CIDR, the laboratory location was used to assign area of residence where patient address details were not available to the laboratory for reporting. As a result, the rates and numbers of cases by HSE area may reflect the location of STI services, including laboratories, as well as differences in reporting practices by clinics and clinicians from one area to another.

Figure 3. Age-standardised notification rate of chlamydia by HSE area in Ireland, 2015-2017



Age and Sex

There were 3,558 chlamydia cases diagnosed in males and 3,829 in females (Table 1), giving a male to female ratio of 0.9 in 2017. There were also 21 cases of unknown sex. The rate among males increased by 6% (to 151.0/100,000) and among females by 11% (to 158.9/100,000) in 2017, compared with 2016. The rate in males has been increasing since 2009, while the rates among females had remained steady between 2011 and 2016. The increased rate of chlamydia infections among females in 2017 represents the largest increase among females since the rate increased by 19% between 2010 and 2011 (Figure 1).

Table 1. Number of cases, NR & median age (range) of Chlamydia and LGV cases by sex in Ireland, 2017

	Total	Male	Female
Chlamydia			
Number of cases*	7,408	3,558	3,829
NR†/100,000 population	155.4	151.0	158.9
Median age in yrs (range in yrs)‡	24 (15-77)	26 (16-77)	23 (15-65)
LGV			
Number of cases	20	20	0
NR/100,000 population	0.4	0.8	0.0
Median age in yrs (range in yrs)	36 (20-65)	36 (20-65)	N.A.

*Male and female breakdown excludes 21 cases where sex was unknown

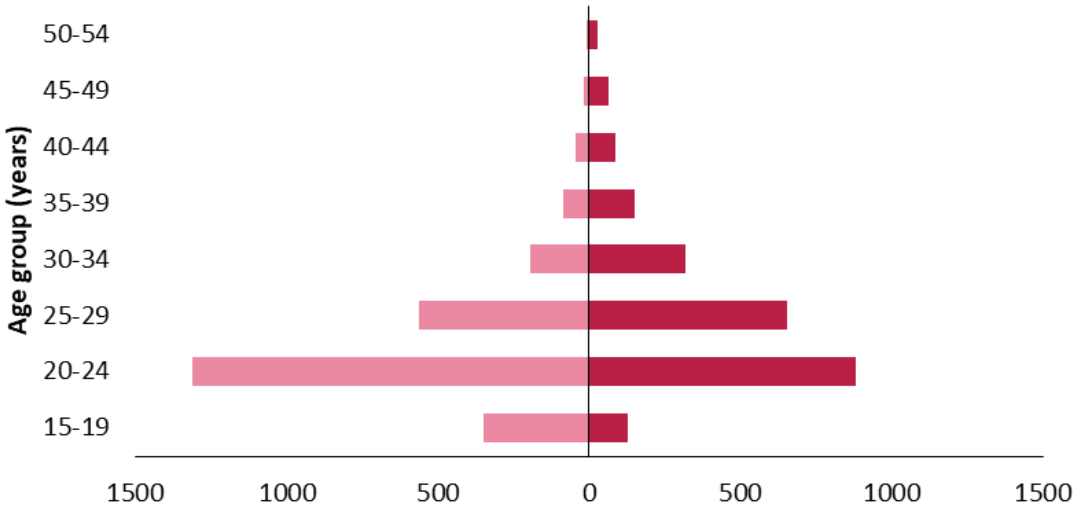
†Notification rate per 100,000 of the population

‡Excluding cases <14 years and one case of unknown age

Over half of the chlamydia cases reported in 2017 were in young people aged 15-24 years (51%; n=3,726; rate=646.4/100,000). The highest rate in 2017 was in the 20-24 year age group (1,098.2/100,000), which accounted for 41% (n=3,005) of the total notifications in 2017. The rate among females in this age group was 1.5 times higher than in males in the same age group. The rate among females was higher than in males in the younger age groups (15-24 years) but the rate was higher among males in all age groups >25 years (Figure 4).

Figure 4. Rate of chlamydia by sex and age group in Ireland, 2017 (n=7,315*)

*Excludes cases with unknown age (n=1) and with unknown sex (n=21). Also excludes cases aged under 14 years (n=5) and cases aged over 55 years (n=66).



	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Males	129.1	881.6	654.9	318.2	150.7	85.1	63.9	25.6
Females	351.6	1310.5	564.3	194.4	84.7	45.6	17.8	7.3

Sex specific rates per 100,000

There were five cases of chlamydia infection in young infants via mother-to-child transmission, giving a rate 0.08 per 1,000 live births registered in Ireland (data on live births registered taken from the Central Statistics Office (CSO) 2016 Census), a decrease compared to a rate of 0.16/1,000 births in 2016. All five cases in 2017 were reported as conjunctivitis. The age range was two weeks to one month.

Other STIs

Since the start of 2013, case-based data on notifiable STIs (except ano-genital warts and non-specific urethritis) have been reported via CIDR from all HSE areas. This has allowed linkages to be made between different incidences of infection for the same patient, facilitating the reporting of multiple infections and providing a clearer understanding of the burden of STIs and repeat infections.

Among patients who were diagnosed with chlamydia in 2017, there were 537 additional incidences of STIs (other than HIV) diagnosed (Table 2) in the same year. Gonorrhoea was the most frequently reported STI (n=435), followed by genital herpes simplex (n=54) and syphilis (n=38) among patients diagnosed with chlamydia in 2017. Among patients diagnosed with chlamydia in 2017, there were also 30 new diagnoses of HIV made in 2017. Furthermore, 151 of the cases diagnosed with chlamydia in 2017 also had a diagnosis of chlamydia in 2016.

There are some limitations to these data, however, as full patient identifiers were not provided for all cases, which makes case linking difficult, therefore the numbers of additional STIs diagnosed in 2017 are likely to be an underestimate. The more automated systems for processing chlamydia notifications on CIDR in HSE East, may also contribute to an underestimate of other infections among cases with chlamydia in HSE East.

Table 2. Number* of additional STIs diagnosed in 2017 among those who had chlamydia in Ireland in 2017

Disease	2017 (N)
Gonorrhoea	435
Herpes simplex (genital)	54
Syphilis	38
Other†	10
Total number of STIs	**537**
HIV infection‡	30
Hepatitis C and B (acute and chronic) §	8

* Patients may be counted more than once in this table

† Other STIs include hepatitis A, LGV and trichomoniasis

‡ Number of new HIV diagnoses made in 2017 among patients diagnosed with chlamydia in 2017

§ Number of hepatitis C or hepatitis B diagnoses made in 2017 among patients diagnosed with chlamydia in 2017

Patient type

The setting in which the patient was seen was reported for 50% of cases (n=3,703) (Table 3). Where reported, over half (54%) of cases were diagnosed in general practice and 37% in an STI clinic. Where reported, 50% of males were diagnosed in primary care and 41% in an STI clinic. Among females, 57% were diagnosed in primary care and 34% in an STI clinic.

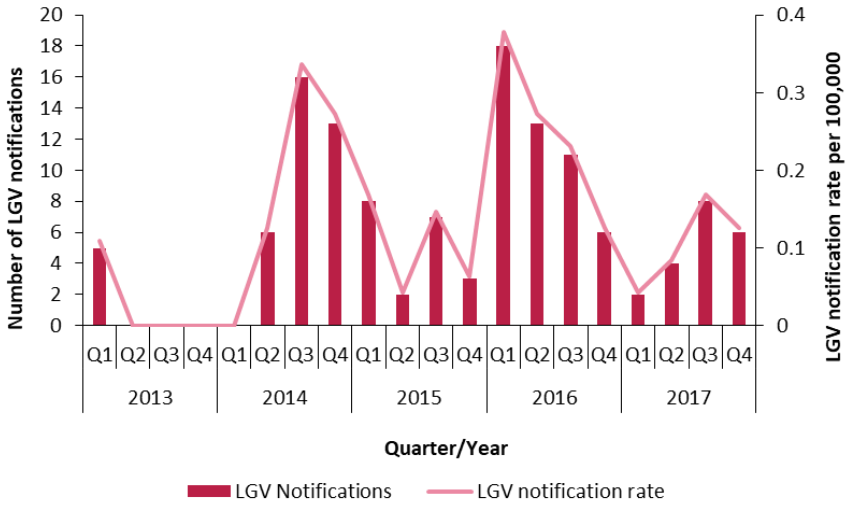
Table 3. Number and percentage of chlamydia cases by sex and patient type (where known) in Ireland, 2017 (n=3,703)

Setting where patient was diagnosed	Male		Female		Unknown		Total	
	N	%	N	%	N	%	N	%
GP	795	50.1	1193	56.7	10	90.9	1998	54.0
Emergency dept.	1	0.1	13	0.6	0	0.0	14	0.4
Hospital (day patient)	1	0.1	12	0.6	0	0.0	13	0.4
Hospital (inpatient)	11	0.7	33	1.6	0	0.0	44	1.2
STI clinic (hospital outpatient)	655	41.3	707	33.6	0	0.0	1362	36.8
Other	124	7.8	147	7.0	1	9.1	272	7.3
Total	**1587**	**100.0**	**2105**	**100.0**	**11**	**100.0**	**3703**	**100.0**

Lymphogranuloma venereum (LGV)

During 2017, there were 20 cases of LGV reported, giving an NR of 0.4 per 100,000 population (compared with 48 cases in 2016, 20 cases in 2015, 35 cases in 2014 and 5 cases in 2013) (Figure 5). An LGV outbreak among MSM in the greater Dublin area began in the middle of 2014 and was closed at the end of 2016, resulting in the decreased NR of LGV in 2017 compared with 2016. The outbreak was brought to a close through the work of a multidisciplinary outbreak control team, convened by the Department of Public Health HSE East, which investigated cases and instigated control measures. Control measures included active case finding, partner notification and the development of information materials targeted towards the at-risk population, namely HIV positive MSM (2).

Figure 5. Trend in number and notification rate of LGV in Ireland by quarter, 2013-2017



Geographical distribution

The majority of LGV cases in 2017 were reported from HSE East (n=16), with the remaining cases reported in the Midlands, the South and the West.

Country of birth was known for 90% of cases in 2017; 55% were born in Ireland, 20% were born in Latin America, 15% were born in another European country or North America. The proportion of cases born in Ireland remained approximately the same since 2016, when 52% of cases were born in Ireland and 2015, when 55% of cases were born in Ireland. The proportion of cases from Latin America was higher in 2017, compared to 13% in 2016 and 15% in 2015.

Age and Sex

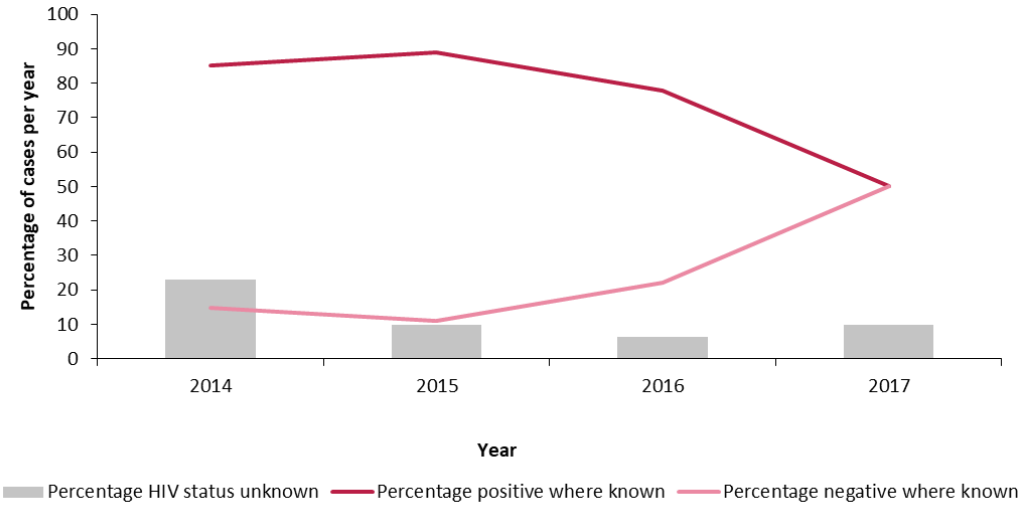
All cases occurred in males and ages ranged from 20 to 65 years. The median age was 36 years (Table 1).

Mode of transmission and HIV status

In 2017, all cases were reported as MSM.

HIV status was known for 90% of cases (n=18) in 2017. Of the 18 cases with known HIV status, 50% (n=9) were HIV positive and 50% (n=9) were HIV negative. The proportion of HIV negative cases in 2017 is an increase from 23%, 12% and 15%, where HIV status was known, in 2016, 2015 and 2014, respectively (Figure 6).

Figure 6. HIV status of LGV cases in Ireland, 2014-2017



Symptoms

Information on symptoms was available for 80% of cases (n=16) in 2017: where known, 69% (n=11) of cases had symptoms of LGV infection, while LGV was detected either through routine STI screening or contact tracing in the remaining 31% (n=5) of cases. Among HIV negative patients, 78% reported being symptomatic and 22% of cases were asymptomatic. Among HIV positive patients, 45% reported symptoms, 33% were asymptomatic and information on symptoms was unknown for the remaining 22% (Table 4).

Table 4. Number and percentage of LGV cases by symptoms and HIV status in Ireland, 2017

Symptomatic	HIV status					
	Positive		Negative		Unknown	
	N	%	N	%	N	%
Yes	4	44.4	7	77.8	0	0.0
No	3	33.3	2	22.2	0	0.0
Unknown	2	22.2	0	0.0	2	100.0
Total	9	100.0	9	100.0	2	100.0

Patient type

In 2017, 90% of LGV cases were diagnosed in STI clinics and the remaining 10% were diagnosed in primary care. This trend is largely unchanged from previous years when 82%, 90% and 86% of patients were diagnosed in STI clinics in 2016, 2015 and 2014, respectively.

Other STIs

Among patients diagnosed with LGV in 2017, there were 13 additional incidences of STIs (other than HIV) diagnosed in the same year. Gonorrhoea was the most frequently reported STI (n=10), followed by syphilis (n=3).

Two cases diagnosed with LGV in 2017 also had a previous diagnosis of LGV in 2016.

Discussion and Recommendations

The NR of chlamydia in Ireland remained stable between 2011 and 2016 but increased by 8% in 2017, compared to 2016. This increase was seen more in females than in males. Younger age groups, particularly those aged 20-24 years were most affected and females were typically younger than males. Over half of the chlamydia notifications in 2017 (51%) were reported among those aged 15-24 years. In the UK, 62% of chlamydia infections were reported among young people aged 15-24 years in 2017. The rate among those aged

15-24 years in Ireland was 646.4/100,000, compared with 1,893/100,000 in the UK (3). The higher burden of chlamydia among young people in the UK is due to opportunistic screening of sexually active young people aged between 15 and 24 years as part of the National Chlamydia Screening Programme.

The increase in chlamydia notifications in Ireland in 2017 may be due either to increasing disease burden or increased STI screening. National data on the numbers of STI tests performed is not currently available, however, and there is no national screening programme specifically targeting young people in Ireland. The high rate of chlamydia notifications among young people in Ireland highlights the ongoing need for sexual health awareness campaigns that target young people, such as the new HSE Sexual Health and Crisis Pregnancy Programme safer sex campaign (#respectprotect), launched in 2018 to engage young people on social media channels and to encourage sexually active young people to access correct information and practice safe sex. Chlamydia infections are often asymptomatic so it is important to get tested when changing sexual partners or following sexual contact with multiple overlapping partners.

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

- https://www.hse.ie/eng/services/list/5/sexhealth
- https://www.sexualwellbeing.ie/sexual-health/
- http://man2man.ie/

There was a decrease in the number of LGV cases reported in 2017 compared to 2016, as an outbreak which had been ongoing since mid-2014 was closed at the end of 2016. The majority of LGV cases in 2017 were reported in HSE East. Patients diagnosed with LGV tended to be older than those diagnosed with non-LGV serovars of *Chlamydia trachomatis*.

LGV continued to affect HIV positive MSM in 2017, but the proportion of HIV negative MSM diagnosed with LGV increased in 2017 compared to previous years. The majority of patients diagnosed with LGV in 2017 attended their clinic or GP due to symptoms of LGV infection but a quarter of cases were asymptomatic, diagnosed through routine STI screening or contact tracing. The changing trend in HIV status among patients diagnosed with LGV and the identification of HIV negative cases with asymptomatic infection in 2017 may reflect increased testing capacity in the MSM-specific clinic, the Gay Men's Health Service, in Dublin, which encourages regular STI testing. Information on LGV for MSM can be found at:

- www.hpsc.ie/lgv/factsheet
- man2man.ie/stis/lgv/

In addition to regular testing for STIs, continued promotion of the correct use of condoms for all vaginal, oral and anal sex, particularly among young people and MSM, will also prevent the transmission of chlamydia and LGV in Ireland.

Technical notes

1. Data were analysed by date of notification on CIDR
2. Data for this report were extracted from CIDR on 25th July, 2018, and were correct at the time data were extracted
3. Please note that the information from previous years is updated on an ongoing basis in CIDR, and so information on previous years represents our current understanding and most up to date data as of 25th July, 2018, and may not correspond exactly with what was reported in previous annual reports. Similarly, data for 2017 may be updated further in due course and will be reported on in subsequent 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 up 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 (ERHA): Dublin, Kildare & Wicklow; HSE Midlands (MHB): Laois, Longford, Offaly & Westmeath; HSE Midwest (MWHB): Clare, Limerick & Tipperary North; HSE Northeast (NEHB): Cavan, Louth, Meath & Monaghan; HSE Northwest (NWHB): Donegal, Leitrim & Sligo; HSE South (SHB): Kerry & Cork; HSE Southeast (SEHB) Carlow, Kilkenny, Tipperary South, Waterford & Wexford; HSE West (WHB): 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 available on HPSC website

http://www.hpsc.ie/a-z/hivstis/sexuallytransmittedinfections/chlamydia/

http://www.hpsc.ie/a-z/hivstis/sexuallytransmittedinfections/publications/stireports/

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

Acknowledgements

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Report prepared by:

Aoife Colgan and Derval Igoe, October 2018.

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