

SURVEILLANCE REPORT

Annual Epidemiological Report for 2021

Lymphogranuloma venereum

Key facts

- Lymphogranuloma venereum (LGV) is a systemic sexually transmitted infection (STI) caused by *Chlamydia trachomatis* serovars L1, L2, or L3.
- In 2021, 1 124 cases of LGV were reported by 23 EU/EEA Member States.
- Four countries (Spain, the Netherlands, France and Belgium) accounted for 85% of all notified cases.
- Almost all cases in 2021 were reported among men who have sex with men; among cases with known HIV status, 43% were HIV positive.
- The number of reported cases reached an all-time high in 2019 but declined in 2020 and 2021. The decline is likely the result of the impact of COVID-19 on healthcare-seeking behaviour and testing practices as well as a change in sexual risk behaviour due to reduced social mixing.

Introduction

Lymphogranuloma venereum (LGV) is a systemic sexually transmitted infection (STI) caused by a specific type of *Chlamydia trachomatis* bacterium (serovars L1, L2, and L3). LGV is primarily seen among men who have sex with men (MSM) in the EU/EEA and is transmitted through anal sex and possibly through practices such as fisting and use of sex toys or enema use. LGV is more common among HIV infected MSM [1,2].

The primary clinical features among MSM include rectal ulcerations, bleeding, mucoid discharge, constipation, lower abdominal pain and tenesmus. Complications or prolonged infection include perirectal abscesses and fissures. Systemic symptoms including fever, malaise, weight loss and fatigue can also be present. Reactive polyarthropathy with or without conjunctivitis can also occur [1,2].

Other manifestations of LGV can also occur including a primary anogenital ulcer, inguinal adenitis, urethritis and bubo formation. These have traditionally been the classical manifestations of LGV seen among other populations, mainly outside Europe [1,2].

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Methods

This report is based on data for 2021 retrieved from The European Surveillance System (TESSy) on 3 April 2023. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

For a detailed description of methods used to produce this report, refer to the *Methods* of the 'ECDC Annual epidemiological report' [3].

An overview of the national surveillance systems is available online [4].

A subset of the data used for this report is available through ECDC's online *Surveillance atlas of infectious diseases* [5].

In 2021, the majority of reporting countries (16) used the standard EU case definitions [6]. Four countries reported using national case definitions, and three did not report which case definition was in use. Surveillance systems for lymphogranuloma venereum (LGV) in Europe vary: 16 countries reported having comprehensive surveillance systems. Four countries reported that they operate sentinel systems that only capture LGV diagnoses reported by a selection of healthcare providers, and three did not report the type of surveillance system. Reporting of LGV infections is compulsory in 17 countries, 16 of which have comprehensive surveillance systems; one country with compulsory reporting did not specify the coverage of the surveillance system.

In the four countries that have sentinel systems, reporting is voluntary. One country did not specify whether reporting of LGV is compulsory or not, nor the coverage of the surveillance system. In another country with voluntary LGV reporting, information was missing regarding the coverage of the surveillance system.

This report does not contain information on LGV infection rates because many LGV surveillance systems do not generate data that are considered representative of the national population. There are also significant differences in the availability of LGV diagnostics across Europe.

Epidemiology

In 2021, 23 countries provided LGV surveillance data. Fifteen countries reported a total of 1 124 cases, while the remaining eight reported no cases (Table 1). Four countries (Belgium, France, the Netherlands and Spain) accounted for 85% of all notified cases (Table 1).

Table 1. Distribution of confirmed lymphogranuloma venereum cases by country and year, EU/EEA, 2017–2021

Country	2017	2018	2019	2020	2021
	Number	Number	Number	Number	Number
Austria	NDR	NDR	NDR	NDR	NDR
Belgium	88	87	145	88	91
Bulgaria	NDR	NDR	NDR	NDR	NDR
Croatia	2	0	0	0	0
Cyprus	0	0	0	0	0
Czechia	39	25	14	20	22
Denmark	41	63	70	24	16
Estonia	0	0	0	0	0
Finland	6	17	8	2	4
France	457	694	721	165	173
Germany	NDR	NDR	NDR	NDR	NDR
Greece	NDR	NDR	NDR	NDR	NDR
Hungary	22	41	49	23	31
Iceland	0	0	0	0	3
Ireland	19	29	38	12	12
Italy	20	21	8	4	13
Latvia	0	0	0	0	0
Liechtenstein	NDR	NDR	NDR	0	0
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Malta	0	0	6	0	2
Netherlands	273	235	353	267	213
Norway	33	44	27	14	10
Poland	0	0	2	0	0
Portugal	31	43	50	75	49
Romania	NDR	NDR	NDR	NDR	NDR
Slovakia	NDR	NDR	NDR	NDR	NDR
Slovenia	2	6	14	6	1
Spain	328	286	417	628	484
Sweden	0	NDR	NDR	NDR	NDR
United Kingdom	641	805	1 202	NDR	NDR
EU/EEA	2 002	2 396	3 124	1 328	1 124

Source: Country reports.

NDR: no data reported.

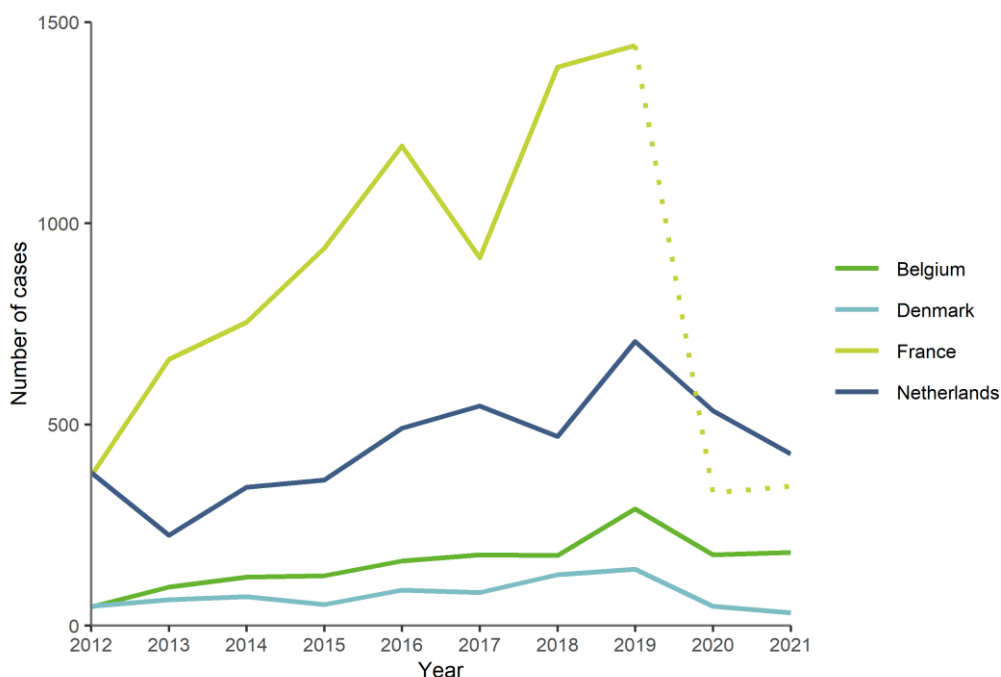
Between 2012 and 2021, 16 517 cases of LGV were reported in 19 countries. An additional five countries submitted reports for at least seven of the last 10 years but reported no cases.

Excluding the UK, 11 324 cases were reported between 2012 and 2021 with the majority of cases reported in France (37%), Spain (21%) and the Netherlands (20%). The number of cases reported increased year on year from 486 in 2012 to 1 922 in 2019 (with the exception of 2017 when case numbers were similar to 2016). This overall increasing trend is partly due to an increase in the number of reporting countries, but mostly driven by an increase in case numbers in most of the reporting countries.

The overall number of cases reported decreased in 2020 (1 328) and 2021 (1 124). This decline was observed in the majority of countries. This decrease may be the result of a combination of changes in behaviour around risk, seeking healthcare and also testing practices during the COVID-19 pandemic.

In the four countries reporting a high number of cases consistently between 2012 and 2021, LGV cases reported in 2019 reached an all-time high followed by a decline between 2020–2021 (Figure 1). The substantial reduction in the number of cases reported by France is due to a change in the reporting system in 2020 and 2021 where data reported are based on a smaller sample of laboratories compared to previous years. Given that France reports large numbers of cases relative to other countries, this reduction contributed in part to the overall reduction in cases in 2020 and 2021.

Figure 1. Number of confirmed lymphogranuloma venereum cases in the four EU/EEA Member States with the highest number of cases in 2021, and which reported consistently 2012-2021



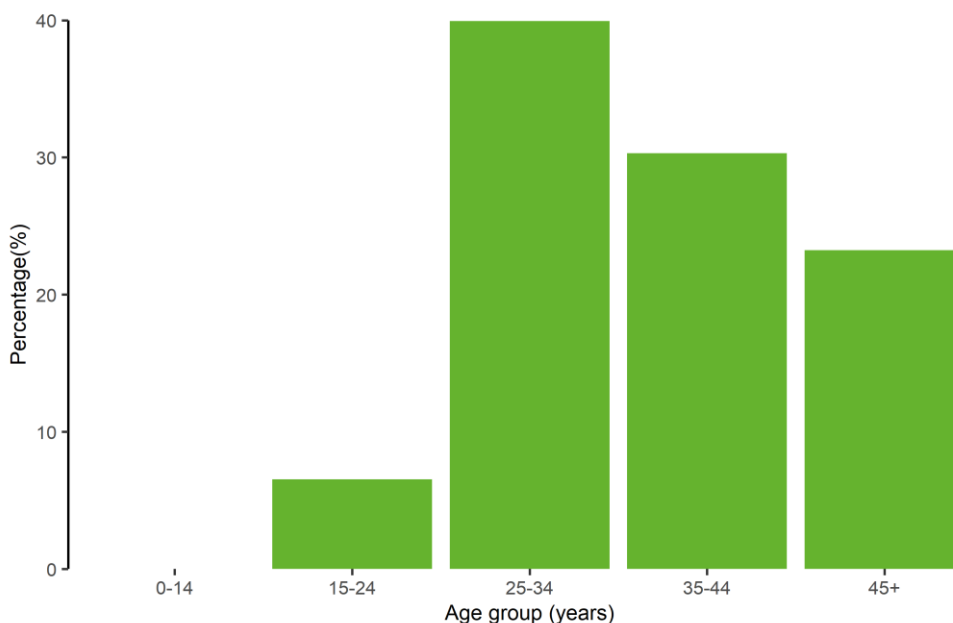
Note: The substantial reduction in the number of cases reported by France is due to a change in the reporting system in 2020 and 2021 where data reported are based on a smaller sample of laboratories compared to previous years.

Age and gender

Gender was reported for 1 118 cases (99%). Most LGV cases reported in 2021 were among men, with only 15 cases reported among women.

Age was reported for >99% of cases, with 70% of cases reported among 25–44-year-olds (Figure 2).

Figure 2. Lymphogranuloma venereum cases by age group, EU/EEA, 2021



Source: Country reports from EU/EEA.

Transmission category and HIV status

The transmission category was reported for 606 cases in 2021 (54%). All but 14 cases were reported among men who have sex with men (MSM).

In 2021, information on HIV status was available for 51% of all reported LGV cases (574 cases). Of these cases, 43% were HIV positive. Between 2012 and 2021, HIV status was reported and known for 7 750 cases (47% of all reported cases). Of these cases, 5 031 (65%) were HIV positive. In countries reporting HIV status consistently between 2017-2021, the proportion of LGV cases with HIV-negative status has increased from 40% in 2017 to 60% in 2021.

Discussion

The overall number of reported LGV cases reached an all-time high in 2019. The increase was driven in part by increases in the number of reported cases in France, which is the country reporting the largest number of cases over the last ten years. However, several other countries also experienced considerable increases in reported cases. Yet, in 2020 and 2021, the number of reported cases declined overall. These declines were also seen in the majority of reporting countries and the overall decline is present even when excluding all data from the UK (the UK stopped reporting data to ECDC in 2020 as it exited the European Union). In France, the reduction in the number of cases reported in 2020 and 2021 relative to earlier years was particularly large due to a change in the reporting system where data reported are based on a smaller sample of laboratories compared to previous years. This impacted the overall degree of reduction in 2020 and 2021 as France has historically reported the largest number of cases.

Another reason behind the decline from 2019 may be a combination of changes in healthcare seeking behaviour and testing practices during the COVID-19 pandemic. A survey of a wide range of actors involved in the provision of testing services found that the majority reported service disruptions and declines in testing volumes, in particular in the early part of 2020 [7]. Similarly, according to an ECDC survey of the STI Network, the decrease in 2020 is most likely due to the impact of the COVID-19 pandemic on availability and/or access to STI care services for populations at high risk, changes in sexual behaviour, reduced testing opportunities and decrease of STI surveillance capacity due to the diversion of resources to the COVID-19 response (internal ECDC report, data not published).

Specifically, with regards to LGV, a clinic-based study from Spain showed that while the number of LGV cases decreased during the first COVID-19 pandemic wave and the strictest lockdown period in Madrid in spring 2020, the number of cases increased during the period between the first and the second waves in 2020 and continued to increase during the third wave of the pandemic in late 2020 and early 2021 [8]. This may in part be explained by individuals delaying seeking healthcare which would allow untreated infections to spread. Many of these individuals would then be detected as testing services opened up after the first lockdown [8].

Overall, it is challenging to disentangle the relative contributions of changes in testing availability, healthcare seeking behaviour and sexual risk behaviour changes on the number of reported cases during 2020 and 2021. It will be important to monitor trends in 2022 and beyond.

Increasing trends of LGV among HIV-negative and asymptomatic MSM in the Netherlands is related to changes in testing recommendations in 2015, from selective to universal rectal chlamydia testing for all MSM and universal LGV testing in all rectal *C. trachomatis* positive MSM [9]. A similar rise in LGV diagnoses among HIV-negative and/or asymptomatic MSM was reported from Belgium where testing for LGV on all chlamydia-positive samples from MSM, irrespective of their HIV status was indicated as a public health response measure to control an LGV outbreak [10].

In line with changes in testing practices in European countries, in 2019, the updated European guidelines on the management of LGV recommended that all MSM with anorectal samples positive for *C. trachomatis* should be tested for LGV irrespective of symptoms, and HIV-positive MSM and those who are eligible for HIV pre-exposure prophylaxis (PrEP) should be considered a priority for testing [11].

The number of cases described in this report is likely to be an underestimation as many countries do not have a national surveillance system for LGV and, in certain countries, confirmation of LGV infection through molecular diagnostics is not widely available. Substantial underdiagnosis of LGV was identified by an ECDC-funded pilot study in the following participating countries: Austria, Croatia and Slovenia [12]. The updated European guidelines on the management of LGV published in 2019 highlighted the need for appropriate LGV molecular diagnostics in all European countries [11]. The lack of appropriate diagnostics means that it is impossible to conduct effective surveillance, provide effective treatment and implement adequate prevention activities.

Public health implications

Increasing proportions of LGV cases among HIV-negative MSM mean that case finding should also focus on this group, particularly among those eligible for, or on, PrEP. Effective interventions need to be identified and targeted at groups of MSM with high levels of condomless sex. In addition, clinical suspicion and early diagnosis is essential to prevent severe complications. In many parts of Europe, there continues to be limited diagnostic capacity for LGV infection, which makes control of the infection difficult and limits the availability of surveillance data.

References

1. Bradley P, Stoner, Stephanie E, Cohen, Lymphogranuloma Venereum 2015: Clinical Presentation, Diagnosis, and Treatment, *Clinical Infectious Diseases*, Volume 61, Issue suppl_8, December 2015, Pages S865–S873, <https://doi.org/10.1093/cid/civ756>
2. White JA. Manifestations and management of lymphogranuloma venereum. *Current opinion in infectious diseases*. 2009 Feb 1;22(1):57-66.
3. European Centre for Disease Prevention and Control (ECDC). Introduction to the Annual Epidemiological Report. Stockholm: ECDC; 2021. Available from: <http://ecdc.europa.eu/annual-epidemiological-reports/methods>.
4. European Centre for Disease Prevention and Control (ECDC). Surveillance systems overview for 2021. Stockholm: ECDC; 2020. Available from: [Surveillance systems overview for 2021 \(europa.eu\)](http://ecdc.europa.eu/surveillance-systems-overview-for-2021)
5. European Centre for Disease Prevention and Control (ECDC). Surveillance atlas of infectious diseases Stockholm: ECDC; 2017. Available from: <http://atlas.ecdc.europa.eu>.
6. European Centre for Disease Prevention and Control (ECDC). EU case definitions Stockholm: ECDC; 2018. Available at: <http://ecdc.europa.eu/infectious-diseases-public-health/surveillance-and-disease-data/eu-casedefinitions>
7. Simões D, Stengaard AR, Combs L, Raben D, partners TEC-iaco. Impact of the COVID-19 pandemic on testing services for HIV, viral hepatitis and sexually transmitted infections in the WHO European Region, March to August 2020. *Eurosurveillance*. 2020;25(47):2001943.
8. Martínez-García L, Rodríguez-Domínguez M, Lejarraaga C, Rodríguez-Jiménez MC, González-Alba JM, Puerta T, et al. The silent epidemic of lymphogranuloma venereum inside the COVID-19 pandemic in Madrid, Spain, March 2020 to February 2021. *Eurosurveillance*. 2021;26(18):2100422.
9. van Aar F, Kroone MM, de Vries HJ, Götz HM, van Benthem BH. Increasing trends of lymphogranuloma venereum among HIV-negative and asymptomatic men who have sex with men, the Netherlands, 2011 to 2017. *Eurosurveillance*. 2020;25(14):1900377.
10. De Baetselier I, Tsoumanis A, Florence E, Van den Berghe W, Crucitti T, Van den Bossche D, et al. Did Pre-exposure Prophylaxis Roll-Out Influence the Epidemic of Rectal Lymphogranuloma Venereum in Belgium? Results From the National Surveillance System. *J Acquir Immune Defic Syndr*. 2021;86(1):e1-e5.
11. de Vries HJC, de Barbeyrac B, de Vrieze NHN, Viset JD, White JA, Vall-Mayans M, et al. 2019 European guideline on the management of lymphogranuloma venereum. *J Eur Acad Dermatol Venereol*. 2019;33(10):1821-8.
12. Cole MJ, Field N, Pitt R, Amato-Gauci AJ, Begovac J, French PD, et al. Substantial underdiagnosis of lymphogranuloma venereum in men who have sex with men in Europe: preliminary findings from a multicentre surveillance pilot. *Sex Transm Infect*. 2020;96(2):137-42.