

# Syphilis and Lymphogranuloma Venereum: Resurgent Sexually Transmitted Infections in the UK



# Key findings

- Epidemics of infectious syphilis and Lymphogranuloma venereum (LGV) are continuing especially among men who have sex with men (MSM) who are known to be HIV infected.
- 3762 diagnoses of infectious syphilis were made in 2007, more than in any other year since 1950.
- 849 cases of LGV were diagnosed between 2003 and 2008, the majority of whom had symptoms of proctitis (rectal pain, discharge, bloody stools and constipation).
- MSM account for 73% of infectious syphilis and 99% of LGV cases.
- HIV co-infection is common in those diagnosed with LGV (74%) and syphilis (27%) reflecting the close relationships between the epidemics.
- The increased number of syphilis cases in women of reproductive age has resulted in an increase in cases of congenital infection.

# Recommendations

- MSM remain the group most at risk from syphilis and LGV. The high levels of HIV co-infection highlight recommendations that MSM should have a full sexual health screen annually. This should include testing for HIV where it is not already diagnosed.
- Behavioural modification is a key component of control strategies aimed at syphilis and LGV. Campaigns that increase awareness and knowledge of sexually transmitted infections (STI), and promote safer sex need to be intensified.
- The control of the syphilis epidemic should be based on a combination of interventions including those to promote early diagnosis and treatment through measures, such as partner notification and antenatal screening, facilitating access to sexual health services, diagnosis and treatment and promoting behavioural changes such as increased condom use and reducing the number of sexual partners.
- Testing for LGV should be offered during routine clinical care to HIV positive MSM who have symptoms of LGV infection and have a positive test for *Chlamydia trachomatis*.
- Improving the laboratory turnaround times for the diagnosis of syphilis would be a positive step in limiting the spread of infection. A standard operating procedure for the serological diagnosis of syphilis has recently been developed by the HPA<sup>1,2</sup>.
- Congenital syphilis can be prevented through antenatal screening. In England in 2005, 95% of pregnant women were screened for syphilis, although uptake varied from 77% to 100% between regions.

## Syphilis

Diagnoses of infectious syphilis declined in the late 1980s and early 1990s as a result of behavioural change associated with the HIV pandemic. However, between 1997 and 2007, annual diagnoses of infectious syphilis have risen twelvefold (from 301 to 3789) (*Figure 1*). This increase has been punctuated by a series of outbreaks, the first of which occurred in 1997 amongst heterosexuals in Bristol<sup>3</sup>. Although outbreaks have occurred in many UK cities, most diagnoses have been reported from Manchester, London and Brighton. The largest outbreak began in London in 2001 and since then infection rates have risen steeply, particularly among men who have sex with men (MSM). Enhanced surveillance of syphilis was introduced in 1999 to collect timely information with which to build a detailed picture of the epidemic and guide interventions. The enhanced surveillance dataset is available for 55% (2087/3762) of infectious syphilis cases diagnosed in 2007.

### *Men who have sex with men*

Between 1999 and 2008, the majority (73%; 9590/13 175) of the diagnoses of infectious syphilis have been made in MSM and the characteristics of these patients have changed little over the course of the epidemic. Around a third of these patients (36%) are aged between 35 and 44 (median age 36; *Figure 2*), 90% were of white ethnicity, and HIV co-infection was common (34%). Infection was likely to have been acquired through oral sex in 33% of cases. Throughout the epidemic, transmission has resulted primarily from infection acquired within the UK: only 8% of infections have been acquired abroad (*Figure 3*). Fifty six percent of MSM reported more anonymous partners than partners who could be contacted through partner notification.

### *Heterosexual men and women*

Since 1999, 3375 diagnoses of infectious syphilis have been made in heterosexuals, but, in contrast to MSM, the pattern of infection has changed over time. At the beginning of the epidemic heterosexual transmission involved imported infections, commercial sex work and sex parties<sup>3</sup>. However by 2008 68% of infections were acquired within the UK (*Figure 3*). Outbreaks were linked to sex work, students and young people. Infections have increasingly been seen in men and women of white ethnicity (27% in 1999 to 63% in 2008), 44% of whom presented with symptoms. The median age of heterosexual men diagnosed with syphilis is identical to that of MSM cases, but female cases were younger (median age in men 36 and in women 28; *Figure 2*). Over a third of females cases (40%) were <25 years old, as opposed to 18% of heterosexual men, and 4% were <18 years old.

## Congenital Syphilis

Between 1999 and 2007, diagnoses of infectious syphilis in women more than doubled (from 136 to 448). As incidence among women has risen, cases of congenital syphilis have re-emerged reflecting a failure of syphilis control programmes. Since 1999, around 10 cases have been reported each year by genitourinary medicine (GUM) clinics but this probably represents only 30% to 50% of the cases that occur<sup>4</sup>. Cases can be prevented through antenatal screening; in England in 2005, 95% of pregnant women were screened for syphilis, although this hides wide regional variation (from 77% to 100%)<sup>5</sup>.

## Lymphogranuloma venereum

LGV has been rare in Western Europe for many years but a series of outbreaks was reported in 2003 and 2004, the largest of which was seen in the UK. In October 2004, an outbreak investigation and awareness campaign was launched by the HPA in collaboration with other agencies and stakeholders<sup>6</sup>.

From 2003 to 2008, a total of 849 diagnoses of LGV were made in the UK, nearly all of which were diagnosed in MSM, only five cases being acquired heterosexually. The number of confirmed cases peaked in 2005 (*Figure 4*). The characteristics of those MSM infected with LGV have remained consistent since the outbreak began. The median age of patients diagnosed with LGV was 37 (range 19 to 67) (*Figure 5*) and most were of white ethnicity (89%; 685/767). The majority had concurrent HIV infection (75%; 573/767) and 45% were diagnosed with another STI. A high proportion of cases presented with symptoms of proctitis (90%; 689/767) which is unusual compared with experience elsewhere. The majority of diagnoses have been made in London (72%), Brighton (7%), and Manchester (4%), although sporadic cases have been reported throughout the UK. Only 7% (48/715) of cases have reported their infection as having been acquired outside the UK.

Figure 1: Number of syphilis diagnoses in the UK by sex and sexual orientation: 1997 to 2007

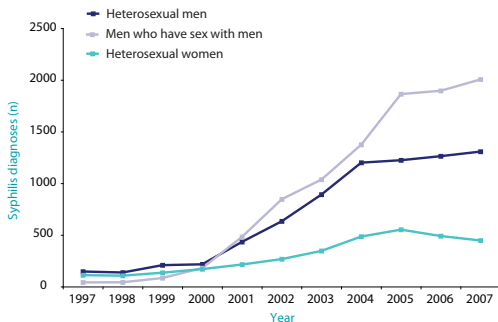
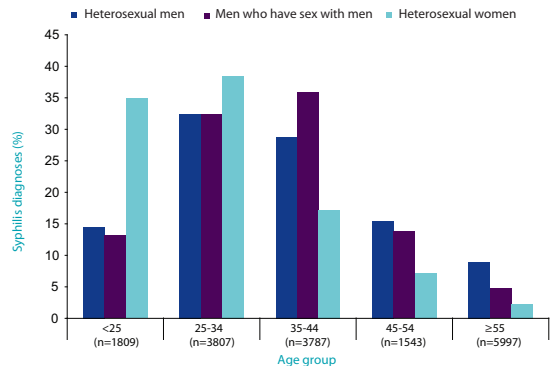


Figure 2: Age distribution of syphilis diagnoses by sex and sexual orientation: 1999 to 2008



## Prevention and control

The epidemics of infectious syphilis and LGV have both been influenced by developments in the HIV epidemic. Despite increased investment in sexual health services, the impact of control strategies on the syphilis and LGV epidemics has been limited and there has been no marked reduction. The delivery of effective intervention within the context of these dynamic, diverse epidemics remains a challenge.

The control and prevention of syphilis is based on increased access to GUM services, partner notification, opportunistic screening initiatives, outreach to at-risk groups including commercial sex workers and partners, sexual health promotion and antenatal screening<sup>3</sup>. Campaigns to raise awareness have also been undertaken by voluntary sector organisations. The effectiveness of partner notification, a key method of identifying infection within sexual networks has been compromised because the majority of syphilis cases (76%: 582/764) reported mostly anonymous sexual partners, a pattern that is repeated within the LGV epidemic<sup>6</sup>. Screening for syphilis within social venues, such as pubs and clubs, was undertaken in some cities in the early stages of the epidemic but did not have a direct impact on infection control<sup>7</sup>. The control of LGV is centered on offering testing during routine clinical care to HIV positive MSM who have symptoms of LGV infection and have a positive test result for *C. trachomatis* as investigations associated with the outbreak have found few asymptomatic cases<sup>8</sup>.

Behavioural intervention remains a key component of health promotion initiatives and needs to be intensified. Awareness to syphilis and LGV needs to be raised, safer sex should be promoted together with a reduced number of sexual partners, and people at risk should be encouraged to attend clinical services regularly. Locally driven interventions that target sexual and social networks identified through partner notification and enhanced surveillance also play a crucial role in intervention<sup>9</sup>.

Figure 3: Proportion of syphilis diagnoses by location of infection, sex, and sexual orientation: 2001 and 2008

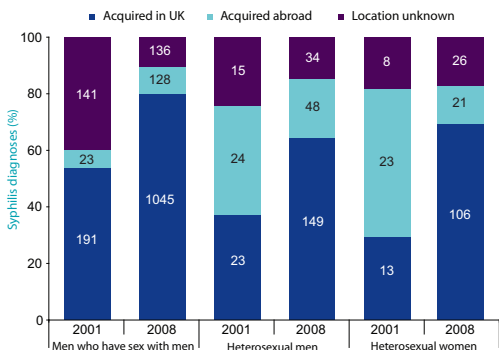
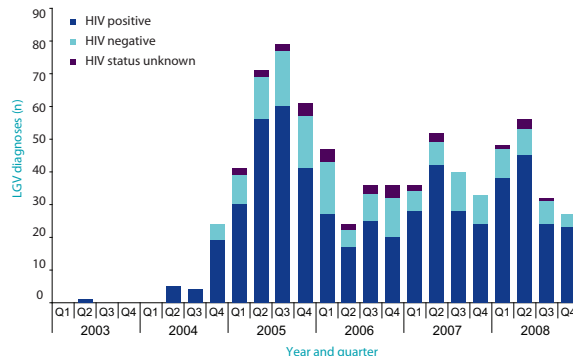


Figure 4: Number of LGV diagnoses in the UK by HIV status: 2003 to 2008



## Syphilis

Syphilis is caused by the bacterium *Treponema pallidum*. Clinical presentation is divided into three stages: primary, secondary and tertiary. Primary syphilis presents as a painless chancre (ulcer) at the site of infection. Symptoms of secondary syphilis include malaise, fever, headache, swollen glands, night sweats and rash. Syphilis can also be transmitted from a woman to her unborn baby during pregnancy, which can lead to miscarriage, stillbirth, neonatal death, or disorders such as deafness and bone deformities.

## Lymphogranuloma venereum (LGV)

LGV is caused by the L serovars of *Chlamydia trachomatis* and is endemic to areas of Africa, Asia, South America, and the Caribbean and, since 2005, to HIV positive MSM in industrialised countries. The classic clinical presentation of LGV is painfully swollen lymph nodes together with general malaise, fever, and discharge. However, in MSM, cases have presented with symptoms of proctitis (inflammation of the lining of the rectum), this includes rectal pain, rectal discharge, bloody stools, constipation and tenesmus.

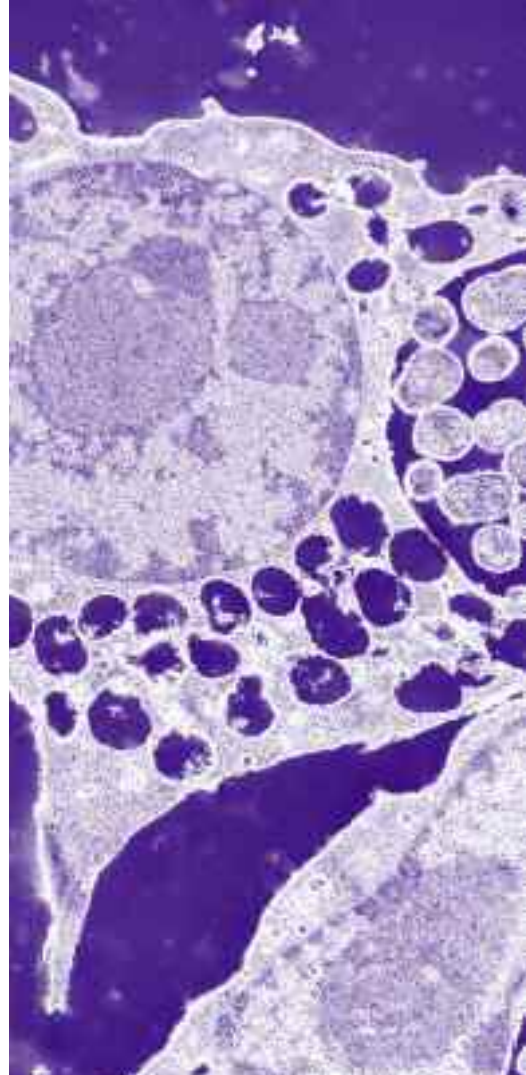
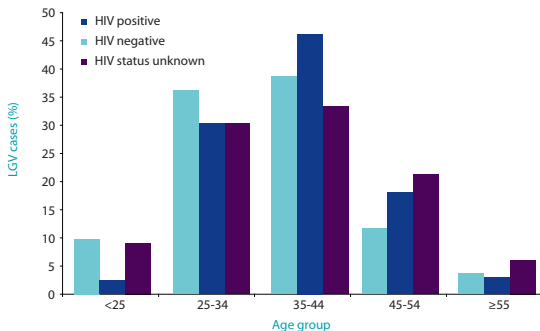


Figure 5: Age distribution of LGV diagnoses by HIV status: 2003 to 2008

// *Chlamydia trachomatis*, Regional HPA laboratory, Manchester  
// *Treponema pallidum*, Medical RF.com / Science Photo Library



# Key prevention messages for the public and professionals

## *Public*

Good sexual health is a key component of the prevention of infection with syphilis and LGV. In particular, people at risk should be encouraged to:

- Use a condom during sexual intercourse. Be aware that syphilis can be transmitted through oral sex.
- Have fewer sexual partners and avoid over-lapping sexual relationships. This reduces the risk of becoming infected with an STI.
- Be aware of the symptoms of infection and seek early medical advice.
- Get tested regularly. Consulting clinical services regularly increases the chances that infection can be identified, even if there are no symptoms.

## *Professional*

- Syphilis can easily be misdiagnosed as a variety of other clinical conditions. All clinicians need to be aware of the presentation of primary and secondary syphilis when assessing patients (see guidelines at [www.bashh.org](http://www.bashh.org)).
- If left untreated, symptoms of LGV infection can become more severe and cause lasting damage to health. Gastroenterologists need to know that the late presentation of LGV can be misdiagnosed as Crohn's disease.
- LGV control is based on offering testing during routine clinical care to HIV positive MSM who have symptoms of LGV infection and have a positive test result for *Chlamydia trachomatis*.
- The HPA offers an LGV diagnostic service for patients who have been found to be chlamydia positive and are either (i) symptomatic, or (ii) a contact of an LGV case. Please contact STBRL at [www.stbrl.hpa.org.uk](http://www.stbrl.hpa.org.uk) for further details. The Scottish Bacterial Sexually Transmitted Infections Laboratory (SBSTIRL) offers an LGV diagnostic service for patients who are; (i) symptomatic for LGV, (ii) a contact of an LGV case, and (iii) from HIV positive patients with a chlamydia positive rectal swab. Please consult <http://www.documents.hps.scot.nhs.uk>.

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### Surveillance information on syphilis & LGV is available through:

Health Protection Agency  
[www.hpa.org.uk](http://www.hpa.org.uk)

### Other useful contacts:

Community HIV & AIDS Prevention Strategy (CHAPS)  
[www.chapsonline.org.uk](http://www.chapsonline.org.uk)

British HIV Association (BHIVA)  
[www.bhiva.org](http://www.bhiva.org)

Condom essential wear  
[www.condomessentialwear.co.uk](http://www.condomessentialwear.co.uk)

British Association for Sexual Health and HIV (BASHH)  
[www.bashh.org](http://www.bashh.org)

National Chlamydia Screening Programme (NCSP)  
[www.chlamydiaSCREENING.nhs.uk](http://www.chlamydiaSCREENING.nhs.uk)

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