Spotlight on sexually transmitted infections in the East Midlands 2015 data
About Public Health England

Public Health England exists to protect and improve the nation’s health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Srilaxmi Degala, Field Epidemiology Services East Midlands.
Josh Forde and Paul Crook, Field Epidemiology Services, South East and London.

Please contact: srilaxmi.degala@phe.gov.uk for queries relating to this document.

© Crown copyright 2016
You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit: www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ or email: psi@nationalarchives.gsi.gov.uk. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published: January 2017.
PHE publications gateway number: 2016530.
## Contents

1. Executive summary 4
2. Charts, tables and maps 7
3. Information on data sources 16
4. Further information 18
5. About Field Epidemiology Services 19
6. Acknowledgements 20
1. Executive summary

Sexually transmitted infections (STIs) represent an important public health challenge in the East Midlands. Out of all Public Health England centres it has the sixth highest rate of New STIs in England.

Over 29,300 New STIs were diagnosed in East Midlands residents in 2015, representing a rate of 633 diagnoses per 100,000 adults. Rates by upper tier local authority ranged from 376 New STI diagnoses per 100,000 population in Rutland to 1,245 New STI diagnoses per 100,000 population in Nottingham city.

The numbers and rates above represent diagnoses made in Level 3 (GUM) clinics and for chlamydia in the community (CTAD). Around 1,500 diagnoses of New STIs in East Midlands residents were reported to have been made in Level 2 services\(^1\) (excluding enhanced GP services), which raises the total number of New STI diagnoses in East Midlands residents in 2015 to over 30,900. However, the analyses in this report are limited to the Level 3 and CTAD diagnoses only.

Although, there are still substantial New STI diagnoses each year in the East Midlands, the number of New STIs diagnosed in residents in the region fell by 7% between 2014 and 2015. Reductions were seen in the numbers of most of the five major STIs: gonorrhoea decreased by 1%, chlamydia by 10%, genital herpes by 8% and genital warts by 2%. However, at the same time, syphilis increased by 47%.

PHE recommends that local areas should be working towards achieving a chlamydia detection rate of at least 2,300 per 100,000 among individuals aged 15 to 24 years and this is an indicator in the Public Health Outcome Framework. In 2015 the chlamydia diagnosis rate among East Midlands residents aged 15 to 24 years was 1,835 per 100,000 residents (20% below target). This represents a decline in diagnosis rate from 2,045 per 100,000 residents since the same period in 2014.

Men and women have similar rates of New STIs (604 and 656 per 100,000 residents respectively). However, new chlamydia diagnoses through the screening programme are disproportionately found in women. Where gender and sexual orientation are known, men who have sex with men account for 8% of East Midlands residents diagnosed with a New STI in a GUM clinic (68% of those diagnosed with syphilis and 35% of those diagnosed with gonorrhoea). STIs disproportionately affect young people. East Midlands residents aged between 15 and 24 years accounted for 60% of all New STI diagnoses in 2015. Black ethnic groups are more affected by STIs than other ethnic

\(^1\) Specialist services include genitourinary medicine (GUM) clinics and integrated GUM/sexual and reproductive health (SRH) services, while non-specialist services include SRH Services, Young People’s Services and Online Sexual Health Services. Community-based settings include Termination of Pregnancy clinics, Pharmacies, Outreach and General Practice.
Spotlight on sexually transmitted infections in the East Midlands

groups. Black Caribbean people have the highest rate of New STIs: 2,103 per 100,000. This is 4.3 times the rate seen in the white ethnic group. Where country of birth was known, people born in the UK accounted for 90% of East Midlands residents diagnosed with a New STI in 2015.

Implications for prevention

There was notable variation in the chlamydia detection rate among 15 to 24 year olds by geographic area, largely reflecting rates of testing, with detection rates ranging from 1,086 per 100,000 residents in Rutland to 2,190 per 100,000 residents in Leicester, and proportions tested ranging from 14.9% in Nottinghamshire to 24.8% in Lincolnshire. Local authorities with detection rates below the PHOF recommended indicator of 2,300 per 100,000 population should consider their means to promote chlamydia screening to most effectively detect and control chlamydia infections. Local areas should focus on embedding chlamydia screening for 15 to 24 year olds into a variety of non-specialist SHCs and community-based settings focusing on those which serve the populations with the highest need based on positivity. They should also emphasise the need for repeat screening annually and on change of sexual partner, as well as the need for re-testing after a positive diagnosis within three months of initial diagnosis; and ensure treatment and partner notification standards are met, also to aim to increase testing amongst young males.

Of particular concern is the continuing and rapid rise in syphilis and gonorrhoea among MSM. Some of the increase in gonorrhoea and chlamydia diagnoses in MSM may be due to better detection through increased screening of extra-genital (rectal and pharyngeal) sites using nucleic acid amplification tests. However, there is growing evidence that condomless sex associated with HIV sero-adaptive behaviours (which includes selecting partners perceived to be of the same HIV sero-status), is leading to more STI transmission. Nationally, the rate of acute bacterial STIs in HIV-positive MSM is up to four times that of MSM who were HIV-negative or of unknown HIV status. This suggests that rapid STI transmission is occurring in dense sexual networks of HIV-positive MSM. Sero-adaptive behaviour increases the risk of infection with STIs, hepatitis B and C, and sexually transmissible enteric infections like Shigella spp. For those who are HIV negative, sero-adaptive behaviour increases the risk of HIV seroconversion as 14% of MSM nationally are unaware of their infection. Chemsex, a term describing sex that occurs under the influence of drugs, is also a particular risk factor for MSM.

As MSM continue to experience high rates of STIs they remain a priority for targeted STI prevention and health promotion work. HIV Prevention England have been contracted to deliver, on behalf of PHE, a range of activities which include promoting condom use and awareness of STIs, and are particularly aimed at MSM. A recent cluster of hepatitis B in MSM who identify as heterosexual highlights the diversity of the
MSM population and the need for culturally appropriate and sensitive targeting of health promotion messages, on public sex environment (PSE) sites and sex on premises venues. A targeted HPV vaccination pilot programme for MSM is being introduced in England this year to evaluate whether a national programme can be rolled out across the country at a later date. The high rate of STI diagnoses among black ethnic communities is most likely the consequence of a complex interplay of cultural, economic and behavioural factors. PHE is collaborating with University College London and the London School of Hygiene and Tropical Medicine to improve understanding of the behaviours, attitudes, and other factors influencing their STI risk and support the delivery of timely interventions which maximise patient and public health benefit.

Health promotion and education remain the cornerstones of STI prevention, through improving risk awareness and encouraging safer sexual behaviour, together with condom provision. Consistent and correct condom use substantially reduces the risk of being infected with an STI. Prevention efforts should include ensuring open access to sexual health services with STI screening and robust contact tracing, and should focus on groups at highest risk such as young people, black ethnic minorities and MSM. MSM should have an HIV and STI screen at least annually, or every three months if having condomless sex with new or casual or partners. Effective commissioning of high quality sexual health services, as highlighted in the recently published Framework for Sexual Health Improvement in England, will promote delivery of these key messages.

PHE’s key messages

- prevention efforts should include ensuring open access to sexual health services and STI screening and should focus on groups at highest risk
- the National Chlamydia Screening Programme (NCSP) recommends that sexually active under-25 year-old men and women should be screened for chlamydia every year, and on change of sexual partner
- MSM should have a full HIV and STI screen at least annually, or every three months if having condomless sex with new or casual partners
- black African men and women should have a regular full HIV and STI screen if having condomless sex with new or casual partners

Individuals can significantly reduce their risk of transmitting or being infected with an STI by:

- consistently and correctly using condoms until all partners have had a sexual health screen
- if in a high-risk group, getting screened regularly to ensure early identification and treatment, as these infections are frequently asymptomatic
- reducing the number of sexual partners and avoiding overlapping sexual relationships
2. Charts, tables and maps

2.1 Overview

The rate of New STI diagnoses made within the East Midlands is the fourth lowest when compared to the rest of England. The STI rate for London is greater than the other regions as would be expected as seen in figure 1.

Diagnoses of Chlamydia remains to be the highest amongst all STIs. Chlamydia has shown a rise in cases since 2011, however, due to the change in the method of data collection the comparison of data before 2012 to that after 2012 is limited. Since 2013, Chlamydia diagnoses have been declining. Syphilis and gonorrhoea have also shown increases since 2011, 34% and 82% respectively. Between 2014 and 2015 all of the five main STIs except syphilis have shown decreases in diagnoses. Syphilis has shown a rise in diagnoses of 47% in the East Midlands.

Figure 1: New STI diagnoses by public health centre (PHEC) of residence: England 2015. Data source: GUMCAD (level 3 services) and CTAD.
Spotlight on sexually transmitted infections in the East Midlands

**Figure 2:** Diagnoses of the five main STIs: East Midlands residents, 2011 to 2015.
Data sources: GUMCAD (level 3 services), CTAD, NCSP and laboratory chlamydia data.

Please see comments in Section 3 ‘Information on Data Sources’ page 16 regarding the data used in this analysis.

**Figure 3:** Diagnosis rates of the five main STIs: East Midlands residents, 2011 to 2015.
Data sources: GUMCAD (level 3 services), CTAD, NCSP and laboratory chlamydia data.

Please see comments in Section 3 ‘Information on Data Sources’ page 16 regarding the data used in this analysis.

**Table 1:** Percentage change in New STI diagnoses: East Midlands residents.
Data sources: GUMCAD (level 3 services), CTAD, NCSP and laboratory chlamydia data.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New STIs</td>
<td>31,696</td>
<td>29,334</td>
<td>-</td>
<td>-7%</td>
</tr>
<tr>
<td>Syphilis</td>
<td>156</td>
<td>229</td>
<td>34%</td>
<td>47%</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>1,982</td>
<td>1,960</td>
<td>82%</td>
<td>-1%</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>17,142</td>
<td>15,415</td>
<td>-</td>
<td>-10%</td>
</tr>
<tr>
<td>Genital Herpes</td>
<td>2,392</td>
<td>2,191</td>
<td>-7%</td>
<td>-8%</td>
</tr>
<tr>
<td>Genital Warts</td>
<td>4,927</td>
<td>4,846</td>
<td>-14%</td>
<td>-2%</td>
</tr>
</tbody>
</table>

Please see comments in Section 3 ‘Information on Data Sources’ page 16 regarding the data used in this analysis.
2.2 Risk Groups

**Recommendation 1:** Prevention efforts should include ensuring open access to sexual health services and STI screening and should focus on groups at highest risk.

Young adults (ages 15 to 24) are still at highest risk compared to the other age groups. As 15 to 24 year olds are the focus of chlamydia screening the rate of infections amongst younger people is likely to be higher as well as their rate of attendance to GUM (level 3) services, therefore, possibly complicating the picture. Looking closer at the data, young females have a significantly greater rate of infection than young males, particularly comparing males and females in the 15 to 19 age group. This may be an artefact of testing where, perhaps, young females might be more likely to present to testing sites and attending contraceptive services, or due to behavioural differences between young males and females.

**Recommendation 2:** The National Chlamydia Screening Programme (NCSP) recommends that sexually active under-25 year-old men and women should be screened for chlamydia every year, and on change of sexual partner.

The pattern of infections in the over 25s has a different picture, when comparing males and females, as above 25 there are more new infections amongst males than females. The greater number of new infections amongst males could be due to the number of MSM cases contributing to the figures. The numbers of New STIs amongst MSMs has increased both over the longer and shorter terms (figure 6), except for chlamydia. Over the long term, between 2011 and 2015, gonorrhoea has seen the greatest rise of 244%, however, syphilis has also been rising, showing a 53% increase between 2011 and 2015 and a 45% increase from 2014 to 2015. Some of this increase can be attributable to the change in testing techniques but the percentage change is notably higher in this risk group compared to the overall change. This would imply recent changes in behaviour amongst MSM, who appear to be putting themselves at greater risk than previously.

**Recommendation 3:** MSM should have a full HIV and STI screen at least annually, or every three months if having condomless sex with new or casual partners.

Table 2 shows that the highest proportion of New STIs occur amongst the white ethnic group representing 85% of new infections, with the smallest proportions being amongst the black African and black Caribbean. However, Figure 5, which is looking at the rate of infections within these ethnic groups, shows that black ethnic groups, particularly the black Caribbean ethnicity, actually are at greater risk than any other ethnic group. On looking at attendances to GUM, it can be seen that the rates of attendance reflect the rates of infection by ethnicity. Further analysis may be necessary to better understand this trend and target this risk group more effectively.
**Recommendation 4:** Black African men and women should have a regular full HIV and STI screen if having condomless sex with new or casual partners.

**Recommendation 5:** Individuals can significantly reduce their risk of transmitting or being infected with an STI by:

- consistently and correctly using condoms until all partners have had a sexual health screen
- if in a high-risk group, getting screened regularly to ensure early identification and treatment, as these infections are frequently asymptomatic
- reducing the number of sexual partners and avoiding overlapping sexual relationships

**Figure 4:** Rate of New STIs per 100,000 residents by age group in the East Midlands, 2015. Data sources: GUMCAD (level 3 services) and CTAD.

**Figure 5:** Rates by ethnicity per 100,000 population of East Midlands residents diagnosed with a New STI: 2015. Data sources: GUMCAD (level 3 services) and CTAD.
Table 2: Proportion of East Midlands residents diagnosed with a New STI by ethnicity: 2015. Data sources: GUMCAD (level 3 services), CTAD.

<table>
<thead>
<tr>
<th>Ethnic group</th>
<th>Number of New STI diagnoses</th>
<th>Percentage of total new STIs by ethnic group excluding unknown</th>
<th>Percentage of ethnic populations excluding unknown</th>
<th>Estimated 2015 rate of first attendances to GUM (level 3 services) per 100,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>19,818</td>
<td>85%</td>
<td>89%</td>
<td>2,438.0</td>
</tr>
<tr>
<td>Black Caribbean</td>
<td>608</td>
<td>3%</td>
<td>0.6%</td>
<td>9,525.1</td>
</tr>
<tr>
<td>Black African</td>
<td>589</td>
<td>3%</td>
<td>0.9%</td>
<td>9,002.1</td>
</tr>
<tr>
<td>Other BME</td>
<td>2,198</td>
<td>9%</td>
<td>9%</td>
<td>3,104.9</td>
</tr>
<tr>
<td>Unknown</td>
<td>6,121</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: Diagnoses of the five main STIs among MSM in GUM clinics: East Midlands residents, 2011 to 2015. Data source: GUMCAD (level 3 services).

Table 3: Percentage change in New STI diagnoses in men who have sex with men (MSM) diagnosed in GUM clinics: East Midlands residents. Data sources: GUMCAD (level 3 services) data only.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New STIs</td>
<td>1,463</td>
<td>1,613</td>
<td>73%</td>
<td>10%</td>
</tr>
<tr>
<td>Syphilis</td>
<td>92</td>
<td>133</td>
<td>53%</td>
<td>45%</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>555</td>
<td>605</td>
<td>244%</td>
<td>9%</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>359</td>
<td>342</td>
<td>40%</td>
<td>-5%</td>
</tr>
<tr>
<td>Genital Herpes</td>
<td>43</td>
<td>58</td>
<td>32%</td>
<td>35%</td>
</tr>
<tr>
<td>Genital Warts</td>
<td>116</td>
<td>160</td>
<td>37%</td>
<td>38%</td>
</tr>
</tbody>
</table>

Please see comments in Section 3 ‘Information on Data Sources’ page 16 regarding the data used in this analysis.
2.3 Geography

The highest rate of infections occurred in Nottingham, both including and excluding Chlamydia figures for 15 to 24 year olds. Nottingham’s rate is both significantly higher than any of the other local authorities within the East Midlands and it is the only local authority with rates significantly higher than the England and East Midlands rates. Rutland has the lowest rates for both.

The Chlamydia detection rate shows a slightly different pattern to the other infections, with Leicester having the highest detection rate followed by Nottingham. Overall, all the upper tier authorities are below the PHOF indicator and have shown a decrease in their detection rates apart from Leicester and Leicestershire, see figure 8.

East Midlands figures for gonorrhoea are significantly higher in the main cities, ie Nottingham, Derby and Leicester compared to the East Midlands rate, with Nottingham particularly standing out as significantly higher than all the upper tier local authorities. It is not clear why Nottingham is such an outlier. So further investigation and analysis into these figures should be undertaken to understand the key risk groups and possible clusters over time as well as look into any resistance patterns to give a fuller picture.

Figure 7a: Rate of New STI diagnoses per 100,000 population among East Midlands residents by upper tier local authority of residence: 2015. Data sources: GUMCAD (level 3 services) and CTAD.
Figure 7b: Rate of New STI diagnoses (excluding chlamydia diagnoses in persons aged 15 to 24 years) per 100,000 population aged 15 to 64 years among East Midlands residents by upper tier local authority of residence: 2015. Data sources: GUMCAD (level 3 services) and CTAD.

Figure 8: Chlamydia detection rate per 100,000 population aged 15 to 24 years in East Midlands residents by upper tier local authority of residence: 2014 to 2015. Data sources: GUMCAD (level 3 services) and CTAD.
Figure 9: Rate of gonorrhoea diagnoses per 100,000 population in East Midlands residents by upper tier local authority of residence: 2015. Data source: GUMCAD (level 3 services).
Figure 10: Map of New STI rates per 100,000 residents by upper tier local authority in the East Midlands: 2015. Data sources: GUMCAD (level 3 services) and CTAD.
3. Information on data sources

For more information on local sexual health data sources please access the PHE guide: www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data

Comments and caveats for figures and tables:

- GUMCAD started in 2009. Reporting of sexual orientation is less likely to be complete for earlier years, so rises seen may be partly artefactual
- any increase in gonorrhoea diagnoses may be due to the increased use of highly sensitive nucleic acid amplification tests (NAATs) and additional screening of extra-genital sites in MSM
- any decrease in genital wart diagnoses may be due to a moderately protective effect of HPV-16/18 vaccination
- any increase in genital herpes diagnoses may be due to the use of more sensitive NAATs
- any increase or decrease may reflect changes in testing
- increases or decreases may also reflect changes in testing practices
- due to changes in 2012 to the surveillance of chlamydia, comparisons to previous years are not robust and, therefore, have not been presented

3.1 Genitourinary Medicine Clinic Activity Dataset (GUMCAD)

This disaggregate reporting system collects information about attendances and diagnoses at genitourinary (GUM) clinics. Information about the patient’s area of residence is collected along with demographic data and other variables. GUMCAD superseded the earlier KC60 system and can provide data from 2009 onwards. GUMCAD is the main source of data for this report. The data extract used was provided in May 2015.

Due to limits on how much personally identifiable information sexual health clinics are able to share, it is not possible to deduplicate between different clinics. There is a possibility that some patients may be counted more than once if they are diagnosed with the same infection (for infection specific analyses) or a New STI of any type (for New STI analyses) at different clinics during the same calendar year.

3.2 Chlamydia Testing Activity Dataset (CTAD)

The Chlamydia Testing Activity Dataset (CTAD) is a universal disaggregate dataset for the collection of data on all NHS and LA/NHS-commissioned chlamydia testing carried
out in England. The CTAD dataset is comprised of all chlamydia (NAATs) tests for all ages (with the exception of conjunctival samples), from all venues and for all reasons. CTAD enables unified, comprehensive reporting of all chlamydia data, to effectively monitor the impact of the NCSP through estimation of the coverage of population screening, proportion of all tests that are positive and diagnosis rates. The data extract used was provided in May 2015.

3.3 New STIs

New STI diagnoses comprise diagnoses of the following: chancroid, LGV, donovanosis, chlamydia, gonorrhoea, genital herpes (first episode), HIV (acute and AIDS defining), Molluscum contagiosum, non-specific genital infection (NSGI), non-specific pelvic inflammatory disease (PID) and epididymitis, chlamydial PID and epididymitis (presented in chlamydia total), gonococcal PID and epididymitis (presented in gonorrhoea total), scabies, pediculosis pubis, syphilis (primary, secondary and early latent), trichomoniasis and genital warts (first episode).

3.4 Calculations

Confidence Intervals were calculated using Byar’s method: www.erpho.org.uk/statistical_tools.aspx

ONS mid-year population estimates for 2013 were used as a denominator for rates for 2014. ONS ceased producing estimates of population by ethnicity in 2011. Estimates for that year were used as a denominator for rates for 2014.
4. Further information

Please access the online Sexual and Reproductive Health Profiles for further information: http://fingertips.phe.org.uk/profile/sexualhealth

For more information on local sexual health data sources please access the PHE guide: www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data

Local authorities have access to LA sexual health epidemiology reports (LASERs) and the HIV and STI portal. They should contact: srilaxmi.degala@phe.gov.uk if they do not have access to this information.


Please contact: josh.forde@phe.gov.uk for an Annual Epidemiological Spotlight on HIV in London: 2013 data.
5. About Field Epidemiology Services

The Field Epidemiology Service (FES) supports PHE centres and partner organisations through the application of epidemiological methods to inform public health action.

FES does this in two main ways. Firstly, by providing a flexible expert resource, available, as and when needed, to undertake epidemiological investigations for key health protection work. Secondly, through the expert analysis, interpretation and dissemination of surveillance information to PHE centres, local health partners, service providers and commissioners of services.

Within the FES network, excellence and innovation is encouraged, we foster academic collaborations and take active part and lead in research, development and training.

You can contact your local FES team at: fes.em@phe.gov.uk

If you have any comments or feedback regarding this report or the FES service, please contact: srilaxmi.degala@phe.gov.uk
6. Acknowledgements

We would like to thank the following:

- local sexual health clinics for supplying the GUM clinic data
- local laboratories for supplying the CTAD data
- PHE Centre for Infectious Disease Surveillance and Control (CIDSC), HIV and STI surveillance teams for collection, analysis and distribution of data