

HIV & other sexually-transmitted infections

KEY POINTS

- Of all individuals newly diagnosed with HIV infection in England and Wales between 2001 and 2005, who acquired their infection through sexual contact and for whom country of infection was reported, 74% probably acquired their infection abroad. This proportion varies by sexual orientation and country of birth.
- Of all UK-born heterosexuals who were infected with HIV abroad, 43% were probably infected in an African country and 29% in Thailand.
- Of all reference laboratory-confirmed cases of gonorrhoea reported to GRASP, 12% probably acquired their infection abroad and region of infection is dependent on sexual orientation.
- The majority (90%) of syphilis cases reported in England and Wales are acquired in the United Kingdom. There is limited information available about syphilis acquired abroad. Of the small numbers that are probably acquired abroad, however, the majority are reported from London and North West England.

International perspective

Human immunodeficiency virus (HIV) is a retrovirus that is predominantly transmitted through sexual contact. When untreated, the virus causes progressive damage to the immune system culminating in acquired immunodeficiency syndrome (AIDS). The global HIV/AIDS epidemic has been ongoing since the first case was identified in 1981. In 2005, there were an estimated 40.3 million (range 33.7 - 45.3 million) people living with HIV worldwide¹. In 2005, an estimated 5 million (3.4 million - 6.2 million) people became newly infected with HIV and an estimated 3.1 million (2.8 million - 3.6 million) lost their lives to AIDS-defining illnesses¹.

Two-thirds of those living with HIV in 2005 were in Sub-Saharan Africa. With the exception of Zimbabwe, the epidemic had shown no signs of slowing in countries of Southern Africa, particularly South Africa and Mozambique. Between 2003 and 2005, the number of people living with HIV had increased by 900,000 to 25.8 million and the number of deaths among HIV-infected individuals increased by 12.5% to 2.6 million. The epidemic had also grown in Eastern Europe and Central Asia where the combined number of people living with HIV increased by 25% between 2003 and 2005 to 1.6 million, and the number of AIDS-related deaths almost doubled to 62,000. In East Asia, during the same period, the number of people living with HIV increased by 20% to 870,000 and the number of AIDS-related deaths increased by 86% to 41,000.

For other sexually-transmitted infections (STIs), there are an estimated 340 million new infections of curable STIs (eg syphilis (a treponemal infection), trichomoniasis (a protozoal infection), gonorrhoea and chlamydia (both bacterial infections) diagnosed worldwide in adults between 15 and 49 years each year². In poorer countries, STIs rank in the top five disease categories for which adults seek healthcare.

HIV and STIs in England and Wales

Sources of data

- **National surveillance of new HIV diagnoses**

The voluntary confidential reporting of newly diagnosed HIV infections in both England and Wales from laboratories and clinicians has been ongoing since 1985 and 2000 respectively. For further information about surveillance of new diagnoses of HIV in the UK please refer to the HPA website³.

- The **gonococcal resistance to antimicrobials surveillance programme (GRASP)**⁴. GRASP is a

sentinel surveillance system comprised of 26 genitourinary medicine (GUM) clinics and their associated laboratories in England and Wales. The programme collects gonococcal isolates over a three month period each year from participating laboratories for antimicrobial susceptibility testing at the Sexually-Transmitted Bacterial Reference Laboratory (STBRL). These data are combined with retrospectively collected clinical data on each patient for whom an isolate was collected.

- **Enhanced surveillance of primary, secondary and early latent syphilis.**

The first enhanced surveillance initiative started in Manchester in 1999 and was extended to cover the whole of the North West region in January 2003. The London Enhanced Laboratory Surveillance for Infectious Syphilis, which was established in April 2001, was extended to include the whole of England and Wales in 2002. This is a voluntary reporting system and coverage varies by region and risk group. The enhanced surveillance forms include information on possible acquisition abroad, although this is not always completed.

- **KC60.** In England and Wales, data from GUM clinics are collected on the KC60 return. The return consists of aggregate data on the total number of episodes of each sexually-transmitted disease seen, other diagnoses made, and sexual health services provided. Age group is recorded for selected conditions, as is male sexual orientation. All GUM clinics have a statutory obligation to make the KC60 return.

Results

Newly diagnosed HIV infections

Between 2001 and 2005, there was a cumulative total of 32,167 individuals newly diagnosed with HIV infection in England and Wales, with the annual number increasing from 4,885 in 2001 to 7,145 in 2005. Between 2001 and 2005, probable infection route was reported for 95% (30,571) of individuals, of whom, 95% (29,165) acquired their infection through sexual contact (32% [9,902] through sex between men and 63% [19,263] through heterosexual sex) [table 1].

TABLE 1: New HIV diagnoses in England and Wales between 2001 and 2005, by probable route of infection (sexually-transmitted infections only, where known) and probable world region of infection

Probable world region of infection	Probable route of infection						Total
	Sex between men		Sex between men and woman				
	N	%	Men		Women		
	N	%	N	%	N	%	
United Kingdom (UK)	4,151	83.4	601	9.1	1,436	12.2	6,188
Europe outside UK	310	6.2	170	2.6	219	1.9	699
Africa	125	2.5	5,115	77.2	9,535	80.8	14,775
Rest of world	393	7.9	739	11.2	606	5.1	1,738
Subtotal	4,979	-	6,625	-	11,796	-	23,400
Region not reported	4,923	-	320	-	522	-	5,765
Total	9,902	-	6,945	-	12,318	-	29,165

* Figures refer to data reported to the end of December 2006.

Probable world region of infection was reported for 80% (23,400/29,165) of individuals infected through sexual contact, of whom 74% (17,212) acquired their infection abroad. Among the individuals who acquired their infection abroad, 86% (14,775) acquired their infection in Africa, 4% (699) in other European countries, and 10% (1,738) in other regions of the world.

In 2005, where infection route was reported, 61% (4,011/6,545) of newly diagnosed individuals acquired their infection through heterosexual sex and 35% (2,260) through sex between men (MSM). In 2005, among the 56% (1,255/2,260) of individuals who acquired their infection through sex between men and for whom probable country of infection was reported, 84% (1,049/1,255) were infected within the UK. Among the 91% (3,633/4,011) of individuals infected through heterosexual sex, and for whom probable country of infection was reported, the figure was 14% (520/3,633).

A broad view of the HIV diagnoses where travel is likely to play a part in infections acquired abroad, is possible by comparing country of birth and country of probable acquisition of infection. Between 2001 and 2005, 75% (14,427/19,263) of heterosexual men and women newly diagnosed with HIV in England and Wales had information about country of birth, of which 11% (1,585/14,427) were born in the UK. Of these UK-born heterosexuals, probable country of infection was reported for 97% (1,538/1,585), among whom 41% (638/1,538) were infected abroad. This proportion differs by sex, with 63% (451/719) of UK-born heterosexual men infected abroad compared to 23% (187/819) of women. Of all UK-born heterosexuals infected abroad, 43% (277/638) were probably infected in an African country and 29% (182) in Thailand.

During the same period, among the 55% (5,402/9,902) of MSM newly diagnosed with HIV and for whom country of birth was reported, 74% (4,008/5,402) were born in the UK. Of these UK-born MSM, probable country of infection was reported for 77% (3,104/4,008), of which 6% (182/3,104) were infected abroad, 41% (75/182) of whom were infected in another European country.

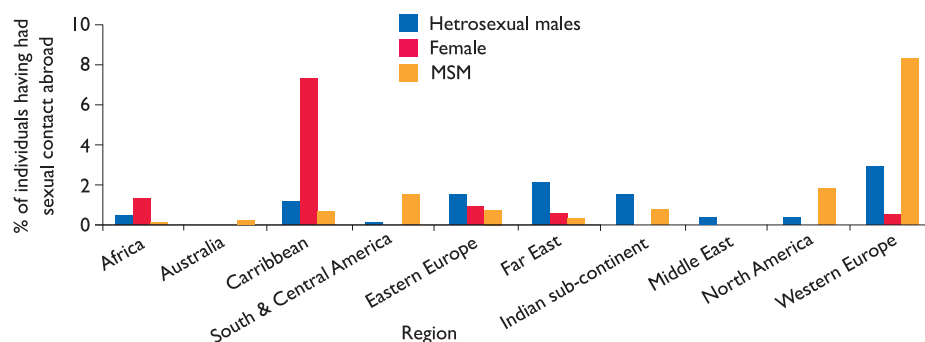
Gonorrhoea

In 2005, 965* patients diagnosed with gonorrhoea were captured in the GRASP collection, and information was obtained on sexual contact abroad for 88% (850/965). Twelve percent (104/850) reported having a sexual contact abroad in the previous three months⁵.

Sexual contact abroad varied by known sexual orientation and was reported by 11% (38/338) of heterosexual males, 14% (41/285) of MSM, and 11% (24/224) of females in 2005. Of the individuals reporting sexual contact abroad in 2005 for whom region of sexual contact was known, 36% (34/94) reported a sexual contact in Western Europe, 23% (22) in the Caribbean and 10% (nine) in the Far East. Region of contact in the previous three months varied by gender and sexual orientation; 2% (7/336) of heterosexual males reported a sexual contact in the Far East and 3% (10) in Western Europe, 7% (16/222) of females reported a sexual contact in the Caribbean, and 8% (23/279) of MSM reported a sexual contact in Western Europe [figure 1].

*Numbers only refer to isolates which were recovered successfully and confirmed as *N. gonorrhoeae* at the STBRL.

FIGURE 1: The distribution of geographic location[†] of sexual contact abroad in the past three months for patients diagnosed with gonorrhoea, by gender and sexual orientation: GRASP 2005



[†] A patient may have had sexual contact abroad in more than one region in the past 3 months.

Syphilis

From 1996 to 2005, the diagnoses of infectious syphilis rose 20-fold (KC60 data)⁶. The enhanced surveillance of infectious syphilis became national in 2002 after only being previously conducted in London; from this time until the end of 2005, the number of heterosexual cases rose by 185% while the number of homosexual cases rose by 173%. These increases have been driven by a series of outbreaks, the largest of which were seen in North West England and London (1,499 and 3,034 cases respectively up to the end of December 2005). The highest proportion of cases was found in white male homosexuals (3,918/6,176, 63%).

Possible acquisition abroad has been reported in a number of infectious syphilis cases in the UK over recent years; country of travel however, is not consistently reported. Most transmission has occurred in the UK (5,580/6,176, 90%); however, those cases acquired abroad present mostly within London or North West England, with 63% and 15% of the total cases acquired abroad respectively.

Conclusion

Country of acquisition of HIV infection varies with sexual orientation, with MSM more likely to have acquired their infection in the UK and heterosexual men and women more likely to have acquired their infection in Africa. Of heterosexuals newly diagnosed with HIV infection between 2001 and 2005 who were known to be UK-born, two-fifths acquired their infection abroad. Forty-three percent of these infections were acquired in Sub-Saharan Africa, and a further 29% were acquired in Thailand where there has been an increase in sex tourism^{7,8}. Given that HIV is an infection with a clinically latent period that may span many years and may be diagnosed some time after initial exposure, the contribution of travel is difficult to measure. Migration from, and continued links with, high prevalence parts of the world have had a substantial impact on the UK epidemic, but the influence of travel is less certain. Most people diagnosed in the UK will have been infected with HIV in their 20s and 30s, an age group where travel is common, and it can be unclear where exposure to the virus occurred. To date, routine HIV surveillance data have not sought to particularly distinguish travel-associated infections from those occurring in migrants to the UK.

The UK epidemiology of other STIs is less influenced by migration and travel. In 2005, only a small proportion of gonorrhoea cases reported to the GRASP dataset were reported to have been acquired abroad and, as for HIV, region of infection varied by sexual orientation. Less information was available for syphilis infections. Up to the end of 2005, around 10% of infections were probably acquired abroad, the majority of those reported in London and North West England.

There are no vaccines or chemoprophylaxis to prevent HIV and STIs and prevention must therefore be focussed on behavioural strategies. Travel health experts should be aware of the risks and be encouraged to actively promote sexual health in their consultations.

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