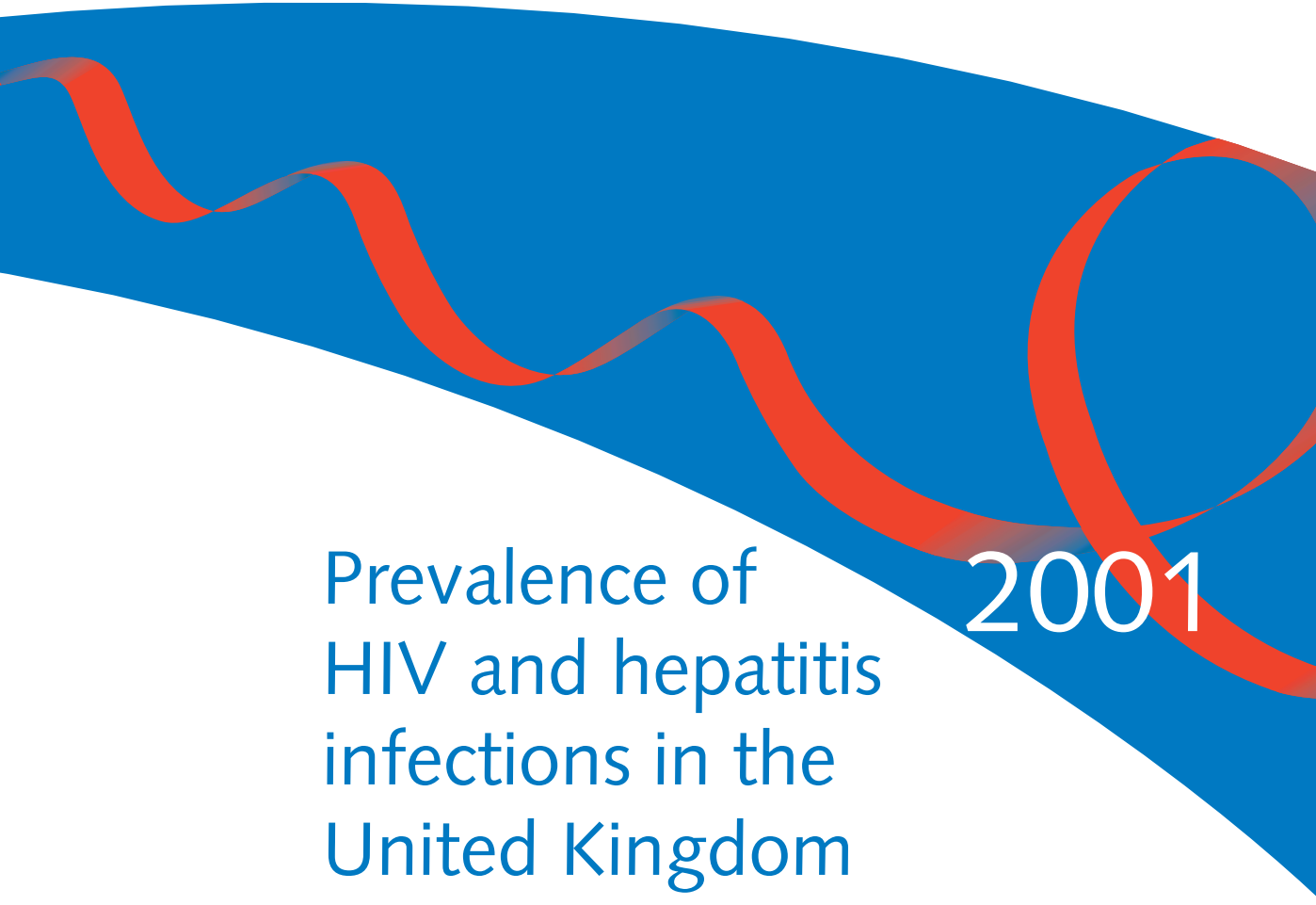

Prevalence of HIV and hepatitis infections in the United Kingdom

2001

Annual report of the Unlinked Anonymous Prevalence Monitoring Programme

Report from the Unlinked Anonymous Surveys Steering Group
Department of Health
December 2002

Prevalence of HIV and hepatitis infections in the United Kingdom 2001

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*Report from the Unlinked Anonymous Surveys Steering Group**

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Communicable Disease Surveillance Centre
Central Public Health Laboratory
Statistics Unit
The Institute of Child Health, University College London
The Scottish Centre for Infection and Environmental Health

Programme funded by:

Department of Health (London)
Scottish Executive
Department of Health and Social Services (Belfast)

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*Members of the Steering Group are listed in Appendix One

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Data sources used to produce Direct Estimates

Unlinked Anonymous HIV Prevalence Monitoring Surveys, *HIV & STI Division, Communicable Disease Surveillance Centre*

Survey of Prevalent HIV Infections Diagnosed, *HIV & STI Division, Communicable Disease Surveillance Centre*

Diagnosed HIV infections, *HIV & STI Division, Communicable Disease Surveillance Centre*

National Survey of Sexual Attitudes and Lifestyles, *London School of Hygiene and Tropical Medicine, National Centre for Social Research, and the Royal Free and University College London Medical School*

Census 2001 Adult Population Estimates, *Office of National Statistics*

National Study of HIV in Pregnancy and Childhood, *Institute of Child Health, London, the Royal College of Obstetricians and Gynaecologists and the Surveillance Unit of the Royal College of Paediatrics and Child Health*

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Key Points

Continuing high rate of HIV transmission among homosexual and bisexual men:

- HIV transmission among homosexual and bisexual men is continuing at a high rate in London.
- Acute gonorrhoea has continued to increase in homosexual and bisexual men and many of those who are HIV infected, including those who are aware of their HIV infection status, are continuing to present to clinics with acute sexually transmitted infections.

Increasing impact of the global situation on heterosexuals in the UK:

- There has been a rise in HIV prevalence in heterosexual GUM clinic attendees.
- The prevalence of HIV infection in pregnant women continued to rise in England in 2001.
- The prevalence of HIV is far higher in GUM clinic attendees born abroad, particularly in male and female heterosexuals born in sub-Saharan Africa.
- Of the HIV-infected women giving birth, 70% lived in London and 77% were born in sub-Saharan Africa.

Increased hepatitis C transmission in injecting drug users:

- A sharp rise in the prevalence of hepatitis C was seen in those who had begun injecting in the previous three years.
- Over one in three IDUs had evidence of past or current infection with hepatitis C and a fifth with hepatitis B.
- Over a third of current injectors reported the sharing of needles and syringes and almost 60% reported the sharing of any injecting paraphernalia.
- In 2001, the prevalence of HIV among IDUs remained low, at less than 1%.

Further rise in the total number of HIV infections in adults in the UK:

- At the end of 2001 there were an estimated 41,200 adults living with HIV in the UK, 12,900 (31%) of whom were unaware of their infection.

Room for further improvement in the rate of diagnosis of HIV infection:

- Although the uptake of voluntary confidential testing continues to improve in all GUM clinic attendee groups both in and outside London, a significant number of HIV-infected attendees still remain undiagnosed after the clinic visit.
- In 2001, substantial improvements in the detection of HIV infections in pregnant women were seen in England and Scotland, and around 100 infections in newborn infants were prevented. There was considerable variation between Health Authorities, however, in the antenatal HIV infection diagnosis rate.

Unlinked anonymous serosurveys remain essential to surveillance of HIV infection:

- The results from the 630,000 unlinked anonymous tests on leftover serum and saliva specimens in 2001 produced essential public health information that could not be obtained in any other way.

Programme Objectives*

1 To monitor HIV infection prevalence, and associated risk factors, in accessible groups of behaviourally vulnerable adults, such as attendees at genitourinary medicine clinics and injecting drug users

2 Through serosurveillance of accessible groups, to measure the impact of HIV infection on those who are behaviourally less vulnerable

3 To monitor closely the prevalence of HIV infection in London and to recognise increasing prevalence elsewhere as early as possible

4 To measure the effectiveness of antenatal and other voluntary confidential HIV testing strategies

5 In combination with other data, to provide estimates of the national total of HIV-infected persons and to assist in estimating future numbers of persons with severe HIV disease who will require care

6 To use programme specimens to monitor the prevalence of, and associated risk factors for, other important infections such as hepatitis B and C

7 To provide timely and useful information for the targeting of health promotion, the evaluation of preventive measures, and the planning of medical and social services for those affected by HIV

* Unlinked Anonymous HIV Surveys Steering Group 1995, adapted from the January 1995 report and the Medical Research Council Strategic Review 1991

Introduction

1. The Unlinked Anonymous Prevalence Monitoring Programme (UAPMP), which began in 1988 and has tested over 7 million samples, aims to measure the distribution of infection, particularly HIV*, in accessible groups of the adult population. The programme has a number of objectives (see box opposite), including assessing the effectiveness of voluntary confidential testing for clinical diagnosis of HIV infection. The data obtained are used to target and evaluate health promotion, to inform estimates of the numbers requiring treatment and care in the future, and to plan services for those affected by HIV and AIDS[1]. By monitoring progress towards goals and objectives, data from the UAPMP are contributing to evaluation of *The National Strategy for Sexual Health and HIV*[2] and antenatal HIV testing policies[3,4]. The UAPMP data will also contribute to the evaluation of the *Hepatitis C Strategy for England*[5], which was recently published for consultation.

2. This report summarises programme data to the end of 2001. More comprehensive tables of data (see Supplementary Data Set index in Appendix Three) are available at: http://www.phls.org.uk/topics_az/hiv_and_sti/hiv/epidemiology/ua.htm.

3. The programme provides estimates of the prevalence of HIV infection among groups in whom a substantial proportion of infections are undiagnosed and therefore not ascertained by other surveillance systems. **Essential public health information on the prevalence of HIV infection in these groups cannot be obtained in any other way.**

4. The programme also provides estimates of the incidence of HIV infection among certain sub-groups of the population. This is a statistic of particular importance to those concerned with the control of HIV, such as those working in health promotion. The rate at which new infections accrue also determines the numbers of cases requiring care in years to come.

5. The programme monitors HIV infection levels in different population sub-groups (Table 1):

   - homosexual and bisexual men and heterosexual men and women attending genitourinary medicine

* Throughout this report the term human immunodeficiency virus (HIV) is used to refer to HIV type 1 only. This is because the tests used in some of the programme's surveys do not detect HIV-2 infection. Very few HIV-2 infections have been identified in the UK either through those parts of the unlinked anonymous programme able to detect them or through voluntary confidential testing. The latest report on HIV-2 infections in the UK can be found in the *CDR Weekly* 2002; 12(22): HIV/STI. Available from http://www.phls.org.uk/publications/cdr/PDFfiles/2002/cdr2202.pdf.

Table 1: Unlinked Anonymous HIV prevalence monitoring programme: populations under surveillance, surveys, centres, districts and specimen numbers: 2001

Population under surveillance	Survey	Reasons for specimen collection	Centres or districts			Number of specimens
			London	Scotland	Elsewhere in the UK*	
Homosexual and bisexual men	Genitourinary medicine clinic attendees	Syphilis serology	7	9	8	93,100
Heterosexual men and women with greater than average sexual partner change	Genitourinary medicine clinic attendees	Syphilis serology				
Injecting drug users	Treatment and support agencies for injecting drug users†	Voluntary collection of saliva. This survey also measures current and prior infection with hepatitis B and hepatitis C viruses	16	–	43	2,963
Pregnant women	Infant dried blood spot	Guthrie cards for metabolic screening	29	15	92	451,834
	Antenatal	Rubella serology	14	–	9	75,361
	Termination of pregnancy	Blood grouping	7	–	–	6,333
			73	**24**	**152**	**629,591**

* Injecting drug user survey - England & Wales; Infant dried blood spot survey - England; Antenatal survey - Northern & Yorkshire region

† The genitourinary medicine clinic attendees survey also provides some prevalence data for injecting drug users

(GUM) clinics, and injecting drug users (IDUs) attending specialist treatment and support agencies or GUM clinics, i.e. those whose behaviour puts them at increased risk of HIV infection;

- pregnant women or women having a termination of pregnancy.

A total of 629,591 specimens were tested in 2001 (Table 1).

6. The programme monitors hepatitis B and hepatitis C infection levels in IDUs attending specialist treatment and support agencies and in other population sub-groups on an *ad hoc* basis.

7. This report brings together information on relevant markers of HIV and hepatitis prevalence, HIV incidence, risk behaviour and healthcare utilisation. These data are combined to produce prevention indicators for HIV and hepatitis transmission which can then be monitored over time. The data are gathered from other surveillance systems operated by the Public Health Laboratory Service Communicable Disease Surveillance Centre (PHLS CDSC) or other institutions that collaborate with CDSC. These prevention indicators are produced for three major groups: homosexual and bisexual men, heterosexual men and women and IDUs.

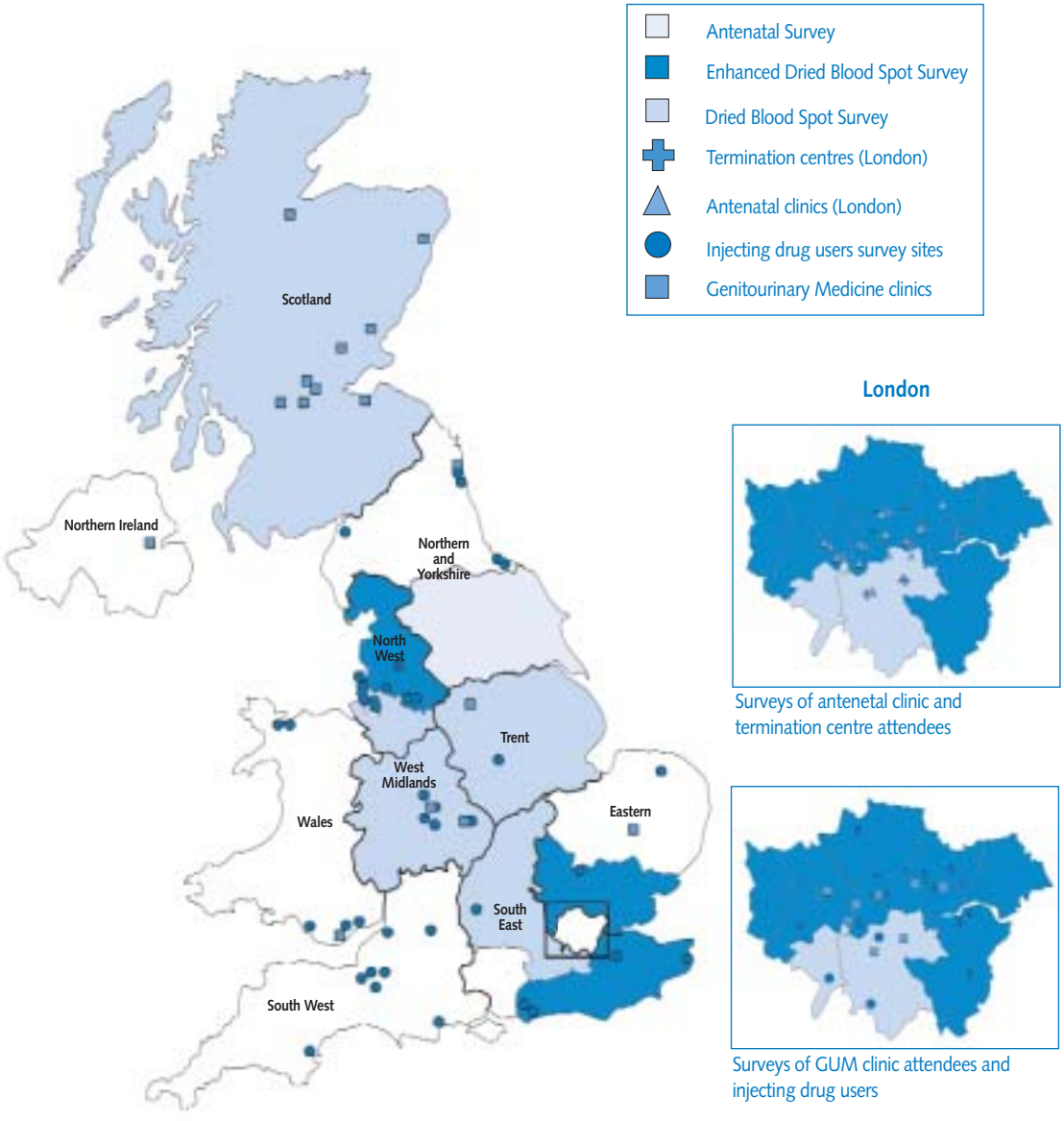
Methodology

8. Most of the surveys test for HIV in blood samples left over after completion of routine clinical tests. The survey of GUM clinic attendees uses residual blood taken for syphilis serology. The surveys of pregnant women attending antenatal and termination clinics use samples taken for rubella serology and blood grouping respectively. The dried blood spot survey uses blood taken from newborn infants for routine metabolic screening to test for maternal antibodies to HIV. The survey of IDUs, in contrast, uses saliva samples that are collected with explicit consent (Table 1). The geographical distribution of participating centres and areas is shown in Figure 1. Details of the methods used for the surveys have been published previously[6].

9. **All specimens have patient identifying details permanently removed before testing. Individual test results cannot be linked in any way to the source patient. The programme surveys populations of specimens, not individual patients.**

10. Patients are informed about the surveys by leaflets and posters displayed at centres where clinical specimens are collected. Specimens from patients who express an objection to their leftover sample being used in the programme are not tested.

Figure 1: Unlinked Anonymous Prevalence Monitoring Programmes in the United Kingdom: centres and areas involved in 2001



11. HIV-infected men and women attending GUM clinics can be divided into three diagnosis categories: those who were aware of their HIV infection prior to the clinic attendance; those who were diagnosed at the clinic attendance; and those remaining undiagnosed after the clinic attendance. HIV-infected attendees who were previously undiagnosed include those newly diagnosed at that visit as well as those remaining undiagnosed after the clinic visit. These distinctions are important both for monitoring the prevalence of infection and the uptake of HIV testing.

HIV

General findings

12. HIV infection was found in every region surveyed and was much higher in London than elsewhere (Table 2).

13. Prevalence was generally highest among those at greatest behavioural risk (homosexual and bisexual men attending GUM clinics and in IDUs attending specialist agencies). However, for the first time the prevalence of HIV in women giving birth in London was higher than in heterosexual men and women attending GUM clinics elsewhere in the UK and the same as female IDUs attending specialist agencies outside London.

14. In London, the proportion of previously undiagnosed HIV-infected attendees who were newly diagnosed at that visit was higher in heterosexuals than in homosexual and bisexual men (Figures 2a and 2b).

15. The high prevalence of HIV infection among pregnant women still largely reflects the migration to the UK of women of Black African ethnicity who were probably infected in sub-Saharan Africa.

Homosexual and bisexual men attending genitourinary medicine clinics

England, Wales and Northern Ireland: Prevalence and incidence of HIV

16. In 2001, 7,258 homosexual and bisexual men were surveyed, the highest number since the survey began. Overall, 852 homosexual and bisexual men were found to be HIV infected, 95% of whom were attending clinics in London. There was an 80% increase in the number of HIV positive specimens in 2001 compared with 2000. This rise is largely attributable to an increase in the number of known HIV-infected homosexual and bisexual men being tested for syphilis at three London clinics.

17. As in earlier years, of all the population sub-groups monitored, the prevalence of HIV in 2001 was highest in homosexual

Table 2: Prevalence of HIV infection in the survey groups: 2001

Area		Male			Female			
		Genitourinary medicine clinic attendees		Injecting drug users*	Genitourinary medicine clinic attendees	Injecting drug users*	Pregnant women	
		Homo/ bisexual	Heterosexual		Heterosexual		Delivery	Termination
London	Number tested	5,341	14,815	365	20,928	139	103,840	6,333
	Number HIV infected	807	188	17	249	3	363	65
	% HIV infected	15	1.3	4.7	1.2	2.2	0.35	1.03
	Prevalence range (%)†	(0–24)	(0.59–3.4)	–	(0.53–2.2)	–	(0.05–0.84)	(0–1.95)
Scotland	Number tested	1,181	7,617	–	5,970	–	52,707	–
	Number HIV infected	30	12	–	9	–	16	–
	% HIV infected	2.5	0.16	–	0.15	–	0.030	–
	Prevalence range (%)†	(0–2.8)	(0-0.46)	–	(0–0.61)	–	(0–0.08)	–
Elsewhere in the UK‡	Number tested	1,917	16,397	1,761	16,195	559	322,634	–
	Number HIV infected	45	24	4	28	2	143	–
	% HIV infected	2.3	0.15	0.23	0.17	0.36	0.044	–
	Prevalence range (%)†	(0–3.8)	(0.036–0.34)	–	(0.036–0.60)	–	(0–0.43)	–
	Prevalence ratio¶: London vs elsewhere	6.5	8.7	20	7.1	6.1	8.0	–

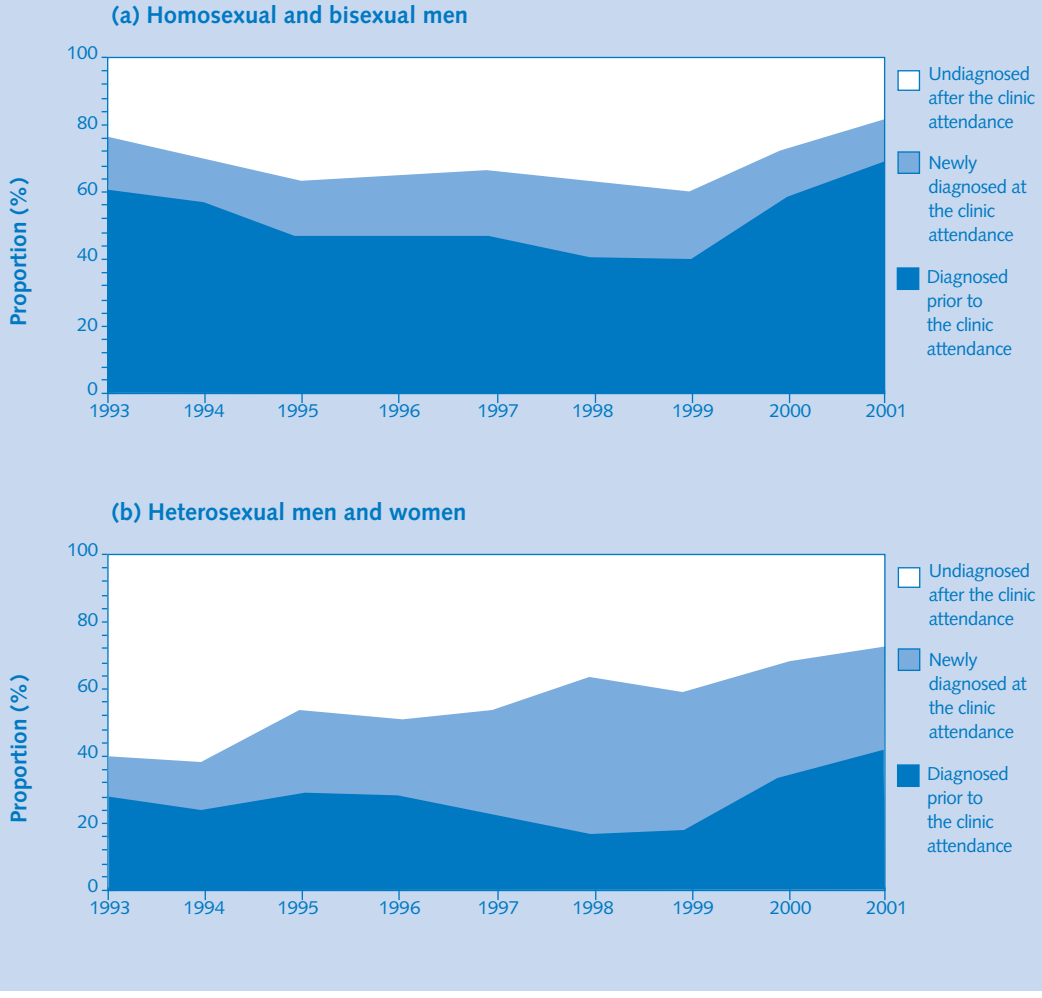
* Attending specialist centres for injecting drug users

† The range within a category is the lowest and highest prevalence recorded in individual clinics (genitourinary medicine survey), districts (infant dried blood spot survey) or hospitals (termination of pregnancy and antenatal surveys)

‡ In Northern and Yorkshire region, data for pregnant women come from an antenatal survey

¶ The ratio by which the prevalence of infection in London is greater than the prevalence in England, Wales and Northern Ireland outside London

Figure 2: Trends in the proportion of HIV infections diagnosed in those having syphilis tests during genitourinary medicine clinic attendance, London



and bisexual men (Table 2). One in seven homosexual and bisexual men attending GUM clinics in London and one in 43 elsewhere were infected with HIV. There was a significant increase in HIV prevalence in London from 11% in 2000 to 15% in 2001. This rise in HIV prevalence was seen in all age groups except in those under 20 years old. The prevalence of HIV in 2001 outside London remained stable at 2.3%.

18. The prevalence of previously undiagnosed HIV infection is a key indicator of the underlying transmission of HIV especially in the relatively young, such as men aged less than 25. Between 1996 and 2001, the prevalence of previously undiagnosed HIV infection in homosexual and bisexual men of all age groups stayed constant (Figure 3), including in those aged less than 25 (Table 3). This suggests there has been little recent change in the underlying rate of HIV transmission in this group. In 2001 the prevalence of previously undiagnosed HIV infection in homosexual and bisexual men aged less than 25 in London was one in 24.

19. The GUM survey uses blood leftover from syphilis testing, so it is important to note that major changes in syphilis testing practice have occurred following the recent outbreaks of syphilis[7,8]. At a London Syphilis Control Meeting in mid-2001, proactive opportunistic syphilis screening of all homosexual men attending GUM clinics in London was recommended. A 3-month national media campaign to raise the awareness of syphilis in homosexual men was also launched by the Terrence Higgins Trust in September 2001[9]. A large increase in syphilis testing could have changed the survey sampling frame so that men at lower risk of HIV infection became more likely to be included in the survey, leading to a fall in the observed HIV prevalence. However, the prevalence of previously undiagnosed HIV infection did not fall, despite a 20% rise in the number of men included in the sample. Moreover, the steady prevalence in 2001, despite a larger sample, suggests that the observed previously undiagnosed HIV prevalence (5.1% in London, 1.6% outside) is representative of homosexual and bisexual men having syphilis tests at all other GUM clinics.

20. The change in syphilis testing practice is the major explanation for the rise in overall HIV prevalence (Figure 3). The specific recommendation that known HIV-infected homosexual and bisexual men should also be tested regularly for syphilis has increased the number and proportion of previously diagnosed HIV-infected attendees included in the survey.

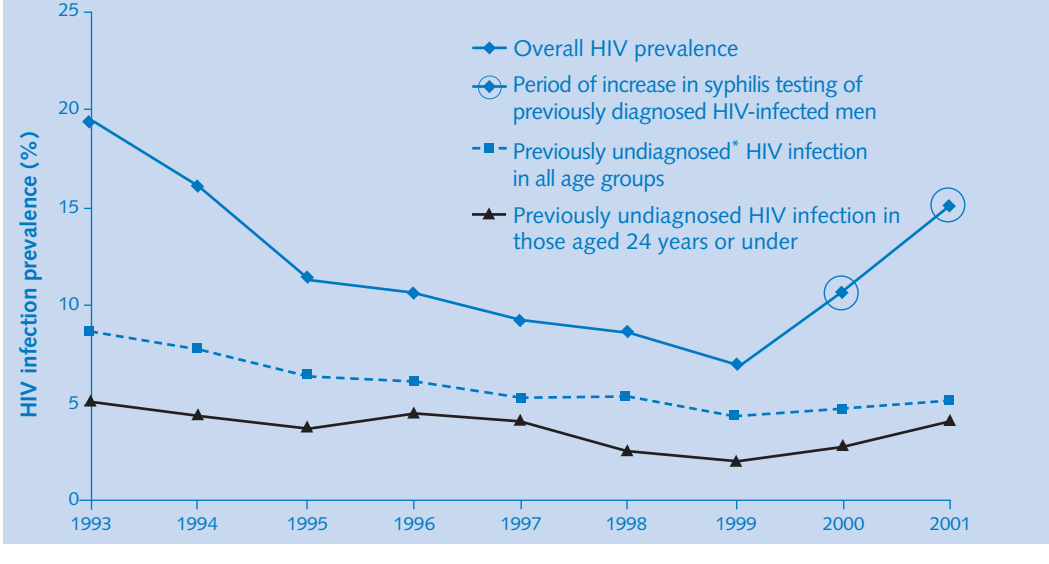
All of the rise in overall HIV prevalence in 2000 and 2001 can be attributed to the inclusion of more previously diagnosed HIV-infected attendees.

21. The incidence of HIV infection in homosexual and bisexual men attending GUM clinics between 1995 and 2000 has previously been determined by application of the Serological Testing Algorithm for Recent HIV Seroconversion (STARHS)[10]. During this period, HIV incidence was approximately 2.5% per year. Despite the large increase in the use of highly active anti-retroviral therapy (HAART) over this time, there was no evidence of a decline in transmission of HIV. In 2001, the incidence of HIV infection was similar to 2000 and was three times higher in London than outside. Recent HIV infections were found in all age groups in 2001, with the highest incidence seen in those aged 35-44.

Country of birth

22. A higher risk of HIV infection was found in homosexual and bisexual men born abroad. When compared with the UK, the prevalence of HIV infection was significantly higher in men born in the Caribbean, Central & South America,

Figure 3: HIV infection in genitourinary medicine clinic attendees: prevalence overall and prevalence of previously undiagnosed* infections, London: homosexual and bisexual men



* At the clinic attendance the HIV-infected homosexual and bisexual men who were 'Previously undiagnosed' includes those newly diagnosed at this visit as well as those staying undiagnosed, but excludes those who had been diagnosed earlier

Table 3: Prevention indicators for HIV and hepatitis transmission in homo/bisexual men

Infection / disease markers	Area	Sub-category
New diagnoses of HIV infections	UK	Age ≤ 24
		Age ≥ 25
		Total
Prevalent diagnosed HIV infections receiving care**	England & Wales	Total
	Scotland	Total
Prevalence among those having first HIV tests at seven sentinel labs (%, n)	England	Total
Prevalence among those having voluntary confidential HIV tests (%)	Scotland	Total
Prevalence of previously undiagnosed HIV infection in GUM clinic attendees (%)†	London	Age ≤ 24
	Rest of England, Wales & Northern Ireland	Age ≤ 24
Homosexually acquired gonorrhoea	England & Wales	Total
	Scotland	Total
Proportion of men whose HIV infection was recognised < 3 months before their AIDS diagnosis‡ (%, n)	UK	Total
Number of AIDS related deaths	UK	Total
Incidence markers		
Median age at diagnosis of HIV infection	UK	Total
Median CD4 counts at year of HIV infection diagnosis	England & Wales	Age ≤ 24
		Age ≥ 25
	Scotland	Total
Behaviour		
Proportion of HIV-infected GUM clinic attendees presenting with an acute STI (%)	England, Wales & Northern Ireland	Diagnosed prior to clinic visit
		Undiagnosed prior to clinic visit
	Scotland	Diagnosed prior to clinic visit
		Undiagnosed prior to clinic visit
Percentage reporting unprotected anal intercourse in the last year (%)[20,21]	London	Any partners
		Partners of unknown or discordant HIV status
Markers of healthcare utilization		
Percentage attending a GUM clinic in the past year (%, n)[20,21]	London	Total
Percentage having an HIV test in the last year (%, n)[20,21]	London	Total
Number of HIV tests carried out at GUM clinics¶	England & Wales	Total
	Scotland	Total
Percentage of prevalent diagnosed individuals receiving anti-retroviral therapy	England & Wales	

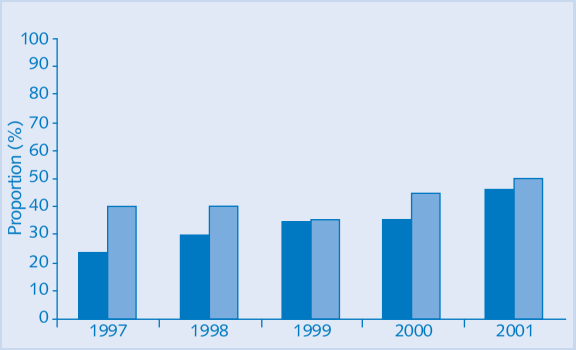
* Provisional, reports in recent years are subject to reporting delay
** Adjusted for underreporting
† Previously undiagnosed includes attendees that are diagnosed at the clinic attendance
¶ HIV testing with counselling, episodes seen at GUM clinics
n/a Data not yet available
‡ % Calculated as: diagnosis of HIV < 3 months before AIDS diagnosis/total AIDS cases

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
246	250	229	167	131	153	151	131	119	120	135	130*
1449	1461	1411	1330	1350	1310	1386	1262	1223	1212	1322	1285*
1695	1711	1640	1497	1481	1463	1537	1393	1342	1332	1457	1415*
-	-	-	-	-	8203	8017	8836	9500	10431	11165	12314
-	-	226	259	295	305	314	353	395	431	466	500
13 (1739)	8.6 (2475)	7.4 (2312)	7.9 (1881)	7.0 (1891)	7.1 (2043)	6.3 (1831)	6.9 (2166)	6.0 (2417)	5.9 (2356)	5.3 (2489)	6.8 (1314)
4.7	3.7	4.3	5.3	5.2	3.8	4.2	4.0	4.9	3.5	3.9	3.7
-	-	-	5.0	4.4	3.7	4.5	4.1	2.6	2.0	2.8	4.1
-	-	-	1.2	1.6	1.8	1.9	1.4	1.0	0.89	0.40	0.93
-	-	-	-	1350	1372	1705	1803	1692	1836	2924	3509
80	117	93	74	63	130	150	149	98	118	n/a	n/a
-	-	-	-	-	31 (548)	39 (556)	54 (578)	61 (471)	65 (483)	72 (577)	80 (501)
637	754	849	933	997	1040	843	344	227	199	190	139*
32.8	31.8	32.4	32.6	33.5	33.0	33.4	33.7	33.8	34.4	34.3	34.0
408	464	425	485	438	470	435	472.5	437.5	435	411.5	457
298	294.5	321	274	300	320	307	323.5	336	342	350	382.5
-	-	189	230	235	273	283	296	363	337	315	387
-	-	-	22 (70/324)	14 (46/329)	14 (39/277)	18 (42/233)	23 (50/214)	30 (57/189)	36 (50/140)	32 (84/261)	26 (152/576)
-	-	-	25 (59/233)	31 (82/266)	38 (124/325)	38 (104/276)	40 (112/279)	37 (102/275)	43 (89/209)	41 (86/211)	41 (114/276)
-	19 (4/21)	29 (5/17)	20 (2/10)	8 (1/13)	22 (2/9)	25 (2/8)	13 (1/8)	14 (1/7)	20 (3/15)	30 (3/10)	43 (3/7)
- -	20 (5/25)	28 (7/25)	35 (11/31)	38 (5/13)	47 (7/15)	43 (12/28)	39 (9/23)	30 (6/20)	47 (9/19)	33 (7/21)	58 (7/12)
-	-	-	-	-	-	32	36	38	41	44	46
-	-	-	-	-	-	18	19	21	22	23	23
- -	- -	- -	- -	- -	- -	50 (1166)	54 (1070)	56 (1112)	56 (1083)	58 (1134)	38 (500)
- -	- -	- -	- -	- -	- -	29 (683)	30 (614)	33 (654)	27 (483)	27 (444)	32 (421)
-	-	-	-	-	8947	9720	10303	11067	11075	12410	16235
369	508	523	561	573	741	884	915	937	1000	1149	1396
-	-	-	-	-	-	-	62	65	70	69	68

Figure 4: Effectiveness of genitourinary medicine clinic HIV testing policy over time: 15 clinics, England, Wales and Northern Ireland

Homosexual and bisexual men presenting with an acute STI*

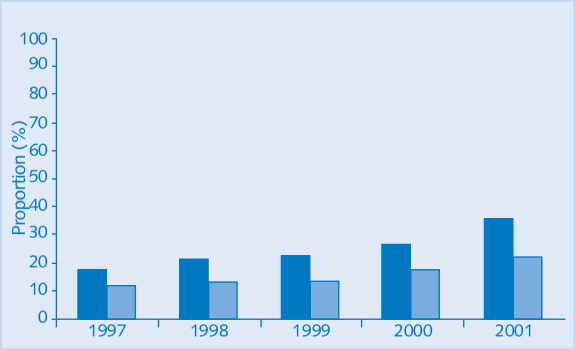
(a) Proportion having a voluntary confidential HIV test at the clinic visit by area: 1997 to 2001†



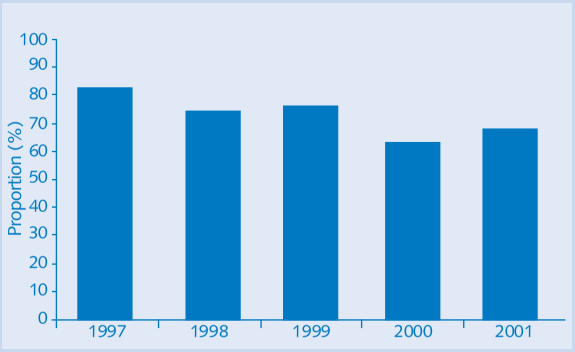
(b) Proportion of previously undiagnosed HIV infection remaining undiagnosed after the clinic attendance

Heterosexual men and women presenting with an acute STI*

(c) Proportion having a voluntary confidential HIV test at the clinic visit by area: 1997 to 2001†



(d) Proportion of previously undiagnosed HIV infection remaining undiagnosed after the clinic attendance



† Excludes HIV-infected attendees who were previously diagnosed

* Acute STI is defined as presenting with one of the following diagnoses: infectious syphilis, gonorrhoea, chancroid/donovanosis/LGV, chlamydia, NSU, trichomoniasis, scabies/pediculosis, HSV & HPV first attack or molluscum contagiosum

North America and the rest of Europe. In 2000 and 2001 combined, the prevalence of HIV was 8.0% (669 of 8412) in homosexual and bisexual men born in the UK but 23% in men born in the Caribbean (20 of 88).

Voluntary confidential HIV testing

23. The proportion of homosexual and bisexual men having a voluntary confidential HIV test during their clinic attendance has risen moderately from 40% (1806 of 4480) in 1997 to 54% (2595 of 4779) in 2001 in London. Outside London, this proportion has remained steady with 60% (917 of 1537) in 1997 and 64% (1217 of 1903) in 2001 undergoing HIV testing. In homosexual and bisexual men presenting with an acute sexually transmitted infection (STI), around half, both in London and elsewhere, had an HIV test (Figure 4a).

24. The increase in HIV testing has not been mirrored in changes to the proportion of previously undiagnosed infections that were newly diagnosed. Of those HIV-infected men who were unaware of their HIV infection prior to attendance, and who could potentially have been diagnosed, only 40% (99 of 245) had their infection diagnosed during their clinic attendance in 2001 in London. This proportion of new diagnoses in previously undiagnosed men attending clinics in London has remained stable at around 30-40% since 1993. Outside London in 2001 the proportion of new diagnoses in previously undiagnosed men was the highest ever recorded, with 71% (22 of 31) being diagnosed during their clinic attendance.

25. Of 276 HIV-infected homosexual and bisexual men unaware of their HIV infection prior to the clinic attendance, 56% (155 of 276) remained undiagnosed after leaving the clinic. In 2001, HIV infection remained undiagnosed in 70% (80 of 114) of the HIV-infected men with an acute STI who were unaware of their HIV infection prior to the attendance. Since 1997, this proportion has remained largely unchanged (Figure 4b). These data are of concern because the presence of an acute STI, particularly an ulcerative STI, increases the risk of transmission of HIV. In contrast, in 2001, HIV infection remained undiagnosed in 46% (75 of 162) of the previously undiagnosed attendees without an acute STI.

26. Although rates of HIV testing have improved, these data highlight that a considerable increase in the uptake of testing is needed in order to decrease undiagnosed HIV infections. Diagnosis will enable those infected to receive treatment and care, and guidance to

minimise onward transmission. Reducing the prevalence of undiagnosed HIV is an aim of *The National Strategy for Sexual Health and HIV*[2] which sets a standard for all genitourinary medicine services to offer an HIV test to all clinic attendees on their first screening for STIs and subsequently according to risk[11].

27. When those who had an earlier diagnosis of their HIV infection are included with those diagnosed at the clinic attendance, the proportion of all HIV-infected homosexual and bisexual men who had had their infection diagnosed in London has increased. This improvement from 72% (310 of 428) in 2000 to 82% (661 of 807) in 2001 was significant. The increase, however, was entirely due to the increase in the proportion of HIV-infected men who were aware of their HIV infection *prior* to the clinic visit; this sub-set of the overall number of HIV-infected men increased from 58% (249 of 428) in 2000 to 70% (562 of 807) in 2001.

Sexually Transmitted Infections

28. National GUM clinic data have shown a substantial increase in the number of STI diagnoses in homosexual men since 1995. In addition to a doubling in gonorrhoea reports (Table 3), a sensitive indicator of changing sexual behaviour, there have been localised outbreaks of infectious syphilis in homosexual men in Brighton, London and Manchester[7,8]. In the Unlinked Anonymous Survey, the percentage of HIV-infected homosexual and bisexual men who were aware of their HIV infection prior to the clinic attendance, and who presented with an acute STI, increased from 14% (46 of 329) in 1994 to 26% (152 of 576) in 2001. The sub-group of these men presenting with gonorrhoea increased three-fold from 4.0% (13 of 329) in 1994 to 12% (71 of 576) in 2001. Of the HIV-infected men who were unaware of their HIV infection prior to the clinic visit, 31% (82 of 266) presented with an acute STI in 1994 compared with 41% (114 of 276) in 2001.

29. Between April 2001 and June 2002, there were 363 cases of syphilis diagnosed in homosexual and bisexual men in London. Where HIV infection status was known, 55% (159 of 288) were also HIV-infected[12]. Among homosexual and bisexual men included in the Unlinked Anonymous Survey, a small number of cases of acute syphilis are recorded each year. Over the period 1993 to 2000 there were between 3 and 13 cases of acute syphilis each year among homosexual and bisexual men attending GUM clinics in London and, between one and five of these cases were among HIV-infected attendees. In 2001 37 cases were recorded, 49% (18 cases) of which were among HIV-infected men.

Scotland:

30. In 2001, one in 39 homosexual and bisexual males attending GUM clinics was infected with HIV (Table 1); the prevalence of HIV was highest in men aged 35-44 years. Overall, HIV prevalence has declined from 4.7% in 1993 to 2.5% in 2001. Excluding those previously diagnosed HIV positive, the prevalence has declined from 3.6% in 1993 to 1.4% in 2001; this latter rate is the lowest ever recorded for previously undiagnosed individuals. The corresponding rates for males under 25 were 1.9% (1993) and 0.3% (2001). It is encouraging that only one of 317 males in this age group was HIV positive. The overall decline in HIV prevalence among homosexual and bisexual males is almost entirely accounted for by the decline in those previously undiagnosed; this observation suggests an appreciable decrease in the incidence of HIV among this population group in Scotland.

31. The data also suggest that a greater proportion of HIV-infected homosexual and bisexual males, previously undiagnosed, are being diagnosed at GUM clinics. In 2001, of the 17 HIV-infected males unaware of their HIV status prior to clinic attendance, 47% (8) remained undiagnosed after leaving the clinic. This proportion compares with rates of 63% and 62% in 1999 and 2000, respectively, and with rates of between 54% and 70% during 1994-1998. It is possible that increased voluntary confidential HIV testing among homosexual and bisexual males in the GUM clinic setting is responsible for this finding.

32. There is little evidence that imported HIV infection from outside the UK has made a contribution to the prevalence of HIV among homosexual and bisexual males in Scotland. Examining data for both 2000 and 2001, only two of the 62 HIV-positive cases were not UK nationals.

Heterosexual men and women attending genitourinary medicine clinics

England, Wales and Northern Ireland:
Prevalence and incidence of HIV

33. More samples from heterosexual men and women attending GUM clinics in London were tested for HIV as part of the Unlinked Anonymous survey in 2001 than in any previous year of the survey; 14,815 from men and 20,928 from women. In addition to increases in GUM workload over time, this rise may also be due to increases in syphilis screening as a result of the outbreaks.

34. Attendance at a GUM clinic continued to be a powerful predictor of risk for HIV

infection in heterosexuals. In 2001, HIV prevalence in females attending GUM clinics in London (Table 2) was three times higher than in pregnant women proceeding to delivery.

35. There was a significant increase in the prevalence of HIV in male heterosexuals in London from 0.86% (105 of 12,200) in 2000 to 1.3% (188 of 14,815) in 2001, and this rise was seen in all age groups. HIV prevalence in female heterosexuals in London also increased from 0.91% (147 of 16,077) in 2000 to 1.2% (249 of 20,928) in 2001. Since 1993 outside London, the prevalence of HIV has remained constant in male heterosexuals, but has risen steadily in female heterosexuals. By 2001, HIV prevalence was similar in male and female heterosexuals, 0.15% and 0.17% respectively (Table 2).

36. A significant increase in previously undiagnosed HIV prevalence has been observed in heterosexual women. Between 1996 and 2001, after adjustment for age and centre affects, the prevalence of previously undiagnosed HIV infection in heterosexual women attending GUM clinics in London has increased at an average annual rate of 3.7%. In heterosexual women attending GUM clinics outside of London during the same time period, previously undiagnosed HIV prevalence has increased at an average annual rate of 7.7%.

37. Interpretation of results from the application of STARHS to specimens collected from heterosexual GUM clinic attendees is complicated by several factors. The 'window period' during which the STARHS assay identifies recent infection has not been elucidated for all HIV subtypes. Moreover, the calculation of annual incidence requires knowledge of the denominator of negative tests, and this would need to be known for the population at risk for infection with particular subtypes. However, on the basis that the 'window period' will be constant within each subtype, the proportion of recent infections within each subtype may be a useful indicator of changing transmission patterns year on year. Among those heterosexuals infected with clade B viruses, the proportion of recent infections has fallen from over 20% (8 of 36) in 1997 to less than 5% (one of 33) in 2000. Whereas, the proportion of recent infections within non-B strains fell from 13.6% (12 of 88) in 1997 to 7.8% (9 of 115) in 2000.

Country of birth

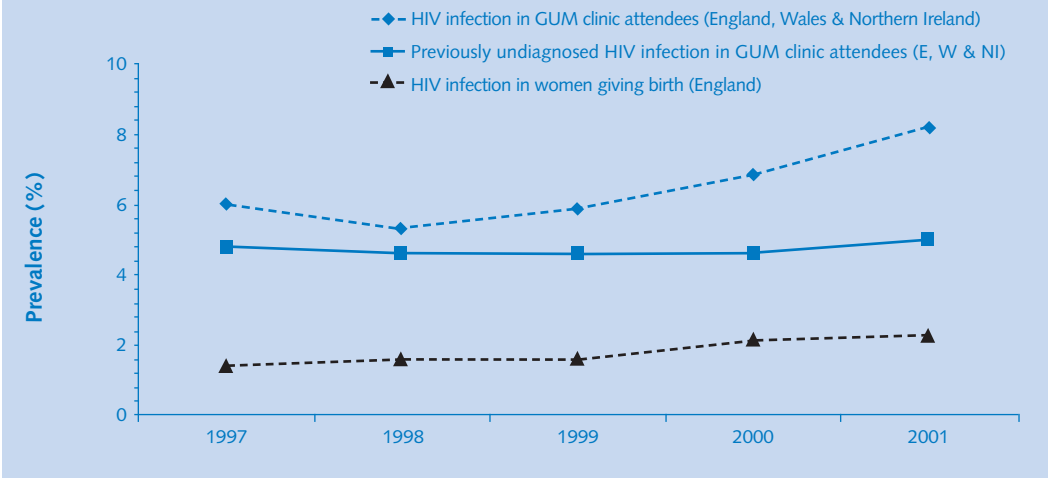
38. In 2000 and 2001, 43% of heterosexual men attending clinics in London were born abroad, whereas outside London, only 7.5% were born abroad. Among

heterosexual women the proportions born abroad were 45% and 5.3% respectively. In those born abroad, particularly in sub-Saharan Africa, the observed HIV prevalence has been much higher than in those born in the UK (Table 4). Among London clinic attendees during 2000/2001, one in 21 men and one in 13 women born in sub-Saharan Africa was HIV infected, compared with one in 428 men, and one in 573 women born in the UK. Between 1997 and 2001 the prevalence of HIV in heterosexual women from sub-Saharan Africa has risen from 6.0% (101 of 1679) to 8.2% (161 of 1967). When those with prior awareness of their HIV infection were excluded, however, there was no evidence of a rise in the prevalence of previously undiagnosed HIV infection (Figure 5).

Voluntary confidential HIV testing

39. Some improvement has occurred in the proportion of HIV infections that have been diagnosed, which is one of the aims of *The National Strategy for Sexual Health and HIV*[2]. Of the HIV-infected heterosexuals attending GUM clinics in London who were unaware of their HIV infection prior to the clinic attendance, and who could potentially have been diagnosed, 51% (132 of 259) had their infection diagnosed during the clinic attendance in 2001, compared with 31%

Figure 5: HIV infection in heterosexual women attending genitourinary medicine clinics and women giving birth born in sub-Saharan Africa*: prevalence overall and prevalence of previously undiagnosed† infections



* Sub-Saharan Africa according to United Nations classification of countries by development region and geographical area

† At the clinic attendance the HIV-infected heterosexual women who were 'previously undiagnosed' includes those newly diagnosed at this visit as well as those staying undiagnosed, but excludes those who had been diagnosed earlier

Table 4: Prevention indicators for HIV transmission in heterosexual men and women

Infection / disease markers	Area	Sub-category		
Reports of new diagnoses of heterosexually acquired HIV infection	UK	Probably acquired in the UK	Male	
			Female	
			Total	
		Probably acquired abroad	Male	
			Female	
			Total	
Prevalent diagnosed HIV infections receiving care**	England & Wales	Male		
		Female		
	Scotland	Total		
Prevalence among those having first HIV tests at seven sentinel labs (%, n)	England & Wales	Total		
Prevalence of undiagnosed HIV infection in GUM clinic attendees (%)	England, Wales & Northern Ireland	Born in UK		
		Born in sub-Saharan Africa		
		Born elsewhere		
	Scotland	UK Nationality		
		African Nationality		
		Other Nationality		
Heterosexually acquired gonorrhoea	England & Wales	Male		
		Female		
Proportion of men & women whose HIV infection was recognised < 3 months before their AIDS diagnosis† (%, n)	UK	Total		
Number of AIDS related deaths	UK	Total		
Incidence markers				
Median age at HIV diagnosis	UK	Male		
		Female		
Median CD4 counts at year of diagnosis	England & Wales	Age ≤ 24		
		Age ≥ 25		
	Scotland	All		
Behaviour				
Number of known‡ HIV-infected GUM clinic attendees with an acute STI	England, Wales & Northern Ireland	Acute STI		
		Total		
Markers of healthcare utilization				
Number of HIV tests carried out at GUM clinics¶	England & Wales	Males		
		Females		
	Scotland	Total		
Percentage of prevalent diagnosed individuals receiving anti-retroviral therapy	England & Wales			

* Provisional, reports in recent years are subject to reporting delay
** Adjusted for underreporting
¶ HIV testing with counselling, episodes seen at GUM clinics
† % Calculated as: diagnosis of HIV <3 months before AIDS diagnosis/total AIDS cases
‡ HIV infection diagnosed prior to the clinic attendance
n/a Data not yet available

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
25	36	25	42	49	43	45	67	60	79	73	74*
71	80	115	105	103	119	98	129	133	111	154	187*
96	116	140	147	152	162	143	196	193	190	227	261*
226	267	313	311	296	333	310	370	445	492	634	735*
209	254	321	307	343	345	375	422	502	694	1008	1191*
435	521	634	618	639	678	685	792	947	1186	1642	1926*
-	-	-	-	-	1101	1258	1454	1828	2214	2660	3536
-	-	-	-	-	1534	1617	2037	2475	3142	3937	5438
-	-	137	156	178	197	193	254	273	312	362	412
1.2 (4125)	0.6 (9092)	0.7 (9127)	0.6 (9419)	0.6 (9336)	0.7 (10839)	0.7 (10562)	0.9 (11355)	0.9 (13404)	1.3 (12072)	1.0 (14891)	1.8 (10942)
-	-	-	-	-	-	0.12	0.079	0.070	0.10	0.070	0.11
-	-	-	-	-	-	2.7	2.1	1.8	1.8	1.7	1.7
-	-	-	-	-	-	0.32	0.19	0.13	0.16	0.20	0.17
-	0.14	0.11	0.13	0.14	0.13	0.12	0.08	0.08	0.04	0.08	0.09
-	6.1	8.3	4.0	4.5	8.9	4.3	3.9	1.2	4.3	3.5	4.1
-	0	0.54	0.19	0.23	0	0.22	0.18	0	0	0.14	0.16
-	-	-	-	5081	5392	6346	6792	6905	9045	11678	12264
-	-	-	-	3201	3395	4045	4042	4171	4983	6380	6764
- -	- -	- -	- -	- -	49 (193)	53 (205)	70 (238)	73 (220)	75 (242)	86 (327)	85 (310)
637	754	849	933	997	1040	843	344	227	199	190	135*
33.3	32.5	32.9	33.7	34.1	35.1	35.1	36.3	36.2	36.5	36.4	35.0
26.6	28.4	28.4	29.2	29.6	30.2	30.7	31.6	31.3	32.0	31.9	31.0
350	349	360	240	360	310	380	310	300	330	330	400
190	248	230	177	248	222.5	180	187	210	200	202.5	230
-	-	275	280	184	266	232	322	257	243	181	154
-	-	-	3	4	11	4	9	9	5	8	13
-	-	-	43	53	78	85	66	48	45	92	182
-	-	-	-	-	51401	57920	59118	62374	64368	73372	95403
-	-	-	-	-	48125	55057	55475	59052	60389	68961	94008
-	-	-	-	-	3106	4992	4672	5164	5450	n/a	n/a
-	-	-	-	-	-	-	59	61	68	64	66

(66 of 212) in 1996. When those diagnosed previously are included with those diagnosed at the clinic attendance, the proportion of diagnosed HIV-infected heterosexual attendees has increased (Figure 2b); in heterosexual men in London from 30% (21 of 71) in 1993 to 71% (133 of 298) in 2001, and in heterosexual women in London from 51% (29 of 57) in 1993, to 71% (177 of 249) in 2001. Outside London in 2001, the proportion of all HIV infections that had been diagnosed after the clinic attendance was 46% (11 of 24) in men and 71% (20 of 28) in women.

40. Of those heterosexuals presenting with an acute STI, only 28% (6,214 of 22,262) had a voluntary confidential HIV test in 2001. A higher proportion of heterosexuals underwent testing in London compared with elsewhere (Figure 4c). Of the 307 HIV-infected male and female heterosexuals who were unaware of their HIV infection prior to the clinic attendance in 2001, 48% remained undiagnosed after the clinic visit. Concurrent acute STI was present in 71 of the 307 with previously undiagnosed HIV infection, and 68% (48 of 71) of them left the clinic in 2001 without having had their HIV infection diagnosed (Figure 4d).

Sexually Transmitted Infections

41. The number of new cases of STIs (KC60 data) in heterosexuals diagnosed in GUM clinics in England and Wales continued to rise in 2001[13] (Table 4), with a large burden of STIs diagnosed in teenagers. In the Unlinked Anonymous Survey, the proportion of heterosexuals attending GUM clinics with an acute STI has remained stable. Acute STI rates were 41% (9,119 of 22,195) in 1993 and 42% (12,977 of 31,131) in 2001 in male heterosexuals and 28% in 1993 and 25% in 2001 in female heterosexuals. The proportion of heterosexuals with an acute STI was significantly higher among men and women attending clinics outside London. In contrast, HIV prevalence was eight times higher in heterosexual attendees in London (Table 2).

Scotland:

42. In 2001, one in 635 heterosexual men and one in 663 heterosexual women were infected with HIV (Table 1); HIV prevalence was highest in heterosexual men aged 20-24 years and in heterosexual women aged 35-44 years. The almost identical HIV prevalences in heterosexual males and females, 0.16% and 0.15% respectively, are on the low side of a relatively constant annual prevalence which, since 1993, has stayed

within the narrow 0.12-0.33% range. Excluding those previously diagnosed HIV positive does not alter the prevalences in 2001 to any great extent, nor in the years before, because of the small numbers of previously diagnosed HIV-infected heterosexuals who present with a new sexually transmitted infection at GUM clinics in Scotland.

43. Of the 18 HIV-infected heterosexual men and women unaware of their HIV status prior to their clinic attendance, 83% (15) remained undiagnosed after leaving the clinic; the corresponding proportions for 1999 and 2000 were 59% and 74%, respectively. In contrast to the increasing proportion of previously undiagnosed HIV-infected homosexual/bisexual males who are becoming aware of their HIV status at GUM clinics, it is of great concern that such a low proportion of HIV-infected heterosexuals are being diagnosed in this setting.

44. The contribution of probable imported infection to the HIV prevalences among heterosexual men and women is considerable. Examining data for both 2000 and 2001, 15 and 9 of the 23 and 24 HIV-infected males and females, respectively, were UK nationals. Prevalences among male UK and African nationals were 0.11% and 4.9%, respectively; the corresponding rates for female UK and African nationals were a striking 0.08% and 16%, respectively. Measures designed to increase HIV testing uptake among heterosexual men and women at high risk of HIV, particularly those from Africa, should be considered.

Injecting drug users attending specialist agencies

England and Wales:

45. The prevalence of HIV infection among IDUs attending specialist agencies in London during 2001 was one in 21 for men and one in 45 for women (Table 2). Elsewhere, one in 434 men and one in 360 women were HIV infected. Although there has been no significant increase in the prevalence of HIV infection in IDUs in 2001, HIV infections occurred both in those who had begun injecting in the past three years and among those aged under 25 years. This suggests that HIV transmission through injecting drug use continues at a low level.

46. Eighty-eight per cent (23 of 26) of the HIV-infected IDUs reported having had a voluntary confidential blood test for HIV in the past. Of those individuals who gave a result for this test, 68% (15 of 22) were aware of their infection. Although this is lower than in 2000, when 90% (18 of 20)

were aware of their infection, IDUs still constitute a risk group in which a high proportion of HIV-infected individuals are aware of their infection.

47. The prevalence of HIV infection in those who had been in prison was 0.8% (14 of 1740) in 2001. This prevalence was unchanged from 2000 and was similar to the prevalence of 0.9% (10 of 1099) found in those with no imprisonment history.

Injecting drug users attending genitourinary medicine clinics

England, Wales and Northern Ireland:

48. Among heterosexuals attending GUM clinics in London during 2001 who reported ever injecting drugs, one in eight men in London and one in 65 men elsewhere in England, Wales and Northern Ireland were HIV infected. No female IDUs attending GUM clinics were found to be HIV infected in 2001 either in London (0 of 84) or elsewhere (0 of 82).

Scotland:

49. In 2001, the prevalence of HIV among GUM clinic attendees who reported ever injecting drugs was one in 76 overall, and one in 72 and one in 82 among male and female IDUs, respectively. These rates are similar to those observed for the previous three years and considerably lower than rates seen in the early to mid-1990s.

Pregnant women

England:

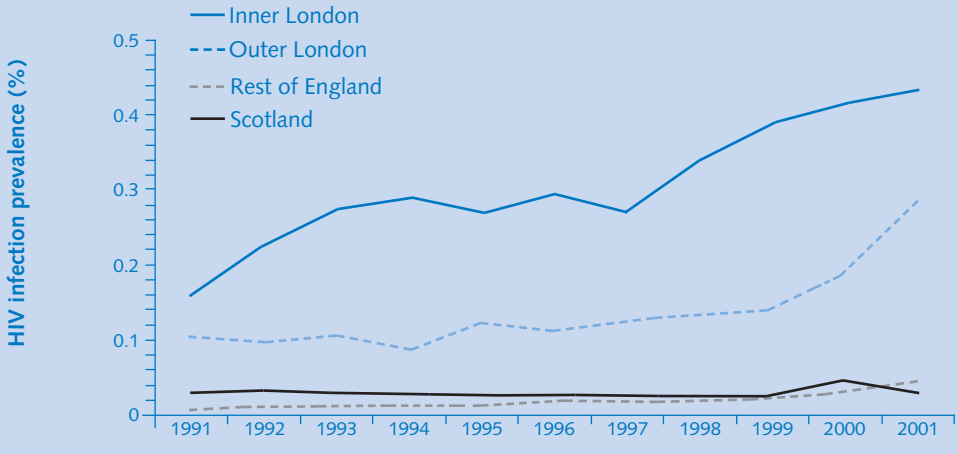
HIV prevalence

50. In 2001, over 450,000 dried blood spots and 75,000 antenatal blood specimens were anonymously tested for HIV, representing 72% of all live births in the UK that year.

51. In 2001, the prevalence of HIV infection among women giving birth in London was one in 286 overall, a 22% increase since 2000 when one in 349 women giving birth was HIV infected. In inner London one in 231 women were infected compared with one in 355 in outer London (Figure 6). HIV prevalence varied substantially according to maternal Health Authority of residence within London, ranging from one in 1600 to one in 177.

52. Elsewhere in England, the prevalence of HIV infection has remained low but has increased substantially since 1998, from one in 6457 to one in 2256 in 2001, nearly a three-fold increase (Figure 6). Outside of London the geographical distribution of births to HIV-infected mothers varied substantially in 2001, from none in some areas to as high as one in 512 in one Health Authority. Both in 2000 and 2001, the highest prevalence of HIV infection among pregnant women

Figure 6: Trends in overall prevalence of HIV infection in pregnant women* by area of residence



*Newborn infant dried blood spots taken for metabolic screening

in England outside London was seen in the Eastern Region.

53. The prevalence of HIV in women giving birth is increasing everywhere but more rapidly in outer London and the rest of England where, on average, there has been a 31% and 61% rise in prevalence respectively, per year since 1997. In inner London, the rate of increase is slowing although there is still on average a 7.8% rise in prevalence per year.

54. Among women attending selected London antenatal clinics in 2001, the prevalence of HIV infection was highest in those aged 25 to 29 years, with one in 138 women HIV infected.

Country of birth

55. In 1997, linkage of birth registration data to dried blood spots prior to anonymisation and subsequent HIV testing was introduced in the former North Thames region[14]. This was then extended to the former South East Thames and North Western regions in 2000 and will soon be further extended to the former South West Thames and West Midlands regions. The prevalence of HIV among women born in sub-Saharan Africa and resident in the former North

Table 5: Prevention indicators for HIV and hepatitis transmission in injecting drug users

Infection / disease markers	Area	Sub-category
Reports of new diagnoses of HIV infection through injecting drug use†	London	Total
	Scotland	Total
	Rest of UK	Total
	UK	Male
		Female
Reports of HIV infections acquired through heterosexual contact with those infected through IDU	UK	Male
		Female
Prevalent diagnosed HIV infections receiving care	England & Wales	Male
		Female
	Scotland	Total
Prevalence among those having voluntary confidential HIV tests	Scotland	Total
Incidence markers		
Median age at HIV diagnosis	UK	All reports
Proportion HIV antibody positive (%)	England & Wales	First injected during the last 3 years
Proportion hepatitis B antibody positive (%)‡	England & Wales	First injected during the last 3 years
Proportion hepatitis C antibody positive (%)‡	England & Wales	First injected during the last 3 years
Median CD4 count at year of diagnosis	England & Wales	Age ≤ 24
		Age ≥ 25
	Scotland	Total
Behaviour		
Passing on or receiving used needles or syringes in the last month - self reports (%)	London	Current injectors
	England & Wales outside London	Current injectors
	England & Wales	Current injectors aged ≤ 24
		Current injectors who first injected during the last 3 years
Sharing of needles and syringes in past month - agency reports (%)¶	Scotland	Current injectors
Sharing of any injecting equipment in past month - self reports (%)	London	Current injectors
	England & Wales outside London	Current injectors
Markers of healthcare utilization		
Hepatitis B vaccine coverage - self reported (%)	England & Wales	First injected during the last 3 years
		Current & former injectors

* Provisional, reports are subject to reporting delay
† Includes IDUs also exposed to HIV infection through sex between men
‡ Denotes past or current infection with hepatitis B/C
¶ Scottish drug misuse database

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
141	151	137	112	111	125	114	89	76	68	60	46
30	53	27	53	30	23	35	32	19	18	20	16
68	78	63	70	69	66	72	67	62	44	52	53
191	207	166	183	164	156	167	142	122	94	94	90
48	75	61	53	46	58	54	47	35	36	38	26
14	14	10	11	9	13	11	18	11	7	5	10
27	36	44	43	37	35	32	41	44	22	22	23
-	-	-	-	-	602	539	548	584	622	577	588
-	-	-	-	-	286	262	251	289	292	275	277
-	-	559	581	519	459	424	425	430	433	434	415
2.8	3.2	1.9	2.9	1.5	1.5	1.5	1.6	0.9	0.6	0.7	0.7
29.0	29.2	30.1	30.8	31.0	32.2	33.2	32.8	33.6	33.3	32.7	34.9
0.77	0	0	0.44	0.15	0.20	0.3	0.34	0.4	0.12	0	0.36
21	6.9	16	13	10	5.2	6.8	3.4	5.0	5.4	7.0	7.9
-	-	-	-	-	-	-	-	8.5	9.0	8.4	17
520	605	513.5	504	600	520	392.5	315	460	450	464	344
360	330	307	270	340	340	248.5	264.5	280	345	334.5	235
-	-	415	356	215	252	182	221	415	97	173	245
-	17	22	16	16	18	20	21	35	42	41	37
-	27	19	19	18	17	18	17	31	31	29	33
-	35	27	25	25	26	24	25	38	40	31	36
-	26	22	23	21	22	21	22	31	31	24	28
-	-	-	-	-	-	30	28	28	34	34	34
-	-	-	-	-	-	60	59	66	69	69	69
-	-	-	-	-	-	57	54	62	62	59	58
-	-	-	-	-	-	-	-	14	17	26	28
-	-	-	-	-	-	-	-	25	29	35	37

Table 6: Trend in HIV infection in pregnant women giving birth in the UK: alignment of dried blood spot survey data with confidential reports through the RCOG*							
Area of residence of mother	Number tested using the UA method†	UA numbers of births to HIV infected mothers (a)†	Prevalence per 10,000	Number of maternal HIV infections reported as diagnosed		Estimated percentage of infections diagnosed before birth ((b+c)/a)	Estimated percentage of infections first diagnosed during current period of antenatal care (c/(a-b))
				before pregnancy (b)	during pregnancy (c)		
London							
1995	104,502	192	18	29	16	23%	10%
1996	107,913	204	19	38	27	32%	16%
1997	106,407	200	19	45	24	35%	15%
1998	103,901	230	22	54	47	44%	27%
1999	102,287	254	25	86	82	66%	49%
2000	103,852	298	29	105	131	79%	68%
2001	103,840	363	35	119	179	82%	73%
Rest of England‡							
1995	346,793	38	1.1	4	1	13%	3%
1996	349,175	59	1.7	10	7	29%	14%
1997	349,983	56	1.6	10	3	23%	7%
1998	348,686	54	1.5	12	2	26%	5%
1999	338,653	74	2.2	17	7	32%	12%
2000	327,364	89	2.7	23	26	55%	39%
2001	322,634	143	4.4	15	77	64%	60%
Scotland							
1995	60,899	15	2.5	9	1	67%	17%
1996	59,290	16	2.7	8	2	63%	25%
1997	59,604	15	2.5	4	0	27%	0%
1998	57,298	13	2.3	5	1	46%	13%
1999	55,374	13	2.3	8	1	69%	20%
2000	53,347	25	4.7	12	5	68%	38%
2001	52,707	16	3.0	9	5	88%	71%

* Confidential reports of diagnosed HIV positive pregnancies made through the Royal College of Obstetricians and Gynaecologists to the National Study of HIV in Pregnancy and Childhood. The reports are subject to reporting delay, particularly for recent years

† Data provided from the unlinked anonymous (UA) dried blood spot survey

‡ Not all districts participate in the dried blood spot survey in their areas. It is estimated that 55% of births in the rest of England are covered by this survey. UA specimens from women receiving antenatal care in Northern & Yorkshire Region are included

Thames, South East Thames and North Western regions has been rising (Figure 5) and in 2001 was highest in women born in Central (3.6%, 35 of 987) and East (3.2%, 158 of 4980) Africa. Among pregnant women born elsewhere in the world, the prevalence of HIV has remained low, except among those born in Central America and the Caribbean in which the prevalence doubled from 0.21% (3 of 1406) in 2000 to 0.43% (7 of 1643) in 2001. Of all HIV-infected women giving birth in 2001 for whom country of birth was known, 77% (239 of 309) were born in sub-Saharan Africa. In the former North Thames and South East Thames Regions, 78% (233 of 297) of HIV-infected women giving birth in 2001 for whom country of birth was known were born in sub-Saharan Africa whereas in the North Western Region 50% (6 of 12) were born in sub-Saharan Africa.

Terminations

56. In 2001, one in 97 women undergoing a termination of pregnancy in seven selected inner London hospitals was infected with HIV (Table 2). The prevalence of HIV infection in 2001 was highest in those aged 25 to 29 years, with as many as one in 47 women HIV-infected. However, the women sampled are unlikely to be representative of all women undergoing terminations in the UK and the number tested (6,333) is small relative to the total number of women undergoing terminations in 2001 in England and Wales (186,000). Further work is therefore needed to gain more accurate estimates of HIV prevalence in this population group.

Scotland:

57. In 2001, one in 3294 women giving birth were HIV-infected (Table 2, Figure 6). This was 36% lower than in 2000 when one in 2134 were HIV-infected.

Mother to infant transmission of HIV

England and Scotland:
Voluntary confidential HIV testing

58. The use of antiretroviral drugs, delivery by caesarean section, careful obstetric management and avoidance of breastfeeding all reduce the likelihood of mother to infant transmission of HIV. A national policy to offer and recommend HIV testing to all pregnant women in England was introduced in 1999. Targets were set to increase both the uptake of antenatal HIV testing to 90% and the proportion of HIV infections diagnosed prior to delivery to 80% by the end of 2002. Meeting these targets should result in an 80% reduction in the number of children with HIV acquired from their mother[15,3]. Guidance has also been issued for the health service in Scotland and Wales, on universal antenatal HIV testing[16,4].

59. Alignment of unlinked anonymous data with reports of HIV-infected pregnant women made through the Royal College of Obstetricians and Gynaecologists (RCOG), to the National Study of HIV in Pregnancy and Childhood (NSHPC), provides estimates of the proportions of HIV-infected pregnant women who have had their infection diagnosed prior to pregnancy or during their current antenatal care. Direct monitoring of the coverage (offer and uptake) of antenatal testing for HIV is also being undertaken in some regions and is being expanded to others[17].

60. During 2001 in London, an estimated 82% of maternal HIV infections were diagnosed before delivery (Table 6). However, there was considerable variation between London Health Authorities. Throughout London the proportion of previously undiagnosed HIV infections first diagnosed during the current episode of antenatal care has been rising steadily since 1997 and is estimated to have been 68% in 2000 and 73% in 2001 (Table 6).

61. Substantial improvements in maternal HIV diagnosis rates were also seen in 2001 in England outside London, where an estimated 64% of HIV-infected pregnant women were diagnosed prior to delivery compared with 55% in 2000. The proportion of previously undiagnosed HIV infections first diagnosed during antenatal care also improved from an estimated 39% in 2000 to 60% in 2001 (Table 6). Whilst overall diagnosis rates have increased encouragingly, there was marked variation between Health Authorities, with some probably diagnosing all HIV-infected women and others diagnosing none.

62. Surveillance of births to HIV-infected women and paediatric HIV infection is conducted through the NSHPC[18]. In areas of England and Scotland where unlinked anonymous testing is conducted, there has been nearly a seven-fold rise, from about 60 to over 400, in the annual number of births to HIV-infected women reported to the NSHPC between 1995 and 2001 (Table 6).

United Kingdom:

63. In 2001, there were an estimated 561 births to HIV-infected women in the UK, compared to 298 in 1997. This would have resulted in about 149 HIV-infected infants in 2001 if none of these maternal infections had been diagnosed, assuming a mother to infant transmission rate of about 25% in the absence of interventions[19]. However, given the observed proportion of maternal infections diagnosed before delivery, and assuming that about 2% of infants will acquire HIV even if the maternal infection is diagnosed prior to delivery, it is estimated that some 49 infants were

infected with HIV in 2001. These estimates indicate that although the number of births to HIV-infected women in the UK has risen, the estimated proportion of infants born to these women who are themselves infected has declined from about 19% in 1997 to about 9% in 2001 (Figure 7). This can be attributed to improved diagnosis of HIV infection prior to delivery and the subsequent use of interventions to prevent mother to child transmission.

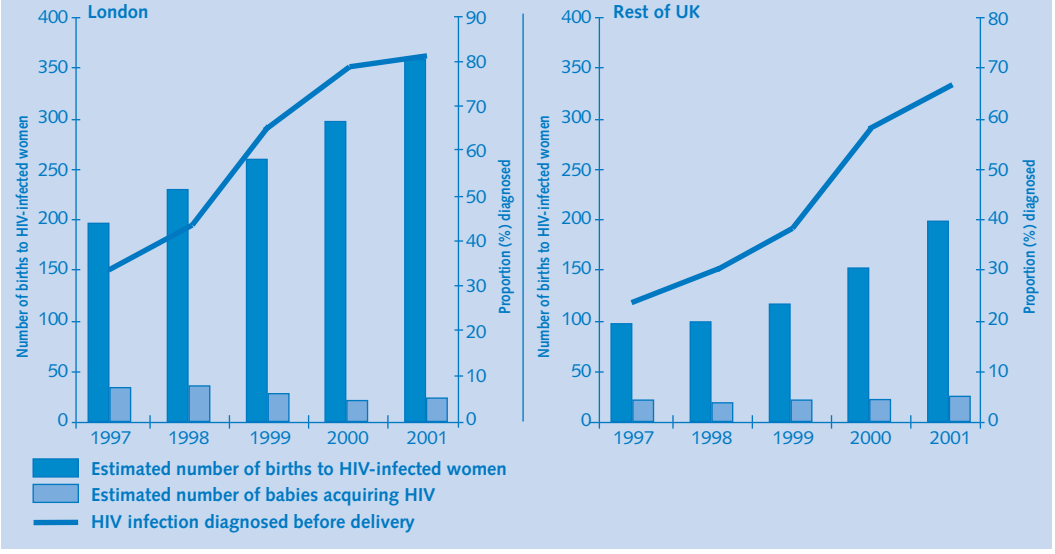
Numbers of HIV-infected persons receiving care

64. Total prevalent *diagnosed* infections are obtained from the annual PHLS Survey of Prevalent HIV Infections Diagnosed (SOPHID). There has been an accelerated increase since 2000 in the number of reports of individuals with diagnosed HIV who attended for HIV-related treatment or care in England, Wales and Northern Ireland. In 2001, there were 25,203 diagnosed individuals reported to SOPHID, compared to 21,717 in 2000. This was a 16% increase in prevalent diagnosed HIV infections, compared to a 13% annual increase between 1997 and 2000. This increase is due both to a marked decrease in deaths following the introduction of HAART and the continuing high number of HIV infections diagnosed each year. When non-reporting was considered, along with failure to access services and deaths within a given year, the total number of adults living with diagnosed HIV in England, Wales and Northern Ireland at the end of 2001 was estimated to be 27,000. In Scotland, the numbers of HIV-infected persons receiving care are gauged through monitoring those who undergo CD4 count testing. In 2001, 1394 HIV-infected persons had at least one CD4 count measurement. It is estimated that at the end of 2001, 1750 adults were living with diagnosed HIV in Scotland.

Total prevalence of HIV in adults in the UK in 2001

65. The 'Direct method' estimates the total number of undiagnosed HIV infections in the population. The total population of England and Wales aged between 16 and 44 was divided into mutually exclusive behavioural groups relevant to HIV infection risk. Estimates of the population size within each group were derived from the National Survey of Sexual Attitudes and Lifestyles (Natsal 2000) and ONS mid-year population estimates. The undiagnosed HIV prevalence for each group, derived from the Unlinked Anonymous HIV seroprevalence surveys, was multiplied by its population size to get the total number of undiagnosed HIV infections. These were then added to the prevalent

Figure 7: Estimated number of births to HIV-infected women*, number of babies acquiring HIV infection and proportion of HIV-infected women being diagnosed before delivery: 1997 to 2001



*Includes estimates for areas not covered by the neonatal dried blood spot survey

diagnosed HIV infections within this group, derived from SOPHID. The estimates were then scaled up to include all adults elsewhere in the UK. Because undiagnosed HIV estimates were not available for each of the behavioural groups, prevalence estimates were derived by adjusting the UA estimates using behavioural survey data.

66. At the end of 2001 an estimated 41,200 adults aged 16 years and over were living with HIV in the UK, 12,900 (31%) of whom were unaware of their infection (Table 7). Just under half (47%) of the total number of HIV infections in adults were in homosexual and bisexual men. Twenty-two per cent (4,200) of homosexual/bisexual men were unaware of their infection – 33% of the 12,900 undiagnosed prevalent infections.

67. An estimated 19,500 adults who had acquired their infection through heterosexual sex were living in the UK in 2001, and 8,300 (43%) of these were unaware of their infection. The highest proportion of undiagnosed HIV infection was in this category, with 37% of female heterosexuals and 50% of male

Table 7: Estimated prevalence of HIV infection among adults* in the UK at end 2001

Exposure category	Number diagnosed†	Number undiagnosed‡§ (%)	Total
Sex between men	15,100	4,200 (22%)	19,300
Injecting drug use			
Males and females	1,400	400 (22%)	1,800
Sex between men and women			
Male	4,300	4,300 (50%)	8,600
Female	6.900	4,000 (37%)	10,900
Total	11,200	8,300 (43%)	19,500
Blood products¶			
Males and females	600	0 (0%)	600
Grand total	**28,300**	**12,900 (31%)**	**41,200**

† Numbers diagnosed were obtained from the Survey of Prevalent HIV Infections Diagnosed (SOPHID) and CD4 Surveillance in Scotland and were adjusted for under-reporting and failure to access services

‡ Numbers undiagnosed for England and Wales were derived using data from Natsal 2000 and the unlinked anonymous programme in an extension of the method previously described (Petruckevitch et al, Genitourinary medicine 1997; 73: 348-354)

§ Numbers undiagnosed for Scotland were derived by using exposure group specific factors (Allardice G, Hughes G, CDR Review 1996; 6 (13): 192-194)

¶ All cases infected through blood and blood products or tissue were assumed to be diagnosed

heterosexuals unaware of their infection. A higher proportion of female heterosexuals with HIV infection were diagnosed (63%; 6,900 of 10,900) compared to males (50%; 4,300 of 8,600). This difference between the genders may be attributed to antenatal screening.

68. There were an estimated 1,800 IDUs living with HIV infection in 2001, of whom 400 (22%) were unaware of their infection. It was assumed that the number of undiagnosed HIV infections acquired through blood and blood products was very low.

69. The prevalence of HIV infection is expected to continue to rise steadily, due to improved survival of patients on HAART, and the arrival of HIV-infected migrants from countries of high HIV prevalence, particularly from sub-Saharan Africa. A proportion of these, however, may only be here temporarily. Rising incidence within the UK, due to the increase in high-risk sexual behaviours suggested both by behavioural surveys[20,21,22] and increases in sexually transmitted infections[23] may also be contributing to the increased prevalence.

Genotypic characteristics and anti-viral resistance

England, Wales and Northern Ireland:

70. As the HIV epidemic evolves, continued surveillance of HIV subtypes and of drug-resistant strains is essential. Anti-HIV positive serum specimens from heterosexuals attending participating GUM clinics during 1997-2000 have been characterised using heteroduplex mobility assays and DNA sequencing, as previously described[24,25]. The most prevalent subtype overall was subtype B (32%, 146 of 459), followed by subtypes C (32%, 145 of 459), A (18%, 84 of 459) and D (7.8%, 36 of 459). Genomes recombinant between more than one subtype accounted for 11% (48 of 459) of all genotyped infections (Figure 8). These findings illustrate the genetic diversity among HIV-infected heterosexuals in England, Wales and Northern Ireland. Given the potential public health implications of HIV genetic diversity[26], it is important to continue to monitor the distribution of HIV subtypes.

71. No significant changes were observed in the subtype distribution among heterosexuals during 1997-1999. However, significant associations were observed between HIV subtype and demographic characteristics (see Box 1).

72. The high prevalence of non-B subtypes among African-born individuals suggests these infections may have been acquired abroad or within the African community in the UK. A significantly higher prevalence of subtype B was observed in heterosexual males, compared to females, as first reported for 1997. This may reflect undisclosed homosexuality/bisexuality or injecting drug use risk behaviour by these men. The higher prevalence of subtype B observed in older individuals may reflect the longer-standing nature of these infections.

73. There was genotypic evidence for a low level of antiretroviral drug resistance to protease inhibitors (3.4%, 5 of 149) among heterosexual GUM clinic attendees during 2000. Similar levels were observed in recently acquired infections among homosexual men (2.5%, one of 39) during 1998 to 2000.

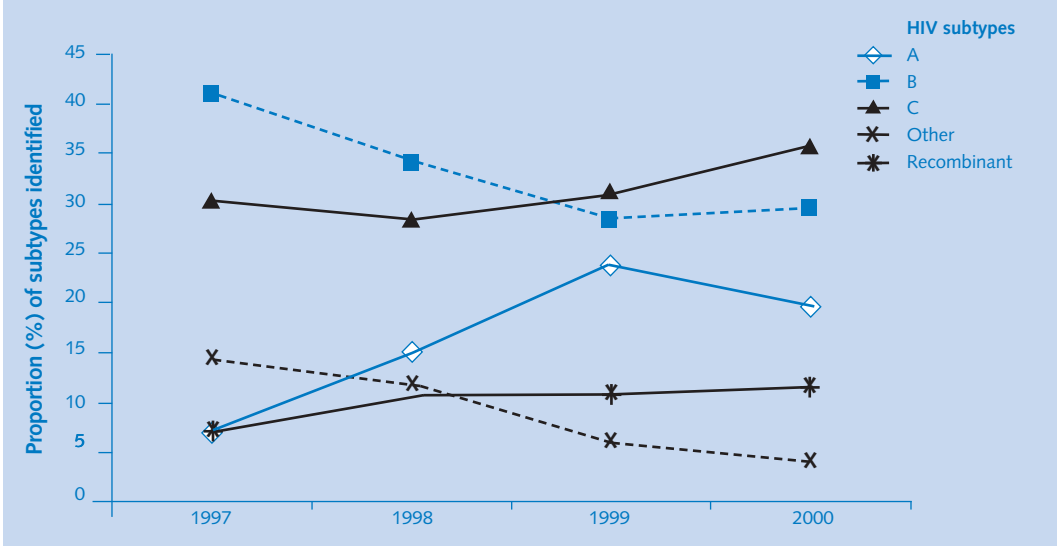
Hepatitis B

Injecting drug users attending specialist agencies

England and Wales:

74. In 2001, 21% (632 of 2963) of IDUs had evidence of previous or current hepatitis B infection — the same level as was observed in 2000 (Figure 9). The prevalence of antibody to hepatitis B core antigen (anti-HBc) varied by region and

Figure 8: HIV subtypes among heterosexual genitourinary medicine clinic attendees (England, Wales & Northern Ireland): 1997 to 2000



when data for 2000 and 2001 were combined, the highest prevalences were in London (25%, 264 of 1074) and the North West (36%, 503 of 1408).

75. Prevalence of anti-HBc in current injectors and among those who began injecting in the previous three years is an indicator of relatively recent transmission of hepatitis B virus. Between 2000 and 2001, among current injectors outside London, there was a small increase in prevalence of anti-HBc from 20% (316 of 1610) to 21% (283 of 1370) in males and from 13% (52 of 414) to 16% (62 of 379) in females. The prevalence among those who began injecting in the previous three years has risen annually since 1997 (Table 5) and in 2001 was 7.7% (29 of 378) in males and 8.4% (16 of 191) in females.

76. The numbers of IDUs reporting that they had been vaccinated against hepatitis B has increased modestly from 35% (1179 of 3341) in 2000 to 37% (1087 of 2899) in 2001. Self-reported vaccination coverage varies by NHS executive region and is slightly higher in London than elsewhere, with levels of 39% (196 of 498) and 37% (891 of 2401) respectively.

77. Between April 2001 and March 2002, 37 prisons in England and Wales received funding from the Prison Health Policy Unit for the provision of hepatitis B vaccine to all prisoners entering prison.

Box 1: Associations between HIV subtype and demographic variable among heterosexuals attending GUM clinics during 1997 to 1999

- Non-B subtypes were significantly associated with an African region of birth
- Subtype B infections were more prevalent in those aged 25 to 44 years
- Previously undiagnosed infections first diagnosed during the clinic attendance were more likely to be non-B subtype virus
- Subtype distribution differed by gender, with males more likely to be infected with a subtype B virus
- Infections in attendees who also injected drugs were predominantly subtype B, with small numbers of non-B viruses
- There was no association between subtype and presentation with an acute STI
- No difference in subtype distribution was seen between individual GUM clinics, or those inside/outside London

The prevalence of anti-HBc was 24% (418 of 1740) in those who had previously been in prison and 17% (186 of 1099) in those who had not. Of those IDUs who had previously been in prison, 40% (687 of 1705) reported having been vaccinated against hepatitis B, which is an increase from 38% (709 of 1872) reported in 2000.

Laboratory reports of acute hepatitis B infection

England and Wales:

78. The number of laboratory reports of acute hepatitis B infection remained fairly constant in 2001, with a 3% fall (565 to 549) on the previous year. Transmission of hepatitis B is continuing among IDUs who, in 2001, remained the main risk group associated with hepatitis B infection.

Scotland:

79. There has been a decrease in laboratory reports of hepatitis B infection among injectors, from 89 in 2000 to 69 in 2001 (Table 5). These reports include acute and chronic hepatitis B infections. As in previous years, the majority of these reports emanate from the North East of Scotland.

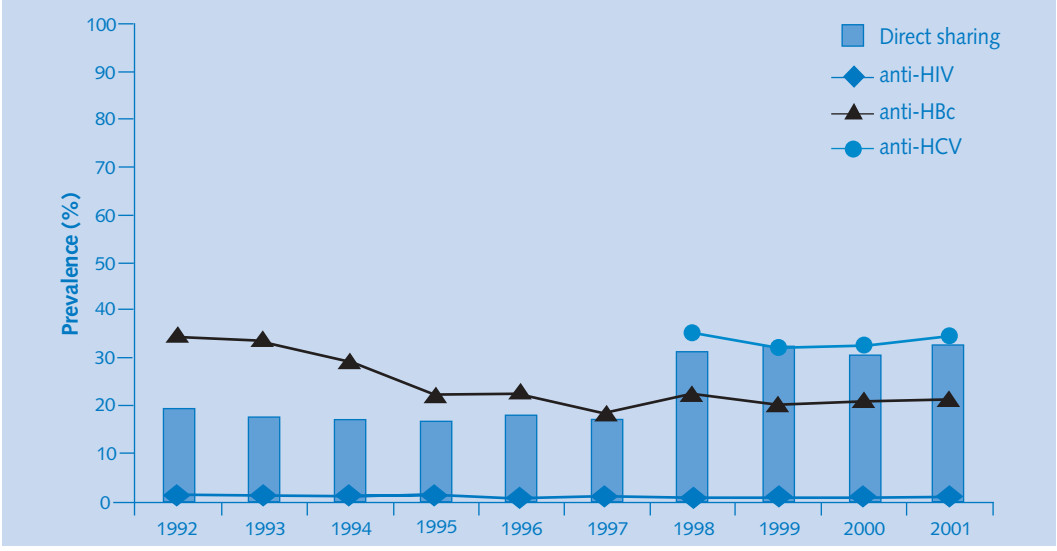
Hepatitis C

Injecting drug users attending specialist agencies

England and Wales:

80. In 2001, 35% (1024 of 2963) of IDUs had antibodies to hepatitis C. This

Figure 9: Prevalence of antibodies to HIV, hepatitis B core antigen, hepatitis C and trends in direct* sharing in injecting drug users in England and Wales



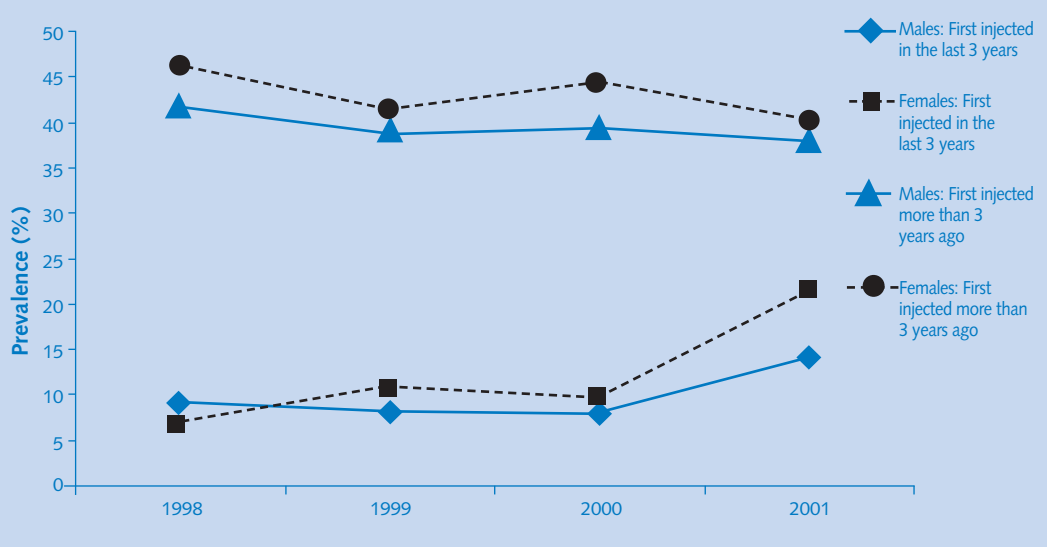
*Direct sharing of needles & syringes

prevalence has not changed since hepatitis C testing was added to the IDU survey in 1998 (Figure 9).

81. The consultation document *Hepatitis C Strategy for England*[5] proposes using the prevalence of hepatitis C in those who began injecting in the last three years as a measure of recent transmission. This measure could be a national outcome indicator of the success of future prevention interventions. In 2001, among those who had begun injecting in the previous three years, the prevalence was higher than in any previous year, with an increase between 2000 and 2001 in males from 7.9% (42 of 535) to 14% (53 of 378) and in females from 10% (24 of 247) to 22% (41 of 191) (Figure 10). For males and females the rise was observed both inside and outside of London. The prevalence of hepatitis C was 39% (670 of 1740) in those who had previously been in prison and 28% (305 of 1099) in those who had not.

82. Another aim in the consultation document *Hepatitis C Strategy for England*[5] is to increase the uptake of voluntary confidential testing for hepatitis C among current and past IDUs, thereby increasing the proportion of IDUs who are aware of their infection. In particular, the strategy proposes a national standard

Figure 10: Hepatitis C prevalence in injecting drug users by calendar year and by year of first injection*: males and females



*Includes current and former injectors

of good practice that all those attending specialist drug treatment services for their drug addiction should be offered hepatitis C testing routinely. In 2001, 54% of IDUs (1447 of 2667) reported having a voluntary confidential test for hepatitis C. Thirty-nine per cent (230 of 596) of those who were infected with hepatitis C were aware of their infection.

Injecting behaviour and access to services

England and Wales:

83. In 2001, the proportion of current IDUs sharing needles and syringes (direct sharing) has remained high, with 33% (643 of 1934) reporting such practices (Figure 9). Younger IDUs appear to be at particular risk, with 36% (177 of 485) of current IDUs aged under 25 years reporting (direct) sharing in the previous month, a 5% rise from 31% (187 of 601) in 2000.

84. The recently published consultation document *Hepatitis C Strategy for England*[5] reinforces the harm reduction message about the danger of sharing any injecting equipment, not just direct sharing of needles and syringes. Items such as filters, spoons and flushing water

constitute a potential transmission route for both hepatitis B and C[27]. In 2001, sharing of any injecting equipment continued at high levels with 59% (1165 of 1960) of current injectors reporting this behaviour. Guidance published by the Department of Health[28] describes a consistent and systematic approach to reducing the risk of hepatitis C infection in drug users, across a range of service provision.

85. In 2001, 99% (1676 of 1699) of current injectors reported they had, at some time in their injecting career, accessed needle exchange services. Overall, 68% (1148 of 1699) of current injectors had accessed a needle exchange within one year of first injecting. This was slightly higher for females 72% (270 of 376) than for males 66% (878 of 1323). It is encouraging that the majority of IDUs are in contact with needle exchange services so early in their injecting career, although data on frequency of access are needed.

86. Oral drug substitution treatments, such as oral methadone maintenance, have been shown to have lasting benefits in terms of reducing injecting and sharing behaviour[29]. A target has been set as part of the Drugs Strategy to increase participation of problem drug users in drug treatment programmes by 55% by 2004 and by 100% by 2008. Data from the IDU survey show that 56% (1630 of 2889) of current or past injectors reported being on detoxification or drug maintenance programmes in 2001.

87. In 2001, 61% (1740 of 2839) of IDUs reported having ever been in prison or a young offenders' establishment. Of those who had been in prison, the median number of imprisonments was three (range 1 to 63) and 23% of IDUs with a history of imprisonment had been to prison at least five times. Seventeen per cent of those who had been in prison reported injecting whilst in prison. Half had first been imprisoned before beginning to inject (646 of 1289), with 61% (810 of 1335) first imprisoned before the age of 20. The consultation document *Hepatitis C Strategy for England* proposes a national standard of good practice that all young people entering juvenile and young offenders' establishments are provided with information about avoiding hepatitis C and other blood-borne infections and the risk of injecting drug use.

Scotland:

88. There are indications that the potential for HIV transmission among IDUs remains high. The proportion of IDUs that reported sharing needles and syringes in the previous month was 34% in 2001,

according to Scotland's Drug Misuse Database. This sharing rate was similar to previous years (Table 5).

Conclusions

89. Data from the programme up to 2001 show that HIV transmission and unsafe sexual behaviour is continuing among homosexual and bisexual men of all ages. In London between 1996 and 2001, no significant decrease has been observed in previously undiagnosed HIV prevalence overall and in men aged less than 25 years. A rise in HIV prevalence has also been observed in heterosexual GUM clinic attendees.

90. Although there has been a continued rise in the proportion of GUM clinic attendees being tested for HIV, there remains a substantial opportunity to increase testing in this population. It is unknown how many GUM clinic attendees were offered an HIV test and refused. However, proposed revisions to codes and definitions in the KC60 statistical return (the statutory statistical return from all GUM clinics) should allow future monitoring of HIV test offer and uptake rates.

91. Although the number of tests required to identify one undiagnosed HIV infection is far higher in clinics outside London, the proportion of new HIV diagnoses in previously undiagnosed heterosexuals has risen over time in clinics both in and outside London. In male and female heterosexuals in 2001, 51% (132 of 259) and 56% (27 of 48) were diagnosed at the clinic attendance in London and outside London respectively. The proportion of new HIV diagnoses in homosexual and bisexual men and in heterosexuals is higher in those without an acute STI. Although the reasons for this are unclear, this may indicate missed opportunities to diagnose HIV in those with an acute STI.

92. The Unlinked Anonymous data combined with trends in STI diagnoses indicate a need to improve the sexual health of UK sub-populations, in particular those groups identified in *The National Strategy for Sexual Health and HIV*[2], to prevent the continuing transmission of HIV. Although the prevalence of HIV is six to eight times higher in individuals attending GUM clinics in London, the high proportion of attendees presenting with an acute STI at clinics outside London signals the potential for HIV transmission. The implications for commissioners and providers of sexual health services are clear.

93. It is encouraging that among IDUs the prevalence of HIV remains low at less than 1%. However, additional data from

the survey warn against complacency and point to the need for strengthening harm reduction services. In 2001, there is evidence of ongoing transmission of HIV and hepatitis, with infections being recognised among recent injectors and younger injectors. Moreover, sharing rates continue to be high, with evidence for a small increase in sharing practices among young injectors.

94. The *Hepatitis C Strategy for England*[5], recently published for consultation, highlights the importance of IDUs as a risk group for hepatitis C infection and the importance of surveillance among this population. Two national outcome indicators suggested in the strategy can be monitored though the Unlinked Anonymous IDU survey. Firstly, the prevalence of hepatitis C among recent injectors as a marker of incident infection, which shows a worrying trend over recent years with a significant rise in the proportion infected. And secondly, the proportion of hepatitis C-infected individuals aware of their infection, which currently stands at around 40%.

95. The prevalence of hepatitis B and C continues to be higher in those who reported having been in prison than in those who have not been to prison. Half of those with a history of imprisonment had been to prison before they started injecting and 17% reported injecting whilst in prison. These data highlight the vulnerability of the prison population to acquiring blood-borne viruses. Prison vaccination policies are having a positive impact upon the vaccination status in the prison population and it is hoped that beneficial effects of this will soon become apparent in the injecting drug user community.

96. The prevalence of HIV infection in pregnant women continued to rise in London and in the rest of England. In 2001 in London, the prevalence of HIV was 22% higher than in 2000. In the rest of England, the prevalence of HIV was 63% higher than in 2000 and nearly three times higher than in 1998.

97. Substantial improvements in maternal HIV diagnosis rates were seen in 2001 both in London and the rest of England. During 2001, an estimated 82% of HIV-infected pregnant women in London, 64% elsewhere in England and 88% in Scotland were diagnosed before they gave birth. Achieving the National Objective of an 80% reduction in paediatric HIV infections depends on further improving rates of diagnosis outside London as well as sustaining and further improving them in London[30].

98. The variation in antenatal HIV diagnosis rates between Health Authorities could be due to a number of factors including late implementation of the universal routine offer policy, differences in the proportion of women refusing tests and delays in reporting diagnosed pregnancies to the NSHPC. Routine monitoring of the uptake of testing has been established in some regions, including London, Eastern and Northern and Yorkshire, and on-going surveys of antenatal HIV testing policy, practice and uptake in NHS Trusts throughout the UK and Republic of Ireland are conducted through the NSHPC. These initiatives should provide some clarification of the reasons for variation in diagnosis rates.

99. The prevalence of HIV infection in women attending selected London clinics for a termination of pregnancy is substantially higher than in women giving birth and similar to the prevalence in women attending GUM clinics. Whilst these findings require further exploration, the sexual health of women attending for termination of pregnancy is clearly an issue worthy of attention.

100. In England, Primary Care Trusts (PCTs) are now responsible for commissioning sexual health services in their local area, and must take a broader approach to integrating sexual health and HIV service improvements within their local delivery plans. In order to meet the goals and standards set out in *The National Strategy for Sexual Health and HIV Implementation Action Plan*[11], PCTs should ensure that services are adequately resourced to deal with capacity.

Continuing impact of the pandemic

101. The pattern of HIV in the UK is clearly influenced by the global HIV pandemic. A large proportion of the diagnosed HIV infections attributed to heterosexual transmission are associated with having lived in or visited countries in sub-Saharan Africa. A disproportionate number of new diagnoses of HIV are being reported in heterosexuals of Black African ethnicity[31]. In heterosexuals attending GUM clinics during 2000 and 2001, the prevalence of HIV in those born abroad was 21 times higher among males and 45 times higher among females compared with those born in the UK. Nearly four out of five HIV-infected mothers resident in England were born in sub-Saharan Africa. With increasing travel to, and migration from high prevalence countries, the impact of travel-associated and imported HIV infections will continue to affect the UK HIV epidemic. Future global changes in heterosexually transmitted HIV, particularly in Africa, the Caribbean and

South Asia, are likely to be reflected in the UK. The surveillance of HIV infections in the UK by ethnicity and country of birth is therefore a public health priority. An increase in the prevalence of HIV in the UK associated with increases in other countries may first be detected through the Unlinked Anonymous Surveys.

Good practice recommendations for Commissioners

In purchasing primary care, prison and other health services, PCTs should give appropriate priority to:

A. HIV prevention activity and local needs assessment for

- homosexual and bisexual men;
- people from sub-Saharan African countries with high HIV prevalence;
- heterosexuals at behavioural risk of acquiring sexually transmitted infections;
- needle exchange and other harm minimisation services for injecting drug users (and users likely to progress to injecting);
- people who are HIV positive.

B. Developing services for the increasing number of African men and women.

C. Continue improving and monitoring the uptake of HIV testing by pregnant women[3].

D. Reducing the transmission of HIV and other sexually transmitted infections in accordance with good practice as set out in *The National Strategy for Sexual Health and HIV Implementation Action Plan*[11].

E. Reducing the prevalence of undiagnosed HIV by working towards the national standard for genitourinary medicine services to offer an HIV test to all clinic attendees on their first screening for sexually transmitted infections and subsequently according to risk.

F. Offering hepatitis B vaccine to homosexual and bisexual men attending genitourinary medicine clinics, to injecting drug users attending specialist treatment and support agencies and to prisoners.

G. Promoting testing for hepatitis C in those who are or have been at risk for hepatitis C, especially those attending specialist drug treatment services, as a national standard of good practice.

H. Increasing prevention activities in line with the approaches recommended in the Department of Health document *Hepatitis C - guidance for those working with drug users* and the consultation document *Hepatitis C Strategy for England*.

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Appendix Three

Supplementary data:

The following tables of data and figures are available at:
http://www.phls.org.uk/topics_az/hiv_and_sti/hiv/epidemiology/ua.htm

Overall tables

Overall-1	*Centres and districts contributing specimens each year – 1990 to 2001*
Overall-2	*Total number of specimens – 1990 to 2001*
Overall-3	*Number of HIV-1 positive specimens – 1990 to 2001*
Overall-4	*Number of HIV-2 positive specimens – 1990 to 2001*

Survey of genitourinary medicine clinic attendees

GUM-1	*HIV prevalence in male homosexual and bisexual genitourinary medicine clinic attendees by age group – 1990 to 2001*
GUM-2	*HIV prevalence in male and female heterosexuals attending 7 genitourinary medicine clinics in London by age group – 1990 to 2001*
GUM-3	*HIV prevalence in male and female heterosexuals attending 8 genitourinary medicine clinics in England, Wales and Northern Ireland outside London by age group – 1990 to 2001*
GUM-4	*HIV prevalence in male and female heterosexuals attending genitourinary medicine clinics in Scotland by age group – 1991 to 2001*
GUM-5	*HIV prevalence in male and female injecting drug users attending genitourinary medicine clinics – 1990 to 2001*
GUM-6	*HIV prevalence in genitourinary medicine clinic attendees by exposure category and geographic region of birth: England, Wales and Northern Ireland – 2000 and 2001 combined*
GUM-7	*HIV prevalence in genitourinary medicine clinic attendees by exposure category and nationality: Scotland – 2000 and 2001 combined*
GUM-8	*HIV prevalence in genitourinary medicine clinic attendees by exposure category and acute sexually transmitted infection status – 1993 to 2001*
GUM-9	*Previously undiagnosed HIV prevalence in genitourinary medicine clinic attendees by exposure category and acute sexually transmitted infection status – 1993 to 2001*
GUM-10	*Prevalence of HIV infection and proportion undiagnosed among heterosexuals attending genitourinary medicine clinics by world region of birth and sexually transmitted infection status – 2000 and 2001 combined*
GUM-11	*Diagnosed HIV infections by exposure category – 1994 to 2001*
GUM-12	*Proportion of HIV-infected genitourinary medicine clinic attendees with an acute sexually transmitted infection by exposure category and HIV diagnosis status – 1995 to 2001*
GUM-13	*Prevalence of HIV infection and of previously undiagnosed HIV infection in male homosexual and bisexual genitourinary medicine clinic attendees by age group - 1993 to 2001*

GUM-14 *Prevalence of HIV infection and of undiagnosed HIV infection in male homosexual and bisexual genitourinary medicine clinic attendees by age group: Scotland – 1991 to 2001*

GUM- 15 *Prevalence of HIV infection and of previously undiagnosed HIV infection in male and female heterosexuals attending genitourinary medicine clinics – 1993 to 2001*

GUM-16 *Prevalence of HIV infection and of undiagnosed HIV infection in male and female heterosexuals attending genitourinary medicine clinics: Scotland – 1991 to 2001*

GUM-17 *Proportion of new diagnoses and of undiagnosed HIV infections in previously undiagnosed HIV-infected genitourinary medicine clinic attendees by exposure category and acute sexually transmitted infection status: England, Wales and Northern Ireland – 1995 to 2001*

GUM-18 *Prevalence of previously undiagnosed HIV infection in male homosexual and bisexual genitourinary medicine clinic attendees with or without an acute sexually transmitted infection (England, Wales & Northern Ireland) – 1994 to 2001*

GUM-19 *Prevalence of HIV infection in male homosexual and bisexual genitourinary medicine clinic attendees with or without an acute sexually transmitted infection (Scotland) - 1994 to 2001*

GUM-20 *Proportion (%) of homosexual and bisexual men without an acute sexually transmitted infection having a voluntary confidential HIV test at the clinic visit by area - 1997 to 2001*

GUM-21 *Proportion (%) of previously undiagnosed HIV infection remaining undiagnosed after the clinic visit in homosexual and bisexual men without an acute sexually transmitted infection: England, Wales and Northern Ireland – 1997 to 2001*

GUM-22 *Proportion (%) of heterosexual men and women without an acute sexually transmitted infection having a voluntary confidential HIV test at the clinic visit by area: 1997 to 2001*

GUM-23 *Proportion (%) of previously undiagnosed HIV infection remaining undiagnosed after the clinic visit in heterosexual men and women without an acute sexually transmitted infection: England, Wales and Northern Ireland – 1997 to 2001*

Survey of injecting drug users

IDU-1 *HIV prevalence in injecting drug users by gender and age – 1990 to 2001*

IDU-2 *Hepatitis B (anti-HBc) prevalence in injecting drug users by gender and age – 1990 to 2001*

IDU-3 *Hepatitis C prevalence in injecting drug users by gender and age – 1998 to 2001*

IDU-4 *Prevalence of direct sharing in current injectors by gender and age – 1991 to 2001*

IDU-5 *HIV prevalence in injecting drug users by NHS Executive Region – 1990 to 2001*

IDU-6 *Hepatitis B (anti-HBc) prevalence in injecting drug users by NHS Executive Region – 1990 to 2001*

IDU-7 *Hepatitis C prevalence in injecting drug users by NHS Executive Region – 1998 to 2001*

IDU-8 *Prevalence of direct sharing in current injectors by NHS Executive Region – 1991 to 2001*

IDU-9 *Direct and indirect sharing of injecting equipment by current injecting drug users – 2000 and 2001 combined*

IDU-10 *Prevalences of HIV, hepatitis B (anti-HBc), hepatitis C (anti-HCV) and the sharing of injecting equipment in those who began injecting in the last three years*

IDU-11 *Self reported hepatitis B vaccine coverage in injecting drug users by gender and age – 1998 to 2001*

IDU-12 *Prevalence of hepatitis B (anti-HBc) and hepatitis C (anti-HCV) by injecting duration – 2001*

IDU-13 *Proportion of HIV-infected injecting drug users aware of their infection – 1995 to 2001*

IDU-14 *Self-reported hepatitis B vaccination status among injecting drug users by NHS Executive Region - 2001*

IDU-15 *Prevalence of antibodies to hepatitis C in injecting drug users by NHS Executive Region – 2001*

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PW-1 *HIV infection in pregnant women giving birth in England & Scotland - 1992 to 2001: dried blood spot survey data by region of mother's residence*

PW-2 *Dried blood spot survey - England & Scotland 1998 to 2001: prevalence of maternal HIV infection and alignment with confidential reports from Royal College of Obstetricians and Gynaecologists by participating Health Authorities*

PW-3 *HIV infection in pregnant women receiving antenatal care by age group - 1992 to 2001*

PW-4 *HIV infection in pregnant women having terminations of pregnancy by age group - 1992 to 2001*

PW-5 *Estimated number of infant HIV infections in the UK avoided – 2001*

PW-6 *Age-specific trends of HIV infection among pregnant women receiving antenatal care at 15 London hospitals - 1990 to 2001*

PW-7 *Trends in prevalence of HIV infection among pregnant women receiving antenatal care and having terminations of pregnancy in London hospitals - 1990 to 2001*

PW-8 *Prevalence of HIV among pregnant women at London hospitals by age group – 2000 and 2001 combined*

PW-9 *Estimated proportion of maternal HIV infections diagnosed prior to delivery – 1998 to 2001*

PW-10 *Estimated proportion of maternal HIV infections diagnosed prior to delivery in 2001 – England regions and Scotland*

PW-11 *Number of HIV- infected pregnant women diagnosed during antenatal care for 14 centres in London - 2001*

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