



CDR WEEKLY

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- ▾ [World AIDS Day – ‘Have you heard me today?’](#)
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Published on: 25 November 2004**News**Last updated: **25 November 2004**Next update due: **2 December 2004**

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UK Collaborative Group for HIV and STI Surveillance publishes 2003/4 Annual Report: *Focus on Prevention* 

On 26 November 2004, the UK Collaborative Group for HIV and STI Surveillance publishes its 2003/4 Annual Report: *Focus on Prevention* (1). As with last year, the report presents combined data, analyses and interpretation on the HIV and sexually transmitted infections (STIs) epidemics in the United Kingdom, along with further information on population sub-groups at increased risk. This year's report also presents monitoring and evaluation data from selected national HIV and STI prevention programmes.

Key findings from the report state that:

- It is now estimated that there are 53,000 people living with HIV in the UK. This compares to 49,500 in 2002. Twenty-seven per cent or 14,300 of those with HIV in 2003 are unaware that they are infected.
- In 2003, 6606 new cases of HIV were diagnosed in the UK. When all reports are received this is likely to increase to around 7000. This compares with 6017 newly diagnosed cases in 2002 and 3088 cases diagnosed in 1999.
- Twenty-six per cent (1735/6606) of these were in men who have sex with men (MSM), who despite accounting for less of these newly diagnosed infections are still the highest risk group for acquiring HIV in the UK.
- In 2003, 58% (3801/6606) of newly diagnosed cases of HIV were in heterosexual men and women. Seventy-two per cent (2727/3801) of these heterosexually acquired HIV infections were probably acquired in Africa.
- 35,428 HIV infected patients of all ages were seen for care during 2003. This is an increase of 17% on the figures for 2002. Of the 2003 figure, 43.6% relates to infections acquired by MSM and 45.1% relates to heterosexual men and women
- Chlamydia was the most common diagnosis in genitourinary medicine clinics (GUM) clinics in the United Kingdom in 2003. 89,431 diagnoses were reported from GUM clinics in England, Wales, and Northern Ireland in 2003, representing a 66% increase in uncomplicated chlamydia since 1999.
- In England, the antenatal HIV screening programme has led to about 90% of HIV-infected pregnant women being diagnosed

prior to giving birth, this reduces the chance of a baby being born with HIV;

- Eighty-five per cent (5598/6553) of hepatitis B-susceptible gay men who attended genito-urinary medicine (GUM) clinics in England have received the first dose of a three dose vaccination;
- Results from the National Chlamydia Screening Programme show that just over 10% of people screened in healthcare settings outside of GUM clinics were infected with chlamydia. The government's White Paper (2) announced last week that this screening programme would be extended across the whole of England by March 2007.

The report contributes to the understanding of the evolution of these two intersecting epidemics, planning local interventions, and assessing progress against national prevention goals. Further details on the report and data therein are available on the HPA website, available at

<http://www.hpa.org.uk/infections/topics_az/hiv_and_sti/publications/annual2004/annual2004.htm>.

References

1. The UK Collaborative Group for HIV and STI Surveillance. Focus on Prevention. HIV and other Sexually Transmitted Infections in the United Kingdom in 2003. London : Health Protection Agency Centre for Infections. November 2004.
2. Department of Health. *Choosing Health: making healthier choices easier* . London: Department of Health, 2004. Available at <<http://www.dh.gov.uk/PublicationsAndStatistics/Publications/fs/en>>.

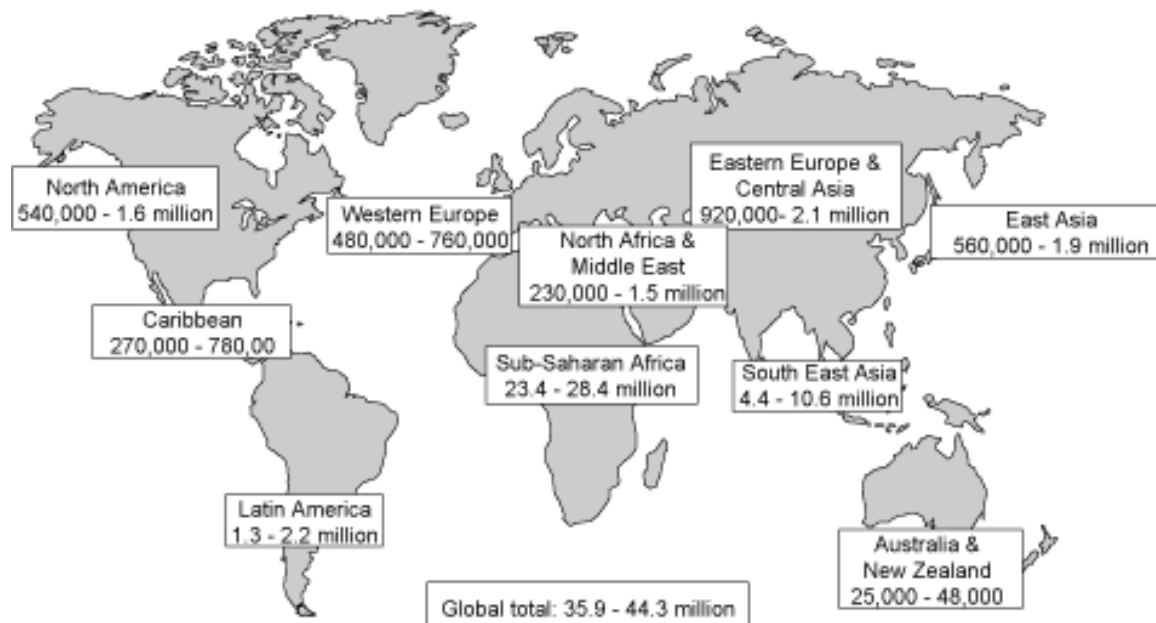
World AIDS Day – ‘Have you heard me today?’

World AIDS Day is commemorated around the globe annually on 1 December. It celebrates progress made in the battle against the global epidemic – and brings into focus remaining challenges. This year's World AIDS Campaign, with the strapline ‘Have you heard me today?’ seeks to raise awareness about, and help address, the many issues affecting women and girls around HIV and AIDS.

Women are increasingly affected by HIV, now making up nearly half of the 37.2 million adults (those aged between 15 and 49 years) living with HIV worldwide. In sub-Saharan Africa , the worst-affected region, close to 60% of adults living with HIV are women. The latest findings have been published in *AIDS Epidemic Update 2004* , the annual report by The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) (1).

According to this report, the number of people living with HIV globally has reached its highest level, with an estimated 39.4 millions adults and children living with HIV as of the end of 2004 (figure). More than 25 million people were living with HIV in sub-Saharan Africa at the end of 2004. There is no single “African” AIDS epidemic, as highlighted in the report. Southern Africa is by far the worst-hit region in sub-Saharan Africa with prevalence rates surpassing 25%. The Caribbean continues to be the second most-affected region in the world; AIDS has become the leading cause of death among adults (aged between 15 and 44 years). The steepest increases in HIV infections have occurred in east Asia, eastern Europe, and central Asia over the past two years, with injecting drug use contributing to an increasingly large share of new HIV infections.

Figure Adults and children estimated to be living with HIV, end of 2004



References

1. UNAIDS & WHO. *AIDS Epidemic Update 2004*. New Delhi , India : UNAIDS, November 2004. .

Erratum: Increase in RSV activity in England : prophylaxis with palivizumab appropriate for 'at risk' infants

On 18 November 2004, the published item contained a link to guidance available on the HPA website (PHLS Position Paper: Prevention and treatment of Respiratory Syncytial Virus (RSV) infection, 26 June 2001).

In the original article, the wrong hyperlink was published, but the paper can be found at:
<<http://www.advisorybodies.doh.gov.uk/jcvi/mins01nov02.htm>>.

Immunisation

Last updated: 25 November 2004

Next update due: 25 January 2005

-  [Laboratory reports of invasive meningococcal infections, England and Wales: weeks 25-29/2004](#)
-  [Laboratory cases of pertussis infection, England and Wales: April to June 2004](#)
-  [Enhanced surveillance of meningococcal disease: July to September 2004](#)
-  [Laboratory confirmed cases of measles, mumps, and rubella, England and Wales: July to September 2004](#)

Laboratory reports of invasive meningococcal infections, England and Wales: weeks 25-29/2004

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	25-29/04	Total to week 29/2004
Group A	–	–	–	–	1
B	39	49	8	96	688
C	4	2	–	6	38
W135	6	–	–	6	27
X	–	–	–	–	–
Y	2	–	1	3	17
Z	–	–	–	–	–
29E	–	–	–	–	–
Ungroupable	–	–	–	–	1
Ungrouped	–	–	–	–	22
Total	51	51	9	111	794

* Combined CDSC data and Meningococcal Reference Unit data latex antigen, microscopy, polymerase chain reaction.

**Laboratory cases of pertussis infection, England and Wales: April to June 2004****Table 1 Laboratory confirmed cases of pertussis infection England and Wales by age group: April to June 2004***

Age Group	PCR and/or serology only	Culture	Total
<3 months	11	15	26
3-5 months	1	3	4
6-11 months	1	1	2
1-4 years	2	3	5
5-9 years	9	3	12
10-14 years	12	1	13
≥15 years	20	–	20
Not known	–	–	–
Total	56	26	82

* All data are provisional

Since January 2002, infants <6 months of age with suspected pertussis have been offered PCR testing through the Health Protection Agency's Respiratory and Systemic Infections Reference Laboratory (RSIL). Adults with a cough persisting for more than 21 days and children with a cough persisting for more than 14 days, have been offered serology testing through RSIL. These cases are likely to have been culture negative, and testing with PCR and/or serology have increased case ascertainment.

Table 2 Laboratory confirmed cases of pertussis infection England and Wales by age group: January to June 2004*

Quarter	PCR and/or serology only	Culture	PCR/serology reports as a % of total	Total
Jan to Mar	10	14	42	24
Apr to Jun	56	26	68	82

*All data are provisional.

The apparent increase particularly in adult cases is explained by the availability of enhanced diagnostic methods, which have been increasingly used during the year, as illustrated by the increasing proportion of reports diagnosed by PCR and or serology.

Enhanced surveillance of meningococcal disease: July to September 2004

In the third quarter of 2004, enhanced surveillance of meningococcal disease (ESMD)* identified 423 cases of invasive meningococcal disease in the nine English regions, Wales, and Northern Ireland. This is a decrease of 20% on the total of 527 in the previous quarter and a decrease of 15% on the total of 497 in the equivalent quarter of 2003. Yorkshire and Humber region reported the highest number of cases this quarter (66) and also the highest rate (table 1).

*Regional enhanced surveillance of meningococcal disease (ESMD) began on 1 January 1998 in five regions of England and was extended to include all English regions, Wales, and Northern Ireland from 1 January 1999. The national enhanced surveillance system relies upon consultants in communicable disease control (CCDC) reporting confirmed and probable cases of meningococcal disease occurring in their district each week. Data are collated at regional level and sent on to the Health Protection Agency's Immunisation Department at the Centre for Infections each month. These data are subsequently published quarterly in *CDR Weekly*. Additionally, CCDCs are asked to report details of any clusters of meningococcal disease occurring in educational establishments.

Table 1 Meningococcal disease by region: weeks 27-39/04

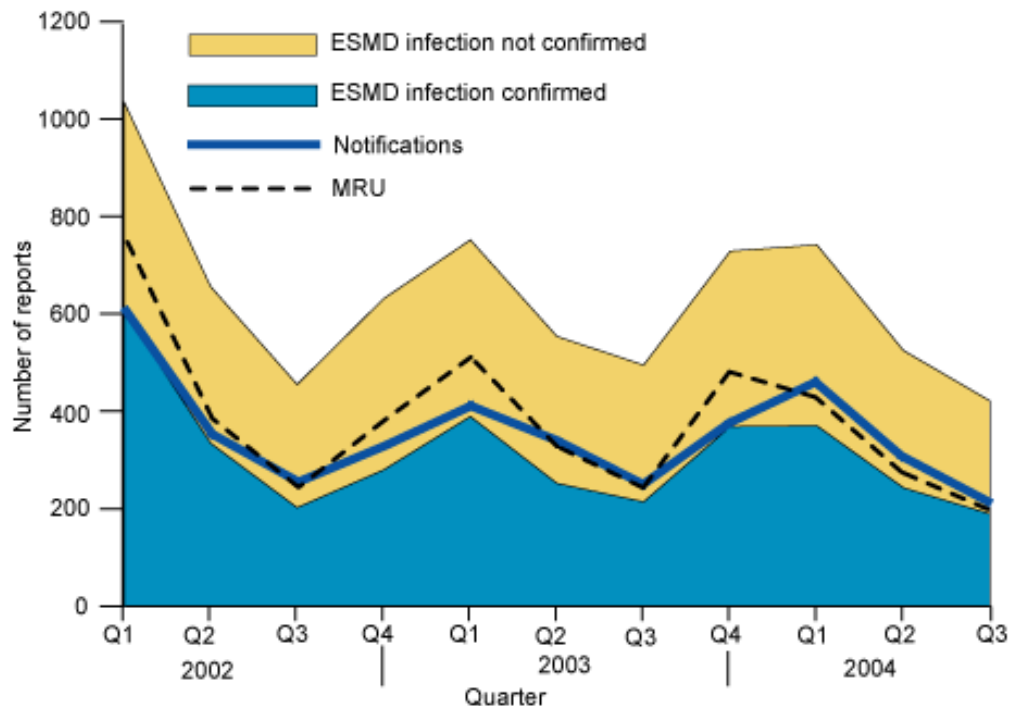
Region	B	C	Other	Infection not confirmed	Total	Rate per 100,000
North East	9	1	–	15	25	0.99
Yorkshire & Humber	37	–	3	26	66	1.32
East Midlands	8	–	–	30	38	0.90
East of England	9	–	1	13	23	0.42
London	19	4	3	35	61	0.83
South East	13	2	–	26	41	0.51
South West	15	–	1	14	30	0.60
West Midlands	12	1	2	31	46	0.87
North West	33	1	1	23	58	0.87
Wales	3	–	1	9	13	0.45
Northern Ireland	10	–	1	11	22	1.29
Total	168	9	13	233	423	

In England and Wales, a clinical diagnosis of invasive meningococcal disease was reported for 392 cases compared to 215 cases of meningitis and septicaemia officially notified to the Health Protection Agency's Centre for Infections during the same period. This implies that approximately 55% of clinically diagnosed meningococcal disease is formally notified, although crosschecking to compare the identity of those notified to those reported in ESMD has not been carried out. Thus Under-notification may be even higher. The overall case fatality ratio in cases identified in ESMD (in England, Wales, and Northern Ireland) with a clinical diagnosis of meningitis alone was two per 100 cases, whereas the case fatality ratio for cases with septicaemia alone was six per 100 cases (table 2). The case fatality ratio of confirmed meningococcal disease (all diagnoses) was also six per 100 cases.

Table 2 Clinically diagnosed cases (deaths) of meningococcal disease: England, Wales, and Northern Ireland: weeks 27-39/04

Region	Meningitis	Septicaemia	Meningitis and Septicaemia	Not meningitis or septicaemia	Total
North East	7	10(1)	5(1)	–	22(2)
Yorkshire & Humber	23(2)	23(2)	17(1)	2	65(5)
East Midlands	22	9	6(1)	1	38(1)
East of England	6	13(1)	4	–	23(1)
London	26	23(2)	9	–	58(2)
South East	18	15(2)	8	–	41(2)
South West	9	17(1)	4	–	30(1)
West Midlands	16(1)	27(1)	2	1	46(2)
North West	23(1)	19	14(1)	–	56(2)
Wales	3	10	–	–	13
Northern Ireland	9	11	–	2	22
Total	162(4)	177(10)	69(4)	6	414(18)

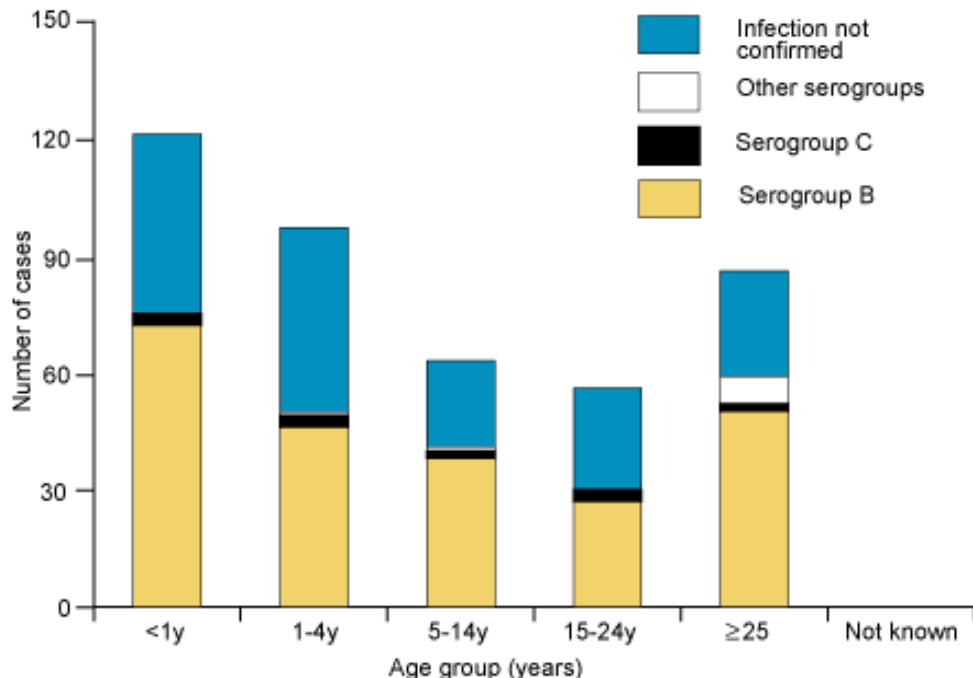
One hundred and ninety of the 423 cases (45%) identified in ESMD were confirmed as *Neisseria meningitidis* infection, compared to 199 reports of laboratory confirmed meningococcal disease made to Meningococcal Reference Unit (MRU) in the same period (figure 1). Matching has not yet been carried out between these two data sets.

Figure 1 Number of confirmed and unconfirmed reports made to ESMD compared to notifications and reports to MRU : January 2002 to September 2004

Serogroup B *N.meningitidis* was detected in 88% (168/190) of confirmed cases identified in ESMD, serogroup C in 5% (9/190), and the remaining 7% included other serogroups (13/190). The latter consisted predominantly of ungrouped (5/13), followed by serogroup W135 (3/13), serogroup Y (3/13), and serogroup A (2/13).

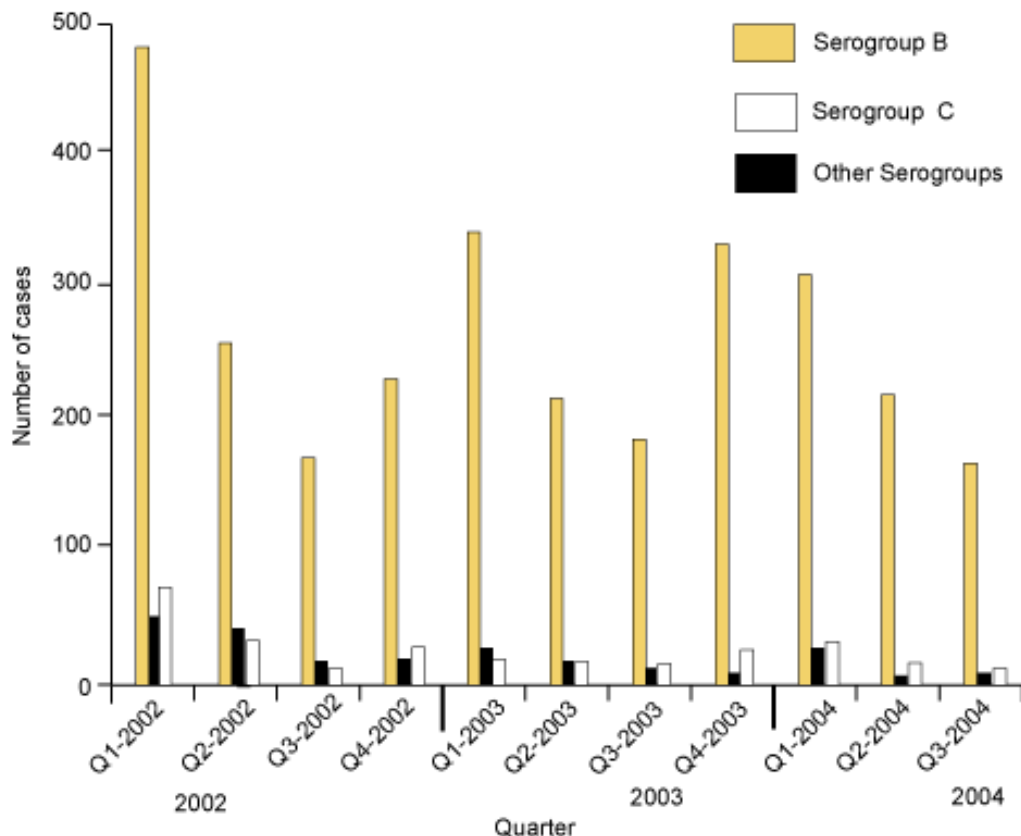
Over half (53%) of all confirmed cases were in children aged under 5 years. Serogroup B accounted for 93% of these infections, serogroup C accounted for 1%, and other serogroups for 6%. One serogroup C infection occurred in this age group of children (figure 2). Details of the MenC vaccination status of this individual are awaited.

Figure 2 Serogroups of *N. meningitidis* identified in cases in England, Wales, and Northern Ireland by age: weeks 27-39, 2004



Unlike last quarter, meningococcal disease attributed to serogroup B has decreased by 10% (168 cases compared to 186 in 2003) this quarter compared to the equivalent quarter in the previous year (figure 3). Encouragingly, serogroup C, other serogroups and unconfirmed cases of meningococcal disease decreased by 31% (nine cases compared to 13 in 2003), 19% (13 cases compared to 16 in 2003), and 17% (233 cases compared to 282 in 2003) respectively.

Figure 3 Number of cases of meningococcal disease due to serogroups B, C and other serogroups: January 2002 to September 2004



Routine surveillance data have also shown a decrease; clinical notifications decreased by 14% (215 compared to 250 in 2003) and laboratory reports by 18% (199 compared to 243 in 2003) this quarter compared to the equivalent quarter in 2003.

**Laboratory confirmed cases of measles, mumps, and rubella, England and Wales: July to September 2004**

The four weekly reporting of laboratory confirmed cases of measles, mumps, and rubella previously published in the *CDR Weekly* have been replaced by quarterly reporting. Cases include those confirmed by oral fluid IgM antibody tests and routine laboratory reports (table 1). Analyses are by date of onset. Regional breakdown figures relate to Government Office Regions (GORs) rather than regional health authorities (pre-April 2002 definitions) as used previously in this section. Quarterly figures for cases confirmed by oral fluid antibody detection only from 1995 are available online at:

<http://www.hpa.org.uk/infections/topics_az/measles/data_not_confirmed.htm>

<http://www.hpa.org.uk/infections/topics_az/mumps/data_quarter.htm>

<http://www.hpa.org.uk/infections/topics_az/rubella/data_rub_not.htm>

and annual total numbers of confirmed cases by health region and age from:

<http://www.hpa.org.uk/infections/topics_az/measles/data_reg_age.htm>

<http://www.hpa.org.uk/infections/topics_az/mumps/data_reg_age.htm>

<http://www.hpa.org.uk/infections/topics_az/rubella/data_reg_age.htm>

Table 1 Total confirmed cases of measles, mumps, and rubella, and oral fluid IgM antibody tests in cases notified to ONS*: weeks 27-39/04

	Cases			Oral fluid†	IgM antibody	Results		
	Notified	Tested	%	Total positive	Recently vaccinated	Confirmed	Other lab confirmed	Total confirmed cases
Measles	553	575	111.8†	33	5	28	5	33
Mumps	3442	2168	61.6	1278	8	1270	522	1792
Rubella	273	242	85.7	–	–	–	1	1

*ONS = the Office for National Statistics

† some oral fluid specimens were submitted early from suspected cases and may not have been subsequently notified, thus the proportion tested is artificially high for this quarter

Measles

Thirty-three cases of confirmed measles with onset dates in the third quarter of 2004 were reported compared to 104 cases in the second quarter of 2004 (1). Twenty-seven (81.8%) were aged under 15 years (two less than one year, 11 aged between 1 and 4 years; 11 aged between 5 and 9 years; three aged between 10 and 14 years); five were adults aged between 15 and 61 years. The age was not stated for one case. Five cases had a history of vaccination.

Cases were reported from all regions of England, except the North East and West Midlands, although only three regions reported five or more cases; London (8), Yorkshire and Humber (6), and East Midlands (5). Nine cases were reported from Wales, seven were part of a cluster where the index and one other case were reported in the second quarter. All but two of the cases had primary or secondary links with a birthday party. Four further cases associated with the cluster in East Midlands reported in the last two quarters were identified (1). D4 strains were identified from cases in Yorkshire and Humber and Wales. Two other genotypes were seen, one D9 in Yorkshire and Humber imported from Malaysia and a C2 strain associated with a case in London.

Mumps

One thousand seven hundred and ninety-two cases of mumps were confirmed with onset dates in the third quarter of 2004 compared to 1352 in the second quarter of 2004 (1). This is the highest quarterly total since oral fluid surveillance began in 1995. All regions in England and Wales reported cases this quarter and all regions except for the North East, East Midlands, West Midlands, and Wales reported an increase in the number of cases in the third quarter compared to the second quarter of 2004. The largest increase was again in the South West where more than a two-fold increase, from 211 to 491, was seen. Large increases were also seen in the North West (218 to 368) and the South East (126 to 216). The West Midlands experienced the largest decrease in cases from 191 to 95. One case of encephalitis was reported in a male aged 21 years.

The cohort at an increased risk of mumps are those currently aged between 14 and 22 years (born between 1982 and 1990), because they have either received no measles, mumps, and rubella vaccine (MMR), or only one dose (2). Seventy-five per cent of cases reported this quarter were born in this period of which the majority were aged between 18 and 22 years. Since 2002, the outbreaks have moved from being predominantly in secondary schools to being in universities and military establishments. In response to outbreaks in a variety of settings, the HPA's Health

Protection Units have been working with primary care trusts (PCTs), GPs, schools, colleges, military bases, universities, and prison/remand services in their areas to ensure that action is taken. PCTs could consider an age-based or institution-based campaign either in response to a local increase or even prior to such an increase. Many areas have decided to undertake campaigns in local educational establishments.

Table 2 Laboratory confirmed cases of mumps by age group and region, England and Wales: weeks 27-39/04

Region	Age group							NK	Total
	<1y	1-4y	5-9y	10-14y	15-19y	≥20y			
North East	–	–	–	3	51	34	1	89	
North West	–	3	2	24	194	142	3	368	
Yorkshire and Humberside	–	1	1	3	43	73	1	122	
East Midlands	–	1	1	3	66	56	1	128	
West Midlands	–	–	2	7	35	50	1	95	
East of England	–	–	1	2	22	63	–	88	
London	–	4	3	3	19	26	2	57	
South East	–	5	1	11	78	119	2	216	
South West	–	3	6	15	229	235	3	491	
Wales	–	1	1	6	56	39	–	103	
Not known	–	–	–	4	14	14	3	35	
Total	–	18	18	81	807	851	17	1792	

Rubella

One case of rubella in a female aged 23 years with an onset date in the third quarter of 2004 was confirmed. The infection was possibly acquired in Thailand.

References

1. HPA. Laboratory confirmed cases of measles, mumps and rubella, England and Wales : April to June 2004. *Commun Dis Rep CDR Wkly* [serial online] 2004 [cited 16 November 2004]; **14** (39): Immunisation. Available at <<http://www.hpa.org.uk/cdr/PDFfiles/2004/cdr3904.pdf>>..
2. HPA. Laboratory confirmed cases of measles, mumps and rubella, England and Wales : April to June 2003. *Commun Dis Rep CDR Wkly* [serial online] 2003 [cited 16 November 2004]; **13**(39): Immunisation. Available at <<http://www.hpa.org.uk/cdr/PDFfiles/2003/cdr3903.pdf>>..

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HIV / Sexually Transmitted Infections (STIs)

Last updated: **25 November 2004**Next update due: **24 February 2005**

[An update on HIV drug resistance in the United Kingdom](#)

An update on HIV drug resistance in the United Kingdom

Introduction

This report is an update on the prevalence of HIV drug resistance in the United Kingdom (UK) in both antiretroviral-experienced individuals and antiretroviral naive individuals. Resistance among drug-naive individuals largely reflects transmission of resistant virus, which is a threat to the clinical efficacy of hitherto highly successful antiretroviral regimens. Resistance among drug-experienced individuals provides indirect evidence about the contribution of drug resistance to virological failure, and information critical for modelling the future spread of resistant virus. As described more in more detail in an earlier *CDR weekly* report (1), findings are based on genotypic test results reported to the UK HIV Drug Resistance Database, which aims to collect all tests conducted as part of routine clinical care, including samples sent to the Health Protection Agency's (HPA) Antiviral Susceptibility Reference Unit. At the study's inception in 2001, the first task undertaken was the collection of the results of all retrospective tests (limited resistance testing began in 1996). Participating virology laboratories now provide data on an annual basis.

* In reverse transcriptase: (i) any mutation at G190 or T215 (ii) T69N.

Resistance is defined as one or more major mutations listed in the International AIDS Society-USA 2003 guidelines (2), plus additional mutations* agreed by the virologists who are members of the UK Collaborative Group on HIV Drug Resistance.

Mutations are classified according to the class of drug to which they confer resistance:

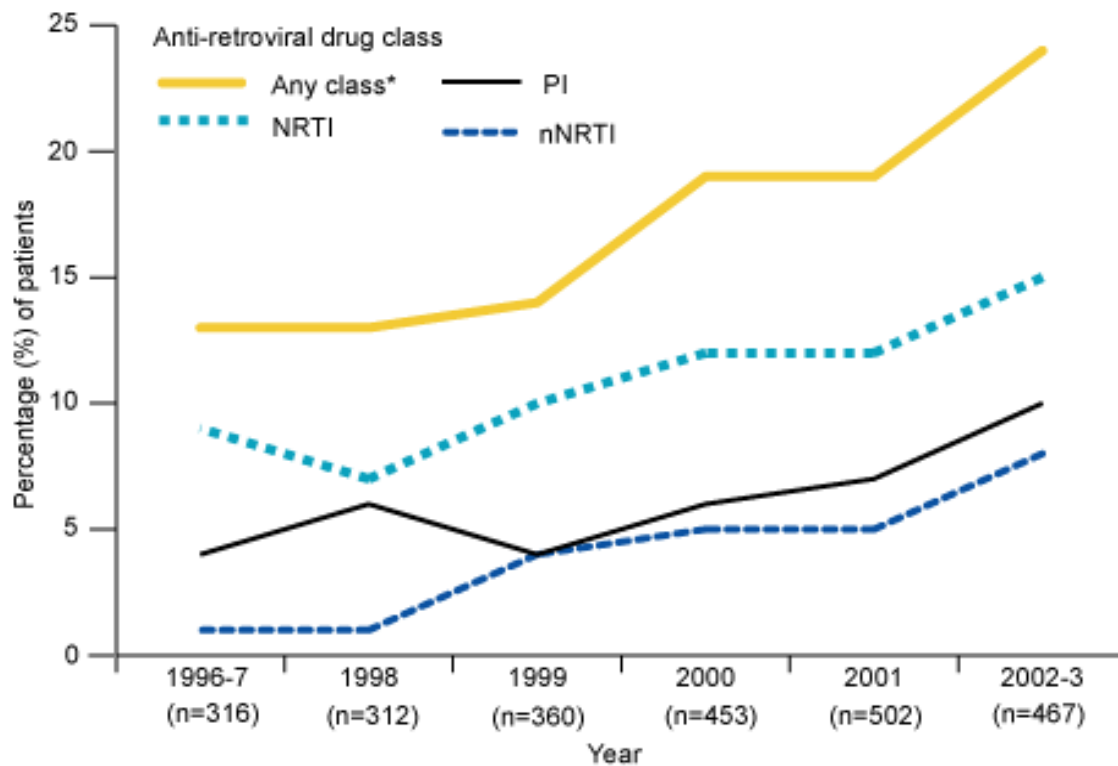
- (i) the nucleoside/nucleotide reverse transcriptase inhibitors (NRTI)
- (ii) non-nucleoside reverse transcriptase inhibitors (nNRTI)
- (iii) protease inhibitors (PI).

Although a fourth class of drug (fusions inhibitors) is now available, as yet these are rarely prescribed and the part of the HIV genome relevant to resistance to this class is not routinely sequenced.

Results

The analysis includes tests reported up to May 2004, although data for 2003 are incomplete. Children aged under 16 years are excluded, as most will have been infected via mother-to-infant transmission and are thus likely to have different resistance characteristics compared with adults infected by other routes.

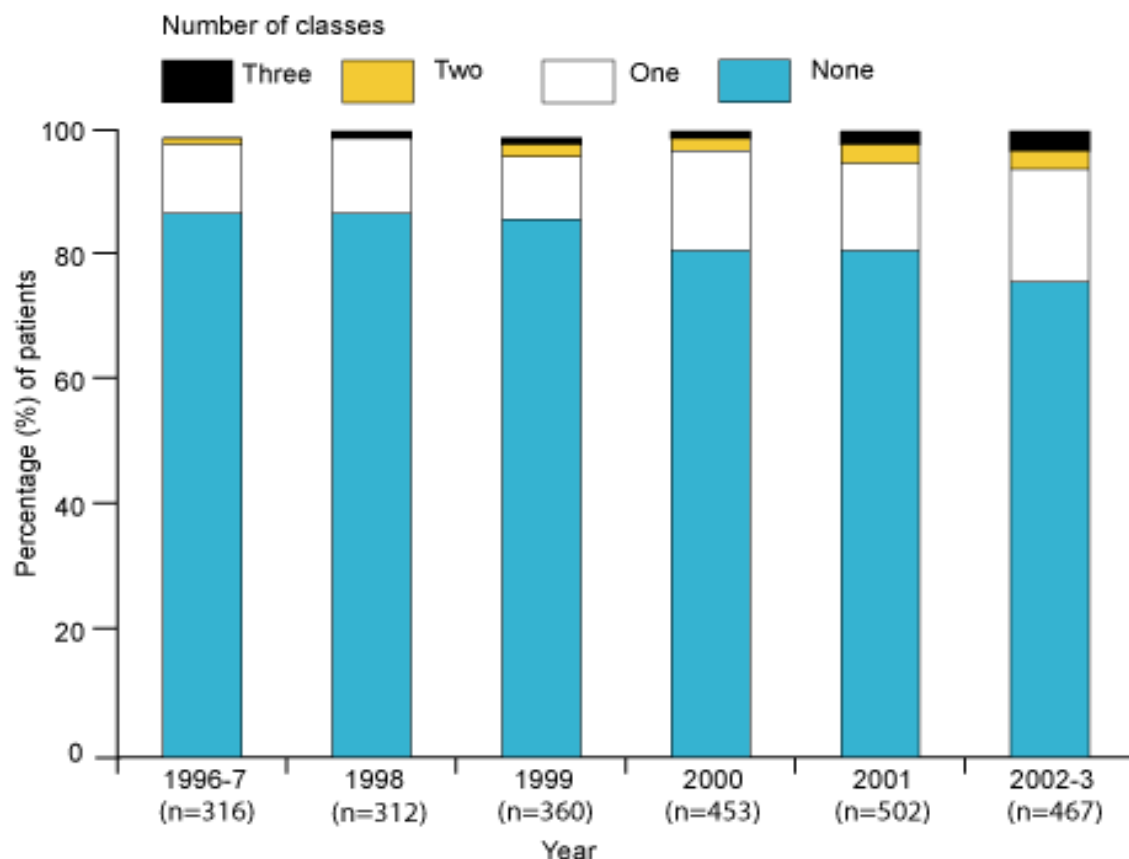
Estimates of the prevalence of resistance among drug naive individuals are based on 2410 tests (1 test per individual). Resistance to any class, (ie, NRTI, nNRTI, or PI) has increased steadily over calendar time. In 2002/2003, the prevalence of any class, NRTI, nNRTI, and PI resistance was 24%, 15%, 8%, and 10% respectively (table 1, figure 1). Resistance across two or more drug classes was rare; of the 422 samples that harboured any mutations, 340 (81%) showed resistance to a single drug class only (table 2, figure 2).

Figure 1 Prevalence and characteristics of HIV drug resistance in drug naive patients by calendar year

*Any class refers to HIV drug resistance for either NRTI, nNRTI, or PI.

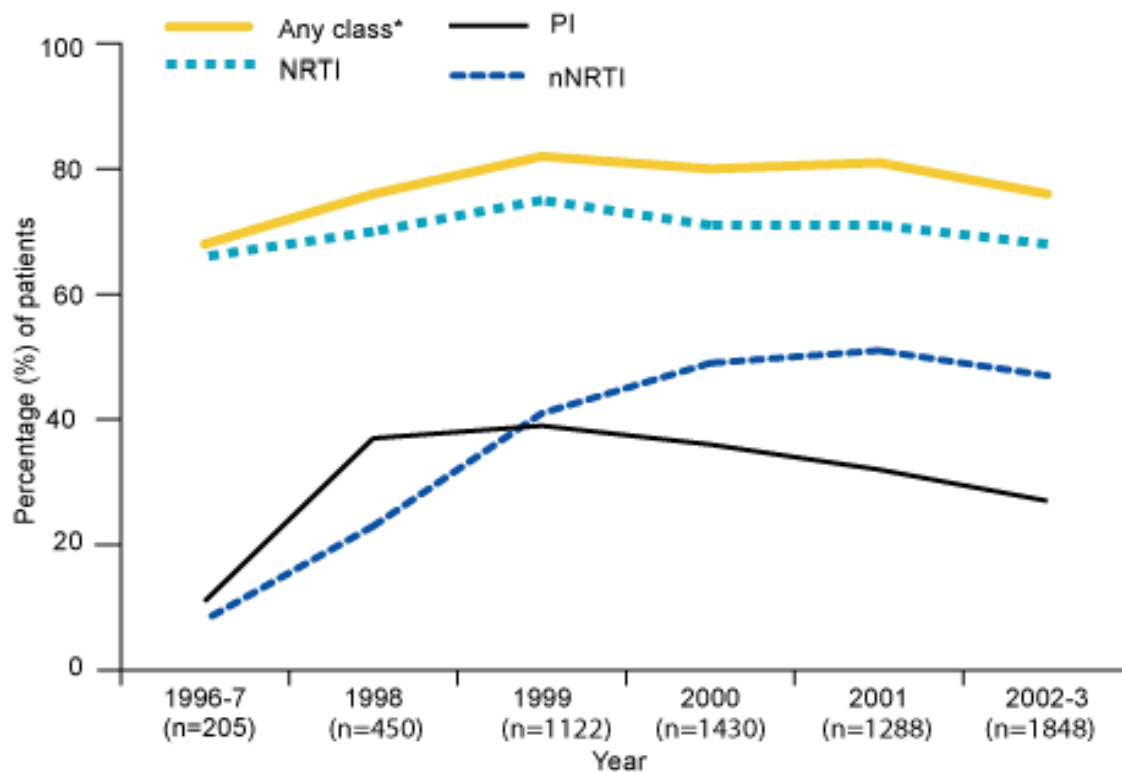
Table 1 Treatment naive – prevalence of resistance

Antiretroviral class	1996-7 (n=316) n(%)	1998 (n=312) (%)	1999 (n=360) n(%)	2000 (n=453) n(%)	2001 (n=502) n(%)	2002 (n=375) n(%)	2003 (n=92) n(%)	Total (n=2410) n(%)
NRTI	28 (9)	23 (7)	36 (10)	55 (12)	61 (12)	63 (17)	5 (5)	271 (11)
PI	12 (4)	19 (6)	16 (4)	29 (6)	37 (7)	37 (10)	8 (9)	158 (7)
nNRTI	4 (1)	4 (1)	15 (4)	21 (5)	24 (5)	28 (7)	9 (10)	105 (4)
Any class	40 (13)	41 (13)	50 (14)	87 (19)	93 (19)	92 (25)	19 (21)	422 (18)

Figure 2 Prevalence of HIV drug resistance in drug naive patients by calendar year, categorised by numbers of antiretroviral classes compromised**Table 2 Treatment naive – number of classes with resistance**

Antiretroviral class	1996-7 (n=316) n(%)	1998 (n=312) n(%)	1999 (n=360) n(%)	2000 (n=453) n(%)	2001 (n=502) n(%)	2002 (n=375) n(%)	2003 (n=92) n(%)	Total (n=2410) n(%)
0	276 (87)	271 (87)	310 (86)	366 (81)	409 (81)	283 (75)	73 (80)	1988 (82)
1	36 (11)	38 (12)	37 (10)	73 (16)	72 (14)	68 (18)	16 (17)	340 (14)
2	4 (1)	1 (-)	9 (2)	10 (2)	13 (3)	12 (3)	3 (3)	52 (2)
3	- (-)	2 (1)	4 (1)	4 (1)	8 (2)	12 (3)	- (-)	30 (1)

Estimates of the prevalence of resistance among drug-experienced individuals are based on 6343 tests done on 4525 individuals (1 test per individual per year). The level of resistance to any class has remained relatively constant at approximately 80%, as has that of NRTI resistance at approximately 70% (table 3, figure 3).

Figure 3 Prevalence and characteristics of HIV drug resistance in drug experienced patients by calendar year

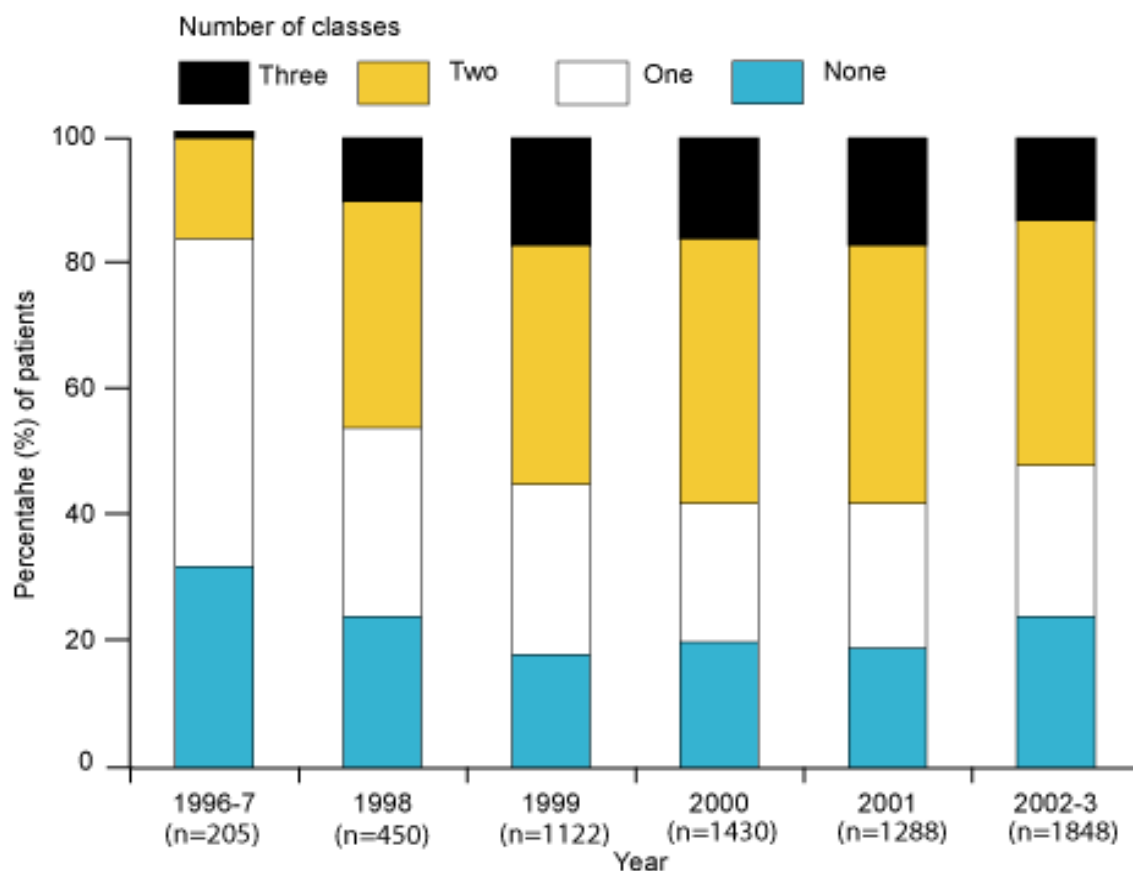
*Any class refers to HIV drug resistance for either NRTI, nNRTI, or PI.

Table 3 Treatment experienced – prevalence of resistance

Antiretroviral class	1996-7 (n=205) n(%)	1998 (n=450) n(%)	1999 (n=1122) n(%)	2000 (n=1430) n(%)	2001 (n=1288) n(%)	2002 (n=1347) n(%)	2003 (n=501) n(%)	Total (n=6343) n(%)
NRTI	136 (66)	315 (70)	843 (75)	1015 (71)	919 (71)	924 (69)	327 (65)	4479 (71)
PI	23 (11)	166 (37)	436 (39)	509 (36)	417 (32)	382 (28)	113 (23)	2046 (32)
nNRTI	17 (8)	105 (23)	457 (41)	696 (49)	663 (51)	659 (49)	218 (44)	2815 (44)
Any class	140 (68)	340 (76)	922 (82)	1149 (80)	1041 (81)	1037 (77)	373 (74)	5002 (79)

Resistance to nNRTI increased rapidly up until 2000, when it appears to have stabilised at approximately 50%. In contrast, PI-resistance has shown a slight decrease over a similar time period. These patterns can be attributed to changes in prescribing patterns (1). There are no clear calendar time trends in the number of drug classes to which the virus is resistant (table 4, figure 4).

Figure 4 Prevalence of HIV drug resistance in drug experienced patients by calendar year, categorised by numbers of antiretroviral classes compromised

Figure 4 Prevalence of HIV drug resistance in drug experienced patients by calendar year, categorised by numbers of antiretroviral classes compromised**Table 4 Treatment experienced – number of classes with resistance**

Antiretroviral class	1996-7 (n=205) n(%)	1998 (n=450) n(%)	1999 (n=1122) n(%)	2000 (n=1430) n(%)	2001 (n=1288) n(%)	2002 (n=1347) n(%)	2003 (n=501) n(%)	Total (n=6343) n(%)
0	65 (32)	110 (24)	200 (18)	281 (20)	247 (19)	310 (23)	128 (26)	1341 (21)
1	106 (52)	137 (30)	299 (27)	313 (22)	301 (23)	305 (23)	140 (28)	1601 (25)
2	32 (16)	160 (36)	432 (38)	601 (42)	522 (41)	536 (40)	181 (36)	2464 (39)
3	2 (1)	43 (10)	191 (17)	235 (16)	218 (17)	196 (15)	52 (10)	937 (15)

Discussion

The increasing prevalence of resistance among treatment-naïve individuals, which presumably reflects increasing transmission of drug resistant virus, is a major public health concern. It is possible that resistance testing is performed when there is a suspicion, clinically, that transmission was from a source patient with resistant virus or who was being treated. As more treatment-naïve individuals are receiving a resistance test on a routine basis, prior to commencing treatment, the effect of this bias will decrease. For reasons not entirely understood, levels of resistance in the UK are considerably higher than those observed in most other European and North American studies (3). It should be noted, however, that some of the mutations used to define resistance here may have only a minor effect on viral drug susceptibility (4).

In general, the characteristics of drug resistance among treatment-experienced individuals show more stability. Alternative approaches which link tests longitudinally on the same individual may reveal different patterns (5). It should be emphasised that resistant tests can only be performed on individuals with a measurable viral load and this implies to individuals who are probably failing treatment. The majority of patients are maintained on treatment adequate to suppress viral load to very low levels and hence would not be tested for resistance. The fact that there has been little increase in the overall numbers in the period 1999 to 2002 (table 3 – 2003 data are as yet incomplete) is encouraging given the increasing numbers of HIV infected individuals on treatment.

Finally, it is important to emphasise that results on both treatment-naïve and treatment-experienced individuals are highly

Finally, it is important to emphasise that results on both treatment-naive and treatment-experienced individuals are highly sensitive to the arbitrary definition of resistance that is used. For example, the markedly higher rate of PI resistance compared with the previous report in *CDR Weekly* (1) is merely a consequence of the addition of L33I/F/V to the IAS-USA list of major mutations (2).

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Footnotes

For all figures and tables: data from routine clinical resistance testing are collated from the participating centres annually (previously 6-monthly). Annual updates may include details of retrospective tests, including tests done on stored samples. Further data for 2003 and data for 2004 will be available for analysis and update by Autumn 2005.

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[One-day Symposium: *Current topics on bacterial STIs*](#)

One-day Symposium: *Current topics on bacterial STIs*

On Wednesday 2 February 2005 (10.30am - 4.30pm), the Health Protection Agency's Sexually Transmitted Bacteria Reference Laboratory, are producing a one-day symposium - *Current topics on bacterial STIs*. The event is also 'CPD applied for'.

The programme for the symposium will be:

- LGV outbreaks in Europe: Marita van de Laar (RIVM, The Netherlands)
- Development of Multiplex Real-time PCR for STIs: Prof. Ron Ballard (CDC, Atlanta)
- Rapid tests for STIs: Helen Lee (University of Cambridge)
- Molecular typing for gonococcal isolates in Scotland: Helen Palmer (Scottish Neisseria gonorrhoeae Reference Laboratory)
- Surveillance of STIs: Kathy Lowndes (HPA)
- Chlamydia screening programme: Scott LaMontagne (HPA)
- Syphilis outbreaks in the UK: Mrs. Antoinette Righarts (HPA)
- Gonococcal Resistance to Antimicrobials Programme (GRASP): Elizabeth Rudd (HPA)
- Work of STBRL: Iona Martin (HPA), Sarah Alexander (HPA)

Registration fee - £50 Numbers limited to 120.

The symposium will be conducted at the Wilson Lecture Theatre, Health Protection Agency Centre for Infections, Colindale, 61 Colindale Avenue, London NW9 5HT.

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