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- ↘ Interim guidance on diagnosis and management of PVL-associated staphylococcal infections published

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News

Last updated: **21 April 2006** , Volume 16, No 17

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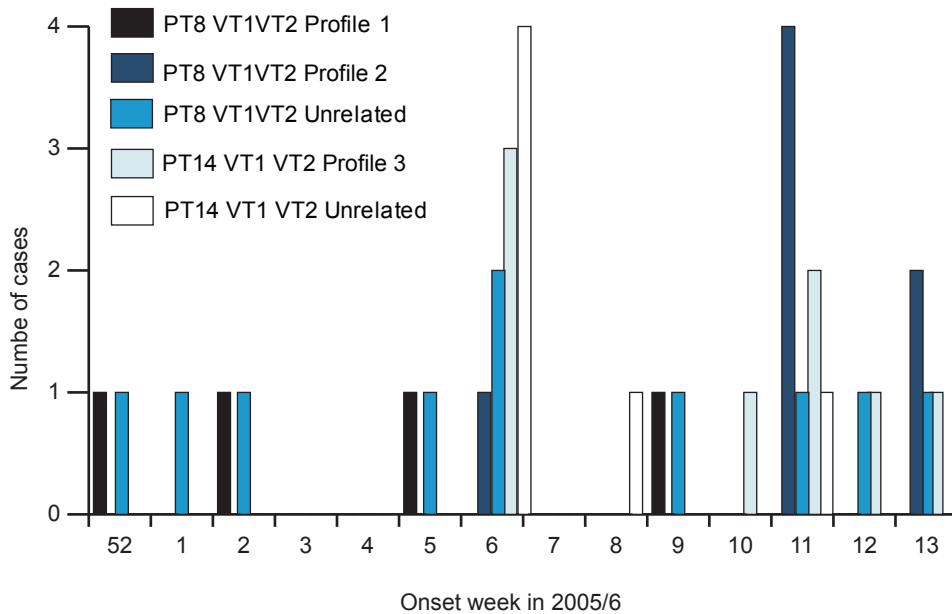
In the first 16 weeks of 2006 the Laboratory of Enteric Pathogens (LEP) at the Health Protection Agency Centre for Infections (HPA CfI) received 101 isolates of Vero cytotoxin-producing *E. coli* (VTEC) O157 compared with 84 submitted in the same period in 2005. The majority (93) of the isolates were received up to the end of week 14 (7 April 2006). The increase was mostly in phage types (PT) 8 and 14 of which there were 26 and 16 isolates respectively (comparable data for 2005 were 15 PT8 and one PT14). In contrast, isolates of PT21/28 showed a decline over this period. Vero cytotoxin (VT) gene typing identified VT1 and VT2 genes in 10 isolates of PT14 and 25 PT8 strains; the remaining isolates of these PTs were VT2.

All cases infected with PT8 or PT14 were followed-up, through collaboration between HPA Centre for Infections (CfI) and the HPA Local and Regional Services (LaRS), to obtain travel history, onset date, and the locally administered questionnaire where available. Secondary cases, asymptomatic cases and those with a travel history were excluded from the final analysis.

Of 22 primary cases of VTEC O157 PT8 the median age was 26 years (age range: 0 to 78 years) Eleven were males and ten were females (the sex of one was not recorded). Onset dates ranged between 18 December 2005 and 28 March 2006 (n=20) (figure 1). Four cases were admitted to hospital. Pulsed field gel electrophoresis (PFGE) showed 11 different profiles. One of these, profile 1 was shared by isolates from four cases and this was the same as that of a strain associated with a national increase in PT8 in the winter of 2005 (1,2). A further seven PT8 strains from primary cases shared another PFGE profile designated profile 2 (table 1).

Of 13 primary cases of VTEC O157 PT14 the median age was 41 years (age range: 4 to 87 years) and females (10/13) were over-represented compared to males (3/13). Onset dates ranged between 3 February 2006 and 27 March 2006 (n=10) (figure 1). Four cases were admitted to hospital. There were eight PFGE profiles among isolates from primary cases, one of which (profile 3) was shared by five of the VT1+2 isolates. PT8 and PT14 strains did not share PFGE profiles. The PT14 strains with profile 3 appeared to be clustered in time by onset date (table 1), but no geographical link or common reported exposure was apparent.

The number of putative VTEC O157 isolates received by LEP have declined in April, but all new PT8 or 14 isolates will be typed by PFGE. In 2003 and 2004, PT8 was ranked second to PT21/28 in the VTEC O157 types from human infection in England and Wales (3) accounting for about 24% of isolates; PT14 has represented less than 3% of strains typed. Retrospective collection and collation of local surveillance data in response to this national incident, coupled with detailed molecular strain characterisation, resulted in an accurate assessment of the situation. Active national surveillance of laboratory confirmed VTEC O157 infections would facilitate the routine identification, investigation, and evaluation of future trends. The routine enteric infection report updating VTEC O157 data for 2005 will be summarised shortly in the Enteric Infection reports section of CDR Weekly.

Figure Dates of onset available for primary cases of *E. coli* O157 VT1VT2 (n = 25)**Table Descriptive epidemiology of primary cases of *E. coli* O157 VT1VT2 PT8 and PT14 with PFGE profiles of interest**

	PT8 VT1VT2 Profile 1	PT8 VT1VT2	PT 14 VT1VT2
	Profile 1	Profile 2	Profile 3
No. of cases	4	7	5
Onset	18/12/05 – 03/03/06	17/03/06-26/03/06	09/03/06 – 27/03/06
Age range (median)	1-46 (23.5)	2-78 (22)	10-87 (49)
Male to female ratio	1:3	3:4	1:4

References

1. HPA. National increase of Vero-cytotoxin producing *E. coli* O157 (VTEC O157) PT8 – update. *Commun Dis Rep CDR Wkly* [serial online] 2005 [cited 27 April 2006] **15**(50): news. Available at <<http://www.hpa.org.uk/cdr/archives/2005/cdr5005.pdf>>.
2. HPA. National increase of Vero-cytotoxin producing *E. coli* O157 phage type 8 – Case-control study. *Commun Dis Rep CDR Wkly* [serial online] 2006 [cited 27 April 2006]; **16**(1): news. Available at <<http://www.hpa.org.uk/cdr/archives/2006/cdr0106.pdf>>.
3. HPA. Vero cytotoxin-producing *Escherichia coli* O157: 2004 *Commun Dis Rep CDR Wkly* [serial online] 2005 [cited 27 April 2006]; **15**(28): news. Available at <<http://www.hpa.org.uk/cdr/archives/2005/cdr2805.pdf>>.

Interim guidance on diagnosis and management of PVL-associated staphylococcal infections published

The Chief Medical Officer for England has published interim guidance on diagnosis and management of Panton-Valentine Leukocidin (PVL)-associated staphylococcal infections in the United Kingdom (UK), prepared by the Health Protection Agency. The guidance is based on a review of the literature and experiences of colleagues in the UK, Europe, and the United States.

PVL is a toxin, which destroys white blood cells and is carried by less than 2% of clinical isolates of *Staphylococcus aureus*. PVL can be detected in both methicillin-sensitive *S. aureus* (MSSA) and methicillin resistant *S. aureus* (MRSA). The majority of isolates causing infection in the UK have been MSSA. Community-associated MRSA (CA-MRSA) are more likely to produce PVL than hospital-associated MRSA. PVL-positive *S. aureus* are normally associated with necrotising pyogenic cutaneous infections and occasionally with cellulitis or tissue necrosis. They can, however, cause other severe invasive infections such as septic arthritis, bacteraemia, purpura fulminans, or community-acquired necrotising pneumonia.

1. Health Protection Agency. *Interim guidance on diagnosis and management of PVL-associated Staphylococcal infections in the UK*. London : Department of Health, 2006. Available at http://www.dh.gov.uk/AboutUs/MinistersAndDepartmentLeaders/ChiefMedicalOfficer/Features/FeaturesArticle/fs/en?CONTENT_ID=4133761&chk=oW8s4w.

Immunisation

Last updated: **27 April 2006**, Volume 16, No. 17

Next update due: **25 May 2006**

Immunisation Routine Data Reports

▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 02/06 to 06/06 2006

▾ Laboratory reports of hepatitis A in England and Wales: October to December 2005

▾ Laboratory reports of hepatitis C infection in England and Wales: October to December 2005

▾ Laboratory Reports of *Haemophilus influenzae* by age group and serotype, England and Wales: weeks 01/06 to 13/06 2006

▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 02/06 to 06/06

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	02/05-06/06	Total to week 06/2006
Group A	–	–	–	–	–
B	81	60	11	152	192
C	5	2	–	7	8
W135	–	–	–	–	2
X	–	–	–	–	–
Y	9	–	–	9	12
29E	–	–	–	–	–
Ungroupable	–	–	–	–	–
Ungrouped	–	5	–	5	5
Total	95	67	11	173	219

*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.

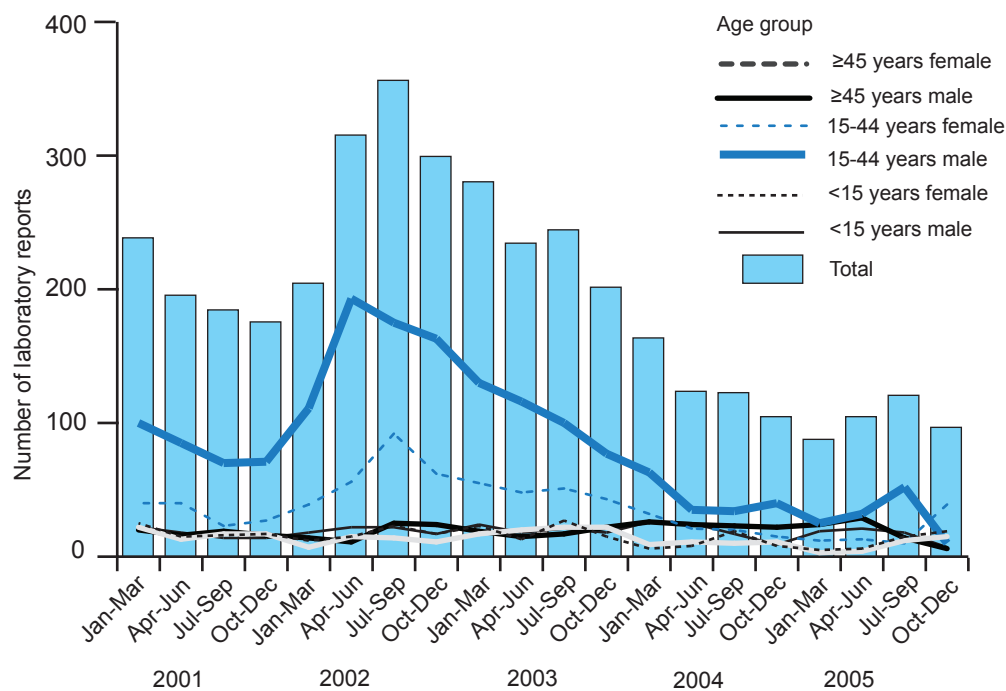
Laboratory reports of hepatitis A in England and Wales: October to December 2005

During the fourth quarter of 2005 (October to December 2005), 101 laboratory reports of hepatitis A were made to the Health Protection Agency Centre for Infections. This continues the downward trend in the overall number of cases of hepatitis A reported in each quarter since the third quarter of 2002. In quarter four, 40% of the total number of cases were males aged between 15 and 44 years (table 1) with females in this age group accounting for 10% of total cases. Of those aged 45 years and over, males accounted for 15% of total cases and females 20%. In those aged under fifteen years, males and females accounted for 7% and 6% of total cases respectively.

Laboratory reports of hepatitis A in England and Wales: October to December 2005

Age Group (years)	Male	Female	unknown	Total
<5	2	1	–	3
5-9	4	3	–	7
10-14	1	2	–	3
15-24	10	3	1	14
25-34	15	4	–	19
35-44	14	3	–	17
45-54	4	9	–	13
55-64	6	4	–	10
>65	5	6	–	11
Unknown	1	–	3	4
Total	62	35	4	101

Figure Number of laboratory reports of hepatitis A by age group and sex: January 2001 to December 2005



▾ Laboratory reports of hepatitis C infection in England and Wales: October to end of December 2005

Two thousand two hundred and ninety reports of hepatitis C infection were reported in the fourth quarter of 2005 (table 2). Sixty-five per cent (1480/2264) of the cases occurred in those aged between 25 and 44 years. The ratio of males to females is 2:1.

Laboratory reports of hepatitis C infection in England and Wales: October to December 2005

Age Group (years)	Male	Female	unknown	Total
<5	6	8	–	14
5-9	2	4	1	7
10-14	2	1	–	3
15-24	103	89	7	199
25-34	499	261	13	773
35-44	520	174	13	707
45-54	228	120	10	358
55-64	68	37	4	109
>65	51	41	2	94
Unknown	8	4	14	26
Total	1487	739	64	2290

▾ Laboratory reports of *Haemophilus influenzae* by age group and serotype, England and Wales: weeks 01/06 to 13/06 2006 (2005)

Serotype	Age group (years)					Total
	<1	1-5	5-14	>15	Not known	
b	3 (4)	10 (4)	– (3)	17 (24)	– (–)	30 (35)
nc	16 (12)	14 (11)	8 (5)	69 (82)	– (1)	107 (111)
a,c,d,e,f	– (–)	– (1)	– (1)	7 (13)	1 (–)	8 (15)
not typed	5 (8)	2 (3)	– (–)	45 (38)	2 (–)	54 (49)
Total	24 (24)	26 (19)	8 (9)	138 (157)	3 (1)	199 (210)

HIV/Sexually Transmitted Infections (STIs)

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Next update due: **27 July 2006**

 [HIV and AIDS in the United Kingdom quarterly update: data to the end of March 2006](#)

 [HIV and AIDS in the United Kingdom: HIV-2 and HIV-1/HIV-2 co-infections](#)

HIV and AIDS in the United Kingdom quarterly update: data to the end of March 2006

HIV and AIDS in the United Kingdom quarterly update: data to the end of March 2006 United Kingdom (UK) data from the Health Protection Agency Centre for Infections, Health Protection Scotland, and the Institute of Child Health (London).

In the first three months of 2006, 2033 new diagnoses of HIV infection were reported bringing the cumulative total of HIV diagnoses in the United Kingdom (UK) since surveillance began in 1982 to 78,883. The number of diagnoses for 2005 currently stands at 6727, and the final figure for 2005 is expected to rise and exceed that of 2004. Table 1 shows new diagnoses of HIV over time by probable route of infection. Fifty-three per cent (3550/6727) of the diagnoses in 2005 were acquired through heterosexual contact, 30% (2039/6727) through sex between men, and 1.6% (106/6727) through injecting drug use.

Table 1 New diagnoses of HIV in the UK by infection route, sex and year of diagnosis: data to end of March 2006

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Table 2 provides more detailed information about infections acquired through sex between men and women. Information for 75% (2667/3550) of the diagnoses in 2005 indicated that these individuals were probably infected abroad, mainly (85%) in Africa with no evidence of a 'high risk' partner. Infections transmitted through blood transfusion or from mother-to-child are for the most part acquired outside the UK

MSM are most at risk of acquiring HIV infection in the UK. Where reported, 84% (994/1183) of MSM diagnosed in 2005 probably acquired their infection in the UK, although for heterosexual men and women (with no evidence of a 'high risk' partner) the figure was 13% (460/3550).

Table 2 New diagnoses of HIV in those infected through sex between men and women by year of diagnosis: data to end of March 2006

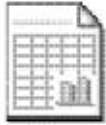
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The HIV epidemic in the UK continues to be focused in London and accounts for 43% (2922) of new diagnoses (table 3). Increases in new diagnoses have been seen in all regions since 1999, including areas that previously saw relatively few HIV cases such as the North East, Yorkshire and Humberside, East of England, and Wales.

Table 3 HIV infected individuals by country, region, and year of HIV diagnosis, UK data to end of March 2006

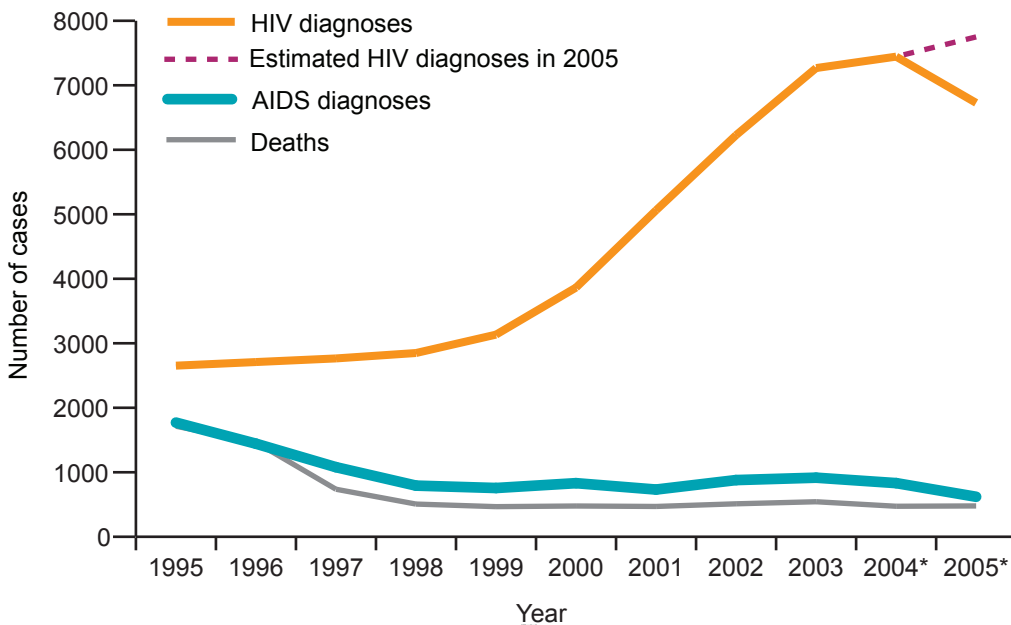
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To date, 22,099 individuals have been diagnosed with AIDS, of whom 13,386 (61%) have died. A further 3458 individuals having died without being reported with AIDS. There has been a reduction in AIDS reporting since the advent of HAART (highly active antiretroviral therapy), and AIDS defining illnesses are more likely to be reported at the time of HIV diagnosis. Of the 620 AIDS diagnoses so far reported in 2005, 84% (522) were made within three months of HIV diagnosis.

HIV related deaths have also declined after the introduction of HAART, with the number of deaths remaining relatively constant at around 500 deaths per year since 1997 (Table 3, figure). On the basis of previous patterns of reporting delay, the figure for 2005 (478) is expected to exceed 500.

Figure HIV diagnoses and deaths in HIV infected individuals, UK reports to end of 2005

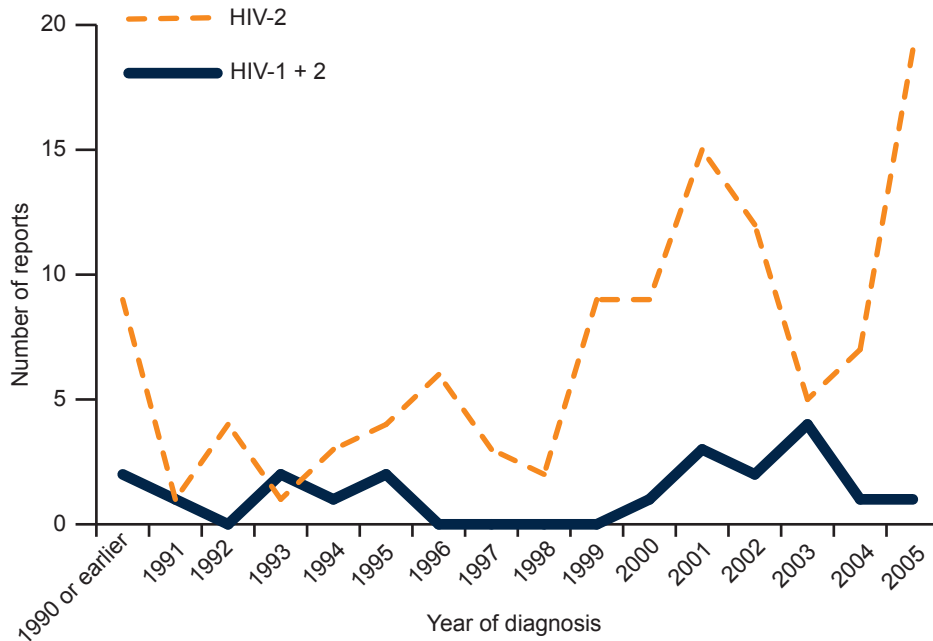


*Numbers, particularly for recent years, will rise as further reports are received

▣ HIV and AIDS in the United Kingdom: HIV-2 and HIV-1/HIV-2 co-infections

By the end of March 2006, a cumulative total of 129 adults have been reported with HIV-2 in the United Kingdom (UK), 20 of these were co-infected with HIV-1 (figure). Trends are difficult to assess because of small numbers, but overall there have been more diagnoses of HIV-2 and HIV-1/2 co-infection in more recent years

Figure HIV-2 and HIV-1/2 diagnoses by year of diagnosis



Of the 109 adults with HIV-2 infection only (46 men and 63 women), 15 (14%) were reported with AIDS and 14 have died. Eighty-seven of the 109 infections were probably acquired through heterosexual contact, six through blood transfusions abroad, three through sex between men, one through injecting drug use, and one nosocomially in a high prevalence country; the remaining 11 remain undetermined.

Seventy-five out of 93 (81%) individuals with reported probable country of infection, probably acquired their infection in Africa and 61 (81%) of these were probably infected in West Africa. Four individuals were probably infected in Asia (three in India), six in Portugal, six in the UK, one in Italy, and one in France.

Of the 20 individuals co-infected with HIV-1 and HIV-2 (14 men and six women), four were reported to have AIDS, of whom two have died. Ten were probably exposed through heterosexual contact, six through sex between men, and two through injecting drug use; the route of infection of the remaining two is not known. Of the 14 cases in whom probable country of infection was reported, nine individuals were probably infected in Africa, three in the UK, and two in Asia.

Three of the five surveys in the Unlinked Anonymous Serosurveillance Programme identify HIV-2 positivity. Of 2,500,000 specimens tested from 1990 to 2004, 68 were identified as HIV-2 positive, and a further 28 positive for both HIV-1 and HIV-2. HIV-2 is making only a very small contribution to the numbers of HIV-infected individuals in the UK: the ratio of HIV-1 infections to HIV-2 is 235:1 in the unlinked anonymous surveys.

Table 1 New diagnoses of HIV in the UK by infection route, sex and year of diagnosis: data to end of March 2006

How infection was probably acquired	Sex	1996 or earlier	1997	1998	1999	2000	2001	2002	2003	2004*	2005*	Jan-Mar 06	Total
Sex between men	M	20,477	1416	1375	1384	1517	1767	1892	2031	2240	2039	181	36,319
Sex between men and women	M	2884	453	526	607	763	1076	1398	1586	1616	1303	102	12,314
	F	3420	564	646	847	1258	1828	2422	2932	2781	2247	146	19,091
Injecting drug use	M	2208	123	96	79	73	97	88	105	103	99	11	3082
	F	1016	48	36	35	41	35	28	48	30	31	4	1352
Blood transfusion or blood factor products	M	1450	16	4	11	10	14	14	16	10	6	3	1554
	F	145	13	7	11	15	11	20	19	12	8	1	262
Mother-to-infant	M	212	49	48	34	57	55	57	79	61	50	2	704
	F	217	33	52	42	46	47	64	65	73	48	4	691
Other	M	15	1	2	6	3	8	2	4	1	1	–	43
	F	16	–	2	2	3	1	4	3	4	5	–	40
Undetermined	M	515	23	22	22	24	26	25	30	23	15	–	725
	F	62	6	8	4	5	5	10	10	7	4	–	121
Follow-up ongoing	M	132	12	18	30	29	57	113	205	259	443	116	1414
	F	33	7	6	18	20	34	90	134	220	426	137	1125
Total†		32,837	2765	2849	3134	3864	5062	6227	7267	7444	6727	707	78,883

* Numbers will rise as further reports are received.

† Forty-six people whose sex was not reported are included in this total: seven infected through sex between men and women, one blood/ blood product recipients, nine infected through mother-to-infant transmission, and 29 for whom likely route of infection is not known.

Table 2 New diagnoses of HIV in those infected through sex between men and women by year of diagnosis: data to end of March 2006

How HIV infection was probably acquired		1996 or earlier	1997	1998	1999	2000	2001	2002	2003	2004	2005*	2006*	Total
Exposure to 'high risk' partner(s) - partner infected through:	Sexual intercourse between men	190	12	12	12	13	26	30	18	22	7	–	342
	Injecting drug use	471	62	58	35	27	42	32	33	31	24	–	815
	Blood factor treatment (eg for haemophilia)	82	1	1	1	2	–	2	8	–	1	–	98
	Blood/tissue transfer (eg transfusion)	18	5	3	3	1	4	2	–	1	2	–	39
	Sub total	761	80	74	51	43	72	66	59	54	34	–	1294
Exposure to presumed heterosexually infected partner(s):													
	Exposure abroad:												
	Africa	4104	647	757	1010	1519	2255	2995	3521	3257	2325	157	22547
	Latin America / Caribbean	150	30	33	67	68	94	144	159	134	65	4	948
	Asia	196	53	79	77	112	101	124	145	171	126	4	1188
	North America	97	11	15	7	8	9	6	7	6	11	–	177
	Europe	287	46	44	51	43	49	66	88	86	65	7	832
	Australasia	11	2	4	7	2	5	3	5	0	2	0	41
	Country(ies) not known	39	3	14	1	3	6	6	10	27	73	6	188
	Sub total	4884	792	946	1220	1755	2519	3344	3935	3681	2667	178	25921

Exposure in the UK to partner(s) presumed infected:														
	Outside Europe	254	79	88	98	138	186	247	303	342	237	20	1992	
	Within Europe	317	53	49	59	59	68	57	79	71	85	4	901	
	In country(ies) not known	57	4	6	8	7	17	30	35	64	138	12	378	
	Sub total	628	136	143	165	204	271	334	417	477	460	36	3271	
Partner(s) exposure category undetermined:														
	Investigation continuing	1	1	7	14	13	39	69	104	176	383	34	841	
	Investigation closed	35	8	3	5	6	3	7	3	9	6	–	85	
	Sub total	36	9	10	19	19	42	76	107	185	389	34	926	
Total		6309	1017	1173	1455	2021	2904	3820	4518	4397	3550	248	31412	

* Numbers will rise as further reports are received.

Table 3 HIV infected individuals by country, region and year of HIV diagnosis, UK data to end of March 2006

Country and region of diagnosis	1996 or earlier	1997	1998	1999	2000	2001	2002	2003	2004	2005*	2006*	Total	
England	North East	464	35	22	30	38	55	99	148	138	128	14	1171
	Yorkshire & the Humber	1038	84	85	91	104	188	314	436	461	416	18	3235
	East Midlands	652	46	62	91	102	195	254	335	359	387	59	2542
	East of England	826	75	88	97	181	317	496	547	579	452	44	3702
	London	20,039	1738	1772	1981	2328	2778	2988	3277	3192	2922	307	43,322
	South East	2649	212	207	224	367	500	705	871	886	839	103	7563
	South West	1065	92	104	106	103	137	180	207	226	243	23	2486
	West Midlands	1015	101	112	105	180	216	423	497	487	380	49	3565
	North West	1934	150	189	209	238	421	435	534	605	430	4	5149
England (total)	29,682	2533	2641	2934	3641	4807	5894	6852	6933	6197	621	72,735	
Wales	494	46	30	34	45	63	76	108	106	118	27	1147	
Northern Ireland	162	9	9	15	19	19	27	32	63	62	–	417	
Scotland	2453	169	163	150	158	168	223	271	338	347	59	4499	
UK Total	32,791	2757	2843	3133	3863	5057	6220	7263	7440	6724	707	78,798	
Channel Islands/ Isle of Man	46	8	6	1	1	5	7	4	4	3	–	85	
UK total HIV diagnoses	32,837	2765	2849	3134	3864	5062	6227	7267	7444	6727	707	78,883	
UK total AIDS diagnoses	14,621	1079	793	756	831	732	879	916	832	620	40	22,099	
UK total deaths†	11,883	737	507	467	477	470	511	543	473	478	54	16,844	

* Numbers will rise as further reports are received.

† Total includes 244 deaths where year of death is not known, including all adults and children .