Health Protection Agency

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Next update due: **22 December 2005**

News

Publication of new and revised documents concerning CJD

The fourth annual report of the CJD Incidents Panel, and a revision of the CJD Incidents Panel's Framework document, have recently been published on the Health Protection Agency (HPA) website (1). An updated version of the National CJD Surveillance Unit's guidance for local reporting of CJD (by clinicians and CCDCs) was published on the NCJDSU website in August 2005.

The fourth Annual Report of the CJD Incidents Panel (the Panel) covers incidents reported between 1 September 2003 and 31 August 2004. During this fourth year of reporting to the Panel, fifty-four incidents were reported: 65 incidents were reported during the third year, and 113 during the first two years after the Panel was established. Thirty-four of the 54 incidents during the fourth year concerned past invasive health care interventions on patients (i.e. surgical incidents) with or suspected of having CJD, or considered to be 'at-risk' of CJD. Twenty incidents concerned transfusion of blood components from donors who later developed vCJD. As in previous years, approximately half of the surgical incidents reported involved patients with a diagnosis of sporadic CJD. Seven (20%) surgical incidents reported during this year concerned patients considered to be 'at-risk' of CJD. For two (6%) surgical incidents reported during this year, the Panel has advised instruments should be destroyed (or sent for research). In the majority of incidents where instruments were initially quarantined, the Panel advised that instruments could be returned to active use. The Panel advised that a total of twenty-four patients, involved in five incidents reported during this year, should be informed of their exposure and considered to be 'at-risk of CJD for public health purposes'.

The report also described how Panel advice developed during this year in relation to a number of situations. In particular, the Panel developed its recommendations for the management of patients potentially exposed to vCJD infectivity through receipt of UK-sourced plasma-products.

A revised version of the Panel's framework document (2) was published on the HPA website in August 2005. This document describes the basis for the Panel's advice on the management of possible exposure to CJD through medical procedures in the UK. The revisions since the previous (March 2004) version largely concern the development of the Panel's advice regarding management of possible exposure to vCJD through blood products (components and plasma-products).

Guidance for clinicians and Consultant in Communicable Disease Control (CCDCs) reporting cases and suspect cases of CJD can be found on the website of the national CJD Surveillance Unit (NCJDSU) (3). This guidance was last updated in August 2005. Clinicians and CCDCs (and their equivalents in the UK regions) are advised to refer to this updated guidance when a case of CJD is diagnosed or suspected. Clinicians caring for patients with CJD or suspected CJD (of all types), should inform the local CCDC whose role then includes reporting of any past incidents of invasive healthcare to the CJD Incidents Panel (1).

References

1. Health Protection Agency [online]. CJD Incidents Panel. [Accessed 20 December 2005]. Available at:
<http://www.hpa.org.uk/infections/topics_az/cjd/incidents_panel.htm>.

2. Health Protection Agecny. Management of possible exposure to CJD through medical procedures Framework document. London: HPA, August 2005. Available at:
<http://www.hpa.org.uk/infections/topics_az/cjd/framework_Aug%202005.pdf>.

3. National CJD surveillance unit (The University of Edinburgh) [online]. Guidance for local reporting by clinicians of Creutzfeldt-Jakob disease (CJD) and local action by consultants in communicable disease control (CsCDC). [Accessed 20 December 2005]. Available at
<http://www.cjd.ed.ac.uk/guidance.htm>.

The Health Protection Agency and the Healthcare Commission published interim findings of national survey of the management, prevention, and surveillance of *Clostridium difficile* in NHS acute trusts

The Health Protection Agency and the Healthcare Commission published interim findings of national survey of the management, prevention, and surveillance of Clostridium difficile in NHS acute trusts
The Health Protection Agency and the Healthcare Commission have published the interim findings of a national survey of the management, prevention, and surveillance of *Clostridium difficile* in NHS acute trusts (1).

Questionnaires were sent to directors of infection prevention and control. Responses were received from 118 of the 173 trusts (68%) in England. The survey showed:

• Thirty-eight per cent of trusts surveyed said they do not have restrictions in place to prevent the inappropriate use of antibiotics, which would help to minimise the risk of *C. difficile* infection.
• Over a third of respondents reported that they are unable to routinely isolate patients with C.difficile infection. Only 11% of trusts said they have a ward that can be used for isolating patients with *C. difficile*.
• Less than half of trusts surveyed use the same recognised definition of an outbreak. Forty percent reported that, in the event of an outbreak, they do not routinely follow guidance, which recommends that they should inform the consultant in communicable disease control.
• Most of the trusts surveyed also reported that they do not routinely inform the relevant authority that is responsible for monitoring their performance i.e. the strategic health authority, or Monitor in the case of NHS foundation trusts.
• Two-thirds of respondents felt that the reported incidence of *C. difficile* infection has increased in their trust during the past three years.
• A quarter of trusts reported they had closed wards in the past 12 months due to cases of *C. difficile*.
Responses confirmed that cases of *C. difficile* are not confined to older people: 41% of trusts estimated that one out of ten cases affected people under the age of 65 years.

Respondents thought that the most practical measures to reduce the incidence of infection from *C. difficile* were: improved prescribing of antibiotics (55% of trusts); isolation of patients (39%); clean environments (32%); and improved hygiene (19%).

Over two-thirds of trusts thought that the prescribing of antibiotics and the lack of facilities for isolation represented the greatest challenges to controlling infection.

Despite concerns that the severity of the infection has increased in the past few years, most of the trusts surveyed do not routinely collect clinical data on patients with the infection. Sixty-five per cent of trusts reported that they do not routinely record information on deaths from *C. difficile*.

The Healthcare Commission and the Health Protection Agency will incorporate learning from these interim findings, and the final report, into their respective programmes of work. The results will also provide a context for the investigation that the Healthcare Commission is undertaking into the outbreak of *C. difficile* at Stoke Mandeville Hospital, part of Buckinghamshire Hospitals NHS Trust, due to be published next year.

References
1. Health Protection Agency, Healthcare Commission. Management, prevention and surveillance of Clostridium difficile. Interim findings from a national survey of NHS acute trusts in England. London: Commission for Healthcare Audit and Inspection, 2005. Available at <http://www.hpa.org.uk/infections/topics_az/clostridium_difficile/InterimReport05.pdf>.

Last updated: **22 December 2005**
Next update due: **26 January 2006**

Immunisation

Laboratory reports of invasive meningococcal infections, England and Wales: weeks 36 to 40

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	36-40/05	Total to week 40/2005
Group A	–	–	–	**–**	**1**
B	20	33	6	**59**	**978**
C	1	1	–	**2**	**24**
W135	2	–	–	**2**	**22**
X	–	–	–	**–**	**–**
Y	1	–	–	**1**	**33**
Z	–	–	–	**–**	**–**
29E	–	–	–	**–**	**1**
Ungroupable	–	–	–	**–**	**–**
Ungrouped	–	3	–	**3**	**40**
Total	**24**	**37**	**6**	**67**	**1099**

Laboratory confirmed cases of pertussis infection: data to the end of September 2005

Table 1 Laboratory confirmed cases of pertussis infection, England and Wales, by Age Group*: July to September 2005*

Age group	PCR and/or serology	Culture	Total
<3 months	17	36	**53**
3-5 months	3	8	**11**
6-11 months	–	4	**4**
1-4 years	–	11	**11**
5-9 years	4	3	**7**
10-14 years	8	–	**8**
≥15 years	38	4	**42**
Not known	–	–	**–**
Total	**70**	**66**	**136**

* 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 Infecions 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: January to September 2005 *

Quarter	PCR and/or serology	Culture	PCR/Serology reports as a % of total	Total
Jan-Mar	39	45	46%	**84**
Apr-Jun	46	31	60%	**77**
Jul-Sept	70	66	51%	**136**

*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.

Laboratory confirmed cases of pertussis infection: January to September 2003 to 2005

Pertussis infection has been at historically low levels in the United Kingdom since the vaccine was switched to the accelerated schedule in 1991. Despite a high vaccination uptake, the burden of pertussis in England and Wales remained highest in children too young to be fully protected. The infection tends to peak seasonally in late summer and early autumn. The numbers of cases observed in the third quarter of 2005 are higher than the equivalent period in the previous two years.

Two hundred and ninety-seven laboratory confirmed cases (PCR, serology, or culture) of pertussis have been reported to the HPA's enhanced pertussis surveillance scheme to end of the third quarter of 2005, compared to 202 in the equivalent period in 2004, an overall 47% increase. An increase in culture only confirmed cases reported through the routine laboratory system has also been observed (LabBase*) (table 1).

Table 1 Laboratory confirmed cases of pertussis infection

	Janury to March 2005 (Q1)		April to June 2005 (Q2)		July to September 2005 (Q3)		Sub-Totals		Total
	PCR/ serology	Culture only	PCR/ serology	Culture only	PCR/ serology	Culture only	PCR/ serology	Culture only	
2003	8	23	19	36	40	50	67	109	**176**
2004	11	14	55	27	53	42	119	83	**202**
2005	39	45	46	31	70	66	155	142	**297**
Total	**58**	**82**	**120**	**94**	**163**	**158**	**341**	**334**	**675**

The greatest proportion of cases were reported in those aged 3 months and under age group, and in those aged 15 years and over age group (figure 1), however, the large number of cases in the 15 years and over age group is likely to be attributed to the increased use of enhanced diagnostic techniques since 2002.

Since January 2002, infants aged 6 months and under with suspected pertussis have been offered PCR testing through the Health Protection Agency Respiratory and Systemic Infection 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, previously these cases are unlikely to have been tested microbiologically. These cases are likely to have been culture negative, and testing with PCR and/or serology have increased case ascertainment.

Figure 1 Age distribution of cases: July to September 2003 to 2005

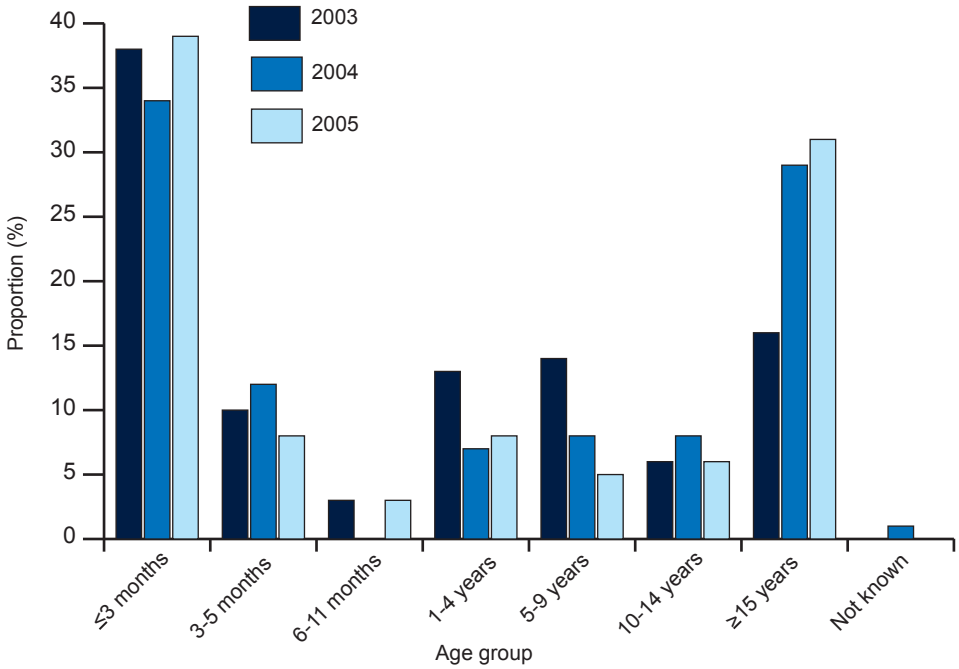


Table 2 Age and method of confirmation: January to September 2003 to 2005

	Age Group	PCR &/or Serology	Culture	Total	% PCR/ Serology
2003	<3 months	8	66	74	10.8%
	3-5 months	6	13	19	31.6%
	6-11 months	1	4	5	20.0%
	1-4 years	6	9	15	40.0%
	5-9 years	11	11	22	50.0%
	10-14 years	9	4	13	69.2%
	≥15 years	26	2	28	92.9%
	Not known	–	–	–	–
	Total	**67**	**109**	**176**	**38.1%**
2004	<3 months	18	50	68	26.5%
	3-5 months	7	9	16	43.8%
	6-11 months	1	2	3	33.3%
	1-4 years	3	10	13	23.1%
	5-9 years	22	5	27	81.5%
	10-14 years	18	4	22	81.8%
	≥15 years	49	2	51	96.1%
	Not known	1	1	2	
	Total	**119**	**83**	**202**	**58.9%**
2005	<3 months	38	85	123	30.9%
	3-5 months	9	17	26	34.6%
	6-11 months	2	11	13	15.4%
	1-4 years	6	15	21	28.6%
	5-9 years	10	5	15	66.7%
	10-14 years	15	2	17	88.2%
	≥15 years	75	7	82	91.5%
	Not known	–	–	–	–
	Total	**155**	**142**	**297**	**52.2%**

The table below shows the regional distribution of cases reported to the enhanced surveillance system from January to September: January to September 2005 (*ie*, quarters 1 to 3). The most

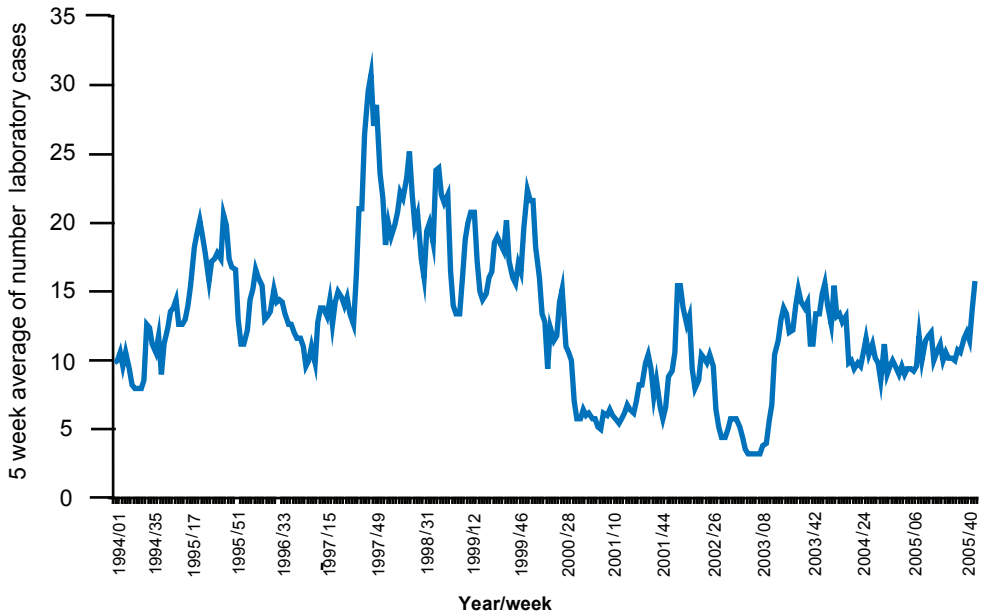
marked increases were observed in the South West, West Midlands, and the Yorkshire and Humber regions (table 3).

Table 3 Regional distribution of laboratory confirmed pertussis cases: January to September 2003 to 2005

January to September (Q1 to Q3)	Year		
Region	**2003**	**2004**	**2005**
North East	7	14	6
Yorkshire & the Humber	8	12	26
East Midlands	6	28	23
East of England	21	11	24
London	16	27	22
South East	37	31	36
South West	23	10	57
West Midlands	13	14	50
North West	32	34	38
Wales	13	21	15
Total	**176**	**202**	**297**

Five weekly moving averages of culture confirmed cases to week 46 2005, show an increase in cases, consistent with the seasonal trends one would expect to see with pertussis infection, however, it is too soon to determine whether the increase observed is a true increase, or part of an epidemic cycle (figure 2) .

Figure 2 Laboratory reports of *Bordetella Pertussis,* England and Wales: week 1 1994 to week 30 2005



Footnotes

*LabBase is the database that collects laboratory reports of all micro-organisms isolated at nearly 400 NHS and other laboratories throughout England, Wales, and Northern Ireland . The database is managed and accessed at the HPA Centre for Infections .

Surveillance of viral infections in donated blood, England and Wales: 2004

Donated blood is collected from volunteer (unpaid) adult donors who do not acknowledge any medical conditions, travel histories, or behaviours that are known to be associated with an increased risk of bloodborne infections. In 2004, all blood donations were tested for antibodies to HIV, hepatitis C, and human t-cell lymphotrophic virus (HTLV), hepatitis B surface antigen (HBsAg), hepatitis C RNA on pools of up to 48 donations (and in some instances HIV RNA), and antibodies to syphilis. In addition, some donations were tested for antibodies to hepatitis B core antigen (anti-HBc), malaria, and *Trypanosoma cruzi* (the protozoan parasite that causes Chagas' disease) depending on the donor's history. A donation found positive for any of these markers is excluded from the blood supply. The donor is informed of their infection, told to stop donating and referred to specialist services to receive appropriate care.

In 2004, a total of 227 donations collected by the English and Welsh blood services were positive for markers of viral infections (including one HCV NAT positives) (table). Of these infected donations, 102 (45%) were positive for anti- HCV and/or HCV RNA, 94 (42%) were positive for HBsAg, 16 (7%) were positive for anti-HIV, and 15 (7%) were positive for anti-HTLV. The one anti-HCV negative, HCV RNA positive donation detected during 2004 was collected from a new donor with a recent infection who subsequently seroconverted for anti-HCV.

Table 1 Infections detected in blood donations collected in England and Wales during 2004

Donations with confirmed marker of infection	Infections in blood donations				Any of these four markers†
	HBV (HBsAg)	HCV (anti-HCV/HCV RNA*	HIV (anti-HIV)	HTLV (anti-HTLV)	
All donations	**94**	**102**	**16**	**15**	**227**
per 100,000 donations tested	3.91	4.20	0.62	0.62	9.35
1 in X donations	25,604	23,830	160,454	160,454	10,697
Donations from new donors	**83**	**82**	**7**	**13**	**185**
per 100,000 donations tested	31.43	30.68	2.27	4.92	69.30
1 in X donations	3181	3260	44,010	20,312	1443
Donations from repeat donors‡	**11**	**20**	**9**	**2**	**42**
per 100,000 donations tested	0.51	0.93	0.42	0.09	1.96
1 in X donations	194,795	107,138	238,083	1,071,375	51,018

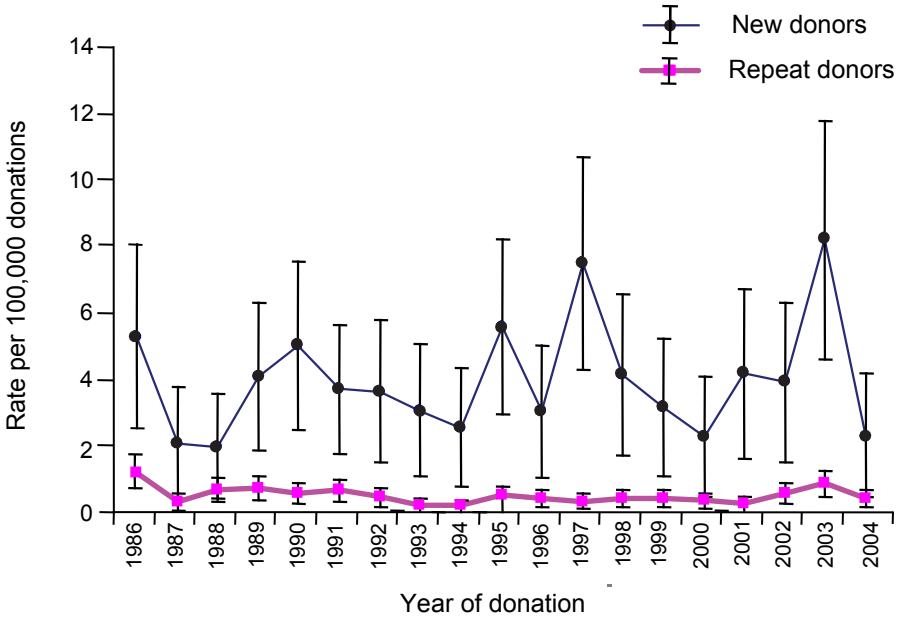
*Including one anti-HCV negative donor positive for HCV RNA by nucleic acid testing.
† One donor had markers of two infections: anti-HIV and anti-HCV.
‡Repeat donors are classified by blood centres that have previously donated. Some donations from repeat donors may be newly tested for markers of infection.

In 2004, new donors contributed 11% of all blood donations, but 88% of HBsAg, 81% of anti-HCV, and 87% of anti-HTLV positive donations. The two anti-HTLV positive donations made by repeat donors had not been previously tested for anti-HTLV since national routine testing began in autumn 2002. For anti-HIV positive donations, nine (60%) were made by repeat donors who were known by blood centres to have previously donated blood in the UK; eight of whom had evidence of a recently acquired infection, *ie*, had been found anti-HIV negative on a donation made within three years of the positive donation.

Blood donations have been tested for anti-HIV since 1985 and for anti-HCV since 1991. The annual prevalence of these two markers in blood donations from new and repeat donors since testing was introduced are shown in figures 1 and 2. Blood donations have been tested for HBsAg since 1972, and national surveillance data have been available since 1995. Annual prevalence of HBsAg in donations from new and repeat donors are shown in figure 3.

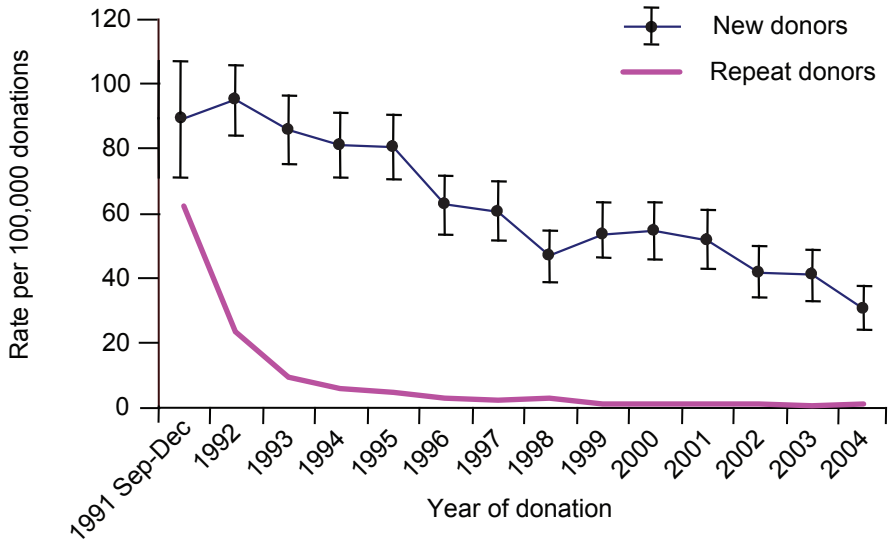
Figure 1 HIV infected blood donations, England and Wales: donations collected from 1 October 1985 to 31 December 2005

Figure 1 HIV infected blood donations, England and Wales: donations collected from 1 October 1985 to 31 December 2005



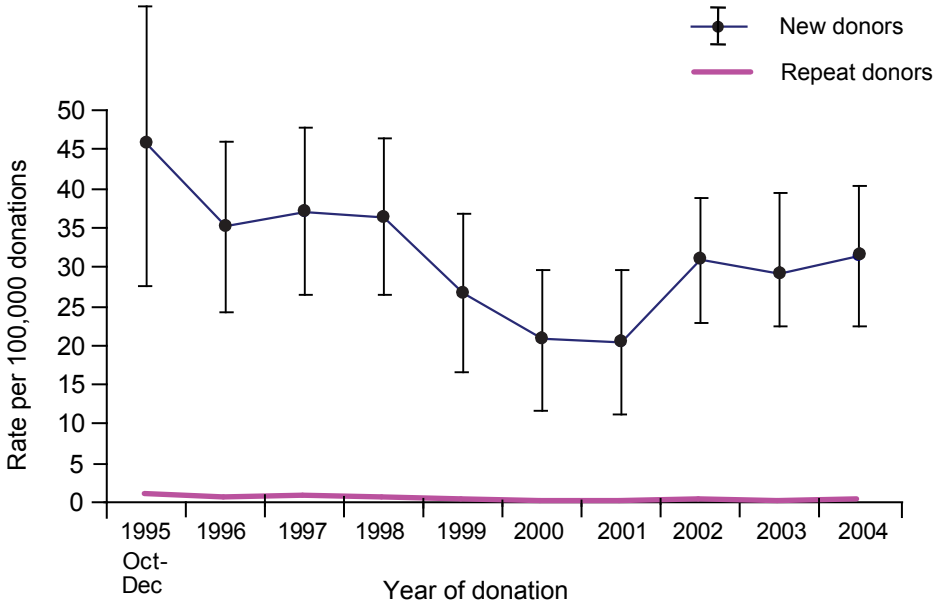
Error bars show 95% confidence limits.

Figure 2 HCV infected blood donations, England and Wales: donations collected from 1 September 1991 to 31 December 2004



Error bars show 95% confidence limits.

Figure 3 HBsAg infected blood donations, England and Wales, donations collected from 1 September 1991 to 31 December 2004



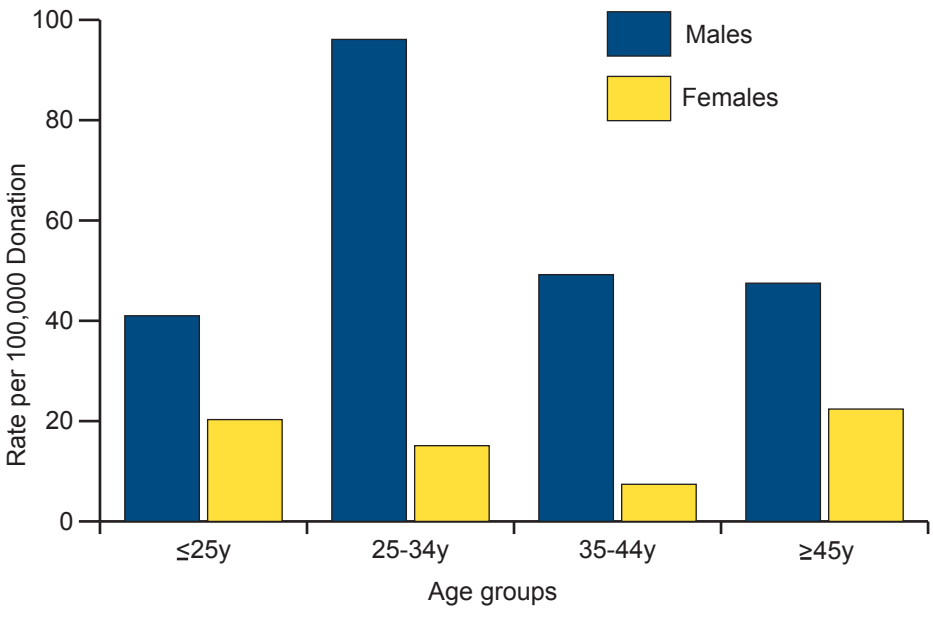
Error bars show 95% confidence limits.

In general, the annual prevalence of HBsAg and anti-HIV in blood donors in England and Wales is stable, and low compared to the rest of Europe. Between 2000 and 2003, there was some evidence of an increasing trend of anti-HIV in new and repeat donors. This trend did not continue in 2004. The prevalence of HBsAg has been at a higher level among new donors since 2002. This can be attributed to an increase in HBsAg positive donations made by non-white donors, most of whom were likely to have acquired their infection in childhood. Between 1999 and 2001, 31% of HBsAg positive donors were of non-white ethnicity compared to 56% from 2002 to 2004. The prevalence of anti-HCV has continued to decline each year since the early 1990s.

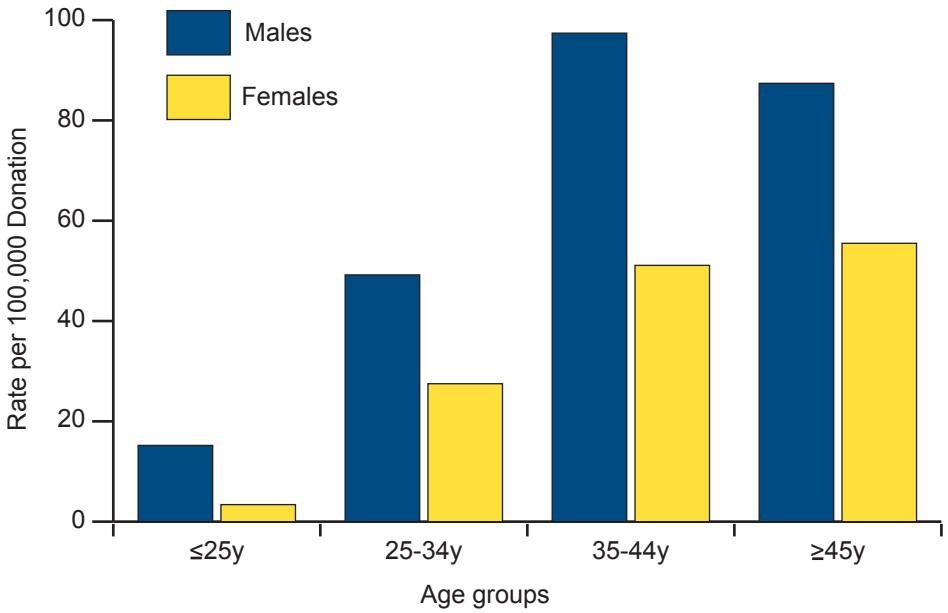
The prevalence of HBsAg and of anti-HCV/HCV RNA in donations collected during 2004 by age group and sex of donors is shown in figure 4. Both markers were detected at a higher prevalence among donations from male donors than females in all age groups. The prevalence of HBsAg decreased with increasing age of male donors, but no trend was observed in females. The prevalence of anti-HCV increased with increasing age in both male and female donors.

Figure 4 Age and sex of HBsAg and anti-HCV positive blood donations, from newly tested donors*: collected during 2004

a) HBsAg



b) Anti-HCV



*Rates adjusted for underreporting by multiplying the denominator estimate for each age and sex group by the proportion of all detected infections for which age and sex information has been reported.

For more information about viral infections in donated blood in the UK in 2004, see the National Blood Service/ Health Protection Agency Centre for Infections Surveillance Programme Annual Report 2004. Available at <http://www.hpa.org.uk/infections/topics_az/BIBD/publications.htm>.

COVER programme: July to September 2005

Quarterly vaccination coverage statistics for children aged up to five years in the United Kingdom.

This report of the Cover of Vaccination Rapidly (COVER) programme presents quarterly coverage data for children in the United Kingdom (UK) who reached their first, second, or fifth birthday during the evaluation quarter, July to September 2005. For the first time, the COVER report now includes hepatitis B coverage data for England starting from July to September 2005.

Children who reached their first birthday in the quarter would have been scheduled to receive their third-dose primary vaccinations (third-dose diphtheria, tetanus, pertussis (DTP vaccine), *Haemophilus influenzae* type b (Hib vaccine), polio vaccine, and MenC vaccine) between November 2004 and January 2005. Children who reached their second birthday would have been scheduled to receive their third-dose primary vaccinations between November 2003 and January 2004 and first measles, mumps, and rubella (MMR) vaccination between July 2004 and January 2005. Children who reached their fifth birthday would have been scheduled to receive their third-dose primary vaccinations between November 2000 and February 2001, their first MMR between July 2001 and March 2002, their pre-school diphtheria, tetanus, acellular pertussis (DTaP) booster, polio, and second-dose MMR from November 2003 onwards.

This is the first quarter to evaluate children at 12 months who have been routinely scheduled for the Pediacel® vaccine (commonly referred to as '5 in 1' vaccine containing DTaP/IPV/Hib) for their whole primary course.

Methods

Data from computerised child-health information systems were submitted in November and December 2005 for children resident in Administrative Regions in Wales, Health Boards in Scotland and Northern Ireland, and for children in the Primary Care Trust (PCT) responsible population (as defined below) in England, on 30 September 2005. Data were collected for those reaching their first, second, or fifth birthdays during the evaluation quarter (July to September 2005) and completing a primary course of each antigen: three doses of diphtheria (D3), tetanus (T3), pertussis (P3), polio (Pol3), *Haemophilus influenzae* type b (Hib3), Meningococcal conjugate Group C (MenC3) vaccines; and one dose of measles, mumps, and rubella (MMR1) vaccine given at any time up to their first or second birthdays. Numbers were also requested for children who had received a primary course of each antigen (DTPol3, P3, and Hib3), a pre-school booster dose (DTPol4), at least one MMR (MMR1), and two doses of MMR (MMR2) given at any time up to their fifth birthday.

For this quarter, COVER data in England were collected by PCT and summarised by Government Office Regions (GORs). The PCTs and GORs have different boundaries and populations to health authorities and regional health authorities used in quarterly reports before April 2003. The PCT

responsible population for COVER data includes all children registered with a general practitioner (GP) whose practice forms part of the PCT, regardless of where the child is resident. In addition, the PCT responsible population will also include any children not registered with a GP, who are resident within the PCTs statutory geographical boundary. Children resident within the PCT geographical area, but registered with a GP belonging to another PCT, are the responsibility of that other PCT <http://www.hpa.org.uk/infections/topics_az/vaccination/REQ05-1.pdf>.

These data are evaluated against the World Health Organization (WHO) targets of 95% coverage annually for each antigen (except MenC) by two years of age at the national level and of at least 90% coverage annually in each strategic health authority (1).

Results

Data were received from all Health Boards (Scotland and Northern Ireland), Administrative Regions (Wales) (PCT/HB/AR), and 292 PCTs (England) (tables 1 and 2). Ten of the 31 PCTs in London were unable to submit data this quarter due to problems relating to the implementation of new child health systems as part of the NHS programme for IT, Connecting for Health (2), and, therefore, coverage for London published this quarter should be interpreted with caution. Coverage for all antigens at all ages are always significantly lower in London compared to all other regions in England and the devolved administrations. When coverage for England and the UK is calculated without these PCTs there is a spurious increase in coverage which would be misleading, so the figures for England and UK have been omitted from this report. It is planned to publish England and UK figures and complete London data retrospectively for this quarter when these data become available.

Coverage at 12 and 24 months

One hundred of the participating localities (32%) achieved at least 95% coverage at 12 months for three doses of diphtheria, tetanus, and pertussis vaccine (DT3, P3). Ninety-eight (31%) achieved at least 95% coverage at 12 months for three doses of Hib vaccine (Hib3), and 96 (31%) for three doses of polio and MenC vaccine (Pol3, MenC). All countries and all English regions except for London and the South East, achieved at least 90% coverage at 12 months for these antigens. One hundred and eighty-two localities (58%) achieved at least 95% coverage at 24 months for DT3, 176 (56%) for Pol3, 169 (54%) for Hib3, and 165 (53%) for P3 and MenC. One Scottish Health Board reached 95% coverage for MMR at 24 months.

Comparisons with the previous quarter can only be made at English region and devolved administration level. Coverage at 12 months increased between 0.1% and 2.1% for all antigens in the North West, Yorkshire and the Humber, South West, Wales, Northern Ireland, and Scotland. Coverage in East of England region also increased, but as six PCTs were unable to report to the last quarter (2) direct comparisons for this region should be made with caution. Coverage decreased at 12 months for all antigens between 0.2% and 2.1% in the remaining English regions (table 1). Coverage for MMR at 24 months increased between 0.1% and 2.2% in all English regions except for London, and in all devolved administrations, reaching 90% and 90.6% in Scotland and Northern Ireland respectively; and ranged between 83% to 87.9% for English regions (excluding London) and Wales. Increases in all other antigens evaluated at 24 months were reported by North West, Yorkshire and the Humber, West Midlands, South East, South West, and Northern Ireland, where increases of between 0.3% and 1.1% were observed (table 2) (2).

Table 1 Completed primary immunisations (all antigens) by 12 months: July to September 2005

Region/Country	PCT/HB/AR* (total)	DTPol3 %	P3 %	Hib3 %	MenC %
Regions of England					
North East	16 (16)	92.5	92.5	92.3	92.6
North West	42 (42)	92.2	92.1	92.1	92.1
Yorkshire and the Humber	34 (34)	90.9	90.9	90.8	90.6
East Midlands	28 (28)	91.6	91.4	91.3	90.2
West Midlands	30 (30)	91.7	91.7	91.8	92.0
East of England	41 (41)	93.5	93.5	93.4	93.2
London	21 (31)	82.3	82.3	81.8	81.7
South East	48 (49)	90.1	90.1	90.0	89.2
South West	32 (32)	94.0	94.0	93.9	94.0
England (Total)	**292 (303)**	**n/a**	**n/a**	**n/a**	**n/a**
Wales	**3 (3)**	**94.5**	**94.5**	**94.3**	**94.4**
Northern Ireland	**4 (4)**	**95.4**	**95.4**	**95.6**	**95.8**
Scotland	**15 (15)**	**96.2**	**96.2**	**96.1**	**95.4**
United Kingdom	**314(325)**	**n/a**	**n/a**	**n/a**	**n/a**

*Reports from PCTs/health boards/administrative regions.
n/a = not available.

Table 2 Completed primary immunisations (all antigens) by 24 months: July to September 2005

Region/Country	PCT/HB/AR* (total)	DTPol3 %	P3 %	Hib3 %	MenC %	MMR1%
Regions of England						
North East	16 (16)	94.8	94.4	94.3	94.2	86.8
North West	42 (42)	94.5	94.2	94.2	94.4	85.7
Yorkshire and the Humber	34 (34)	93.5	93.3	93.4	92.9	85.8
East Midlands	28 (28)	96.1	95.8	95.9	94.7	87.9
West Midlands	30 (30)	95.7	95.4	95.2	95.7	84.6
East of England	41 (41)	94.5	94.3	94.2	94.1	84.1
London	21 (31)	86.7	86.7	86.3	85.7	70.5
South East	48 (49)	94.4	94.1	94.2	93.9	83.0
South West	32 (32)	95.5	95.1	95.5	95.4	85.9
England (Total)	**292 (303)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Wales	**3 (3)**	**96.0**	**95.3**	**95.6**	**95.7**	**85.0**
Northern Ireland	**4 (4)**	**97.1**	**96.9**	**97.1**	**97.4**	**90.6**
Scotland	**15 (15)**	**97.1**	**96.9**	**96.8**	**96.4**	**90.0**
United Kingdom	**314 (325)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

*Reports from PCTs/health boards/administrative regions.
n/a = not available.

Coverage at 5 years

Data were received from 299 localities in England, Northern Ireland, and Wales. Compared to last quarter, coverage at five years increased between 0.1% and 0.9% for DTPol3, P3, Hib3, and MenC in North East, North West, West Midlands, Wales, and Northern Ireland. Coverage for DTPol4 increased between 0.2% and 1.7% in East Midlands, West Midlands, South West, and Wales. Coverage for MMR1 decreased in all regions between 0.1% and 2.3%, except for West Midlands (up 0.3% to 92%); Wales (up 0.9% to 89.3%), and Northern Ireland (up 0.1% to 95.8%) and for MMR2 except for Yorkshire and the Humber (up 0.1% to 76.1%); West Midlands (up 1.5% to 79.1%), and South West (up 0.9% to 79.6%) (table 3) (2). Country-specific data for MenC coverage at five years were 94.8% in Wales and 96.3% in Northern Ireland (table 3). Data were also received for DTPol4 and MMR2 in children reaching their sixth birthday in Scottish health boards; coverage was 94.7% and 88.4% respectively.

Table 3 Completed primary immunisations (all antigens) by 5 years: July to September 2005

Region/Country	PCT/HB/AR* (total)	DTPol3 %	P3 %	Hib3 %	MenC %	MMR1 %	MMR2 %	DTPol4 %
Regions of England								
North East	16 (16)	96.3	95.9	95.8	95.1	92.5	80.7	85.0
North West	42 (42)	95.4	94.6	94.6	94.4	90.9	76.4	80.5
Yorkshire and the Humber	34 (34)	94.5	93.9	93.8	92.4	90.0	76.1	79.0
East Midlands	28 (28)	96.6	96.2	96.3	95.3	92.2	79.4	85.1
West Midlands	30 (30)	96.5	95.9	95.2	95.0	92.0	79.1	84.5
East of England	41(41)	94.2	93.6	93.8	92.6	86.9	76.7	83.0
London	21 (31)	86.1	85.7	85.3	79.4	78.1	56.0	61.5
South East	48 (49)	93.7	93.0	93.0	91.8	87.2	72.8	80.7
South West	32 (32)	96.4	95.7	95.6	94.1	90.6	79.6	86.0
England (Total)	**292(303)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Wales	**3 (3)**	**95.6**	**94.3**	**95.3**	**94.8**	**89.3**	**75.3**	**83.4**
Northern Ireland	**4 (4)**	**97.7**	**97.3**	**96.9**	**96.3**	**95.8**	**85.4**	**86.8**

Scotland 6 years†	**15 (15)**	**–**	**–**	**–**	**–**	**–**	**88.4**	**94.7**
England, Wales, and Northern Ireland	**299(310)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

*Reports from PCTs/health boards/administrative regions.
† No data available at 5 years.
n/a = not available.

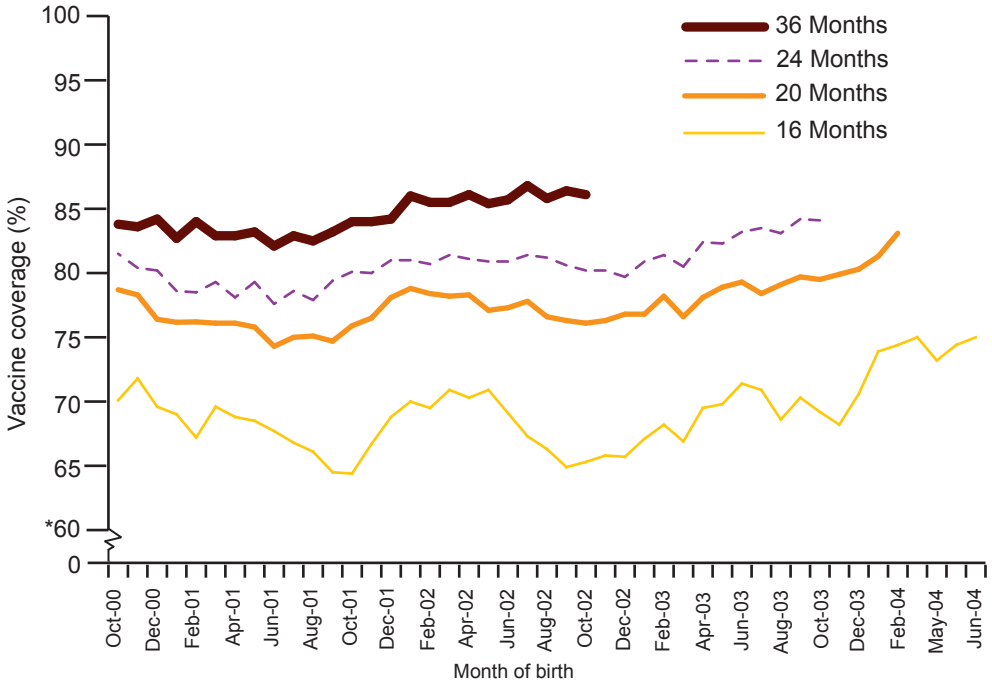
MMR sentinel surveillance scheme coverage
In order to give a more timely indication of trends in MMR coverage, a sentinel surveillance scheme has monitored MMR coverage in a sample of children becoming 16 and 24 months of age in a particular month in England from April 1999. Initially, this information was requested every four months for all children in the participating trusts/health authorities who were turning 16 months or 24 months old in the defined one-month period. From March 2001, the request was made quarterly so that the information coincided with routine COVER reports. Since March 2002, this information has been routinely collected every month and was extended in June 2002 to include coverage at 20 and 36 months of age to help determine whether there is further improvement in coverage as children get older, because some parents delay MMR vaccination. This sentinel scheme is based on a sample of trusts/PCTs in England and represents approximately 20% of the population, although monthly reporting is not always complete for the whole sample. This means that these data are not geographically representative or sufficiently detailed to allow comaprison of different regions, and will be subject to greater variability than the national data due to varying monthly sample size. Data collected from September to November 2005 for children in the four age cohorts is summarised in table 4 (range for the three months was from 73.2% to 74.9%, at 16 months, 80.3% to 83.0% at 20 months, 83.1% to 84.2% at 24 months, and 85.8% to 86.6% at 36 months).

Table 4 Monthly sentinel estimates of measles, mumps, and rubella (MMR) coverage at 16, 20, 24, and 36 months: September 2005 to November 2005

		Age at vaccination			
Evaluation months	**Number of PCT Trusts**	**16 months**	**20 months**	**24 months**	**36 months**
September 05	39	73.2	80.3	83.1	85.8
October 05	38	74.4	81.3	84.2	86.4
November 05	36	74.9	83.0	84.1	86.6

Comments
Coverage of MMR at 24 months in all English regions, except London, and the devolved administrations increased this quarter compared to last (range 0.1% to 2.2%) (2). This is the second quarter in succession when MMR coverage has improved in all areas. Although overall MMR coverage at 24 months for England cannot be calculated for this quarter due to missing data from ten London PCTs, estimates of MMR coverage at 24 months from a sample representing approximately 20% of children in England are available through the MMR sentinel surveillance scheme. Monthly data for children aged 24 months in July, August, and September 2005 (*ie*, born July to September 2003, the same cohort evaluated in this quarterly COVER report) evaluated in August, September, and October 2005 gave coverage estimates of 83.5%, 83.1% and 84.2% respectively (3) (table 4 and figure). These estimates are between 1% and 2% higher than MMR coverage of 82.1% at 24 months for England published in the COVER report for April to June 2005 (quarter 2 2005) (2), and represent increases similar to those observed in English regions in this quarter compared to the previous quarter (range 0.1% to 2.2%).

Figure English sentinel surveillance scheme for MMR vaccination coverage at 16, 20, 24 and 36 months (babies born 2000-2004)



*y-axis is plotted from 60% as the true origin.

Reporting to the COVER programme has been incomplete for the second successive quarter due to problems relating to the implementation of new child health systems as part of the NHS programme for IT; ten PCTs in London were unable to produce reports this time (one PCT in South East was also unable to supply data due to child health system problems unrelated to Connecting for Health). The problems reported last quarter in Essex have been resolved and all PCTs in East of England reported this time. Comparisons, however, between the current and previous quarter for both London and East of England should be made with caution. The HPA is working with the Department of Health, Connecting for Health and Local Service Providers to try to resolve these problems as quickly as possible. It is planned to publish England and UK figures and complete London data retrospectively for this quarter when these data become available.

Hepatitis B vaccine coverage data in England

Introduction

Infants born to mothers who are chronically infected with hepatitis B are at high risk of acquiring infection perinatally (4). Infection acquired at birth leads to chronic infection in about 80% of cases, with the consequent risk of chronic liver disease, cirrhosis or primary hepatocellular carcinoma (5). Since 1988, it has been recommended that such infants receive active vaccination against hepatitis B, with the additional use of hepatitis B immunoglobulin in infants born to anti-HBe negative women. Immunisation can prevent the development of chronic hepatitis B infection in over 90% of such infants (6).

Methods

Following the introduction of universal antenatal testing for hepatitis B in April 2001, the HPA Centre for Infections has been attempting to collate coverage data on infants born to hepatitis B positive mothers at their first and second birthdays. Since April 2005, this data collection has been integrated into the routine COVER programme (ROCR/OR/0105/002). The data presented below represent coverage for three doses of hepatitis B vaccine in those infants born to HBsAg positive mothers who reached the age of one year in this quarter (*ie*, those born between July and September 2004), and coverage of four doses of vaccine in infants who reached two years of age (*ie*, those born between July and September 2003).

Table 5 Neonatal hepatitis B vaccine coverage data in England: July to September 2005

Region	Returns with data	12 month denominator	Coverage at 12 months	24 month denominator	Coverage at 24 months
North East	12	3	100%	2	100%
North West	26	32	81%	26	81%
Yorkshire & the Humber	21	33	85%	39	54%
East Midlands	7	4	75%	6	100%
West Midlands	21	40	65%	36	53%
East of England	23	16	75%	13	31%
London	14	108	89%	91	78%
South East	35	24	71%	31	29%
South West	12	4	100%	5	0%
Total	**171**	**264**	**81%**	**249**	**61%**

Results and Comment

Data was received for 171 PCTs in England, a 14% increase on the number received last quarter (2), and coverage in one year old children reached 81% overall (table 5). Although this is lower than the coverage obtained for routine antigens at this age, the population at risk are highly mobile and high uptake is difficult to achieve (7-11). The largest number of infants at risk are in London, and coverage in London region was 89%, around 7% more than the coverage reported for other antigens at this age (table 1). Coverage in England for four doses in those aged 24 months was lower at 61%, a decrease of 5% on last quarter. As data systems may have only recently been established it is likely that 24 month data is less complete and, therefore, this represents an under-estimate of coverage at this age.

Around half of PCTs are still unable to provide data and many PCTs that sent in returns had zero cases in this period. It is unclear whether these latter returns represent valid data for areas with a low prevalence of infection or missing data – PCTs reporting no infants at risk are asked to review their data to ensure that information is being correctly recorded. It should be possible to estimate the number of infants at risk from HBsAg prevalence in the local antenatal population. PCTs that were unable to submit data are asked to urgently review the systems for obtaining this data so that this important group of infants can be monitored prospectively.

Relevant links for country specific coverage data

- Wales <http://www.wales.nhs.uk/sites/page.cfm?OrgID=368&PID=2278>
- Scotland <http://www.show.scot.nhs.uk/scieh/>
- Northern Ireland <http://www.cdscni.org.uk/surveillance/Coveragestats/default.asp>
- England <http://www.publications.doh.gov.uk/public/sb0416.htm>.

Other relevant links

<http://www.hpa.org.uk/infections/topics_az/vaccination/vac_coverage.htm>
<http://www.mmrthefacts.nhs.uk/>

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