Health Protection Agency

Health Protection Report

weekly report

Current Issue: Volume 1 Number 51 **Published on:** 21 December 2007

Current News

- National increase in *Salmonella* Java infection. England, November 2007
- Norovirus update December 2007

Infection reports

Bacteraemia

- Uncommon pathogens involved in bacteraemia, England, Wales, and Northern Ireland: 2001-2006

Immunisation

- Invasive meningococcal infections, England and Wales, laboratory reports: weeks 46-50/2007
- COVER programme: July to September 2007, including first evaluation of children at 12 months who were routinely offered pneumococcal vaccine (PCV) and data on the PCV catch-up programme

Radiation

- Mobile Telecommunications and Health Research (MTHR) Programme
- Recent newsletters on radiation hazards

Chemicals

- Providing a service in the Republic of Ireland
- Chemical Hazards and Poisons Report – Issue 10

HPR subscription

To subscribe to the Health Protection Report, please email hpr@hpa.org.uk

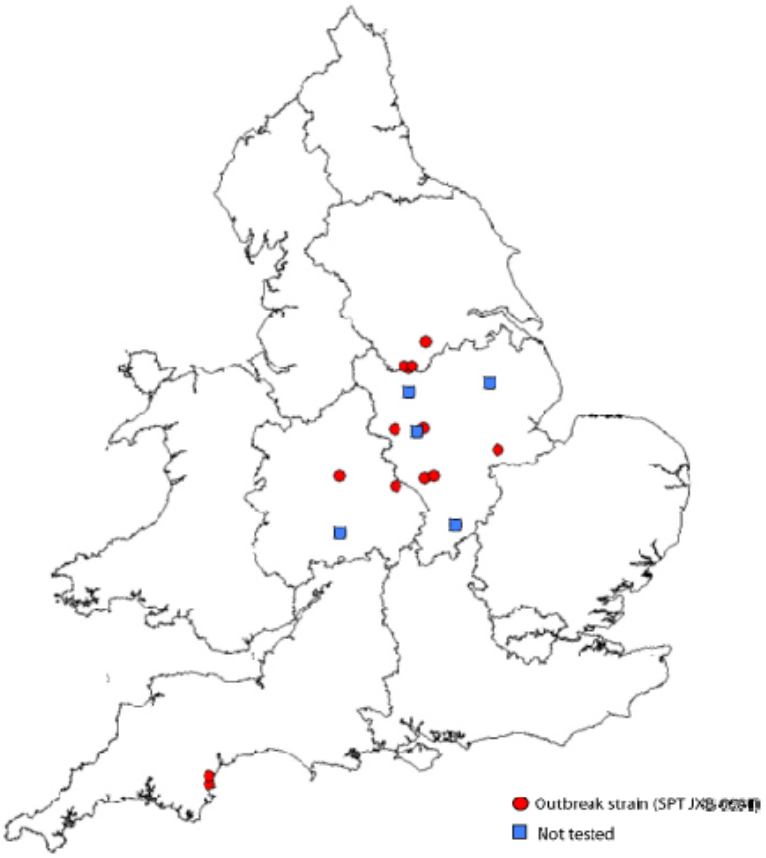
News

National increase in *Salmonella* Java infection: England: November 2007

Since 1 November 2007 the Health Protection Agency (HPA) Laboratory of Enteric Pathogens (LEP) have received and provisionally confirmed 23 human cases of *Salmonella* Paratyhi B variant Java phage type (PT) 3B Var 9 (= *S.* Java PT 3B var 9) infection in residents of England. Two cases reported recent contact with other individuals with gastrointestinal symptoms and were excluded, leaving 19 primary UK-acquired cases of fully antibiotic sensitive *S*. Java PT 3B Var 9 infection, and one with the resistance profile (R-type) of GKSSuT (G, gentamicin, K, kanamycin; S, streptomycin; Su, sulphonamides; T, tetracyclines)

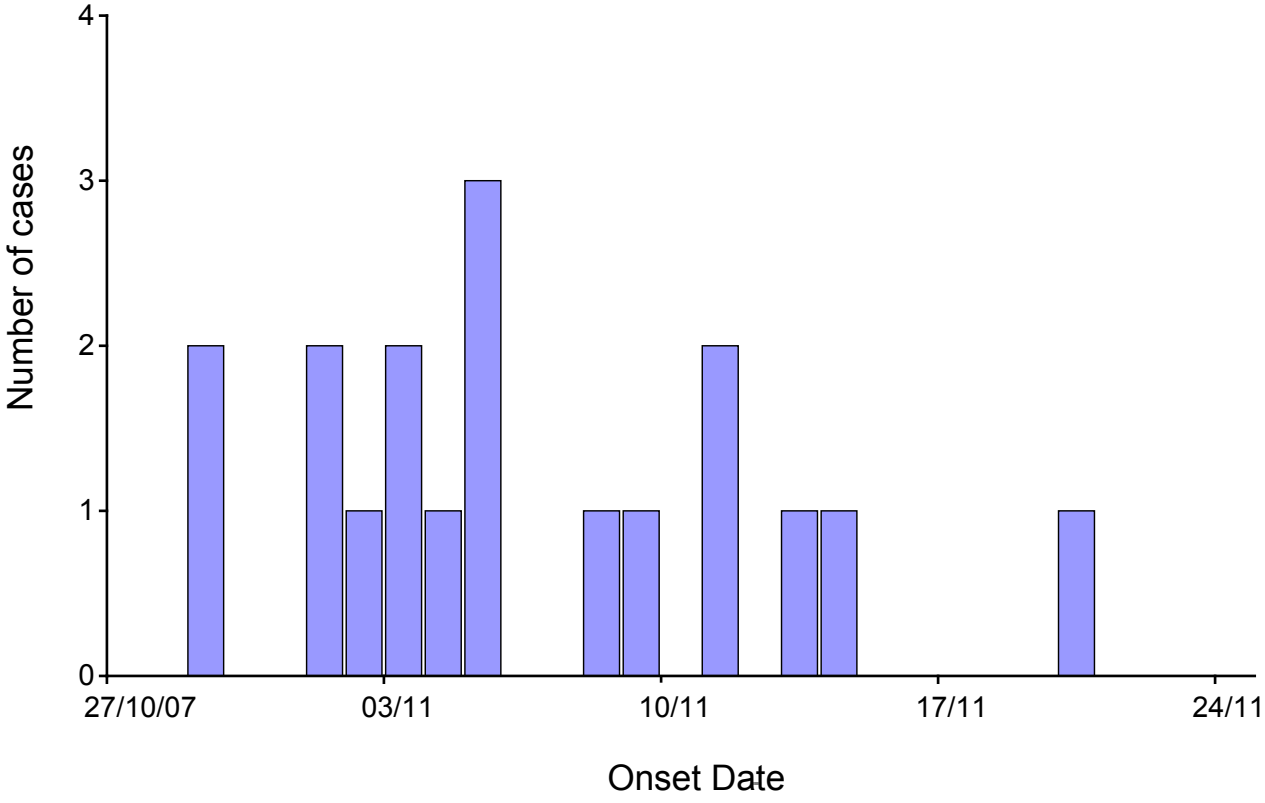
Cases ranged in age from 1 to 87 years (median 40 years) and 52% of cases are female. Most were residents of the eastern parts of central England (figure 1). Pulsed-field gel electrophoresis (PFGE) has been conducted on 15 isolates, and 14 were considered to exhibit the outbreak strain PFGE profile designated SPTJXB.0001.

Figure 1. Geographical distribution of cases of *Salmonella* Paratyhi B variant Java since 1 November 2007 (N=19)



The onset of illness for the majority of cases was between 29 October and 20 November (figure 2)

Figure 2. Epidemic curve (n=18, for whom onset dates are known)



In response to this increase, the HPA conducted epidemiological investigations to generate hypotheses for disease transmission. Twelve cases in England were interviewed between 11 and 15 December to clarify symptoms and develop an hypothesis for disease transmission.

Cases' onset dates ranged from 29 October to 17 November 2007. Diarrhoea (100%), abdominal pain (100%), headaches (86%) and fever (71%) were the most commonly reported symptoms. One case (14%) reported blood in stools and, not everyone who experienced nausea (57%) also experienced vomiting (43%). Illness ranged from four to 47 days (median 25 days) and one case was admitted to hospital (for six days) as a result of their illness.

Eleven of the 12 cases reported the consumption of salad vegetables, however, these were bought from a number of retailing and catering outlets. No single leaf type was clearly identified. The frequencies of consumption of other foods were all markedly lower.

No further cases have been reported to CFI since 11 December. At this point, there are too few cases to perform a case-control study with sufficient statistical power, so there is insufficient evidence to point to one source of the outbreak.

Norovirus update December 2007

Noroviruses frequently cause outbreaks in environments where groups congregate and infection can be rapidly transmitted by both fecal and vomitus routes. Outbreaks affect healthcare facilities worldwide, and may cause massive disruption to providing care, substantial economics loss, and, according to some reports, mortality in vulnerable patient populations.

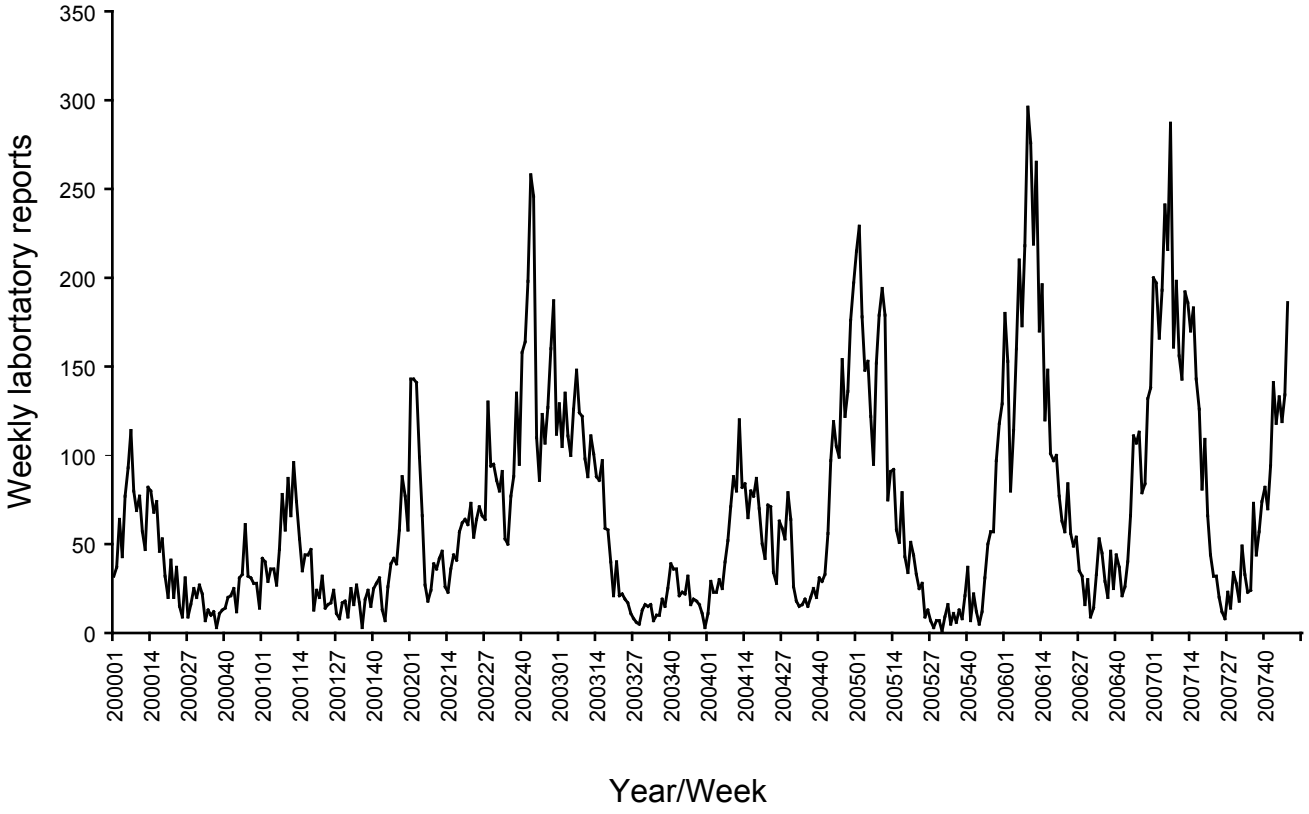
More than three-quarters of all norovirus outbreaks reported to the HPA Centre for Infections occur in health-care settings (1765/2186 outbreaks reported from 2000 to 2006). We have previously estimated that in epidemic seasons, noroviruses may cost the NHS in excess of £100M per year. Norovirus, like influenza, has strong winter-time seasonality. The 2007 norovirus season has started uncharacteristically early, with a greater number of cases nationally from the first week of November.

The number of cases reported this year surpasses all other recent years, except 2002, which was the most severe season recorded and was associated with the emergence of a new antigenic virus type. These laboratory reports reflect only a tiny fraction (estimated at 1:1500) of all infections that occur in the community and hospitals. The figure below illustrates that the increase in norovirus shows no signs of abatement up to week 48 of 2007. Some caution should, however, be exercised in the interpretation of the 2007 data. This is the first season that sensitive molecular diagnostics have been used in Regional Laboratories. Therefore, the increased numbers may, in part, be a result of improved diagnostic capacity in the regions.

Table. Norovirus laboratory reports from England and Wales at the beginning of the norovirus season

Year	weeks 36 to 48
2000	288
2001	311
2002	1845
2003	313
2004	803
2005	281
2006	685
2007	1325

Figure Weekly norovirus laboratory reports, England and Wales: 2000 to 2007 (week 48)



Bacteraemia

Uncommon pathogens involved in bacteraemia, England , Wales and Northern Ireland : 2001-2006

This report concerns bacteria identified from blood cultures and reported voluntarily by laboratories in England, Wales and North Ireland , from 2001 to 2006. The reports were made to the Health Protection Agency's Centre for Infections. Data were extracted on 11 December 2007.

Uncommon pathogens involved in bacteraemia are defined as organisms from genera with small numbers of reports in 2006.

There were between 50 and 100 reports for each of *Gemella* spp, *Prevotella* spp, *Sphingomonas* spp and *Ochrobactrum* spp involved in bacteraemia during 2006.There were a further 23 genera with between 10 and 50 reports and 46 genera with less than ten reports during 2006.

There appear to be no discernable trends or clusters identifiable by the data presented here. Analyses of the individual genera are not possible due to the small number of cases reported.

Some of these voluntary reports provide further details on clinical history, *eg* history of recent surgery, recent travel history, and risk factors (*eg* use of an intravascular line). This limited information does not include details of the clinical significance of the infection, whether it was acquired in the community or in hospital, or whether or not it was identified and treated as the cause of the clinical condition.

A list of uncommon pathogens reported between 2001 and 2006 can be found on the HAP website at http://www.hpa.org.uk/infections/topics_az/bacteraemia/Uncommon/Uncommon_2001_2005.htm

Specific queries about this report can be sent to hcai.amrdivision@hpa.org.uk .

Immunisation

Invasive meningococcal infections, England and Wales, laboratory reports: weeks 46-50/2007

	Method of diagnosis			Total reports 46-50/2007	Cumulative* total to week 50/2007
	CSF and blood Culture	Non-culture	Other sites		
Group A	–	–	–	–	1
B	48	50	3	101	1029
C	1	2	–	3	36
W135	2	1	–	3	30
X	–	–	–	–	1
Y	–	–	1	1	35
Z/29E	–	–	–	–	1
Ungroupable	–	–	–	–	2
Ungrouped	–	7	–	7	84
Total	**51**	**60**	**4**	**115**	**1219**

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

COVER programme: July to September 2007, including first evaluation of children at 12 months who were routinely offered pneumococcal vaccine (PCV) and data on the PCV catch-up programme.

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

This report of the 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 2007.

Children who reached their first birthday in the quarter were the first cohort to have been scheduled to receive their primary vaccinations according to the new schedule introduced on 4 th September 2006 [1] (three doses diphtheria, tetanus, acellular pertussis, polio, and *Haemophilus influenzae* type b vaccine (DTaP/IPV/Hib vaccine) two doses meningococcal

serogroup C conjugate vaccine (MenC vaccine) and pneumococcal vaccine (PCV), between November 2006 and January 2007.

Children who reached their second birthday would have been scheduled to receive their third-dose primary vaccinations between November 2005 and January 2006 and first measles, mumps, and rubella (MMR) vaccination between August 2006 and January 2007. According to the timetable recommended by the Department of Health, these children would have been scheduled to receive one dose of PCV as part of the pneumococcal catch-up programme run from September 2006 to March 2007 [1].

Children who reached their fifth birthday would have been scheduled to receive their third-dose primary vaccinations between November 2002 and January 2003, their first MMR between August and January 2004, their pre-school diphtheria, tetanus, acellular pertussis, inactivated polio (DTaP/IPV) booster, and second-dose MMR from November 2005 onwards.

An evaluation of the pneumococcal catch-up programme is also included in this report.

Methods
Methods of data collection for COVER, sentinel MMR coverage and neonatal hepatitis B vaccination coverage are described on the HPA website at:
http://www.hpa.org.uk/infections/topics_az/cover/methods.htm .

Results
Data were received from all Health Boards (HBs) in Scotland and Northern Ireland, Administrative Regions (ARs) in Wales, and 144/152 Primary Care Trusts (PCTs) in England.

Fifteen of the 144 reporting PCTs were unable to provide PCV coverage at 12 months and four are still experiencing difficulties calculating coverage of two doses of MenC at 12 months (following changes to the primary vaccination schedule from September 2006 [1]) as reported in the previous report [2]. No Health Boards in Northern Ireland were able to report either PCV coverage or two doses of MenC at 12 months as their child health system is still undergoing modifications to capture these data (table 1).

All eight PCTs unable to provide any data this quarter were in London. Five of these use the Child Health Interim Application (CHIA) child health system and the other three have recently moved to using the RiO child health system. One other London PCT producing COVER data for the first time using RiO has not been able to provide figures for the 12 month cohort.

Data quality issues can be expected following the addition of new vaccines to and changes to the immunisation schedule. Furthermore, the migration of data between different child health systems may result in a temporary inability to produce reliable COVER data as has been seen in London. Many London PCTs are expected to be moving onto RiO in the next year and therefore interruptions in reporting in other PCTs can be expected for some time. Problems with producing coverage data using the CHIA system have been reported previously [2] and ongoing data quality concerns and caveats have been issued by six of these PCTs. These factors contribute to the continuing need for caution in evaluating the vaccination programme in London.

Individual PCT data for this quarter are published on the HPA website at
<http://www.hpa.org.uk/infections/topics_az/cover/default.htm>.

Coverage at 12 and 24 months
Forty-two of the 165 participating PCTs/HBs/ARs (25%) achieved at least 95% coverage at 12 months for three doses of diphtheria, tetanus, pertussis, polio and Hib vaccine (DTaP/IPV/Hib3) and 31/159 (20%) for at least two doses of MenC vaccine. In the first evaluation of PCV coverage at 12 months 23/154 PCTs/HB/ARs (15%) achieved at least 95%. At least 90% coverage at 12 months for DTaP/IPV/Hib3 was achieved for all countries

and all English SHAs apart from London and South East Coast SHAs where reported DTaP/IPV/Hib3 coverage was 78.8% and 86.9% respectively.

Ninety-seven PCTs/HBs/ARs (59%) achieved at least 95% coverage at 24 months for DTaP/IPV/Hib3, and 102 (62%) for MenC. One Scottish HB and one PCT in the West Midlands achieved 95% coverage for MMR at 24 months.

UK coverage at 12 months for DTaP/IPV/Hib3 was similar to that reported in the April to June 2007 quarter at 91% (table 1) [2]. UK MenC and PCV coverage at 12 months could not be calculated due to missing Northern Ireland data; Scotland achieved 96% and Wales 94.2% for both antigens. In England MenC coverage at 12 months was 88.2% (ranging from 93.2% in the South West to 70.7% in London) and PCV coverage was 85.7% (range 93.6% in the West Midlands to 72.1% in London (table 1) [2].

UK DTaP/IPV/Hib coverage at 24 months was 94.1% and MenC was 94%, 0.4% and 0.5% higher than the April to June 2007 coverage respectively. UK MMR coverage at 24 months decreased slightly to 85.2% from 85.6%. It was highest in Scotland and Northern Ireland , both achieving more than 90%. Coverage for English regions (excluding London) and Wales ranged from 81.3% to 89%. (table 2). London coverage remained similar to the previous quarter at 72.6%.

Table 1 Completed primary immunisations (all antigens) by 12 months: July to September 2007

Strategic Health Authorities (SHAs)/Country	PCT/HB/AR* (total)	DTaP/IPV/Hib3 %	MenC2 %	PCV2 %
English SHAs				
North East	12 (12)	94.3	92.1	90.9
North West	24 (24)	92.7	90.6	89.9
Yorkshire and the Humber	14 (14)	90.1	89.3	82.5
East Midlands	9 (9)	92.2	89.6	83.5
West Midlands	17 (17)	92.8	92.8	93.6
East of England	14 (14)	93.0	91.9	88.6
London	22 (31)	78.8	73.7	72.1
South Central	9 (9)	93.2	91.8	91.9
South East Coast	8 (8)	86.9	82.0	86.3
South West	14 (14)	92.7	93.2	88.2
England (Total)	**143 (152)**	**90.1**	**88.2**	**85.7**
Wales	**3 (3)**	**95.2**	**94.2**	**94.2**
Northern Ireland	**4 (4)**	**95.3**	**n/a**	**n/a**
Scotland	**14 (14)**	**96.5**	**96.1**	**96.0**
United Kingdom	**164 (173)**	**91.0**	**n/a**	**n/a**

Table 2 Completed primary immunisations (all antigens) by 24 months: July to September 2007

Strategic Health Authorities (SHAs)/Country	PCT/HB/AR* (total)	DTaP/IPV/Hib3 %	MenC %	MMR1%
English SHAs				
North East	12 (12)	95.8	95.9	89.0
North West	24 (24)	96.1	93.9	87.2
Yorkshire and the Humber	14 (14)	93.5	94.4	84.5
East Midlands	9 (9)	95.5	96.0	88.3
West Midlands	17 (17)	96.3	96.4	88.2
East of England	14 (14)	95.1	96.4	84.9
London	23 (31)	84.8	84.1	72.6
South Central	9 (9)	94.9	95.0	86.8
South East Coast	8 (8)	91.4	91.7	81.3
South West	14 (14)	95.3	96.3	85.6
England (Total)	**144 (152)**	**93.5**	**93.5**	**84.2**
Wales	**3 (3)**	**96.9**	**95.2**	**88.0**
Northern Ireland	**4 (4)**	**97.3**	**97.1**	**91.2**
Scotland	**14 (14)**	**98.0**	**97.2**	**91.7**
United Kingdom	**165 (173)**	**94.1**	**94.0**	**85.2**

* Primary Care Trusts/health boards/administrative regions.

Coverage at 5 years

All regions, except for London, achieved 90% coverage for DTP/Pol3, Hib3 and MenC, with the North East, East Midlands, West Midlands, South West, Northern Ireland and Scotland reporting at least 95% coverage for all three (table 3). Excluding London, DTaP/IPV coverage ranged from 76.9% to 86.0% in England. MMR1 and MMR2 coverage for England remained similar to the last two quarters at 86.8% and 73.1% respectively [2]. MMR2 coverage in Wales, Northern Ireland, and Scotland all increased by 1.3%, 0.5% and 6.7% respectively. London coverage for all immunisations was lower than corresponding values for other English regions, in particular coverage for MMR2 was 49.9% and DTaP/IPV was 50.0%, at least 20% lower than coverage in any other region.

Table 3. Completed primary immunisations and boosters (all antigens) by 5 years: July to September 2007

Strategic Health Authorities (SHAs)/Country	PCT/HB/AR* (total)	DTP/Pol3 %	Hib3 %	MenC %	MMR1 %	MMR2 %	DTaP/IPV %
English SHAs							
North East	12 (12)	95.8	95.5	95.9	92.0	82.2	86.0
North West	24 (24)	96.2	94.7	95.1	91.3	78.8	82.9
Yorkshire & Humber	14 (14)	93.5	93.0	92.9	89.0	74.4	76.9
East Midlands	9 (9)	96.2	95.4	95.4	91.2	78.5	84.4
West Midlands	17 (17)	95.8	95.0	95.0	90.7	80.0	84.9
East of England	14 (14)	93.5	92.9	93.1	85.5	73.9	79.1
London	23 (31)	79.2	81.6	79.2	73.4	49.9	50.0
South Central	9 (9)	92.7	91.8	91.4	88.3	74.6	80.6
South East Coast	8 (8)	91.1	91.3	91.1	83.8	71.0	77.6
South West	14 (14)	95.8	95.2	95.4	89.2	77.2	83.6
England (Total)	**144 (152)**	**92.4**	**92.2**	**92.0**	**86.8**	**73.1**	**77.4**
Wales	**3 (3)**	**95.3**	**95.0**	**93.3**	**90.1**	**78.8**	**85.3**
Northern Ireland	**4 (4)**	**97.4**	**96.5**	**96.6**	**94.6**	**86.1**	**85.0**
Scotland	**14 (14)**	**98.3**	**97.0**	**97.9**	**94.9**	**85.7**	**89.4**
United Kingdom	**165 (173)**	**93.2**	**92.9**	**92.7**	**87.8**	**74.8**	**78.8**

* Primary Care Trusts/health boards/administrative regions.
†(27/31for MMR2 and DTaP/IPV)

Pneumococcal (PCV) catch-up evaluation

The pneumococcal vaccine (PCV) catch-up campaign started on 4 th September 2006 and was planned to run for six months, although some children received vaccine after this period [1]. Children who were over 2 months of age and under 2 years of age at the time of introduction were invited to receive either one or two doses of PCV appropriate to their age. Country specific evaluations for Wales, Scotland and England are detailed below.

Wales

Data for all children offered pneumococcal catch-up vaccine were extracted at the beginning of December 2007 from the central National Community Child Health Database (NCCHD), which is compiled from data collected from the NHS Trust Child Health Offices throughout Wales and maintained centrally by Health Solutions Wales (table 4a). Three age groups were analysed. The first group were children aged 13 to 24 months at the start of the campaign and matched the cohort evaluated in England, although data collection was at least three months later. Overall PCV (one dose) coverage in Wales for these children was 64.3%, with variation between ARs ranging from 60.1% in Mid and West Wales to 67.7% in South East Wales (table 4a). Children in the second age group were 7 to 12 months in September 2006 and overall PCV (one dose) coverage was 82.0%, ranging from 78.9% in Mid and West Wales to 84.2% in South East Wales. Average PCV (two dose) coverage for the third age group, aged 3 to 6 months in September 2006, was 59.7%, ranging from 59.2% in North Wales to 65.7% in South East Wales.

Table 4a. Vaccine coverage of 'catch-up' Pneumococcal vaccine by age group at the start of the campaign: Administrative Regions in Wales

Administrative Regions	13 to 24m PCV catch-up (%)	7 to 12m PCV catch-up (5)	3 to 6m PCV catch-up (%)
South East Wales	67.7	84.2	65.7
Mid and West Wales	60.1	78.9	61.8
North Wales	63.4	82.0	59.2
Wales	**64.3**	**82.0**	**59.7**

Scotland

Data for all children offered pneumococcal catch-up vaccine were extracted from the Scottish Immunisation Recall System (SIRS) at the beginning of November 2007 and evaluated in three cohorts. Overall coverage of catch-up PCV (one or two doses appropriate to their age) in Scotland was 86.1%. Variation in uptake across Health Boards ranged from 80.8% in NHS Highland to 89.3% in NHS Greater Glasgow and Clyde (excluding Island Boards) [3]. Coverage was 84.9% for children aged 13 to 24 months, 91.6% for 8 to 13 month olds, and 84.3% for 2 to 8 month olds. A detailed summary has been published on the ISD Scotland website, available at <http://www.isdscotland.org/isd/5252.html>.

England

English PCTs were sent a one-off data collection for those children aged 13 to 24 months at the beginning of the programme. Data for younger children in the catch-up programme are evaluated as they pass through the routine COVER reporting cohorts at 12 and 24 months [2,4]. The percentage of children born between 5 th September 2004 and 3 rd August 2005, vaccinated with one dose of PCV during the 'catch-up' as at 30 th June 2007 were requested. The request was sent out in July 2007 with a return date of 4 th September 2007 [5], at least 2 to 3 months earlier than in Wales and Scotland .

One hundred and twenty-seven English PCTs (84%) provided catch-up data. Average coverage for PCV (one dose) for England was 64.6% with a variation in uptake between SHAs ranging from 44.0% in London to 72.8% in the South West (Table 4b).

Table 4b. Vaccine coverage of one dose of 'catch-up' Pneumococcal vaccine for children aged 13-24 months at the start of the campaign: Strategic Health Authorities in England

Strategic Health Authorities (SHAs)	Number of reporting PCTs* (total)	PCV Catch-Up %
North East	9 (12)	70.3
North West	21 (24)	66.2
Yorkshire and the Humber	13 (14)	62.0
East Midlands	9 (9)	66.7
West Midlands	17 (17)	72.7
East of England	11 (14)	70.1
London	17 (31)	44.0
South Central	9 (9)	64.3
South East Coast	8 (8)	61.4
South West	13(14)	72.8
England (Total)	**129 (152)**	**64.6**

There are several reasons why coverage estimates in England should be viewed as conservative and probably under-estimates; (i) they represent information on CHISs at the beginning of September and for some CHISs data may be incomplete owing to data entry backlogs caused by the introduction of two new vaccines and modifications to the schedule, (ii) some CHISs have experienced delays in modifying the software to produce the appropriate reports in time for the catch-up request, and (iii) some PCTs, particularly in London, had moved or were currently moving onto to new CHISs affecting their ability to capture and/or report data at the time the request was made.

In addition, Scotland and Wales have their own national child health systems (SIRS and NCCHD) allowing for greater standardisation and making the extraction of data and the production of national and local coverage data much less complex than in England. In England there are several different CHISs in use, including a number which have been newly implemented and are still undergoing development. Many PCTs have either recently moved or are intending to move onto new CHISs, hindering reporting. Also, the new configurations for Strategic Health Authorities (SHAs) (10) and PCTs (152) in England , created in July and October 2006 respectively as part of the reorganisation of the NHS, (<http://www.dh.gov.uk/en/Policyandguidance/Organisationpolicy/Healthreform/DH_4135663>) added a further layer of complexity to producing local COVER data. Incomplete data due to entry backlogs caused by the introduction of two new vaccines and modifications to the schedule may be pertinent to all areas of the UK, however, in Scotland and Wales the PCV catch-up evaluation reports were run at least three months after some English PCTs reports, making this less likely to be a problem in these countries.

MMR sentinel surveillance scheme coverage in England
For methods of data collection see <http://www.hpa.org.uk/infections/topics_az/cover/methods.htm>.

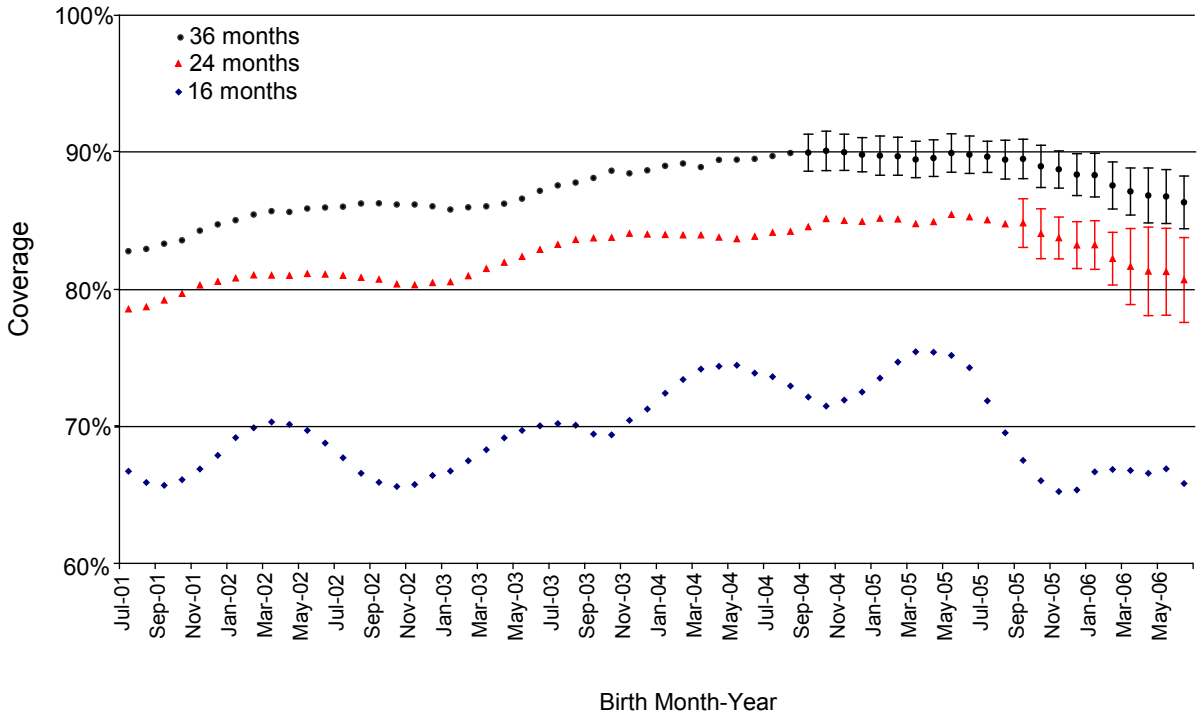
Data collected from September to November 2007 for children in the four age cohorts is summarised in table 5. The range for the three months was from 65.1 to 66.6%, at 16 months, 77.4 to 79.9% at 20 months, 83.0% to 84.4% at 24 months, and 89.6% to 90.3% at 36 months).

Table 5 Monthly sentinel estimates of measles, mumps rubella (MMR) coverage at 16, 20, 24 and 36 months: September to November 2007

Evaluation month	Proportion of children vaccinated at each age				
	Number of PCT/trusts	16 months	20 months	24 months	36 months
September 07	40	65.1	79.9	84.4	89.6
October 07	40	65.8	79.1	84.1	90.3
November 07	39	66.6	77.4	83.0	90.2

The figure shows observed and projected MMR coverage at 16, 24 and 36 months in England for birth cohorts from July 2001 to June 2006. Projections of coverage at 24 and 36 months were made using the most recent coverage data for the same birth cohort and an estimate of the proportion, *p*, of those unvaccinated at each earlier age who were subsequently vaccinated by the later age. The proportion was estimated using the most recent 18 months data where final coverage was known. 95% confidence intervals were calculated based on the variability of *p* in the past data. The estimates of *p* were as follows: 43.5% for 16 to 24 months, 60.0% for 16 to 36 months, 17.9% for 20 to 24 months, 43.1% for 20 to 36 months and 30.9% for 24 to 36 months. Projections make the assumption that *p* remains constant over the period of the projection. Data at 20 months is not shown to simplify the graph as the line is close to that plotted for the 24 month data.

Figure. Observed and projected MMR coverage at 16, 24, and 36 months by birth year and month in England



Data shown are 5 month moving averages.
Projections are shown with 95% confidence intervals.

Neonatal hepatitis B vaccine coverage data in England

The data presented in table 5 represents coverage for three doses of hepatitis B vaccine in those infants born to hepatitis B surface antigen (HBsAg) positive mothers who reached the age of one year in this quarter (i.e. those born between July and September 2006), and coverage of four doses of vaccine in infants who reached two years of age (i.e. those born between July and September 2005).

Table 6. Neonatal hepatitis B coverage in England: July and September 2007

Region	Returns with 12 month data	12 month denominator	Coverage at 12 months	Returns with 24 month data	24 month denominator	Coverage at 24 months
North East	9 (12)	13	62%	9 (12)	13	54%
North West	19 (24)	59	63%	20 (24)	50	58%
Yorkshire & the Humber	13 (14)	34	71%	14(14)	38	66%
East Midlands	6 (9)	31	71%	6 (9)	25	40%
West Midlands	16 (17)	64	73%	16 (17)	73	51%
East of England	13 (14)	47	62%	13 (14)	35	51%
London	21 (31)	142	76%	21 (31)	124	58%
South Central	6 (9)	19	79%	6 (9)	12	42%
South East Coast	7 (8)	8	50%	7 (8)	1	0%
South West	11 (14)	19	58%	11 (14)	11	36%
Total	**121 (152)**	**436**	**70%**	**123 (152)**	**382**	**54%**

Data was received for 121/152 (80%) PCTs in England , 1% more than reported in the last quarter although some of the returns may relate to only part of the PCT due to recent mergers [6]. Coverage in England for three doses in those aged one year reached 70% overall, a 4% decrease on last quarter (Table 6). Although this is lower than the coverage obtained for routine antigens at this age (table 1), the population at risk are highly mobile and high uptake is difficult to achieve [7-11]. The largest number of infants at risk is in London where coverage was above the national average at 76% at 12 months. Coverage in England for four doses in those aged 24 months was lower at 54%, the same as last quarter.

Commentary

This is the first COVER report to evaluate children at 12 months who were routinely offered PCV when the vaccine was introduced in September 2006. It also provides data on the PCV catch-up programme which started in the same month, for children aged over 2 months and under 2 years.

PCV vaccine appears to have been well accepted with country level coverage for routine 12 month PCV highest in Scotland at 96.0%, closely followed by Wales with 94.2%. In England coverage averaged 85.7%, ranging from 93.6% in the West Midlands to 72.1% in London. This exceeds the first evaluation of English coverage for MenC at 12 months in July to September 2000 when 71.8% coverage was achieved [12]. Estimates of coverage for children aged 13 to 24 months in the PCV catch-up programme were 64.6% in England, 64.3% in Wales and 84.9% in Scotland.

The quality of vaccine coverage data can be expected to be effected following any major changes to the immunisation schedule including the addition of new vaccines, or changes to the child health computer systems that collate these statistics. In addition, migration of data to a new child health system can result in the inability to produce reliable or timely COVER data until the new system has been thoroughly validated. All of these factors have affected the provision of both routine and catch-up PCV coverage data this quarter in some English PCTs. In addition, the multiplicity of CHISs across England and the complexities of aggregating data by new PCT boundaries also potentially contribute to under-estimates of coverage. An outstanding modification to the child health system in Northern Ireland has resulted in Health Boards being unable to report either PCV coverage or two-dose MenC coverage at 12 months. Consequently 12 month UK coverage has not been calculated for these antigens.

Despite challenges to data collection, the coverage estimates of both routine and catch-up PCV are encouraging. The impact of the PCV immunisation programme on invasive pneumococcal disease (IPD) in children under two has already been observed, with a significant reduction in IPD caused by the serotypes included in the vaccine [13,14] .

Decreases in 16 month MMR coverage were reported in the October to December 2006 and January to March 2007 COVER reports [14,15] probablky due to some parents or PCTs delaying MMR1 (normally scheduled at around 13 to 15 months of age) by several months to accommodate the newly introduced booster doses of Hib/MenC and PCV. These delays may account for the small drop of 0.4% in UK MMR coverage at 24 months (to 85.6%) observed this quarter.

Relevant links for country specific coverage data:

England

http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/immunisation

Northern Ireland

<http://www.cdscni.org.uk/surveillance/Coveragestats/default.asp>

Scotland
<http://www.show.scot.nhs.uk/scieh/>

Wales
<http://www.wales.nhs.uk/sites/page.cfm?OrgID=368&PID=2278>

Other relevant links
http://www.hpa.org.uk/infections/topics_az/cover/default.htm
<http://www.mmrthefacts.nhs.uk/>

References

1. Department of Health. *Important changes to the childhood immunisation programme. PL CMO (2006) 1*. London: Department of Health, 2007. Available online at http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefmedicalofficerletters/DH_4137171

2. HPA. COVER programme: April to June 2007. *Health Protection Report* [serial online] 2007 [cited 17December 2007]; 1 (39): Immunisation. Available at <http://www.hpa.org.uk/hpr/archives/2007/hpr3907.pdf >.

3. ISD Scotland. *Child Health. Childhood Immunisations. Pneumococcal Conjugate Vaccine Catch-up Campaign 4 September 2006 – 3 September 2007*. Available at <http://www.isdscotland.org/isd/5252.html>.

4. HPA. COVER programme: January to March 2007. *Health Protection Report* [serial online] 2007 [cited 17 December 2007]; **1** (26): Immunisation. Available at <http://www.hpa.org.uk/hpr/archives/2007/hpr2607.pdf>

5. Data Set Notice Changes – 2006. *DSCN 21/2006: Modification of existing vaccination and immunisation data return collected through the COVER (Cover of Vaccination Evaluated Rapidly) system in line with changes to the Childhood Immunisation Programme*. Available online at <http://www.connectingforhealth.nhs.uk/dscn/dscn2006>

6. Department of Health. *Policy and Guidance. Health reform article. Reorganisation of ambulance trusts, SHAs and PCTs.* Available online at <http://www.dh.gov.uk/PolicyAndGuidance/OrganisationPolicy/HealthReform/HealthReformArticle/fs/en?CONTENT_ID=4135663&chk=4bDZqY>

7. Smith CP, Parle M, Morris DJ. Implementation of government recommendations for immunising infants at risk of hepatitis B. *BMJ* 1994; **309** :1339

8. Wallis DE and Boxall EH. Immunisation of infants at risk of perinatal transmission of hepatitis B: retrospective audit of vaccine uptake. *BMJ* 1999; **318** (7191):1112-3.

9. Dunn J, Shukla R, Neal K. Survey of neonatal hepatitis B vaccination in Leicestershire. *Comm Dis Public Health* 1999; **2** (3): 218-9.

10. Larcher VF, Bourne J, Aitken C, Jeffries D, Hodes D. Overcoming barriers to hepatitis B immunisation by a dedicated hepatitis B immunisation service. *Arch Dis Child* 2001; **84** (2):1149.

11. Nesbitt A, Heathcock R, Dunn J, Shukla R, Neal K. Integration of hepatitis B vaccination into national immunisation programmes. *BMJ* 1997; **315** : 121.

12. PHLS. COVER programme: July to September 2000. *Commun Dis Rep CDR Wkly* [serial online] 2001 [cited 18 December 2007]; 11 (4): Immunisation. Available at <http://www.hpa.org.uk/cdr/archives/2001/cdr0401.pdf>

13. HPA. *Pneumococcal Disease*. HPA website [online]. London: HPA, 2007. Available at <http://www.hpa.org.uk/infections/topics_az/pneumococcal/default.htm>

14. *New pneumococcal vaccine 'does save lives' as more parents urged to vaccinate their children DH press release.* London: Department of Health, 21 December 2007. Available at <http://www.dh.gov.uk/en/index.htm>.

15. HPA. COVER programme: October to December 2006. *Health Protection Report* [serial online] 2007 [cited 17 December 2007]; **1** (13): Immunisation. Available at <http://www.hpa.org.uk/hpr/archives/2007/hpr1307.pdf>

16. HPA. COVER programme: January to March 2007. *Health Protection Report* [serial online] 2007 [cited 17 December 2007]; **1** (26): Immunisation. Available at <http://www.hpa.org.uk/hpr/archives/2007/hpr2607.pdf>

Radiation

Mobile Telecommunications and Health Research (MTHR) Programme

In September 2007 the Mobile Telecommunications and Health Research (MTHR) Programme published its first report on the outcome of the research it has supported; staff from the Radiation Protection Division of the Health Protection Agency have been intimately involved in the programme since its inception. During the six years that have elapsed since the programme was set up it has gained international recognition for the quality of the research supported. Given the publication of the MTHR *Report 2007* it is timely to look back at the reasons for setting up the programme, examine the way in which it has been managed and consider the challenges ahead as it enters a second phase of research activity.

The beginnings of the MTHR programme can be clearly traced to the publication in May 2000 of *Mobile Phones and Health* , the report of the Independent Expert Group on Mobile Phones (IEGMP), but better known as the ‘Stewart Report' after the Chairman of the committee, Sir William Stewart. This summarised what was then known about the possible health effects of mobile phone technologies and importantly identified those areas where the evidence was insufficient to allow an accurate assessment. Previous review committees had confined themselves to a strict interpretation of the scientific evidence and whilst the Stewart Committee similarly took an evidence-based approach to health aspects it also considered wider issues, with the result that the report had an immediate impact throughout the world and is still widely quoted seven years later.

The overall conclusions of the Stewart Report were reassuring; the available evidence did not suggest that emissions from either mobile phones or their base stations would produce adverse effects on the health of the general population. However, the Stewart Committee considered that there was some evidence of biological effects occurring below the guideline levels in place at the time and felt unable to conclude that exposure was totally without potential adverse health effects. It therefore recommended adopting a precautionary approach to the new technology until more detailed and scientifically robust information on any possible health effects became available. Naturally it also made specific recommendations about how this information could be obtained. In fact four of the thirty specific recommendations in the report relate to future research needs and it was these that led directly to the setting up of the MTHR Programme.

The Stewart Committee had recognised the need to establish the independence of the programme. It had suggested that funding should be provided on an equal basis by both government and industry, but should be managed by a ‘demonstrably independent panel'. This was the model that was followed when the programme was initiated in 2001 with funds of £7.4 million provided by consortia of government departments/agencies and companies active in the mobile communications sector. The 50:50 funding arrangement provided a means of ensuring that neither industry nor government could exert undue pressure on the funding decisions of the programme. To further reinforce the firewall, all funds were paid to the Department of Health, which provided the lead Secretariat and acted as ‘banker' to the programme; representatives of the Department of Trade and Industry, the Medical Research Council and the Office of Science and Technology also joined the secretariat. To overcome resource limitations within the formal secretariat, NRPB was appointed as scientific co-ordinator to the programme following an open tender exercise. Following the merger with NRPB, HPA gained not only the MTHR scientific co-ordination function, but also the contract and financial management functions, which transferred from the Department of Health.

As envisaged under the model, research funds were allocated by an independent Programme Management Committee, which was initially chaired by Sir William Stewart. In addition to the Chairman, the Committee included several other members of the Stewart Committee along with other specialists including two members of HPA staff and four overseas members. There has been some change in membership over the years in order to maintain the broad range of expertise required; Sir William retired in 2002 following his appointment as Chairman of HPA, and was succeeded by Professor Lawrie Challis.

Prior to 2001, research in this area had not been well funded and it was recognised that with a few notable exceptions this had been detrimental to the overall quality of research activity. The Committee determined from the outset that it would provide sufficient resources to allow high quality research to be undertaken and encourage the involvement of high calibre scientists. The selection of projects was scientifically rigorous with only 16 of the 82 proposals submitted in response to the first call actually funded. In almost all cases, initial proposals that met basic criteria were discussed in detail with applicants to ensure that they addressed the research priorities of the programme and were capable of providing statistically robust results. Two subsequent calls were made to fill gaps in the programme so that there were 28 projects in total; funding also increased to £8.5 million. Once projects were underway they were actively monitored and reviewed by the Committee. The rigorous selection and subsequent review process has been, and continues to be, a key element in ensuring the quality of the research undertaken.

The programme provided significant support to its research teams. This included commissioning standard exposure systems to be used by all the volunteer studies, ensuring the availability of free expert advice on experimental dosimetry from the National Physical Laboratory, and organising workshops and annual two-day research seminars to promote the exchange of ideas within the programme. It was recognised that many of the volunteer studies conducted prior to 2001 had suffered from design limitations and so it was decided that all would follow a set of basic principles developed to ensure that these pitfalls were avoided.

The majority of projects related to possible effects of mobile phones (only five related to base stations) and this reflects the need to examine exposure situations most likely to lead to detectable effects - exposure to the head from the use of a mobile phone is thousands of times higher than that from base stations. The research supported has included epidemiology, volunteer studies, investigations of fundamental interaction mechanisms, exposure assessments, studies of risk communication strategies, and investigations of the effects of mobile phone use on driving performance. Completed projects have produced 23 publications in peer-reviewed journals to date, with more expected in the future. None of the research supported by the programme and published so far demonstrates that biological or adverse health effects are produced by radiofrequency exposure from mobile phones or base stations. Reassuringly, no epidemiological association has been found between short-term mobile phone use (less than ten years) and cancers of the brain and nervous system. Volunteer studies provided no evidence that brain function is affected by exposure and no convincing support for the hypothesis that the unpleasant symptoms experienced by sufferers of electrical hypersensitivity (EHS) result from exposure to signals from mobile phones or base stations. The distraction caused by using a mobile phone whilst driving (no matter whether used hand-held or hands-free) is still the only well established adverse health effect.

The Committee has recognised that, while many of the concerns raised by the Stewart Committee have been reduced by the Programme and work done elsewhere, some still remain. Hence it has recently published a call for proposals for a second phase of the Programme (MTHR2). Priorities will include a contribution to an international cohort study to assess whether long-term exposure (greater than ten years) increases the risk of developing cancers of the brain and central nervous system, and also neurodegenerative diseases. In addition, work to assess possible adverse effects on children is also considered a priority.

The MTHR *Report 2007* is available to download free from the MTHR web site (www.mthr.org.uk).

Recent newsletters on radiation hazards

Through the Centre for Radiation, Chemical and Environmental Hazards, the Agency publishes a series of well-established newsletters and reports which serve to keep stakeholders updated on a range of matters associated with radiation and chemical hazards that may be accessed via the HPA website. Readers wishing to obtain further information on these publications and the topics covered should make contact through the email address given.

Environmental Radon Newsletter No 53

Changes in radon affected areas
Radon contacts
Assessing the need to test workplaces for radon
Testing holiday homes in radon affected areas

Available at:
<http://www.hpa.org.uk/radiation/publications/newsletters/environmental_radon/2007/ern53pdf>.

Contact: Jon Miles, email Jon.miles@hpa.org.uk

Laser Safety Matters No 7

Laser Safety Forum 2007
Laser Safety Forum 2006
British Standards
Physical Agents (Artificial Optical Radiation) Directive
ICNIRP Publications
CIE Activities
Update on Standards
Development of IPL Standards
IPL Workshop
International Laser Safety Conference 2007
American ANSI Standards
New Documents Available to Download
IEC 1906
Training

Available at <http://www.hpa.org.uk/radiation/publications/newsletters/laser_safety_matters/current_issue/laser_safety_matters07.pdf>.

Contact: Kirstie Grainger; email Kirstie.grainger@hpa.org.uk

Monitor: Newsletter of the Personal Dosimetry Service No 32

Laundered Dosemeters
Staff Changes
Radiation Passbooks
National and European Dose Databases
National Registry for Radiation Workers (NRRW)

Available at
<http://www.hpa.org.uk/radiation/publications/newsletters/monitor/archive/monitor32.pdf>

Contact:Personal.dosimetry@hpa.org.uk

National Registry for Radiation Workers Steering Group (NRRW)

Progress report on the 3rd Analysis of the NRRW cohort (vital status, mortality and cancer incidence)

Available at <http://www.hpa.org.uk/radiation/publications/newsletters/nrrw/index.htm >

Contact: Colin Muirhead, email Colin.muirhead@hpa.org.uk

Chemical Hazards and Poisons

Providing a service in the Republic of Ireland

Background
In 1997 the local health boards of the Republic of Ireland (RoI) agreed to subscribe to services offered by The Chemical Incident Management Support Unit (CIMSU), itself housed at Llandough Hospital, Cardiff. This followed on from the agreement made with the local health boards in Northern Ireland . This meant that all of the local health board throughout Ireland were contracted to CIMSU at this time.

The contract provided for the provision of toxicological advice regarding community exposure to acute chemical incidents. This ensured access to advice and support on a 24-hour/7-days per week, 365 days per year. It also ensured that an annual training day was held in the ROI on topics relevant to the public health implications of acute chemical incidents.

The service to the RoI Health Service Executives (HSE) was delivered through day to day access to an environmental health officer and a clinical toxicologist. Further pharmacological, environmental and epidemiological support was accessible through this portal.

With the advent of the HPA in April 2003 and the subsequent establishment of the Chemical Hazards and Poisons Division (CHaPD), the contract was subsumed into this new organisation, but with a portal of entry through CHaPD-Cardiff. Demand on the service provided by the HPA has increased with time, making it timely to review requirements and to develop an appropriate service level agreement. Accordingly, both parties are currently reviewing the service and are discussing the major areas to be covered.

The Service
CHaPD-Cardiff will act as a portal for access to expert and authoritative advice and support on the following areas which the service is likely to provide:

- Emergency Planning and Preparedness
- Chemical incident management
- Risk assessment
- Environmental sampling and monitoring
- Biological monitoring
- Chemical terrorism
- Clinical toxicology
- Air pollution
- Industrial regulation
- Water quality
- Contaminated land

The formation of this new division has allowed access to a greater range of skills and resources, not only within the HPA, but also through its links to regional, national and international expert bodies, such as Committee on Toxicity, Committee on Medical Aspects of Air Pollution, Committee on Carcinogenicity, Committee on Mutagenicity, WHO and

G7+Mexico. Accordingly, CHaPD will act as a portal for access to expert and authoritative advice and support .

CHaPD will continue to support the HSE of the RoI on a 24/7/365 basis through its 24-hour hotline and access to scientific and medical expertise.

Chemical Hazards and Poisons Report

Through the Centre for Radiation, Chemical, and Environmental Hazards, the Agency publishes a series of well-established newsletters and reports which serve to keep stakeholders updated on a range of matters associated with radiation and chemical hazards that may be accessed via the HPA website. Readers wishing to obtain further information on these publications and the topics covered should make contact through the email address given.

Chemical Hazards and Poisons Report – Issue 10

Incident Response: Flooding in England 2007; Fireworks incident new Lewes, December 2006; Discovery of World War II Special Incendiary Phosphorous (SIP) grenades in a Wiltshire Garden; The use of a novel technology in the remediation of a contaminated land site as a public health protection measure
Odour Issues
Emergency Planning and Preparedness
Environmental
Conference and Workshop Reports
Training Reports
Training Days

Chemical Hazards and Poisons Report - Issue 10, May 2007(2.85 MB)

Contact: Virginia Murray; email: Virginia.murray@hpa.org.uk