



Health Protection Report

weekly report

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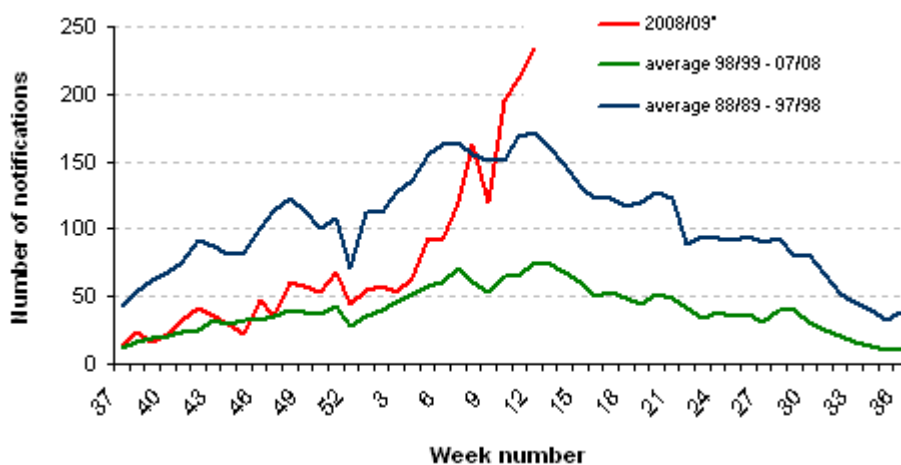
Group A streptococcal infections: third update on seasonal activity, 2008/09

National surveillance data for group A (*Streptococcus pyogenes*) streptococcal infections continued to show levels of seasonal activity above the expected based on comparison with the past five seasons (2002/03 onwards) throughout December, January, and February. Scarlet fever notifications have remained consistently above the levels seen since the mid to late 1990s. Numbers of invasive disease cases appear to have fallen since the high incidence towards the end of December 2008 and into January 2009, although increases have subsequently been seen in March. In light of this continued increase in invasive group A streptococcal disease, a letter via the Chief Medical Officer for England's Central Alerting System was issued to general practitioners and hospital doctors reminding them of the importance of early detection and rapid initiation of treatment in suspect cases [1].

Scarlet fever

From week 48 of 2008 onwards, notifications of scarlet fever in England have been above the average for the past decade (1998/99 to 2007/08) and currently above the average for the previous decade (1988/89 to 1997/98). A total of 1739 unconfirmed notifications of scarlet fever were made for weeks 48 of 2008 to week 12 of 2009, the highest since 1995/96 (2143). The highest weekly number of notifications for this season so far were for the most recent week, week 12, with 233 notifications made across England.

Figure 1 Weekly scarlet fever notifications; England: 1988/89 to 2008/09*



*up to week 12 of 2009

Notifications of scarlet fever in Wales so far this season (weeks 37 of 2008 to week 12 of 2009) were within the range seen in the previous five seasons. Within England, notifications were higher for weeks 37 of 2008 to week 12 of 2009 than the previous five years in all regions, although more elevated in London,

the South East, East of England and West Midlands than elsewhere. The age distribution of scarlet fever cases is similar to previous years, with 83% of cases being children aged less than 10 years, with an age range from 0 to 99 (mode of 4 years).

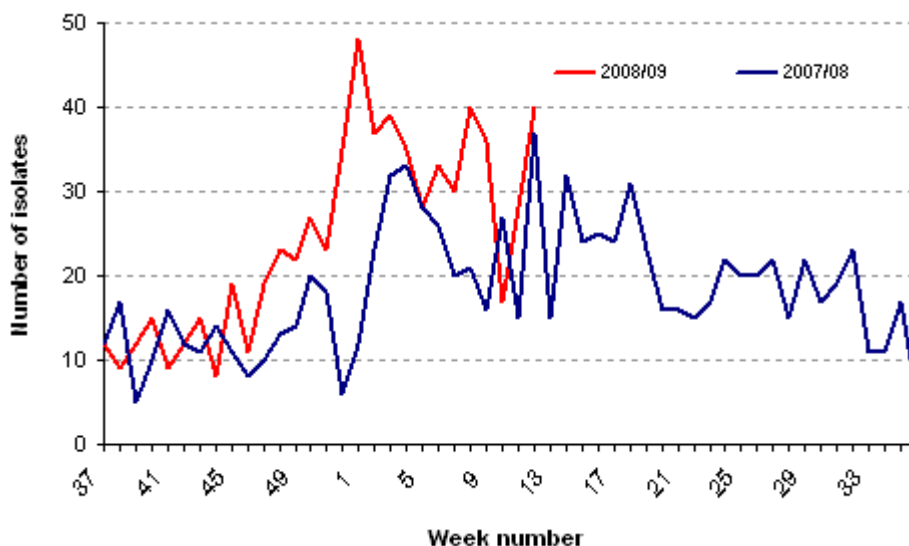
Clinical incidence data for pharyngitis/scarlet fever derived from the QSurveillance® GP surveillance system shows a slight increase for 2008/09 compared to 2007/08 [2].

Invasive group A streptococcal infection

Routine laboratory reports of invasive group A streptococcal (iGAS) infection, defined as the isolation of GAS from a normally sterile site, from across England, Wales, and Northern Ireland continued to show an increase throughout December, peaking in week 52 (48 reports). In total, 156 reports were received in December, compared to a range of 80 to 127 for the same period in 2002 to 2007. Reports for January (143) and February (121) were just below the same months in 2004 (163 and 122 respectively), 2003/04 being the last peak season for iGAS, but above all other years between 2002 and 2008. Numbers of reports for February in particular may rise as further reports are made.

Several English regions have reported high numbers of cases in December 2008 to February 2009 in comparison to the past four seasons (2004/05 to 2007/08), although generally similar to numbers for 2003/04, as follows: East Midlands, North East, North West, South East, South West, and West Midlands. Reports for the East of England, London and Yorkshire and the Humber were within the range seen since the last peak year. In contrast to England, numbers of iGAS reports for Northern Ireland and Wales have not shown any particular elevation during December to February.

Figure 2. Weekly count of sterile site GAS isolates referred to the Streptococcus and Diphtheria Reference Unit (SDRU) by specimen date; England: week 37 2008, to week 12 2009



Numbers of iGAS isolates referred to the Respiratory and Systemic Infection Laboratory at Cfl from laboratories in England showed a similar trend to routine laboratory reporting, peaking in week 1 of 2009. Although numbers of isolates have fluctuated since week 5, with a marked increase over the last 2 weeks (week 11 to 12), they have generally remained above the corresponding period during the 2007/08 season. The *emm* /M-type distribution shifted between December 2008 and January 2009 with a relative increase in *emm* /M3 from 24% to 40%, although subsequently dropping to 31% in February. Other common types were *emm* /M1, *emm* /M89, *emm* /R28 and *emm* /M6.

Since the launch of the enhanced surveillance for severe group A streptococcal infections diagnosed since 1 January 2009, 263 records have been submitted by Health Protection Units across England [3]. Preliminary analysis of patient risk factors has not identified any increase in cases in any particular risk group. A common and diverse range of clinical presentations have been reported, including skin/soft tissue infections and lower respiratory tract infections. There are indications of an increased case fatality rate from the preliminary data reported, with 25% of cases reported to have died within seven days of diagnosis, although outcome information is still awaited on 105 cases, and as such may fall within the usual range for these diseases (15-20%).

Preliminary results from the enhanced surveillance suggest a generalised increase in invasive group A streptococcal diseases, over and above that normally expected in the winter and spring months, and as such it remains unclear why this increase, along with increases in scarlet fever, should have arisen. As the highest incidence of invasive disease was seen around the new year, this may be connected to the increase influenza activity this winter which peaked in week 51 of 2008 [4]. However, the continued elevation in notifications of scarlet fever and invasive disease since the new year suggest that other factors may underpin the current high season. The increased circulation of GAS may be due to a natural cycle in incidence [5].

Although analysis of isolates submitted to the national reference laboratory has not identified any unusual serotypes to be circulating, a significant increase in *emm*/M3 has been seen during this early part of 2009. This increase is of concern given the association between this *emm* type and more severe clinical presentations compared to other *emm* types [6,7].

Further seasonal updates will be published in the *Health Protection Report*. Microbiologists and HPU staff are requested to help complete questionnaires for all cases meeting the case definition for severe GAS infection diagnosed from specimens taken since the 1 January 2009. The enhanced surveillance protocol and questionnaires can be downloaded from the Group A Streptococcal Infections pages on HPA web site (follow the links to "Epidemiological Data" and "[National enhanced surveillance of severe group A streptococcal disease](#)").

Clinicians, microbiologists and HPUs should be mindful of the recent increases in iGAS and maintain a high index of suspicion in relevant patients as early recognition and prompt initiation of specific and supportive therapy can be life-saving [1]. Invasive disease isolates and those from suspected clusters or outbreaks should be submitted to the SDRU, Respiratory and Systemic Infection Laboratory at the Health Protection Agency, Centre for Infections, 61 Colindale Avenue, London NW9 5HT. Guidelines for the management of close community contacts of invasive group A streptococcal disease are also available on the Agency's website [8].

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5. Lamagni T, Dennis J, George R, Efstratiou A. Analysis of epidemiological patterns during a century of scarlet fever. In: *European Scientific Conference on Applied Infectious Disease Epidemiology*; 18 November 2008; Berlin, Germany; 2008.
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7. Lamagni TL, Neal S, Keshishian C, Alhaddad N, George R, Duckworth G et al. Severe *Streptococcus pyogenes* Infections, United Kingdom, 2003-2004. *Emerg Infect Dis* 2008; **14**(2): 201-209.
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Wound botulism in injecting drug users in England: an update

Since the beginning of 2009, 13 cases (11 males and two females) of wound botulism in injecting drug users (IDUs) have been reported to the Health Protection Agency Centre for Infections, from six regions in England. *Clostridium botulinum* Type B has been laboratory confirmed in five of these cases and *C botulinum* Type A in one case. The ages of these cases ranged from 28 to 57 years.

Six of the cases (five males and one female) have been reported since our first report on 6 March 2009 [1]. These new cases, were all heroin injecting IDUs, and were reported from West Yorkshire, East of England, East Midlands, London, and the South East. The cases were aged between 35 and 50. *Clostridium botulinum* Type B has been laboratory confirmed in two of these cases.

Cases of wound botulism are thus continuing to occur among IDUs. Clinicians should suspect botulism in any patient with an afebrile, descending, flaccid paralysis, with a history of injecting drug use. Specialist advice should be urgently sought from an Infectious Diseases Physician. Botulinum antitoxin is effective in reducing the severity of symptoms if administered early in the course of the disease. *C. botulinum* is sensitive to benzyl penicillin and metronidazole. In cases of wound infection, antimicrobial therapy and surgical debridement should reduce the organism load and therefore toxin production, but circulating toxin can only be neutralised by the early administration of antitoxin. Where there is definite clinical suspicion of botulism, treatment with antitoxin should not be delayed for microbiological testing.

Further information on Wound botulism among IDUs can be found on the HPA website:
www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1195733795383?p=1191942152230.

Reference

1. HPA. Increase in reported cases of wound botulism associated with injecting drug use in Southern England. *Health Protection Report* [serial online] 2009 [accessed 3 April 2009]; **3**(9) news. Available at: <http://www.hpa.org.uk/hpr/archives/2009/news0909.htm#wbot>.

Confirmed measles cases in England and Wales, January 2008 to February 2009

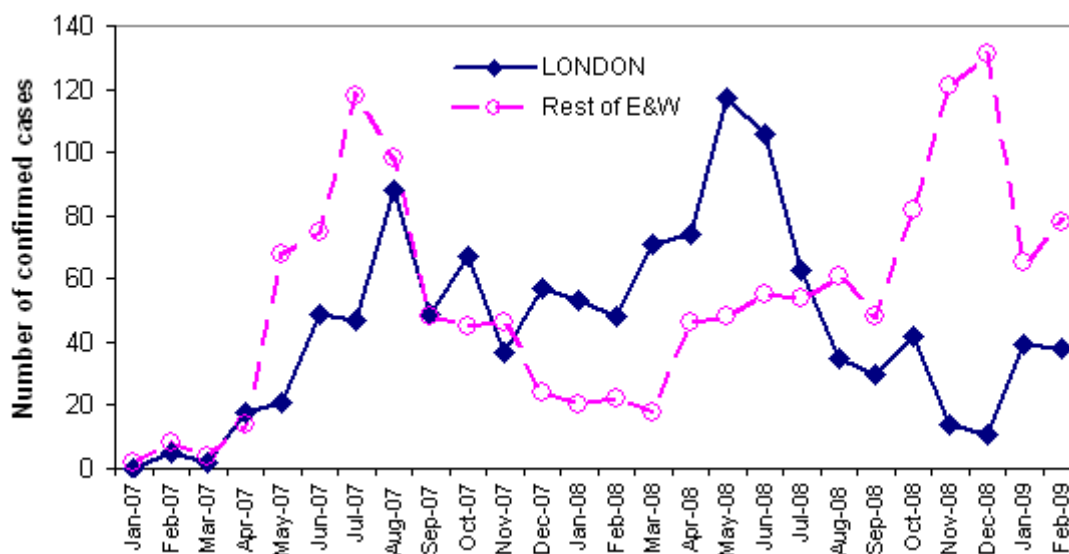
Two hundred and twenty laboratory confirmed cases of measles have been reported in the first two months of this year: 104 in January and 116 in February. Following a brief decline in reported cases in the latter part of 2008, London is once again the region where most cases are confirmed. Outside London, the South East and West Midlands regions have the highest incidence and continue to identify clusters of cases linked to the travelling communities and to schools/nurseries (see table).

Around 20% of notified measles cases tested with an oral fluid test in the period were confirmed nationally.

Confirmed cases of measles by region and month of onset, England and Wales: January 2008 to February 2009

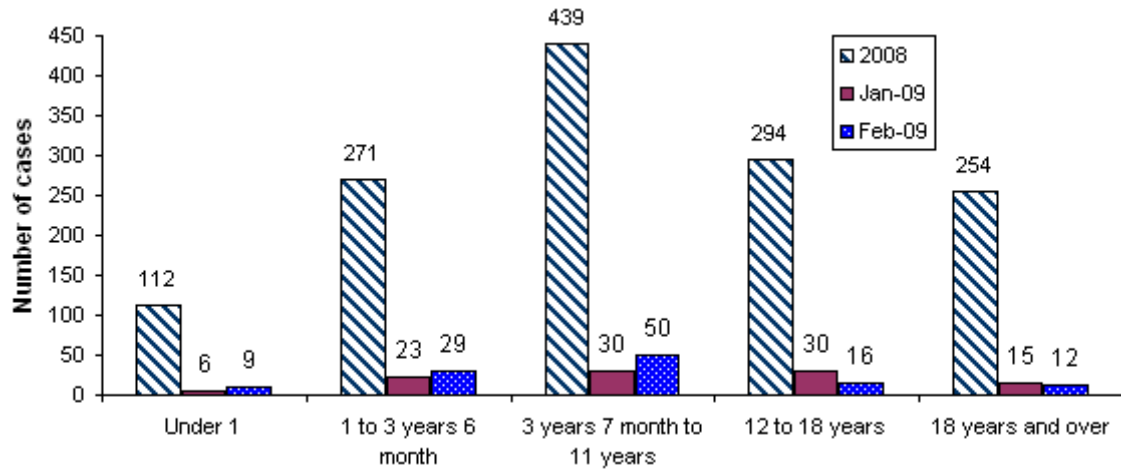
Month	Lond-on	East Mids	East of Engl'd	North East	North West	South East	South West	West Mid's	Wales	York & Humb	N/k
Jan 08	53	1	6	1	1	1	–	3	–	6	–
Feb 08	48	–	6	3	–	4	–	–	1	8	–
Mar 08	71	1	1	–	–	8	1	1	1	5	–
Apr 08	74	–	7	3	–	6	14	2	–	13	–
May 08	117	1	6	–	21	4	7	3	–	5	–
June 08	106	–	11	1	24	7	4	5	–	3	–
July 08	63	1	10	–	19	13	2	8	–	1	–
Aug 08	35	7	6	–	17	21	1	6	–	3	–
Sep 08	31	5	4	–	7	2	–	9	21	–	–
Oct 08	41	13	4	2	31	8	1	9	14	1	1
Nov 08	14	7	9	3	36	27	2	33	1	2	–
Dec 08	11	12	20	4	22	28	10	34	1	2	–
Total 2008	664	48	90	17	178	129	42	113	39	49	1
Jan 09	39	7	3	1	9	20	4	13	–	8	–
Feb 09	38	–	3	–	2	48	1	19	–	5	–

Figure 1: Number of laboratory confirmed cases in England and Wales by month of onset: January 2007 to February 2009



Cases are still occurring in the age groups targeted by the MMR catch-up campaign announced in August 2008 (fig 2). So far in 2009, the majority of cases are confirmed in nursery and primary school aged children (three and a half to 11 years), the group with the highest number of cases in 2008.

Figure 2: Confirmed cases by age groups targeted by the MMR catch-up programme, England and Wales: total 2008, January and February 2009*



*excludes one case with unknown age.

Merger of the National Institute for Biological Standards and Control (NIBSC) with HPA

The National Institute for Biological Standards and Control (NIBSC) [1,2] merged with the Health Protection Agency with effect from 1 April 2009, significantly extending the Agency's range of expert services.

NIBSC is a world renowned institute and a world leader in the standardisation and control of biological medicines such as vaccines and other products made from blood and tissues. It prepares, evaluates and distributes International Biological Standards and other biological reference materials and distributes them globally. It is the source of 90% of such international biological standards produced worldwide.

NIBSC is also the UK's Official Medicines Control Laboratory, responsible for independent testing of biological medicines produced by the pharmaceutical industry to make sure they meet the required specifications, and the home of the UK Stem Cell Bank, the CJD and Influenza Resource Centres and the Centre for AIDS reagents. It has a vital role in supporting global research and development into innovative medicines for the prevention and treatment of some of the world's most dangerous and debilitating diseases.

Notes

1. Further information about the Institute can be found at www.nibsc.ac.uk.
2. The *Health and Social Care Act 2008* required that the National Biological Standards Board be abolished and its functions, carried out since 1976 by NIBSC, transferred to the Health Protection Agency (HPA).

New Food, Water and Environmental Microbiology Network established

The Health Protection Agency's newly restructured Food, Water and Environmental (FW&E) Microbiology Network was officially launched on 1 April 2009, enabling the Agency to achieve greater capacity and resilience in responding to health threats from food, water and the environment.

The network's laboratories play an important role in protecting the public from any threats to health through food, water and the environment - for example salmonella, listeria, *E. coli* and Legionnaires' disease.

The aim of the new arrangements is to create a network of 12 enlarged laboratories at strategic locations across England, bringing together a critical mass of expertise and replacing the previous structure of 26 smaller laboratories. All of the laboratories are fully accredited. Ten will be managed by the HPA while those based in Stoke-on-Trent and Leicester will remain under the management of local health trusts.

The network's new structure has been designed in close consultation with stakeholders including environmental health departments, port health authorities, LACORS and the Food Standards Agency to ensure that their needs are fully met.

The 12 enlarged laboratories are based in the following regions and towns:

East of England: Chelmsford and Norwich Laboratories;
East Midlands: Leicestershire Laboratory;
London: Colindale Laboratory;
North East: Newcastle Laboratory;
North West: Preston Laboratory;
South East: Southampton and Ashford Laboratories;
South West: Bristol Laboratory;
West Midlands: Birmingham and Stoke-on-Trent Laboratories;
Yorkshire and the Humber: Leeds Laboratory.

Infection reports

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Travel

- ▶ Imported infections, England and Wales: October to December 2008

Respiratory

- ▶ Laboratory reports of respiratory infections made to CfI from HPA and NHS laboratories in England and Wales: weeks 10-13/2009
-

Travel

Imported infections, England and Wales: October to December 2008

The data presented in this report should be interpreted in conjunction with the report *Illness in England, Wales and Northern Ireland associated with foreign travel – a baseline report to 2002* [1], especially the content under the section 'Sources of data on travel-associated illness and their limitations for analysis'. All data presented are provisional and subject to change; the confirmed final data will be presented on an annual basis. All data presented in table 1 are for laboratory reports with specimen dates within the fourth quarter of 2008 unless specified otherwise. Travel-associated infections are generally under-reported as information on travel history is incomplete through routine reporting mechanisms. For some infections listed in table 1 such as malaria, the arboviruses, leishmaniasis, schistosomiasis, filariasis, trypanosomiasis, and *Rickettsia* spp, it is assumed that although no country of travel is given in the laboratory report, they are all foreign travel-related as they are not known to occur in the UK.

Table 1. Laboratory confirmed reports of infections associated with foreign travel, England and Wales: fourth quarter 2008

Organism	Total reports for Q4 (Oct - Dec)				Cumulative totals for Jan - Dec			
	2008*		2007		2008*		2007	
	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports	Travel-related	All reports
Gastrointestinal Infections								
Bacterial								
<i>Salmonella</i> spp	598	2034	635	3076	2575	9657	2441	11913
<i>Campylobacter</i> spp	267	11319	197	12183	1142	48830	1187	51183
<i>Shigella flexneri</i>	6	81	7	107	43	376	24	357
<i>Shigella dysenteriae</i> †	9	13	11	19	41	66	31	53
<i>Shigella sonnei</i>	32	273	10	163	112	827	110	967
<i>Shigella boydii</i> †	17	33	17	34	75	127	69	127
Other (species unknown)	3	37	–	48	9	173	2	146

<i>Salmonella</i> Typhi	35	68	26	54	140	271	139	272
<i>Salmonella</i> Paratyphi (A,B,C)	29	56	22	46	154	261	126	230
<i>Vibrio cholerae</i> O1†	4	4	3	3	16	16	18	18
<i>Vibrio parahaemolyticus</i>	1	2	–	7	2	15	3	38
Protozoal								
<i>Entamoeba histolytica</i>	3	29	4	38	14	159	7	121
<i>Giardia lamblia</i>	42	889	30	823	230	3296	236	2967
<i>Cryptosporidium</i>	29	1485	5	876	137	4100	95	3043
<i>Cyclospora</i> spp	1	3	1	6	10	28	10	39
Intestinal helminths								
<i>Strongyloides</i> spp	2	7	–	14	4	32	2	31
Hookworm	–	2	1	13	10	34	4	29
<i>Ascaris</i> spp (round worm)	–	14	–	9	4	56	7	54
<i>Trichuris</i> spp (whip worm)	–	3	–	5	6	29	2	19
<i>Hymenolepis</i> spp	–	1	–	–	2	8	1	3
<i>Taenia</i> spp (tape worm)	6	27	3	31	12	96	17	102
<i>Gnathostoma</i> spp	1	1	–	2	1	1	–	3
<i>Diphyllobothrium latum</i> (fish tape worm)	–	1	–	6	1	4	1	7
Arthropod-borne infections								
Malaria - total ‡	332	332	425	425	1368	1368	1548	1548
<i>Plasmodium falciparum</i>	263	263	330	330	1087	1087	1139	1139
<i>Pl. vivax</i>	35	35	55	55	176	176	256	256
<i>Pl. malariae</i>	7	7	8	8	19	19	30	30
<i>Pl. ovale</i>	23	23	28	28	76	76	108	108
<i>Pl. unspesified</i>	2	2	–	–	2	2	–	–
Mixed	2	2	4	4	8	8	15	15
Arboviruses								
Dengue virus ‡‡	41	56	45	56	123	162	123	154
Chikungunya virus ‡‡	–	1	–	–	7	9	19	25
Ross river virus ‡‡	–	–	–	–	–	–	–	–

Sandfly fever virus ††	-	-	-	-	9	10	1	1
Eastern Equine Encephalitis ††	-	-	-	-	-	-	1	1
West Nile virus ††	-	-	-	-	-	-	-	-
Leishmaniases								
Cutaneous	5	5	2	4	24	24	13	17
Visceral	-	1	1	2	11	16	10	14
Unspecified	-	1	-	11	-	10	5	23
Filariases								
<i>Loa loa</i>	-	-	-	-	-	1	-	1
<i>Wuchereria bancrofti</i>	-	-	-	-	-	-	-	-
<i>Mansonella perstans</i>	-	-	-	-	1	1	1	1
<i>Onchocerca volvulus</i>	-	-	-	-	-	-	-	-
Unspecified	-	-	-	-	1	1	-	-
Trypanosomiasis								
	-	-	-	-	1	1	2	3
Miscellaneous								
Schistosome infections								
<i>Schistosoma mansoni</i>	-	1	-	3	4	9	2	16
<i>Schistosoma haematobium</i>	3	10	1	8	13	30	4	34
<i>Schistosoma</i> spp	--	10	1	2	8	26	6	21
Other infections								
Legionnaires' disease**	28	75	29	75	124	351	165	441
<i>Coxiella burnetii</i> (Q fever)	-	8	-	10	-	38	2	53
<i>Rickettsia</i> spp ††	16	19	8	9	65	79	58	78

All data extracted from Labbase 03.03.09 unless otherwise specified.

* All data for 2008 are provisional and may be subject to change.

† Data on cholera, *S.boydii* and *S.dysenteriae* supplied by the CfI Laboratory of Enteric Pathogens.

‡ Data for malaria, for whole of UK, supplied by the HPA Malaria Reference Laboratory and are provisional. Trends are best interpreted on an annual basis.

** Data on legionnaires' disease supplied by the Legionella Section of the Respiratory Diseases Department of CfI.

†† Data from the Special Pathogens Reference Unit, Centre for Emergency Preparedness and Response.

Gastrointestinal infections

Gastrointestinal infections are the most common travel-associated infection, affecting travellers worldwide. "Travellers' diarrhoea" affects between 20% and 60% of overseas travellers [2] and may be viral, bacterial or protozoal in origin; the risk of illness usually depends on the country visited.

Salmonella spp (non-typhoidal)

There were 2,034 laboratory reports of *Salmonella* spp, of which 598 (29%) were associated with recent travel abroad. *Salmonella* serovar Enteritidis was the most common serotype associated with travel abroad (254/598, 42%), of which phage types (PT) 1, 4, 21, and 8 were most commonly reported (table 2). Other PTs reported included PT 6, of which 9/21 were associated with travel to Turkey (and may have been associated with an ongoing problem in a particular resort, see previous quarterly report [3]), PT 14B, of which 5/12 were associated with travel to Spain and PT 12, of which 10/12 were associated with travel to Egypt.

Table 2. Laboratory reports of *Salmonella* Enteritidis associated with foreign travel, England and Wales: fourth quarter 2008

Country of travel	<i>Salmonella</i> Enteritidis phage types (PTs)						Total
	PT 1	PT 21	PT 4	PT 8	Other	PT not stated	
Egypt	11	–	9	–	26	–	46
Turkey	1	6	1	10	15	1	34
Spain	6	3	–	1	13	–	23
Greece	3	8	–	1	6	–	18
Cyprus	6	2	1	–	4	–	13
Tunisia	–	–	4	4	2	–	10
Maldives	3	–	–	–	6	–	9
Portugal	5	–	–	–	3	–	8
India	2	–	–	–	1	1	4
Kenya	1	2	1	–	1	–	5
Malta	–	2	–	1	2	–	5
China	–	–	–	–	3	–	3
Cuba	–	–	1	–	2	–	3
Dominican Republic	2	–	1	–	–	–	3
Mauritius	1	–	–	–	2	–	3
Other (N = 24)	6	6	5	2	15	2	36
Country not stated	6	9	2	3	11	–	31
Total	53	38	25	22	112	4	254

Other serovars reported were *S. Typhimurium* (63/598, 11%), *S. Virchow* (39/598, 7%), *S. Newport* (14/598, 2%), and *S. Java* (11/598, 2%). Countries of travel for *S. Typhimurium* and *S. Virchow* are shown in table 3.

Table 3. Laboratory reports of other *Salmonella* spp associated with foreign travel, England and Wales: fourth quarter 2008.

Country of travel	S. Typhimurium	S. Virchow	Other serovars	Unnamed	Total
Egypt	3	17	31	2	53
Thailand	8	3	15	4	30
India	6	5	16	1	28
The Gambia	1	7	9	1	18
Pakistan	2	1	11	3	17
Spain	7	–	10	–	17
Africa unspecified	2	2	9	–	13
Tunisia	2		10	–	12
Kenya	1	1	8	–	10
Morocco	2	1	6	–	9
Other countries (N=47)	24	1	85	4	114
Country not stated	5	1	16	1	23
Total	63	39	226	16	344

***Campylobacter* spp**

There were 11,319 laboratory reports of *Campylobacter* spp, of which 267 (2%) were associated with recent travel abroad. *Campylobacter* infections are mostly associated with travel to Spain and the Middle East in the summer months reflecting UK travel patterns, but during the winter months, India is also more often reported [table 4].

Table 4. Laboratory reports of *Campylobacter* spp associated with foreign travel, England and Wales: fourth quarter 2008.

Country of travel	Total
India	42
Spain	37
Turkey	30
Morocco	19
Portugal	15
Thailand	10
Pakistan	7
Greece	7
Africa	6
Egypt	5
Cyprus	5

Mauritius	5
Tunisia	4
China	4
France	4
Other countries (N=33)	58
Country not stated	9
Total	267

***Shigella* spp**

In total, there 437 reports of shigella infection in the fourth quarter of 2008, of which 67 (15%) were associated with foreign travel. Travel history information was available for 59% for both *S. boydii* and *S. dysenteriae* reports, but for only 21% for *S. sonnei* and *S. flexneri*. Countries of travel are listed for each species in table 5.

Table 5. Laboratory reports of *Shigella* spp associated with foreign travel, England and Wales: fourth quarter 2008

Country of travel	<i>Shigella</i> species					Total
	<i>S. flexneri</i>	<i>S. sonnei</i>	<i>S. boydii</i>	<i>S. dysenteriae</i>	<i>S. sp</i>	
Egypt	–	12	2	–	2	16
India	–	6	3	2	1	12
Jordan	–	1	4	1	–	6
Pakistan	1	–	2	1	–	4
Tanzania	–	2	–	1	–	3
Tunisia	1	2	–	–	–	3
Afghanistan	–	–	–	2	–	2
Other Sub-Saharan Africa	1	4	2	1	–	8
Other North Africa and Middle East	–	2	1	–	–	3
South and Central America	1	1	2	–	–	4
Europe	–	1	–	–	–	1
Caribbean	1	–	–	–	–	1
Other Indian sub-continent	1	–	–	–	–	1
South East Asia	–	1	–	–	–	1
Country not stated	–	–	–	1	–	1
Total	6	32	16	9	3	66

Cholera

There were four reports of *Vibrio cholerae* serogroup O1, compared to three reported in the same period in 2007; countries of travel reported were Pakistan (two), and Zimbabwe (one), and one had no country of travel stated.

Cryptosporidium

There were 1,485 reports of cryptosporidium infection, a 70% increase compared to the same quarter in 2007 (876), of which 29 (2%) were associated with recent foreign travel. Countries of travel reported were Turkey (six), Spain (four), Egypt (two), India (2), Morocco (two) and Tunisia (two). Sentinel surveillance submission forms to the UK Cryptosporidium Reference Unit (CRU) during the same time frame included 35 (7% of total) travel abroad-related cases. [Rachel Chalmers, Head of UK Cryptosporidium Reference Unit (CRU), NPHS Wales, personal communication, 16 March 2009] Countries of travel reported to CRU were Turkey seven (six *Cryptosporidium hominis*, one *C. parvum*), Tunisia three (all *C. hominis*), Majorca three (all *C. hominis*), Spain three (all *C. hominis*), India two (one *C. hominis*, one *C. parvum*), Egypt two (both *C. hominis*), Bahamas one (*C. hominis*), Croatia one (*C. hominis*), Jamaica one (*C. hominis*), Malawi one (*C. hominis*), Mexico one (*C. parvum*), Morocco one (*C. hominis*), Pakistan one (*C. hominis*), Syria one (*C. hominis*), and seven had no country of travel stated (all *C. hominis*).

Giardia lamblia

There were 889 giardia infections reported, of which 42 (5%) were associated with recent foreign travel. Countries of travel are listed in table 6.

Table 6. Laboratory reports of *Giardia lamblia* associated with foreign travel, England and Wales: fourth quarter 2008

Country of travel	<i>Giardia</i> reports
India	8
Egypt	3
Pakistan	2
Country not stated	1
Other countries (N=22)*	28
Total	42

* Some reports had more than one country of travel stated and countries were spread worldwide.

Other intestinal protozoa

Other intestinal protozoa reported were *Entamoeba histolytica*; three out of a total of 29 were associated with recent foreign travel; countries reported were India, Pakistan and Greece. There were three reports of *Cyclospora*, of which one was associated with travel to India.

Enteric fever

During the fourth quarter of 2008, there were 68 reports of *S. Typhi* and 56 reports of *S. Paratyphi* (53 *S. Paratyphi* A, and three *S. Paratyphi* B).

Fifty-one percent (35/68) of *S. Typhi* and 52% *S. Paratyphi* (29/56) reports were associated with recent foreign travel. Countries of travel are listed in table 7. The Indian sub-continent remains the most reported region of travel for cases of enteric fever and is mainly associated with those visiting friends and relatives in their country of ethnic origin [4].

Table 7. Laboratory reports of enteric fever associated with foreign travel, England and Wales: fourth quarter 2008

Resort country	<i>Salmonella</i> spp			Total
	<i>S. Typhi</i>	<i>S. Paratyphi A</i>	<i>S. Paratyphi B</i>	
India	19	10	–	29
Pakistan	8	9	–	17
Nepal	–	6	–	6
Bangladesh	1	3	–	4
Iraq	2	–	–	2
Egypt	1	–	–	1
Ghana	1	–	–	1
Nigeria	1	–	–	1
Country not stated	2	–	1	3
Total	35	28	1	64

Intestinal helminths

In the fourth quarter of 2008 there were 56 reports of intestinal helminth infections, of which nine were associated with recent foreign travel. There were six cases of infection with *Taenia* spp, which were associated with travel to Ethiopia (four), China (one), and one reported travel to three different countries in Asia. There were two reports of *Strongyloides stercoralis*, one associated with travel to Namibia and one to Togo and one case of *Gnathostoma* sp was associated with travel to Botswana. Helminth infections can persist in the body for months and it may not be possible to say for certain where these infections were acquired; they are probably associated with new entrants to the UK as well as short-term travellers.

Arthropod-borne infections

Malaria

During the fourth quarter of 2008, there were 332 cases of malaria reported in the United Kingdom, 79% (263 cases) of which were caused by the parasite, *Plasmodium falciparum* and 11% (35 cases) were caused by *P. vivax*. Where country of travel was known (180/213), 85% of malaria cases caused by *P. falciparum* were reported to be acquired in West Africa, and 78% (21/27) of *P. vivax* cases were reported to be acquired in Asia.

Dengue

Fifty-six cases (includes five confirmed and 51 probable) were reported by the HPA Special Pathogens Reference Unit (SPRU) in the fourth quarter. Of those, 41 had information about foreign travel. Twenty-three cases were associated with travel to the Indian sub-continent (17 India, three Pakistan, one Sri Lanka, and one Maldives) and 10 to South East Asia (six Indonesia, three Thailand, and one Philippines); one case had travelled to both these regions. Country of travel for dengue fever cases is under reported.

Chikungunya

There were two cases (one probable, one suspected) of chikungunya infection reported by the SPRU; countries of travel were India and Ghana.

Leishmaniasis

There were seven cases of leishmaniasis reported in the fourth quarter, five of which were presumed to be

cutaneous leishmaniasis and one was visceral leishmaniasis; the type was unknown for the remaining case. The cutaneous cases had travelled to Israel (two), Morocco (one) and Afghanistan (one); the remaining case did not have country of travel reported. The visceral case also had no country of travel reported.

Other infections

Schistosomiasis

Of 21 reports of infection with *Schistosoma* spp, only three had any information about travel and were associated with travel to Malawi (all *S. haematobium*).

Rickettsial infections

There were 19 cases of rickettsial infection reported by the SPRU in the fourth quarter. Sixteen were spotted fever (three confirmed, nine probable, and four suspected) and were mostly associated with travel to southern Africa (eight cases); other countries reported were Brazil, USA, Australia, Thailand, and Mexico; three cases had no country of travel reported. Three further reports were probable epidemic typhus, of which two travelled to Afghanistan and one to Greece.

Legionnaires' disease

There were 75 cases of Legionnaires' disease reported in the fourth quarter, of which 28 (37%) were associated with foreign travel. Two of the 28 cases were involved in two different outbreaks in the USA and India.

References

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Laboratory reports of respiratory infections made to Cfl from HPA and NHS laboratories in England and Wales: weeks 10-13/2009

Data are recorded by week of report, but include only specimens taken in the last eight weeks (ie recent specimens).

Table 1. Reports of influenza infection made to Cfl, by week of report: weeks 10-13/2009

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	08/03/09	15/03/09	22/03/09	29/03/09	
Influenza A	16	5	1	17	39
Isolation	1	–	–	–	1
DIF	1	1	–	2	4
PCR	1	1	–	–	2
Other	13	3	1	15	32
Influenza B	12	12	9	19	52
Isolation	1	1	–	3	5
DIF	4	6	1	4	15
PCR	5	2	5	9	21
Other	2	3	3	3	11
Influenza (untyped)	–	–	–	–	–
Isolation	–	–	–	–	–
DIF	–	–	–	–	–
PCR	–	–	–	–	–
Other	–	–	–	–	–

DIF = Direct Immunofluorescence.

'Other' = 'Antibody detection - single high titre' or 'Method not specified'.

Table 2. Respiratory viral detections by any method (culture, direct immunofluorescence, PCR, four-fold rise in paired sera, single high serology titre, genomic, electron microscopy, other method, other method unknown), by week of report: weeks 10-13/2009

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	08/03/09	15/03/09	22/03/09	29/03/09	
Adenovirus*	40	33	30	67	170
Coronavirus	7	2	2	2	13
Parainfluenza†	38	59	74	71	242
Rhinovirus	58	40	56	55	209
Respiratory Syncytial Virus (RSV)	68	75	53	62	258

* Respiratory samples only. Excludes diagnoses made by electron microscopy (EM)

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 3. Respiratory viral detections by age group: weeks 10-13/2009

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus*	50	58	10	36	13	2	1	170
Coronavirus	2	3	1	4	1	2	–	13
Influenza A	3	2	3	10	9	12	–	39
Influenza B	7	7	15	11	5	7	–	52
Parainfluenza†	118	57	5	26	27	8	1	242
Rhinovirus	114	45	8	19	18	4	1	209
Respiratory syncytial virus (RSV)	202	16	1	12	16	8	3	258

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 4. Laboratory reports of infections associated with atypical pneumonia, by week of report: weeks 10-13/2009

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	08/03/09	15/03/09	22/03/09	29/03/09	
<i>Coxiella burnetii</i>	–	–	1	4	5
Respiratory Chlamydia sp.*	1	4	5	1	11
<i>Mycoplasma pneumoniae</i>	7	7	13	12	39
Legionella sp.	4	3	6	1	14

* Includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and Chlamydia sp detected from blood, serum, and respiratory specimens.

Table 5a. Reports of Legionnaires' disease cases in England and Wales, by week of report: weeks 06-09/2009

Week	Week 10	Week 11	Week 12	Week 13	Total
Week ending	08/03/09	15/03/09	22/03/09	29/03/09	
Nosocomial	–	1	–	–	1
Community	2	1	3(1*)	–	6
Travel Abroad	2	1	2(1*)	1	6
Travel UK	–	–	1(1*)	–	1
Total	4	3	6	1	14
Male	1	2	5	1	9
Female	3	1	1	–	5

(*) 2008 cases

Fourteen cases were reported with pneumonia; nine males aged 36-76yrs and five females aged 57-75yrs. Six cases had community acquired infection and one acquired infection in hospital. Two deaths were reported in a 64yr old male and a female aged 75yrs.

Seven cases were travel associated: Dominican Republic (1), India (1), Italy (1), Mexico (1), United Kingdom (1) and United States of America (2).

Table 5b Reports of Legionnaires' disease cases by region of report in England and Wales: weeks 10-13/2009

Region/country	Nosocomial	Community	Travel abroad	Travel UK	Total
North East	–	–	1	–	1
Yorkshire & Humber	–	–	–	–	–
East Midlands	–	2(1*)	–	–	2
East of England	–	1	–	–	1
London	–	1	1	–	2
South East	1	1	1	–	3
South West	–	–	2(1*)	–	2
West Midlands	–	–	–	1(1*)	1
North West	–	1	–	–	1
Wales	–	–	1	–	1
Other	–	–	–	–	–
Total	1	6	6	1	14

(*) 2008 cases

Chemicals

A Children's Environment and Health Strategy for the United Kingdom

A Children's Environment and Health Strategy for the United Kingdom, published by the HPA [1], includes final recommendations on areas that should be taken forward in order to protect and promote children's health and to meet the UK's commitment under the World Health Organization's Children's Environment and Health Action Plan for Europe (CEHAPE) initiative.

The strategy aims to provide a strategic approach to reducing environmental hazards and promoting healthy environments to ensure the burden of disease amongst children attributable to environmental causes is reduced as much as possible and to improve the environmental health and well-being of children throughout the UK.

It takes into account of the results of a public consultation and the views of children and young people. Four main areas are addressed: water, sanitation and health; injuries, obesity and physical activity; indoor and outdoor air pollution; and chemical, physical and biological hazards. Recommendations made include:

- improving access to drinking water and sanitation facilities in schools;
- ensuring ready access to safe and well-maintained green open spaces;
- further protecting children from exposure to environmental tobacco smoke;
- improving understanding of unintentional childhood poisonings; and
- improving sun protection education and behaviour amongst children and young people.

The strategy also considers a number of over-arching issues, such as inequalities, sustainable development, mental health and climate change.

Reports summarising the responses received as part of the consultation process in Spring 2008, including a summary of the views of children and young people, and the workshop, are available on the Agency website [2,3].

References

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2. HPA. Children's Environment and Health Strategy for the UK - consultation workshop (Spring 2008). Downloadable (PDF, 3.7 MB) from the CEHAPE page of the Agency website at: <http://www.hpa.org.uk/cehape/>.
3. HPA. A Children's Environment and Health Strategy for the UK - youth participation report (2008). Downloadable (PDF, 496 KB) from the CEHAPE page of the Agency website at: <http://www.hpa.org.uk/cehape/>.

Radiation

Medical radiation examinations on women of child bearing age

Pregnant women should not undergo some types of medical examination that involve high doses of radiation to the foetus because of the small increased risk of causing childhood cancer, according to guidance developed by the Health Protection Agency, The Royal College of Radiologists and the College of Radiographers [1,2].

The guidance recommends that pregnant women should not be given ionising radiation examinations in which the foetus receives a dose of more than a few milligrays (mGy) [1] – for example CT scans of the lower abdomen. It is recognised, however, that such examinations may sometimes be clinically justified by an overriding benefit to the health of the mother. If such examinations have taken place, the risk of causing childhood cancer would still be relatively small and termination of pregnancy would not be considered necessary.

The guidance stresses that most medical examinations that use ionising radiation – which include X-rays, dental X-rays, CT scans and nuclear medicine scans – involve foetal doses of less than, and often very much less than, 1 mGy. For these examinations the associated risks of childhood cancer are very low (less than one in 10,000) and much lower than the natural rate of childhood cancer (one in 500). The guidance also indicates that the foetal radiation doses from all current medical examinations are too small to cause foetal death, malformation, retarded growth or impair the mental development of the unborn child.

The report updates 1998 advice by the former National Radiological Protection Board, now part of the Health Protection Agency (HPA), The Royal College of Radiologists and the College of Radiographers. It is aimed at hospital staff working in radiology and nuclear medicine departments and includes clear practical guidance on how to avoid inadvertent exposures of pregnant patients that could lead to significant risks for the unborn child.

Even though the risk to the unborn child is much lower in the first few weeks of pregnancy – when a woman may not realise she is pregnant - the guidance recommends that certain very high dose examinations where the foetal embryo could receive a dose of more than 10 mGy should not be carried out on early unrecognised pregnancies. One way of preventing this is to restrict such examinations to the first 10 days of the menstrual cycle, when the woman is unlikely to have conceived.

References

1. HPA, RCR, CoR (2009). *Protection of Pregnant Patients during Diagnostic Medical Exposures to Ionising Radiation*. Doc HPA RCE-9. Available at: http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1238230848780?p=1199451989432
2. HPA. *National Press Release*, 31 March 2009.
3. One gray (abbreviated Gy) is the unit of radiation dose when one joule of energy from ionising radiation is absorbed by one kilogram of matter. A milligray (mGy) is 0.001 of a gray. Radiation doses to the foetus from medical examinations can range from 0.001 mGy to 50 mGy.