Public Health England

Health Protection Report
weekly report

This is a PDF consolidation of the news items and infection reports published in HPR numbers 1 and 2, on 10 and 17 January 2013, respectively.

Volume 8 Numbers 1-2 Published on: **10 and 17 January 2014**

Current News

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* Published in *HPR* **8**(1) on 10/1/2014.

** Published in *HPR* **8**(2) on 17/1/2014.

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Infant botulism caused by an unusual dual toxin-producing *C. botulinum* strain

There have been two confirmed cases of infant botulism in England in 2013 both of which have been caused by *Clostridium botulinum* with the potential to produce neurotoxins type B and type F. The first case, a three-month-old male, presented at the end of January 2013 to a children's hospital in the north of England with a history of poor feeding, weak suck, general weakness and constipation. The infant became hypotonic and underwent respiratory arrest requiring mechanical ventilation. *Clostridium botulinum* type B and F neurotoxin genes were detected by PCR in the infant's faeces within three hours of specimen receipt at the Gastrointestinal Bacteria Reference Unit (Colindale) on the 1 February confirming a diagnosis of infant botulism. The infant was treated with human derived botulinum immunoglobulin (BabyBIG®) obtained from the California Department of Public Health's Infant Botulism Treatment and Prevention Program (IBTPP) on 3 February and his condition subsequently stabilised. *Clostridium botulinum* neurotoxin was detected by animal bioassay in a rectal wash out from the infant and *C. botulinum* with toxin genes B and F was isolated. Whilst this infant had a history of being fed honey, *C. botulinum* was not detected in remnant honey from the infant's home.

The second case of infant botulism occurred in a 5½ month-old male infant presenting at a hospital in central/southern England on 1 December with a one day history of being unwell, reduced feeding, loss of gag reflex and constipation. On admission the infant appeared drowsy, was not sucking or swallowing and became increasingly floppy over the next few hours requiring intubation and mechanical ventilation. Botulinum neurotoxin was detected by bioassay in a rectal wash out from the infant and *C. botulinum* with type B and F toxin genes was detected and isolated from the rectal wash out, confirming the diagnosis. This infant was also treated with BabyBIG provided by IBTPP and is showing signs of improvement. *C. botulinum* spores were not detected in formula milk, cooked carrots or a homeopathic preparation consumed by the infant.

Infant botulism is a rare disease in the UK with 17 cases reported, including the two described above, since the first case in 1978. It is notable that 11 cases have been reported since 2007. Infant botulism occurs when infants, less than one year old, ingest spores of *C. botulinum* which germinate and produce botulinum neurotoxin in the infant colon. The neurotoxin blocks release of the neurotransmitter, acetylcholine, leading to a characteristic, flaccid paralysis. Infant botulism should be suspected in infants who present with symptoms and signs including constipation, poor feeding, lethargy, ptosis, bulbar palsies, hypotonia, weakness, and loss of head control. The differential diagnosis of infant botulism includes sepsis, meningitis, myasthenia gravis and Guillain Barré syndrome and due to its rarity infant botulism may not be considered initially as a diagnosis. Treatment for infant botulism includes administration of BabyBIG [1] together with meticulous intensive care support. Whilst BabyBIG is suitable for treating infant botulism due to toxin types A and B it does not cover type F toxin. As with all antitoxin treatment for botulism, BabyBIG treatment should be started as early in the illness as

possible in order to neutralise circulating neurotoxin and prevent further progression of the illness. Treatment with BabyBIG has been demonstrated to improve the rate of recovery thereby reducing length of time in paediatric intensive care and the overall length of hospital stay.

Laboratory examination for detection of botulinum toxin in faeces or detection and isolation of *C. botulinum* from faeces confirms the clinical diagnosis of botulism but treatment should not be delayed until test results are available. However, prompt laboratory diagnosis is helpful for patient management and for ruling out the possibility of fatal degenerative neuromuscular diseases.

Botulism caused by *C. botulinum* producing two serologically distinct neurotoxins is particularly uncommon [2]: there have only been four previous reports worldwide of botulism caused by strains producing both B and F toxins and all have been cases of infant botulism (three in the USA in 1980, 1981 and 1993 and one in England in 1987). Whilst it has not been investigated for the recent UK isolates, two previous dual toxin BF isolates from cases of infant botulism have been shown to produce primarily botulinum toxin B at 37^{o} C and primarily toxin type F at 30^{o} C.

The source of spores in infant botulism is usually not identified. Spores are widely distributed in the environment and thought to be ingested from the atmosphere. Honey is a known dietary risk factor and should not be fed to infant less than one year of age, whilst infant botulism cause by type *E botulinum* toxin has recently been associated with pet terrapins. Whilst most infants are believed to be exposed to *C. botulinum* spores only a small minority develop infant botulism. It is thought that a perturbation in the immature gut flora in some infants provides a window of opportunity for the spores to germinate and produce toxin.

Further information on infant botulism and specimen and sample testing can be obtained from either Dr Corinne Amar (0208 327 7341) or Dr Kathie Grant (02083277117) at the Gastrointestinal Bacteria Reference Unit, Microbiological Services, Colindale.

Information on the supply of babyBIG® is available from the Infant Botulism Treatment and Prevention Programme, California (http://www.infantbotulism.org/).

References

1. Arnon S, Schechter R, Maslanka S, Jewell N, Hatheway C (2006). Human botulism immune globulin for the treatment of infant botulism. *N Engl J Med*; **354**: 426-47.

2. Barash JR and Arnon SS (2004). Dual toxin-producing strain of *Clostridium botulinum* type Bf isolated from a California patient with infant botulism. *J Clin Micro*; **42**:1713-5.

Enhanced surveillance for wild polio virus among risk groups

Outbreaks of paralytic poliomyelitis have been reported in 2013, from the Horn of Africa and Southern Sudan and from the Syrian Arab Republic. In addition, although no human polio cases have been identified in Israel to date, wild-type polio virus 1 (WPV1) has been isolated in sewage and in the faeces of asymptomatic carriers in Israel since February 2013.

A recent ECDC Risk Assessment identified as a risk group those who both have contact with Israel and who have low immunisation coverage [1]. Public Health England has therefore reiterated the advice issued last year to travellers to Israel, the West Bank and Gaza in Palestine that they should be up-to-date with their routine immunisations and have had a polio-containing vaccine in the past 10 years [2].

PHE Screening and Immunisation Leads (SILs) and Health Protection Teams have been reminded that significant numbers of Charedi Jewish Communities with low vaccine coverage travel to Israel for religious festivals and that SILs in areas where these communities live should consider supplementary vaccination activities. Public Health England is undertaking a targeted surveillance programme to detect asymptomatic, mild and non-paralytic cases of wild polio virus type 1 (WPV1) amongst populations at greatest risk as a result of travel to affected areas. The enhanced surveillance activity includes public health teams being alert to the possibility of WPV1 cases occurring, NHS area teams working with SILs to identify GP practices likely to serve high-risk groups, and virology laboratories in such areas referring samples from children under five years of age with meningitis, febrile illnesses and/or diarrhoea to be tested for polio.

Acute poliomyelitis is a notifiable disease and suspected cases should be notified to the proper officer (normally the consultant in communicable disease control in the relevant PHE Health Protection Team). Further information and advice for health professionals is available on the legacy HPA website.

References

1. “Wild-type poliovirus 1 transmission in Israel – what is the risk to the EU/EEA?” 8 November 2013, http://ecdc.europa.eu/en/publications/publications/polio-risk-assessment-transmission-in-israel.pdf.

2. “Polio vaccine reminder for travellers to Israel, West Bank and Gaza”, *HPR* **7**(38): travel health, http://www.hpa.org.uk/hpr/archives/2013/hpr37-3813.pdf.

Enteric fever annual report for 2012 published

Public Health England has published its 2012 annual report on enteric fever in England, Wales and Northern Ireland (EWNI) [1].

In 2012, 354 laboratory-confirmed symptomatic cases of enteric fever (typhoid and paratyphoid) were reported by the PHE Salmonella Reference Service in EWNI, a 26% decrease compared to 2011 (480 cases) and 25% below the mean number of cases reported between 2006 and 2012. Just over a fifth of cases were in children aged 16 years and under.

London accounted for the largest proportion of cases reported in England with just over two-thirds resident in London compared to 43% in 2011. Most regions saw a decrease in cases in line with the overall trend.

As in previous years, national enhanced surveillance [2] shows that most cases were in people who have visited friends and relatives in their country of ethnic origin, mainly the Indian subcontinent.

Enteric fevers are transmitted through contaminated food and water. Those at higher risk include travellers visiting friends and relatives, young children, long-term travellers, and those exposed to conditions of poor sanitation. Current vaccines against *Salmonella* Typhi are only 50-80% protective and do not protect against *Salmonella* Paratyphi. All travellers should practise strict food, water and personal hygiene precautions, even if vaccinated.

More information about typhoid and paratyphoid is available from the HPA legacy website [3,4].

References

1. "National 1. *Enteric Fever (typhoid and paratyphoid) in England, Wales and Northern Ireland: 2012*. Legacy HPA website: Travel health › Epidemiological Data ›Gastrointestinal infections › Enteric fever http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317140635485.

2. *Enhanced surveillance of enteric fever*. Legacy HPA website: Travel health › General Information › Enhanced surveillance of enteric fever.

3. *Typhoid,* http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Typhoid/

4. *Paratyphoid,* http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Paratyphoid/.

“Lambing season” reminder for pregnant women

Pregnant women who come into close contact with sheep during lambing – or other farm animals that are giving birth – may risk their own health, and that of their unborn child, from infections that such animals can carry. Although the number of human pregnancies affected by such contact is extremely small, a seasonal reminder of the hazard has been posted on the cross-government GOV.UK website [1].

The warning points out that the potential risk is not only associated with sheep, nor confined to the spring (when the majority of lambs are born): cattle and goats that have recently given birth can also carry similar infections.

The reminder includes precautionary advice: not to help to lamb ewes; to avoid contact with aborted or new-borns; to avoid handling materials that may have come into contact with animals that have recently given birth; etc. Also to ensure that partners who may have attended lambing, etc, have taken appropriate health and hygiene precautions. Pregnant women should seek medical advice if they experience fever or influenza-like symptoms, or if concerned that they could have acquired infection from a farm environment. Farmers have a responsibility to minimise the risks to pregnant women, including members of their family, the public and professional staff visiting farms.

Further information and advice is available from relevant pages of the legacy HPA [2] and Defra websites [3].

References

1. Joint Department for Environment, Food and Rural Affairs, Department of Health, Public Health England and Health and Safety Executive press release, 8 January 2014, “Pregnant women advised to animals that are giving birth”, GOV.UK website, https://www.gov.uk/government/news/pregnant-women-advised-to-avoid-animals-that-are-giving-birth.

2. “Infection risks during the lambing season”. Legacy HPA website: Home › Topics › Infectious Diseases › Infections A-Z › Infection risks during the lambing season.

3. “Zoonoses: Advice to pregnant women during the lambing season”. Legacy Defra webpages, http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/zoonoses/lambing.htm.

Study on childhood vaccination coverage by ethnicity within London

With the rise in migration globally, our populations are increasingly diverse – this is particularly evident in London where a recent study considered the extent to which ethnicity affected vaccine coverage of the routine childhood vaccination programme [1].

Ethnicity is relatively well recorded in health systems and can be used to explore health differences between ethnic groups. This study used routinely collected data extracted from child health information systems in nine London Primary Care Trusts (PCTs) to assess vaccine coverage of diphtheria-containing vaccines at first, second and fifth birthdays by ethnicity between 2006/07 and 2010/11, and examined factors related to lower coverage.

In general, the largest ethnic groups have good coverage, but new, smaller communities within a PCT may need particular attention. Deprivation was not a strong indicator of coverage overall , and for most ethnic groups there was no relationship between deprivation and coverage. The study highlights the importance of good data recording and transfer of information, which is relevant for all health areas. Children not registered with a general practitioner or without up-to-date GP practice details in the child health information system, have lower recorded vaccine coverage and are at risk of missing out on key primary care initiatives.

Reference

1. Wagner KS, van Wijgerden JCJ, Andrews N, *et al*. *Arch Dis Child.* Published Online First, 17 December 2013.

Invitation for EPIET and EUPHEM fellowship applications

The European Centre for Disease Prevention and Control (ECDC) has issued a call for applications for both its intervention epidemiology and public health microbiology programmes that offer two-year periods of training and practical experience in communicable disease centres in the EU, each starting in September 2014 [1].

Twelve Fellows will be recruited to the 20th cohort of the European Programme for Intervention Epidemiology Training (EPIET) programme, which provides training in surveillance, investigation and control of communicable disease threats . Further information on the EPIET scheme is available from the EPIET website (www.epiet.org).

Four Fellows will be recruited to the European Public Health Microbiology (EUPHEM) training programme that, since 2008, in parallel to the EPIET scheme, covers: public health microbiology management; applied public health microbiology and laboratory investigations; and surveillance, outbreak investigation, bio-risk management, quality management, research, communication and teaching. Further information is available from the EUPHEM website.

The deadline for applications is February 2, 2014 in each case.

Reference

1. ECDC website: http://www.ecdc.europa.eu/en/aboutus/jobs/Pages/fellowships.aspx.

Chikungunya in the Caribbean

On 6 December 2013, the first cases of locally-acquired chikungunya infection were reported in the French Caribbean territory of St Martin [1]; the number of confirmed or probable cases reported in the territory has since increased to 201 as of 9 January 2014 [2].

Enhanced surveillance for chikungunya virus has been implemented in all the French Caribbean territories and cases have now been detected in Martinique (48 probable or confirmed), St Barthélemy (25 probable or confirmed), Guadeloupe (10 probable or confirmed, including one imported from St Martin), and French Guiana (one case imported from Martinique) [2]. Additionally, two confirmed cases have been reported in the Dutch part of St Martin (Sint Maarten) [2]. More cases, clinically suspected to be chikungunya, in the above territories are undergoing testing [3]; therefore the number of confirmed cases is expected to increase in the coming weeks.

The mosquito vectors for chikungunya, *Aedes albopictus* and *Aedes aegypti*, are distributed throughout the Caribbean and the Americas therefore the region is highly susceptible to the introduction and spread of chikungunya. Dengue fever, also spread by *Aedes* mosquitoes, and which presents with a similar illness to chikungunya, is already well established in the region. Chikungunya is an illness characterised by rapid onset of fever, headache, myalgia and arthralgia, with 10% going on to suffer more chronic symptoms. More information about chikungunya is available on the HPA legacy website [4].

Health professionals should be alert to the possibility of chikungunya infection in those returning from the Caribbean with a febrile illness, particularly if dengue fever has been excluded. To date no cases of chikungunya associated with travel to the Caribbean have been reported in the UK. If a case is suspected, appropriate samples should be sent for testing (including a full travel and clinical history with relevant dates) to the Public Health England Rare and Imported Pathogens Laboratory.

The Imported Fever Service is available to local infectious disease physicians or microbiologists should specialist advice be needed on 0844 7788990.

Travellers to the Caribbean should practise insect bite avoidance measures. *Aedes* mosquitoes are most active during daylight hours. Particular vigilance with bite avoidance should be taken around dawn and dusk. There is no vaccine to prevent chikungunya [1].

References

1. http://www.nathnac.org/pro/clinical_updates/chik_carib070114.htm.

2. Epidemiological update: autochthonous cases of chikungunya fever in the Caribbean region, 10 January 2014. ECDC Portal: Portal Home > English > Media Centre > News.

3. http://www.invs.sante.fr/fr/Publications-et-outils/Points-epidemiologiques/Tous-les-numeros/Antilles-Guyane/2014/Situation-epidemiologique-du-chikungunya-dans-les-Antilles.-Point-au-2-janvier-2014.

4. http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Chikungunya/.

Diary

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RSPH water hygiene webinars: Monthly through 2014

The Royal Society of Public Health, supported by Public Health England, is organising 11, one-hour-long live, interactive webinars concerned with water system management – to be held monthly (excluding August) in 2014. Programme details of the first two events are available from the RSPH website.

***Venue*:** London	***Further details*:** www.rsph.org.uk/waterwebinars

Ensuring health and safety in the body art industry, 25 February (Bristol), 28 February (Leicester), 3 March (Leeds)

Three, one-day events introducing the CIEH guidance on good practice in tattooing and body piercing guidance, published last year. Organised by PHE and the Chartered Institute of Environmental Health.

***Further information*:** PHE Health Protection and Epidemiology Training webpages

Practical issues in clinical mycology: fifth annual meeting, 26 February, London

This UK Clinical Mycology Network meeting sets out to address practical issues in clinical mycology that are faced by many diagnostic laboratories and clinicians. Participants will have the opportunity to hear about the latest guidelines, anti-fungal stewardship, the latest technologies for fungal diagnostics and some clinically interesting case presentations.

***Venue*:** St Bartholomew's Hospital, Giltspur Street, West Smithfield, London EC1A 7BE.	***Programme information and registration:*** www.phe-events.org.uk/mycology.

Field epidemiology scientific meeting, 3 March, Birmingham

The Public Health England Field Epidemiology Scientific Meeting, taking place on 3 March 2014 at the Holiday Inn, Birmingham, will focus on the application of epidemiological methods to protect and improve health. The purpose of the meeting is to support high quality and innovative field epidemiology across the public health family through sharing of good practice and innovation and through the development of transferrable knowledge and skills.

***Venue*:** Holiday Inn Birmingham City Centre, Smallbrook Queensway, Birmingham B5 4EW.	***Programme information and registration:*** www.phe-events.org.uk/fesm.

Public Health England annual conference 2014, 16-17 September, Warwick University

The second annual conference of Public Health England will be held during the third week of September, 2014.

***2014 conference venue*:** The Arts Centre, University of Warwick, Rootes Building, Gibbet Hill Road, Coventry CV4 7AL.	***Programme information:*** For programme announcements, email: conference@phe.gov.uk with the subject *Mailing list 2014*.

Public Health England

Health Protection Report
weekly report

Infection reports

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Respiratory *

Laboratory reports of respiratory infections made to CIDSC from HPA and NHS laboratories in England and Wales: weeks 49/2013 to 01/2014

Enteric **

General outbreaks of food-borne illness, laboratory reports of common gastro-instestinal infections and hospital norovirus outbreaks (England and Wales, weeks 49-52/2013); and salmonella infections (November 2013)

* Published in *HPR* **8**(1) on 10/1/2014.

** Published in *HPR* **8**(2) on 17/1/2014.

Respiratory

Laboratory reports of respiratory infections made to the CIDSC from PHE and NHS laboratories in England and Wales: weeks 49/2013-01/2014

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

Table 1. Reports of influenza infection made to PHE Colindale, by week of report

Week	Week 49	Week 50	Week 51	Week 52	Week 01	Total
Week ending	08/12/13	15/12/13	22/12/13	29/12/13	05/01/14	
Influenza A	**7**	**20**	**16**	**17**	**49**	**109**
Isolation	–	–	2	1	3	**6**
DIF *	1	2	1	1	7	**12**
PCR	4	13	11	15	38	**81**
Other †	2	5	2	–	1	**10**
Influenza B	**1**	**3**	**8**	**4**	**3**	**19**
Isolation	–	–	–	–	–	**–**
DIF *	–	–	–	–	–	**–**
PCR	1	1	8	4	2	**16**
Other †	–	2	–	–	1	**3**

* DIF = Direct Immunofluorescence. † Other = "Antibody detection - single high titre" or "Method not specified".

Table 2. Respiratory viral detections by any method, by week of report

Week	Week 49	Week 50	Week 51	Week 52	Week 01	Total
Week ending	08/12/13	15/12/13	22/12/13	29/12/13	05/01/14	
Adenovirus*	42	47	33	26	65	**213**
Coronavirus	6	11	9	4	32	**62**
Parainfluenza†	68	69	50	19	75	**281**
Rhinovirus	250	241	286	140	276	**1193**
RSV*†	853	880	1197	833	1119	**4882**

* Respiratory samples only. Excludes diagnoses made by electron microscopy (EM)
† Includes parainfluenza types 1, 2, 3, 4 and untyped. *† Respiratory Syncytial Virus.

Table 3. Respiratory viral detections by age group: weeks 49/2013-01/2014

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Unknown	Total
Adenovirus *	71	89	18	11	16	8	–	**213**
Coronavirus	20	9	12	6	9	5	1	**62**
Influenza A	14	17	7	32	23	16	–	**109**
Influenza B	–	1	3	5	5	5	–	**19**
Parainfluenza †	75	55	27	34	48	42	–	**281**
Rhinovirus	544	222	67	149	120	90	1	**1193**
Respiratory syncytial virus	3626	730	88	119	155	150	14	**4882**

* 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

Week	Week 49	Week 50	Week 51	Week 52	Week 01	Total
Week ending	08/12/13	15/12/13	22/12/13	29/12/13	05/01/14	
Coxiella burnettii	1	–	1	–	–	**2**
Respiratory *Chlamydia* sp.*	–	4	1	2	1	**8**
Mycoplasma pneumoniae	11	9	11	8	8	**47**
Legionella sp.	2	2	3	3	3	**13**

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

Table 5. Reports of Legionnaires Disease cases in England and Wales, by week of report

Week	Week 49	Week 50	Week 51	Week 52	Week 01	Total
Week ending	08/12/13	15/12/13	22/12/13	29/12/13	05/01/14	
Nosocomial	–	–	–	–	–	**–**
Community	2	1	1	3	2	**9**
Travel Abroad	–	–	2	–	–	**2**
Travel UK	–	1	–	–	1	**2**
Total	**2**	**2**	**3**	**3**	**3**	**13**
Male	2	2	2	1	1	**8**
Female	–	–	1	2	2	**5**

Fourteen cases were reported with pneumonia. Twelve males aged 29 to 79 years and two females aged 47 to 73 years. Nine cases had community-acquired infection. One death was reported in a 40 year old male.

Five cases were reported with travel association: France (1), United Arab Emirates (1), United Kingdom (1) and the United States of America (2).

Table 6. Reports of Legionnaires' Disease cases by region of report in England and Wales: weeks 49/2013-01/2014

Region/Country	Noso-comial	Community	Travel Abroad	Travel UK	Total
North of England					
North East	–	–	–	–	**–**
Cheshire & Merseyside	–	1	–	–	**1**
Greater Manchester	–	–	–	–	**–**
Cumbria & Lancashire	–	–	2	–	**2**
Yorkshire & the Humber	–	–	–	–	**–**
South of England					
Devon, Cornwall & Somerset	–	–	–	–	**–**
Avon, Gloucestershire & Wiltshire	–	–	–	–	**–**
Wessex	–	–	–	1	**1**
Thames Valley	–	–	–	–	**–**
Sussex, Surrey & Kent	–	1	–	–	**1**
Midlands & East of England					
East Midlands	–	1	–	–	**1**
South Midlands & Hertfordshire	–	–	–	–	**–**
Anglia & Essex	–	–	–	–	**–**
West Midlands	–	1	–	–	**1**
London Integrated Region					
London	–	4	–	1	**5**
Public Health Wales					
Mid & West Wales	–	–	–	–	**–**
North Wales	–	1	–	–	**1**
South East Wales	–	–	–	–	**–**
Miscellaneous					
Other	–	–	–	–	**–**
Not known	–	–	–	–	**–**
Total	**–**	**9**	**2**	**2**	**13**

(*) Non-pneumonic case.

Enteric

General outbreaks of foodborne illness in humans, England and Wales: weeks 49-52/2013

Preliminary information has been received about the following outbreak.

Health Protection Unit	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
West Yorkshire*	Campylobacter	Pub	April	10	2	Not known	n/a
Yorkshire and Humber	*Salmonella* spp.	Nursing/care home	December	Not known	Not known	Not known	N/a
Yorkshire and Humber	*Salmonella* enteritidis	Function/party	December	40	3	Not known	N/a
Avon, Gloucester and Wilts.	Not	Not	December	Not	Not	Chicken liver parfait	D

D = Descriptive epidemiological evidence: suspicion of a food vehicle in an outbreak based on the identification of common food exposures, from the systematic evaluation of cases and their characteristics and food histories over the likely incubation period by standardised means (such as standard questionnaires) from all, or an appropriate subset of, cases.

Common gastrointestinal infections, England and Wales: laboratory reports: weeks 49-52/2013

Laboratory reports	Number of reports received				Total reports	Cumulative total	
	49/13	50/13	51/13	52/13	49-52/13	01-52/13	01-53/12
Campylobacter	982	833	814	510	3139	58287	64758
E. coli O157 *	6	6	8	1	21	734	793
Salmonella †	101	88	62	25	276	7106	7638
Shigella sonnei	27	25	12	7	71	998	957
Rotavirus	73	38	30	42	183	14901	15299
Norovirus	130	143	94	160	527	6911	10961
Cryptosporidium	55	50	51	24	180	3420	5748
Giardia	69	76	70	32	247	3572	3876

*Vero cytotoxin–producing isolates: data from CIDSC's Laboratory of Gastrointestinal Pathogens (LGP), PHE Colindale.
† Data from CIDSC-LGP.

Less common gastrointestinal infections, England and Wales: laboratory reports: weeks 40-52/2013

Laboratory reports	Total reports 40-52/2013	Cumulative total to 52/2013	Cumulative total to 53/2012
Astrovirus	117	340	241
Sapovirus	153	272	180
Shigella boydii	26	96	69
Shigella dysenteriae	9	37	52
Shigella flexneri	161	682	665
Plesiomonas	11	42	42
Vibrio spp.	17	58	58
Yersinia spp	3	31	31
Entamoeba histolytica	14	52	52
Blastocystis hominis	33	190	190
Dientamoeba fragilis	5	48	96

Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): November 2013

Details of 523 serotypes of salmonella infections recorded in November are given in the table below.
In December 2013, 158 salmonella infections were recorded.

Organism	Cases: November 2013
S. Enteritidis PT4	6
S. Enteritidis (other PTs)	154
S. Typhimurium	77
S. Virchow	6
Others (typed)	280
Total salmonella (provisional data)	**523**

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 49-52/2013

The hospital norovirus outbreak reporting scheme (HNORS) recorded 72 outbreaks occurring between weeks 49 and 52 2013, 71 of which (99%) led to ward/bay closures or restriction to admissions. Forty outbreaks (56 per cent) were recorded as laboratory confirmed due to norovirus. From week 1 (January 2013) to week 52 (week beginning 23 December, 2013) 881outbreaks have been reported. Ninety-two per cent (810) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 67 per cent (593) were laboratory confirmed as due to norovirus.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 49-52/2013

Region/PHE Centre	Outbreaks between weeks 49-52/2013			Total outbreaks 1-52/2013		
	Outbreaks	Ward/bay closure	Lab-confirmed	Outbreaks	Ward closure	Lab-confirmed
Avon, Gloucestershire and Wiltshire	13	13	9	80	79	67
Bedfordshire, Hertfordshire and Northamptonshire	1	1	1	11	11	10
Cheshire and Merseyside	1	1	–	17	13	11
Cumbria and Lancashire	5	5	1	66	65	27
Devon, Cornwall and Somerset	6	6	3	155	154	81
Greater Manchester	–	–	–	21	1	18
Hampshire, Isle of Wight and Dorset	13	13	11	64	63	50
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	3	3	1	56	54	39
London	1	1	1	20	19	19
Norfolk, Suffolk, Cambridgeshire and Essex	–	–	–	2	2	1
North east	4	4	–	101	96	69
Sussex, Surrey and Kent	2	2	2	81	81	60
Thames Valley	3	3	1	44	43	26
West Midlands	18	17	8	52	45	25
Yorkshire and the Humber	2	2	2	111	84	90
Total	**72**	**71**	**40**	**881**	**810**	**593**

Seasonal comparison of laboratory reports of norovirus (England and Wales)

In the current season to date † (from week 27, 2013, to week 52, 2013), there were 1641 laboratory reports of norovirus. This is 34 per cent lower than the average number of laboratory reports for the same period in the seasons 2007/08 and 2011/2012 (2506)*. The number of laboratory reports in the most recent weeks will increase as further reports are received.

† The norovirus season runs from July to June (week 27 in year one to week 26 in year two) in order to capture the winter peak in one season.

* Last season – 2012/2013 – the season began earlier than normal so comparisons between this current and last season would not be valid.

Figure 1. Seasonal comparison of laboratory reports of norovirus (England and Wales)

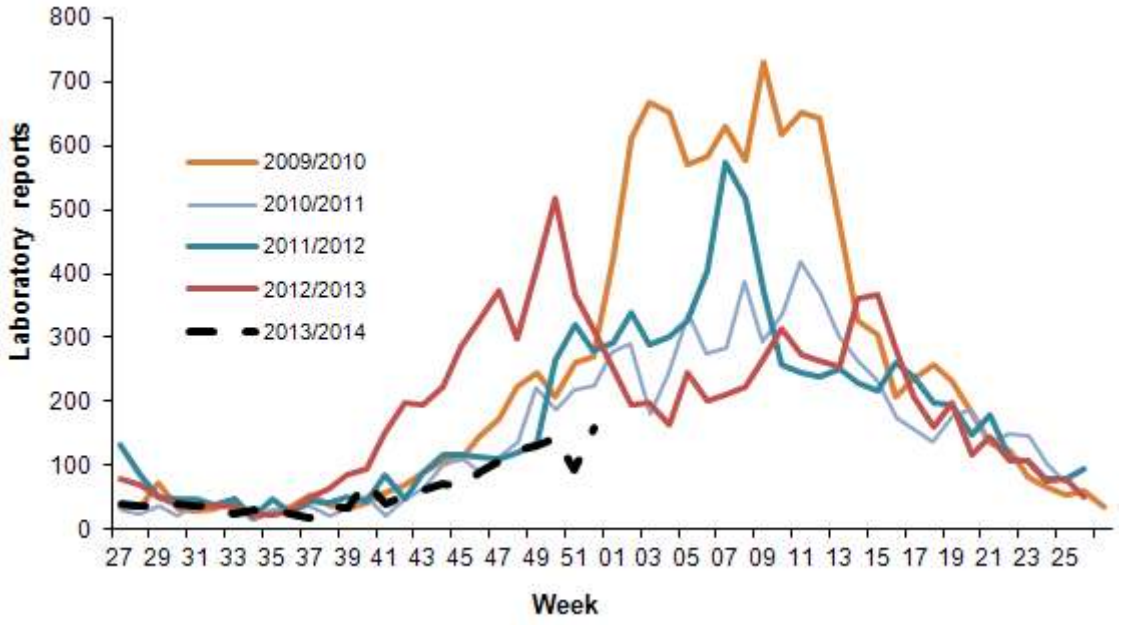

Figure 2. Current weekly norovirus laboratory reports compared to weekly average 2006/2010