Public Health England

Health Protection Report
weekly report

Volume 10 Number 6 Published on: **12 February 2016**

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News

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NICE guidance on tuberculosis

Recently-updated, comprehensive recommendations for the diagnosis, management and prevention of tuberculosis – published by the National Institute for Health and Care Excellence in January [1] – represent the most significant review of guidance on best practice since guidelines were first developed by the National Collaborating Centre for Chronic Conditions in 2006.

Of relevance to all settings in which NHS or public health services for TB are received, provided or commissioned in the public, private and voluntary sectors, the guidance includes: a raised age limit for testing and treatment for latent TB (from 35 to 65 years); amendments to recommendations for clinicians on the use of Mantoux/IGRA tests; and an acknowledgement that rapid molecular tests ('NAATS') will be of increasing importance in TB diagnosis as a complement to the traditional culture-based laboratory methods required for definitive diagnoses.

A significant proportion of the 312 recommendations in the updated guidance are new or substantially updated/expanded since they were last reviewed in 2011, including those covering:

- testing for and treatment of both latent infection and active disease (in particular, interventions directed at children and young people; the guidance includes an updated decision-making algorithm to facilitate diagnosis of latent TB in neonates and young children)
- greater use of NAATs where MDR-TB is suspected and of intensive clinical interventions for MDR-TB patients (such as 'directly observed treatments')
- case-finding and adherence, treatment completion and follow-up measures (such as measures to facilitate re-commencement of treatment for active or latent TB following interruption after adverse responses to initial treatment)
- service organisation, particularly relating to the functioning of the seven recently-created TB Control Boards (as described in the Collaborative TB Strategy for England 2015-2020 [2]) and their collaboration with PHE, CCGs, NHS England and other partner organisations

- identification and management of TB in under-served groups (previously called hard-to-reach groups, the relevant guidance having been published as a separate NICE document in 2012).

The complete 551-page version of NICE Guideline NG33 [1] is complemented by three related versions intended for different users:

- a 177-page summary, known as the NICE Guidance [3], that lists all changed recommendations, and the reasons for any change
- a NICE 'pathways' online-only resource, comprising annotated flowchart-depictions to facilitate the guideline's implementation in different contexts (hospitals, prisons and immigration removal centres, etc), by different organisations (service organisations, NHS employers), in different risk situations (high-risk groups, under-served groups) and for different intervention types (staff vaccination, contact tracing, management of latent and active TB, etc) [4]
- a version for those using NHS services, their families and carers, and the public [5].

References

1. NICE (January 2016). Tuberculosis: prevention, diagnosis, management and service organisation (NICE Guideline 33): methods, evidence and recommendations.
2. PHE and NHS England (2015). Collaborative tuberculosis strategy for England: 2015 to 2020.
3. NICE (January 2016). Tuberculosis: prevention, diagnosis, management and service organisation (Guidance on NICE Guideline 33).
4. NICE Tuberculosis Pathway.
5. NICE Guideline NG33: information for the public.

Infection reports in this issue of *HPR*

PHE's latest quarterly report summarising the epidemiology of enteric fever across England, Wales and Northern Ireland is published in the Infection Reports section of this issue of HPR [1]. The report includes analysis of the data according to organism type, age/sex and geographical distribution of cases, and travel history of cases.The data shows an increase in case reports compared with the equivalent period in 2014, but below the rolling mean number of reports in the fourth quarter over the past eight years.

Other infection reports in this issue are:

- Common animal associated infections quarterly report (England and Wales): fourth quarter 2015
- Creutzfeldt-Jakob disease (CJD) biannual update (February 2016)
- Latest routine enteric infection reports (including hospital norovirus outbreak reports).

Reference

1. Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): fourth quarter 2015, *HPR* 10(6), 12 February 2016.

New guidance on the design and use of hand-held dental X-ray equipment

Guidance on the design, construction and use of hand-held dental X-ray equipment has been published by PHE's Centre for Radiation, Chemical and Environmental Hazards, including both recommended design features, for manufacturers, and suppliers; and a comprehensive explanation of the relevant requirements of UK radiation protection legislation, for users [1].

Investigations undertaken by PHE in recent years have revealed a wide variation in the standard of radiation protection afforded by the different designs of hand-held equipment. Doses to operators of equipment that is well designed and constructed are comparable to doses received by operators of wall-mounted X-ray units, provided certain additional precautions are observed. However, poorly designed and constructed equipment may place the operator at risk of exceeding statutory dose limits and incurring potential radiation injuries. Previous guidance on the safe use of dental X-ray equipment did not address hand-held devices.

The guidance also notes that, in view of the portability of hand-held dental X-ray equipment, it is also necessary to consider safeguards for people who might be exposed as a result of the equipment being used in locations remote from the dental practice, such as care homes.

Reference

1. PHE (February 2016). Guidance on the safe use of hand-held dental X-ray equipment, (PHE-CRCE-023).

Forthcoming events

Applied Epidemiology Scientific Conference 2016 (22-23 March, University of Warwick)

The full programme for this event has been published on the conference website. Plenary lectures include: “Estimating mortality risks from alcohol consumption to inform new UK lower risk drinking guidelines” (Dr John Holmes, Senior Research Fellow, University of Sheffield); “Development of health economics across PHE” (Professor Brian Ferguson, PHE Chief Economist, PHE); and “Ebola and other emerging infections: lessons learned, and lessons not learned” Professor David Heymann, PHE Board Chairman.

Legionella pneumophila (1976 to 2016): from whole guinea pigs to whole genome sequencing (31 March, PHE Colindale)

This symposium will include presentations from legionella experts from USA, Europe and the UK, and will highlight experiences from cluster/outbreak investigations, the application of whole genome sequencing to epidemiological typing and the wider implications of the diversity of legionella in the environment. Further details: Education and Training Unit, PHE Colindale (tel:+44(0)208-327-7427).

Assessing the impact of new technology in diagnostics on global epidemiology: how laboratories make a difference (20 May, PHE Colindale)

The annual scientific conference of the British Society for Microbial Technology, associated with a comprehensive trade exhibition, will include presentations by Professor Derrick Crook (Director, PHE National Infection Service), Professor Ian Goodfellow (Head of Virology Division, Department of Pathology, University of Cambridge), Dr Matthew Donati (Consultant Medical Virologist, PHE Microbiology Services, Bristol), and Dr Gwenda Hughes (Head of Sexually Transmitted Infection Surveillance, PHE National Infection Service). Further details: Education and Training Unit, PHE Colindale (tel:+44(0)208-327-7427).

Public Health England

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Infection reports

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Infection Reports

Enteric

- General outbreaks of foodborne illness in humans, England and Wales: weeks 1-4/2016
- Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): December 2015
- Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 1-4/2016
- Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): fourth quarter 2015
- Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): fourth quarter 2015

CJD

- Creutzfeldt-Jakob disease (CJD) biannual update (February 2016)

Zoonoses

- Common animal associated infections quarterly report (England and Wales) – fourth quarter 2015

Infection reports / Enteric

Volume 10 Number 6 Published on: 12 February 2016

General outbreaks of foodborne illness in humans, England and Wales: weeks 1-4/2016

Preliminary information has been received about the following outbreaks.

PHE Centre/ HPT	Organism	Location	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
Cumbria and Lancashire	Campylo-bacter	Restaurant	January	4	4	Not known	N/k

Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): December 2015

Details of three serotypes of salmonella infections recorded in December 2015 are given in the table below. In January 2016, 290 salmonella infections were recorded.

Organism	Cases: December 2015
S. Enteritidis	93
S. Typhimurium	117
S. Virchow	10
Others (typed)	216
Total salmonella (provisional data)	**436**

Notes:

1. Phage typing ceased as of 1 November 2015
2. Following the introduction of a new laboratory reporting system (SGSS) in December 2014, direct comparisons with data generated by the previous system (LabBase2) may not be valid.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in 1-4/2016

The hospital norovirus outbreak reporting scheme (HNORS) recorded 24 outbreaks occurring between weeks 1 and 4, 2016, 22 of which led to ward/bay closures or restrictions to admissions. Eighteen outbreaks (75%) were recorded as laboratory confirmed due to norovirus (see table). For the calendar year 2015 – between week 1 (January) and week 53 (week beginning 28 December) – 662 outbreaks have been reported. Ninety-three per cent (617) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 66% (436) were laboratory confirmed as due to norovirus (see table).

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 1-4/2016

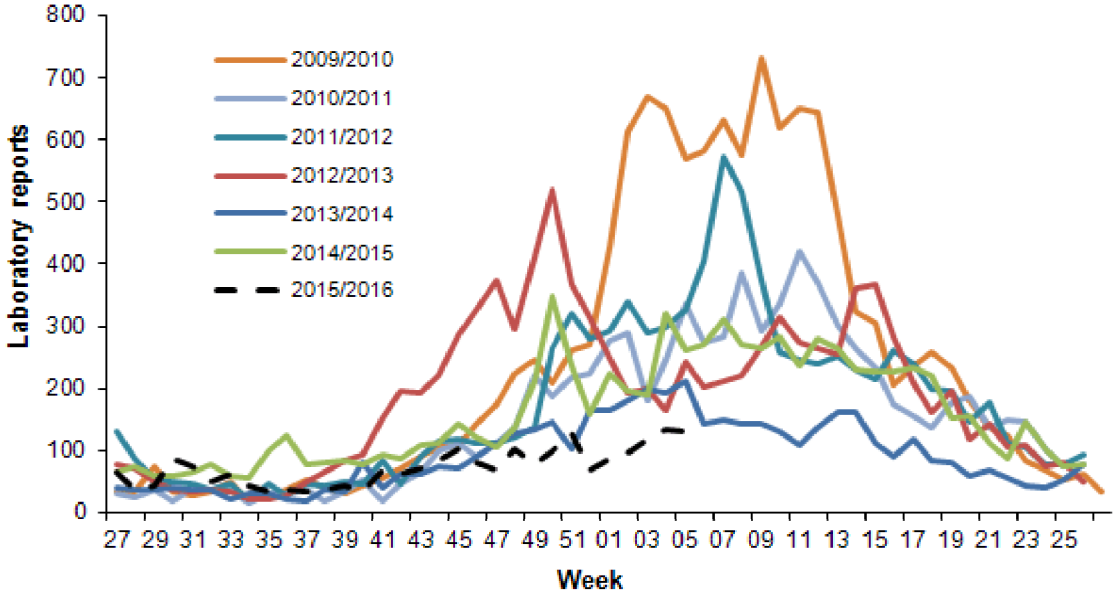
Region/ PHE Centre	Outbreaks between weeks 1-4/2016			Total outbreaks 1-53/2015		
	Outbreaks	Ward/bay closure*	Lab-confirmed	Outbreaks	Ward/bay closure*	Lab-confirmed
Avon, Gloucestershire and Wiltshire	3	3	3	81	79	59
Bedfordshire, Herts. and Northants.	–	–	–	9	9	7
Cheshire and Merseyside	–	–	–	8	6	8
Cumbria and Lancashire	–	–	–	40	39	21
Devon, Cornwall and Somerset	1	1	1	121	121	81
Greater Manchester	–	–	–	18	15	8
Hampshire, IoW and Dorset	6	6	5	26	25	21
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	–	–	–	29	26	22
London	–	–	–	5	4	2
Norfolk, Suffolk, Cambs. and Essex	–	–	–	–	–	0
North East	8	7	5	72	66	43
Sussex, Surrey and Kent	–	–	–	28	28	19
Thames Valley	3	3	1	10	8	2
West Midlands	2	2	2	116	113	61
Yorkshire and the Humber	1	–	1	99	78	82
Total	**24**	**22**	**18**	**662**	**617**	**436**

* Note: not all outbreaks result in whole wards closures, some closures are restricted to bays only.

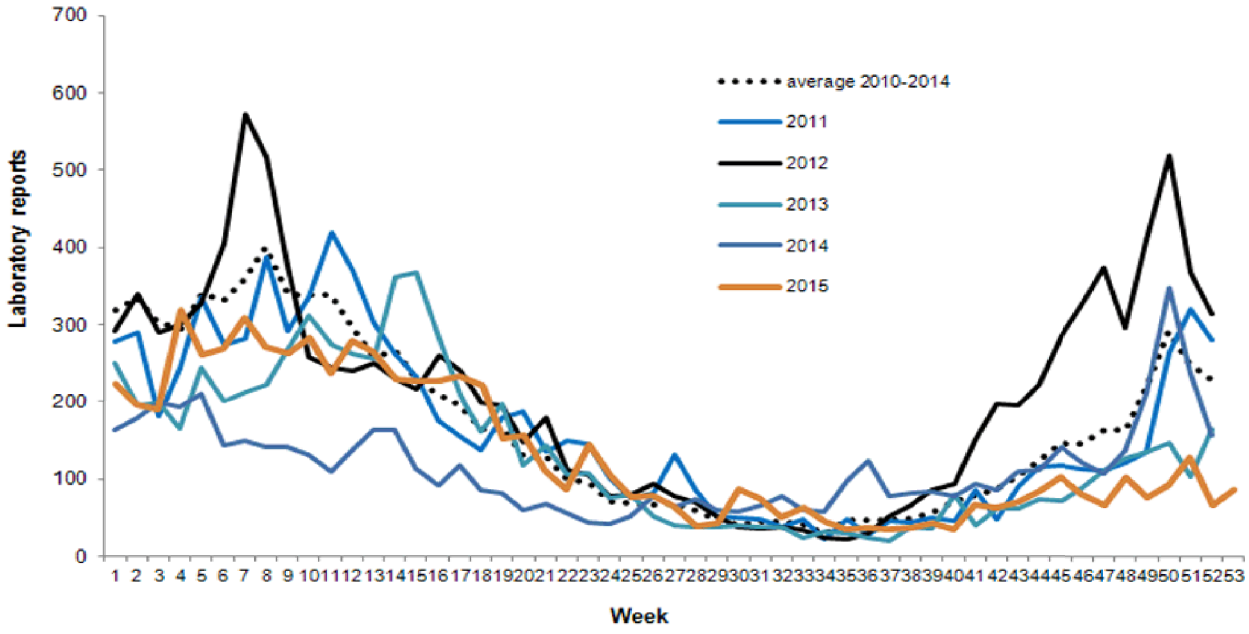
Seasonal comparison of laboratory reports of norovirus (England and Wales)

In the current season to date (from week 27, 2015, to week 4, 2016), there were 477 laboratory reports of norovirus. This is 62% lower than the average number of laboratory reports for the same period in the seasons between 2009/10 and 2013/2014 (1252). The number of laboratory reports in the most recent weeks will increase as further reports are received.

Current season's laboratory reports (to week 4, 2016) compared to previous seasons' weekly average (England and Wales)



Calendar year 2015 (to week 53) norovirus laboratory reports compared to previous years' weekly mean (2010-2014)



Infection reports / Enteric

Volume 10 Number 6 Published on: 12 February 2016

Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): fourth quarter 2015

This quarterly report summarises the epidemiology of laboratory confirmed cases of typhoid and paratyphoid reported in England, Wales and Northern Ireland (EWNI) between October and December 2015. It includes both reference laboratory and enhanced enteric fever surveillance data. All data for 2015 presented below are provisional; more detailed reports will be produced on an annual basis. More information about enteric fever surveillance, including previous reports, is available on the PHE website [1].

National summary

In the fourth quarter (Q4) of 2015, 70 laboratory confirmed cases of enteric fever were reported in England, Wales and Northern Ireland (table 1), 19% higher than Q4 2014 (59 cases) and 21% below the rolling mean (89 cases) for Q4 2008 to 2015 (figure 1).

Figure 1. Laboratory confirmed cases of enteric fever by organism, England, Wales and Northern Ireland: Q4 2008 – 2015

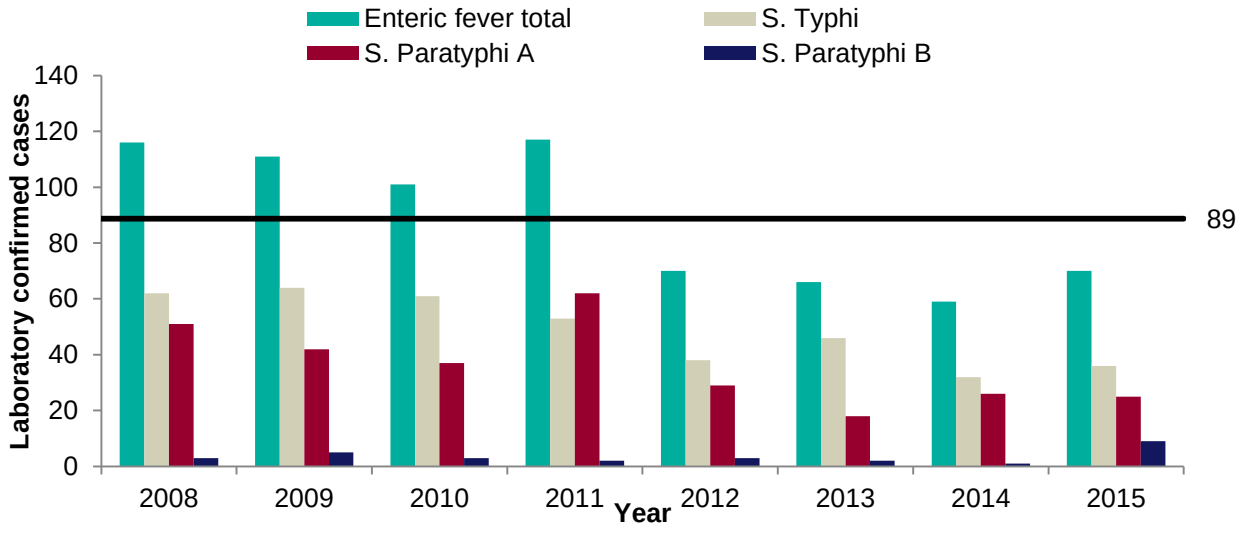


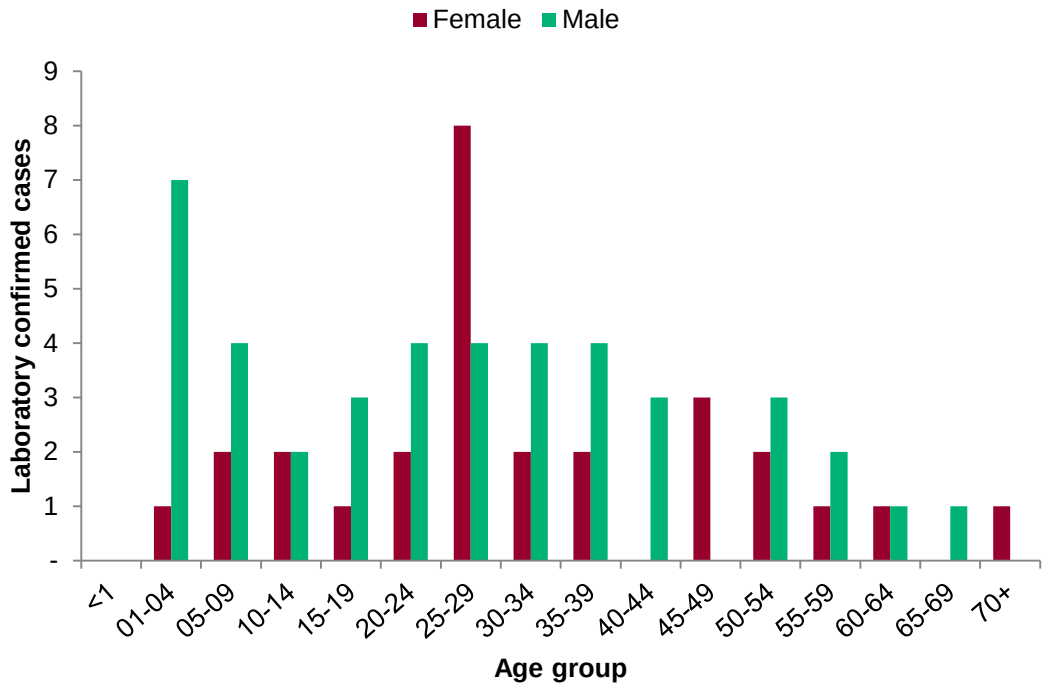
Table 1. Laboratory confirmed cases of enteric fever, England, Wales and Northern Ireland: Q4 2008 – 2015

Organism	Laboratory confirmed cases							
	Q4 2015	Q4 2014	Q4 2013	Q4 2012	Q4 2011	Q4 2010	Q4 2009	Q4 2008
Salmonella Typhi	36	32	46	38	53	61	64	62
Salmonella Paratyphi A	25	26	18	29	62	37	42	51
Salmonella Paratyphi B	9	1	2	3	2	3	5	3
Salmonella Paratyphi C	–	–	–	–	–	–	–	–
Salmonella Typhi and Paratyphi A	–	–	–	–	–	–	–	–
Enteric fever total	70	59	69	70	117	101	111	116

Age/sex distribution

In Q4 2015, the median age of all cases was 29 years and 27% (19/70) were aged 16 years and under (figure 2). Females accounted for 40% of all cases in Q4 2015.

Figure 2. Laboratory confirmed cases of enteric fever by age and sex (N=70): Q4 2015



Geographical distribution

Table 3 shows the cases reported by the PHE Centres (PHECs) in Q4 2015 compared to Q4 2014. For all reported cases, the geographical regions have been assigned using the residential postcode where this was available, otherwise referring diagnostic laboratory locations were used. London usually reports the highest proportion of cases in England (38% in Q4 2015 and 32% in Q4 2014). The three regions accounting for the majority of cases: London, West Midlands and Yorkshire & Humber, each reported an increase in cases compared to Q4 2014.

Table 3. Cases of enteric fever by geographical distribution, England, Wales and Northern Ireland: Q4 2015 and 2014

Region	Q4, 2015	Q4, 2014	% change between 2014 and 2015
London, PHEC	24	19	26.3%
West Midlands, PHEC	11	6	83.3%
Yorkshire and Humber, PHEC	7	3	133.3%
South East, PHEC	6	12	-50.0%
North West, PHEC	5	10	-50.0%
East Midlands, PHEC	5	5	0.0%
South West, PHEC	3	–	–
East of England, PHEC	2	2	0.0%
North East, PHEC	2	2	0.0%
England subtotal	**64**	**59**	**8.47%**
Wales	4	–	–
Northern Ireland	1	–	–
Total EWNI	**70**	**59**	**20.3%**

Travel history

In Q4 2015, travel history was available for 68 of the 70 cases; of which 65/68 cases (96%) were presumed to have been acquired abroad (57 who had travelled abroad from the UK, three new entrants to the UK and three foreign visitors to the UK; reason for travel was unknown for two cases). The remaining three cases had not travelled outside the UK in the 28 days prior to onset of symptoms.

Travel-associated cases

Country of travel was known for all 57 cases that had travelled abroad from the UK.

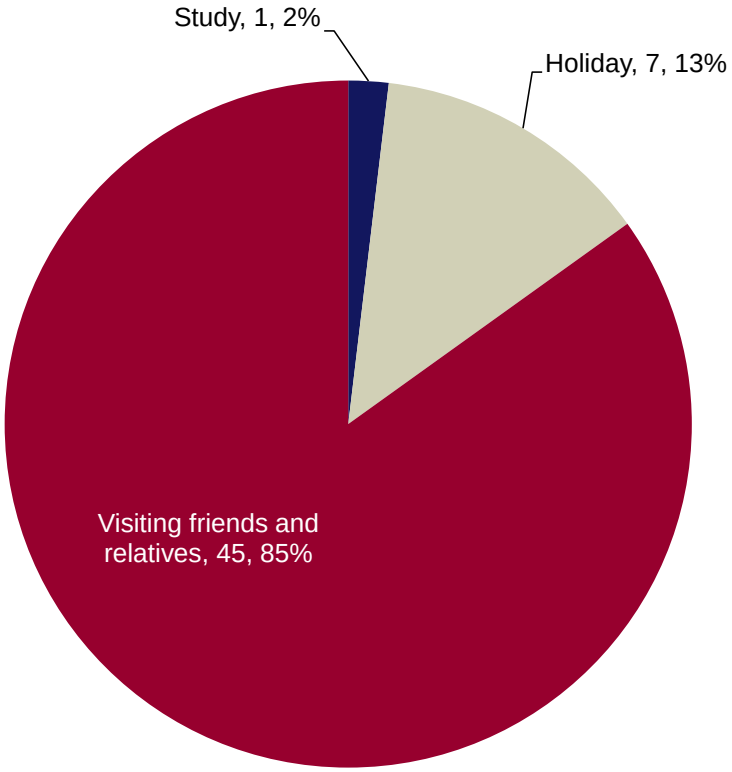
Travel-associated cases were likely to have acquired their infection in: Pakistan (19), India (17), Bangladesh (seven), Iraq (four), Nigeria (three); Afghanistan, Cambodia, Egypt, France*, Peru, Turkey and Viet Nam (one each).

Where multiple countries of travel have been stated by the case, only risk countries, as identified by the National Travel Health Network and Centre [3], were included for analysis. If a case travelled to multiple risk countries each country was counted individually. India and Pakistan continue to be the most frequently reported countries of travel for Q4 2015.

Reason for travel

Of the 57 cases who travelled abroad from the UK, reason for travel was known for 53. Among those, 85% of cases (45/53) travelled to visit friends and relatives (figure 4).

Figure 4. Laboratory-confirmed cases of enteric fever that have travelled abroad from the UK (N=53) by reason for travel: Q4 2015



*Note that France is not typically an endemic country for typhoid or paratyphoid, but this case has been included as travel-associated cases in the absence of an alternative source of infection in the UK.

Non-travel-associated cases

There were three non-travel-associated cases reported in Q4 2015. One of these is likely to be a secondary case resulting from household contact with a travel-associated confirmed case (family member).

The remaining two cases stated that they had not been in recent contact with a probable or confirmed case prior to onset of illness, although one case had reported travel to endemic regions two months prior to the onset of illness (which falls outside of the 28-day incubation period for typhoid). No other possible sources of infection for these two cases have been identified.

Data sources and acknowledgements

Data were collated and analysed by the Travel and Migrant Health Section, National Infections Service, Colindale. Laboratory data were provided by Gastrointestinal Bacterial Reference Unit, National Infections Service, Colindale. Other surveillance data were provided by Environmental Health Officers and local health protection colleagues in PHE and Wales and Northern Ireland through enteric fever enhanced surveillance.

References

1. GOV.UK website. Typhoid and paratyphoid: guidance, data and analysis. Available at: https://www.gov.uk/government/collections/typhoid-and-paratyphoid-guidance-data-and-analysis
2. National Travel Health Network and Centre (NaTHNaC) website. Available at: http://travelhealthpro.org.uk/

Infection reports / CJD

Volume 10 Number 6 Published on: 12 February 2016

Creutzfeldt-Jakob disease (CJD) biannual update (February 2016)

This six-monthly report provides an update on the enhanced surveillance of potential iatrogenic (healthcare-acquired) exposures to Creutzfeldt-Jakob Disease (CJD). The data is correct as of 31 December 2015. For numbers of CJD case reports, readers should consult data provided by the National CJD Research and Surveillance Unit (NCJDRSU, http://www.cjd.ed.ac.uk/data.html).

Monitoring of patients 'at increased risk' of CJD

Individuals who have been identified as ‘at increased risk’ of CJD as a consequence of their medical care are informed of their exposure and asked to follow public health precautions to avoid potentially transmitting the infection to others. They are also followed up to help determine the risks of CJD transmission to patients through different routes and to ascertain whether any people who may have been exposed to increased CJD risks go on to develop CJD.

Public Health follow up activities include clinical monitoring, General Practitioner (GP) updates, and post mortem investigations to determine whether asymptomatic individuals in these groups have been infected with the CJD agent. Some individuals also provide blood or tissue specimens for research purposes. A number of different organisations are involved in these activities: Public Health England (PHE) formerly the Health Protection Agency (HPA), Health Protection Scotland (HPS), UCL Institute of Child Health/Great Ormond Street Hospital (ICH), NHS Blood and Transplant (NHSBT), National CJD Research and Surveillance Unit (NCJDRSU), National Prion Clinic (NPC), and the UK Haemophilia Centre Doctors' Organisation (UKHCDO).

The PHE CJD Section coordinates the collation of data on individuals identified as ‘at increased risk’ of CJD, and who have been informed of this. These individuals are followed up through public health monitoring and research activities by different organisations.

The PHE CJD Section currently holds data on the following groups of patients who have been identified as ‘at increased risk’ of CJD:

- recipients of blood components from donors who subsequently developed vCJD
- blood donors to individuals who later developed vCJD
- other recipients of blood components from these blood donors
- recipients of certain plasma products between 1990 and 2001 (non-bleeding disorder patients)
- certain surgical contacts of patients diagnosed with CJD
- highly transfused recipients.

Data on the following risk groups are not held by PHE, but are held by other organisations:

- bleeding disorder patients who received plasma products between 1990 and 2001 (UKHCDO)
- recipients of human derived growth hormone before 1985 (ICH)
- patients who could have received a dura mater graft before August 1992 (data not currently collected)
- people who have been treated with gonadotrophin sourced from humans before 1973 (data not currently collected)
- family risk of genetic prion disease (NPC).

The data from the UKHCDO are likely to be a slight underestimate of the true number of patients with bleeding disorders who received UK-sourced clotting factors (1990 to 2001), as there was incomplete reporting of identified patients by haemophilia centres to the UKHCDO database. Notified patients are given the option of removing their details from the UKHCDO database, and are then removed from the ‘at increased risk' totals.

The data on patients who received human-derived human growth hormone held by the ICH is also a slight underestimate of the total as a small number of these patients are not included in the ICH follow-up.

Summary of all ‘at increased risk’ groups on which data are collected. (Data correct as of 31 December 2015)

'At increased risk' Group	Identified as 'at increased risk'	Number notified		Cases	Asymptomatic infections [a]
		All	Alive		
Recipients of blood from donors who later developed vCJD	67	27	14	3	1
Blood donors to individuals who later developed vCJD	112	108	103	0	0
Other recipients of blood components from these donors	34	32	17	0	0
Plasma product recipients (non-bleeding disorders) who received UK sourced plasma products 1990-2001	2	2	2	0	0
Certain surgical contacts of patients diagnosed with CJD	231	188	161	0	0
Highly transfused recipients	3	3	3	0	0
Total for ‘at increased risk’ groups where PHE holds data	**449**	**360**	**300**	**3**	**1**
Patients with bleeding disorders who received UK sourced plasma products 1990-2001[b]	4,023	3,551[c]	3,124[c]	0	1
Recipients of human derived growth hormone[b]	1,883	1,883	1,501	77	0
Total for all ‘at increased risk’ groups	**6,355**	**5,794**	**4,925**	**80**	**2**

a. An asymptomatic infection is when an individual does not exhibit any of the signs and symptoms of CJD in life but abnormal prion protein indicative of CJD infection has been found in tissue obtained at post mortem.

b. These are minimum figures. Central reporting for bleeding disorder patients is incomplete, and a small number of patients have opted out of the central UKHCDO database. A small number of ‘at increased risk’ growth hormone recipients are not included in the Institute of Child Health study. Not all of the ‘at increased risk’ growth hormone recipients have been notified. There is no central record of who has been informed.

c. These are the minimum number of people notified based on those patients who were seen for care after the notification exercise. It is likely that many more of the ‘at increased risk’ patients received their notification letter but as they were not subsequently recorded as being seen for care this cannot be confirmed.

Infection reports / Zoonoses

Volume 10 Number 6 Published on: 12 February 2016

Common animal associated infections quarterly report (England and Wales) – fourth quarter 2015

This quarterly report, produced by the Emerging Infections and Zoonoses Section at Public Health England, and the Health Protection Division of Public Health Wales, summarises confirmed cases of zoonoses reported in England and Wales between October and December 2015 (fourth quarter; weeks 40-53).

Animal associated infections in England and Wales: laboratory reports to SGSS† (unless otherwise specified) by specimen date, Q4 (weeks 40-53/15)

Disease (Organism)	Reports for weeks 01-13		Reports for weeks 14-26		Reports for weeks 27-39		Reports for weeks 40-53		Total for weeks 01-53	
	2015*	2014	2015*	2014	2015*	2014	2015*	2014	2015*	2014
Anthrax (*Bacillus anthracis*)	0	0	0	0	0	0	0	0	0	0
Brucellosis *(Brucella spp.)*	1	2	5	2	2	4	3	2	11	10
Hepatitis E	206	217	214	250	210	234	218	185	848	886
Hydatid (*Echinococcus granulosus*)	9	6	8	2	3	1	3	9	23	18
Leptospirosis *(Leptospira spp*.)	10	7	10	9	24	30	27	30	71	76
Lyme borreliosis: (*Borrelia burgdorferi*)										
All cases	83	142	102	153	421	300	266	135	872	730
Acute infections	32	60	57	72	340	180	189	74	618	386
Pasteurellosis *(Pasteurella spp.)*	139	126	147	163	181	173	174	140	641	602
Psittacosis (*Chlamydophila psittaci)*	4	6	11	4	6	6	1	9	22	25
Q-fever *(Coxiella burnetii)*	5	10	3	18	7	16	4	11	19	55
Toxoplasmosis# *(Toxoplasma gondii)*	88	76	86	96	82	94	81	78	337	344

†Second Generation Surveillance System has now replaced LabBase

* Provisional data

Based on date specimen received.

Anthrax

There were no cases reported in the fourth quarter of 2015.

Brucellosis (data from the Brucella Reference Laboratories)

There were three cases of Brucella reported in the fourth quarter of 2015, compared with two in the fourth quarter of 2014.

Two of the cases were males aged 12 and 29 years and the third was female aged 47 years. One report was confirmed as *Brucella melitensis* biovar 1, one as *B. abortus* biovar 1 and one as *Brucella* spp. All three cases are believed to have been acquired overseas.

Hepatitis E (data from Public Health Laboratory Birmingham, and Blood Borne Virus Unit Colindale)

There were 218 cases of hepatitis E in the fourth quarter of 2015 compared to 185 in the same quarter of 2014.

One hundred and thirty-six cases (62%) were male (aged 14-87 years, median 60) and 82 (38%) were female (aged 19-87 years, median 59). The persisting observation of the predominance of older men (see table below) remains unexplained. Cases were reported from all regions. The majority of cases (83%, n=180) had no apparent travel history.

There was a total of 848 confirmed cases reported in 2015 compared to 886 in 2014. The number of cases is consistent with the on-going increase observed since 20101.

Laboratory confirmed cases of Hepatitis E infection (week 40-53, 2015)

Age group	Male	Female	Total
0-14	1	–	1
15-24	1	2	3
25-44	23	17	40
45-64	59	31	90
>64	52	32	84
Total	**136**	**82**	**218**

Hydatid disease (data from the Parasitology Reference Laboratory)

Three cases of Hydatid disease were reported during the fourth quarter of 2015, compared to nine during the fourth quarter of 2014. One of the cases was a male aged 56 years, one was a male whose age was not recorded and one was a female aged 13 years, with eosinophilia and deranged LFTs. Further clinical and epidemiological details are awaited.

Leptospirosis (data from the Leptospira Reference Unit)

There were 27 cases of leptospirosis reported in the fourth quarter of 2015, compared with 30 in the fourth quarter of 2014.

Twenty six of the cases were male (age 20-69, median 38.5 years) and one was female (age 25 years). There was one death, in a male aged 69 years. The region that reported the most cases was the South West of England, whilst the East Midlands and Wales reported the fewest (two each). Fourteen of the cases had travelled; six to Thailand; one each to Brazil, Jamaica, Mexico, South East Asia (unspecified), and Switzerland; and three had travelled to more than one country (Costa Rica and Panama; Guatemala and Mexico; all the countries of South America).

Four cases reported exposure to rats: two who work on a farm, one who works with rats, and one who cleaned a ditch that had rats around it. Four others reported exposure to water sources: one case was a fisherman, one fell into a river and two had exposure to water whilst on holiday (swimming and water rafting). One further case had unspecified exposure to sewage.

Lyme disease (data from the Rare and Imported Pathogens Laboratory, Porton)

A total of 266 cases of laboratory confirmed Lyme disease were reported during the fourth quarter of 2015, compared with 135 during the fourth quarter of 2014. Of these cases, 189 were acute (including 30 neuroborreliosis) and 77 were longstanding infections.

Of the acute cases, 101 were male (age 4-90 years, median 48) and 83 were female (age 2-84 years, median 50). Gender was unrecorded for five cases and age was unrecorded for one case.

Laboratory confirmed acute cases of *Lyme borreliosis* (weeks 40-53, 2015): age group by sex

Age group	Male	Female	Unknown	Total
0-14	8	8	–	16
15-24	4	4	–	8
25-34	14	8	1	23
35-44	17	14	–	31
45-54	22	16	3	41
55-64	18	16	–	34
65-67	14	12	–	26
75+	4	5	–	9
Unknown	–	–	1	1
Total	**101**	**83**	**5**	**189**

Laboratory confirmed acute cases of *Lyme borreliosis* (weeks 40-53, 2015): region of reporting laboratory

Region	Cases
East Midlands	4
East of England	25
London	33
North East	3
North West	15
South East	39
South West	50
Wales	4
West Midlands	7
Yorkshire & Humber	9
Total	**189**

Eighteen (9.5%) of the acute cases reported foreign travel. The majority of cases had travelled in Europe (n=15), one had travelled in the Americas, one in Asia, and one had visited Sri Lanka and Poland. Seventy two acute cases reported an insect bite, of whom 66 specified a tick bite. Thirty two cases reported erythema migrans as a presenting symptom.

Six cases were reported in a previous HPR report[2] as acute Lyme disease. Subsequent testing has now indicated that these should be classified as neuroborreliosis.

In total, there were 618 acute cases of Lyme disease reported in 2015 (including neuroborreliosis), compared with 386 in 2014.

Note: Specimens sent for Lyme borreliosis referral testing should be accompanied by a completed referral form: https://www.gov.uk/lyme-borreliosis-service

Pasteurellosis

There were 174 confirmed cases of pasteurellosis reported in the fourth quarter of 2015. This compares to 140 reported in the same quarter of 2014. The following species were reported: *Pasteurella multocida* (122 cases), *P. canis* (7 cases), *P. pneumotropica* (3 cases), *Pasteurella* other named (18 cases) and *Pasteurella* sp. (24 cases).

Ninety nine of the cases were female (aged 0-93 years, median=66) and 75 were male (aged 0-105 years, median=61). The South East of England reported the most cases (n=40), and Wales reported the fewest (n=4). Fifteen of the cases were associated with cats (13 with bites, one with a scratch, and one with a scratch or bite) and five with dog bites.

Two of the cases were reported to have died: one was an 80 year old female reported by the North East who had a septic illness, and the second was an 85 year old male reported by London.

The total number of pasteurella cases for 2015 was 641, compared with 602 in 2014.

Laboratory confirmed cases of pasteurellosis (week 40-53, 2015)

Age group	Male	Female	Total
0-14	6	4	10
15-29	7	6	13
30-39	4	5	9
40-49	6	11	17
50-59	8	12	20
60-69	14	22	36
70-79	14	21	35
80+	16	18	34
Total	**75**	**99**	**174**

Psittacosis

One case of psittacosis was diagnosed in the fourth quarter of 2015, compared with nine in the fourth quarter of 2014. The case was a 77 year old male reported by the South West of England.

There were 22 cases of psittacosis in 2015 compared with 25 in 2014.

Note: Serological tests for respiratory chlamydophila infections cannot consistently distinguish psittacosis. The cases reported above have been identified by reporting laboratories as infection with *Chlamydia psittaci*.

Q fever (data from the Rare and Imported Pathogens Laboratory, Porton, and Bristol Reference Laboratory)

There were four cases of Q fever reported in the fourth quarter of 2015, compared with 11 in the fourth quarter of 2014. Three were male (aged 47, 57 and 65 years), and one was female (aged 6 years). Two cases were reported by the East of England region, and one each by the East Midlands and London. One case had travelled to Nigeria.

There were 19 cases of Q fever in 2015, compared with 55 in 2014.

Toxoplasma (Data from the Toxoplasma Reference Unit)

There were 81 cases of toxoplasmosis reported in the fourth quarter of 2015, compared with 78 in the fourth quarter of 2014. Four cases reported ocular symptoms. Nine cases occurred in pregnant women. There was one confirmed congenital case linked to one of the pregnant cases.

In addition, there were two unconfirmed congenital cases reported, both linked to pregnant cases in this quarter.

In total, there were 337 cases of toxoplasmosis reported in 2015, compared with 344 cases in 2014.

Laboratory confirmed cases of toxoplasma infection (weeks 40-53, 2015): age group by sex; age group by clinical category.

Age group	Male	Female	Unknown	Total
0	1	–	–	1
1-9	1	–	–	1
10-14	1	–	–	1
15-24	8	5	–	13
25-44	16	32	2	48
45-64	4	8	–	12
>64	2	1	–	3
Total	**33**	**46**	**2**	**81**

Age group	Con-genital	Pregnant	HIV	Organ donor	Organ recipient	Other (Immuno-competent)	Other (Immuno-suppressed)	Total
0	1	–	–	–	–	–	–	1
1-9	–	–	–	–	–	1	–	1
10-14	–	–	–	–	–	1	–	1
15-24	–	1	–	–	–	12	–	13
25-44	–	8	1	–	–	38	3	50
45-64	–	–	–	–	–	11	1	12
>64	–	–	–	–	1	2	–	3
Total	**1**	**9**	**1**	**–**	**1**	**65**	**4**	**81**

Other zoonotic organisms

Other zoonotic infections of interest diagnosed in the fourth quarter of 2015 were as follows:

- four cases of *Capnocytophaga* were reported, two of which were bacteraemic, one was diagnosed by tissue culture and one was diagnosed by culture, sample unspecified. One case was speciated as *Capnocytophaga ochracea*. All four cases were male (aged 34-64 years, median 53). Three of the cases were reported by the South East region and one by London;
- one case of *Corynebacterium ulcerans* was reported, diagnosed by culture from a throat swab. The case was a 21 year old female reported by the East of England;
- three cases of *Erysipelothrix rhusiopathiae* were reported in two males (aged 32 and 35 years) and a female (aged 58 year). Two were bacteraemic and one was diagnosed by culture, sample unspecified. One case was reported by each of the South West, the West Midlands and Yorkshire and the Humber;
- one case of *Francisella tularensis* was reported in a 22 year old female who acquired the infection in Sweden. The case was diagnosed from a pus sample taken from a thigh abscess;
- three cases of *Mycobacterium marinum* were reported in two females (aged 25 and 94 years) and one male (aged 50 years). One had a tissue infection, one had a surgical wound, and the third was diagnosed by biopsy. One case was reported by each of the North East, the South East, and the South West;
- two cases of *Streptococcus suis* were reported in a 79 year old male and an 80 year old female from the South West. Both were diagnosed by blood culture;
- one case of *Streptococcus zooepidemicus* was reported in a bacteraemic 75 year old male. He was reported by the North East.

References

1. https://www.gov.uk/government/publications/hepatitis-e-symptoms-transmission-prevention-treatment/hepatitis-e-symptoms-transmission-treatment-and-prevention
2. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478807/hpr4115_zoos.pdf