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Zoonoses

Common animal associated infections quarterly report (England and Wales) – fourth quarter 2016

This quarterly report, produced by the Emerging Infections and Zoonoses Section at Public Health England Centre for Infectious Disease Surveillance and Control, and the Health Protection Division of Public Health Wales, summarises confirmed cases of zoonoses reported in England and Wales between October and December 2016 (fourth quarter; weeks 40-52).

From next quarter, the format of the report will include less standard text and more interpretation of important trends and data changes.

Animal associated infections in England and Wales: laboratory reports by specimen date, Q1-Q4

Disease (Organism)	Reports for weeks 01-13		Reports for weeks 14-26		Reports for weeks 27-39		Reports for weeks 40-52		Total for weeks 01-52	
	2016*	2015	2016*	2015	2016*	2015	2016*	2015	2016*	2015
Anthrax (*Bacillus anthracis*)	–	–	–	–	–	–	–	–	–	–
Brucellosis *(Brucella spp.)*	2	1	7	5	4	2	4	3	17	11
Hepatitis E**†	352	325	386	310	312	317	218	328	1268	1280
Hydatid (*Echinococcus granulosus*)	10	5	6	2	16	3	11	3	43	13
Leptospirosis *(Leptospira spp.)*	3	8	17	6	35	21	17	28	72	63
Lyme borreliosis (*Borrelia burgdorferi*)										
All cases	113	100	169	146	585	494	269	322	1136	1062
Acute infections	63	36	126	75	482	409	214	226	885	746
Pasteurellosis *(Pasteurella spp.)*	110	139	166	147	169	181	161	174	606	641
Psittacosis (*Chlamydophila psittaci)*	4	4	6	11	4	6	3	1	17	22
Q-fever *(Coxiella burnetii)*	6	5	11	3	11	7	5	4	33	19
Toxoplasmosis# *(Toxoplasma gondii)*	63	88	96	86	84	82	92	86	335	342

* Provisional data
# Based on date specimen received
**† Enhanced surveillance plus SGSS

Anthrax

There were no cases of anthrax reported during 2016.

Brucellosis (data from the Brucella Reference Laboratories)

Four cases of brucellosis were reported during the last quarter of 2016, to give a total of 17 reported in 2016. This compares with 11 cases reported in 2015.

The four cases in quarter four were all were typed as *Brucella melitensis*. One case was male and one was female (the sex was not stated for the remaining two cases). The cases were aged between 42 and 66 years.

Throughout 2016, all 17 cases are believed to have acquired their infections overseas, either as a result of consumption of unpasteurised milk and dairy products following visits to home countries where brucellosis is endemic, or prior to residence in the UK. The UK remains officially *Brucella*-free in animals.

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

Please note that for the first time we present cases diagnosed at the two PHE reference laboratories together with additional cases reported by local laboratories through SGSS. As more laboratories across the country acquire the capacity to investigate samples for HEV and do not use the services of the reference laboratories, combining these two data sources better reflects the number of HEV infected cases reported in England and Wales. The 2015 data in the summary table at the start of the report has also been updated with SGSS reports to make it directly comparable to the 2016 data. The data presented here may therefore not match previous HPR reports.

There were 218 cases of hepatitis E in the fourth quarter of 2016 compared to 328 in the same quarter of 2015. One hundred and twenty-four cases (57%) were male (aged 0-89 years, median 60) and 89 (41%) were female (aged 1-84 years, median 59). The genders of the remaining five cases were not reported. The persisting observation of the predominance of older men (see table below) remains unexplained.

Reference and local laboratory confirmed cases of Hepatitis E infection (week 40-52, 2016)

Age Group	Male	Female	Unknown	Total
<10	–	2	–	2
10-14	1	–	–	1
15-24	5	4	–	9
25-44	16	14	2	32
45-64	48	35	2	85
>64	53	34	1	88
Unknown	1	–	–	1
Total	**124**	**89**	**5**	**218**

The majority of cases (n=170; 78%) had no apparent travel history. Non-travel cases were reported from all regions: 28 cases from the North of England, 70 cases from the Midlands and the East of England, 44 cases from the South of England, 19 cases from London and nine cases from Wales.

There had been a consistent on-going increasing trend in the number of cases of hepatitis E reported by local and reference laboratories (incorporating SGSS data as described above) since 2010[1] until 2015. However, in 2016 for the first time we have observed an overall small decrease (n=1,268 for weeks 01-52), particularly in the last quarter, in the number of newly diagnosed cases.

Hydatid disease (data from the Parasitology Reference Laboratory)

Eleven cases of hydatid disease were reported in the fourth quarter of 2016, to give a total of 43 cases reported during the year. This compares with 13 cases reported in 2015.

The cases in quarter four were six females and five males whose ages ranged from 26 to 77 years of age. Presentations included liver, lung and kidney cysts.

The previously reported increase in hydatid disease has been maintained throughout 2016, primarily due to infections acquired in the Middle East and Eastern Europe.

Leptospirosis (data from the Leptospira Reference Unit)

There were 17 confirmed cases of leptospirosis reported in the fourth quarter of 2016, and 72 across the year. This compares to 63 cases reported in 2015.

Fifty-seven of the cases reported in 2016 were male (aged 9 – 84 years, median=34) and 15 were female (aged 17 – 81, median = 25). The region reporting the highest number of cases was the South East (n=18). One case was reported to have died.

Five cases reported exposure to rats, and one additional case works in pest control. Twenty-six cases reported exposure to water (one of which was known to be occupational exposure), and two reported exposure to sewage (one known to be occupational exposure). Forty-two cases had travelled abroad, with the largest number of cases visiting to Thailand (n=9) and France (n=4). Fourteen cases visited more than one country.

A new enhanced surveillance system for leptospirosis was initiated in December 2016. It aims to improve the completeness of exposure information for reference laboratory confirmed cases.

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

A total of 269 cases of laboratory confirmed Lyme disease was reported during the fourth quarter of 2016, giving a total of 1,136 cases reported throughout the year. This compares with 1,062 cases reported during 2015.

In 2016, 885 cases were classified as acute (including 67 with neuroborreliosis, and two cases of possible reinfection). Four hundred and forty-nine cases were male (aged 1-93 years, median 46) and 420 were female (aged 1-86 years, median 45). Gender was not specified for the remaining 16 cases.

Seventy-three (8.2%) of the acute cases reported foreign travel: 49 to Europe, eight to North America, seven to Asia, four to the Middle East, and one to Central America. One case visited more than one region, and three did not specify a travel destination. Three hundred and sixty-six cases reported an insect bite, of whom 324 (88.5%) specified a tick bite. One hundred and thirty six cases reported erythema migrans as a presenting symptom.

Laboratory confirmed cases of Lyme disease (Q1-Q4, 2016)

Age group	Male	Female	Unknown	Total
0-14	50	41	2	93
15-24	34	39	2	75
25-34	53	67	3	123
35-44	72	59	2	133
45-54	74	68	1	143
55-64	90	69	5	164
65-74	58	61	–	119
75+	18	15	1	34
Unknown	–	1	–	1
Total	449	420	16	885

Laboratory confirmed cases of Lyme disease (Q1-Q4, 2016) - continued

Region	Cases
East Midlands	21
East of England	68
London	182
North East	24
North West	54
South East	242
South West	181
Wales	25
West Midlands	60
Yorkshire & Humber	28
Total	**885**

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 161 confirmed cases of pasteurellosis reported in the fourth quarter of 2016, and 606 for the whole year. This compares with 641 cases reported in 2015.

The following species were found in 2016: *Pasteurella canis* (n=50*), *P. multocida* (n=440*), *P. pneumotropica* (n=7), *P.* other named (n=26), and *Pasteurella* sp. (n=84). (*One case had a duel infection with *P. canis* and *P. multocida*).

In 2016, 356 of the cases were female (aged 1 – 96 years, median 64) and 250 were male (aged 0 – 93 years, median 55). The South West reported the highest number of cases (n=114). Forty-two cases were associated with cat bites, two with cat scratches and one with an unspecified wound from a cat. Twenty-seven cases were associated with dog bites. In addition, there were bites from a further two unspecified animals and one case who reported 'animal contact'.

Four of the cases were reported to have died.

Laboratory confirmed cases of pasteurellosis (Q1-Q4, 2016)

Age group	Male	Female
0-14	8	11
15-29	16	18
30-39	26	25
40-49	53	38
50-59	44	60
60-69	44	76
70-79	38	72
80+	21	56
Total	**250**	**356**

Psittacosis

There were three cases of psittacosis reported in the fourth quarter of 2016, giving a total of 17 cases reported for the entire year. This compares with 22 cases reported in 2015.

In 2016, 10 cases were female (aged 28-69 years, median 49) and 7 were male (aged 13-86 years, median 53). The region that reported the highest number of cases was the South West (n=8). One case was reported to have died.

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 five cases of Q fever reported in the fourth quarter of 2016, giving a total of 33 cases reported for the entire year. This compares to 19 cases reported in 2015. The number of cases of Q fever recorded in 2015 was the lowest in over 15 years. As such, an increase in case numbers in 2016 was not unexpected.

In 2016, 11 cases were female (aged 28-84 years, median 53) and 22 were male (aged 31 – 84 years, median 57.5). The region reporting the highest number of cases was the South West (n=12).

Toxoplasma (data from the Toxoplasma Reference Unit)

There were 92 cases of toxoplasmosis reported in the fourth quarter of 2016, and 335 reported for the entire year. This compares with 342 reported in 2015.

In 2016, 18 cases reported ocular symptoms. Forty-six cases occurred in pregnant women.

Laboratory confirmed cases of toxoplasma infection (Q1-Q4, 2016): age group by sex

Age Group	Male	Female	Unknown	Total
<0	1	–	3	4
0	2	1	1	4
1-9	3	1	–	4
10-14	6	2	–	8
15-24	29	21	1	51
25-44	65	124	4	193
45-64	27	20	1	48
>64	11	11	1	23
Total	**144**	**180**	**11**	**335**

Laboratory confirmed cases of toxoplasma infection (Q1-Q4, 2016): age group by clinical category

Age Group	Cong-enital	Pregnant	HIV	Transplant donor	Transplant recipient	Other (immuno-competent)	Other (immune-suppressed)	Total
<0	4	–	–	–	–	–	–	4
0	3	–	–	–	–	1	–	4
1-9	–	–	–	–	–	4	–	4
10-14	–	–	–	–	–	7	1	8
15-24	–	6	1	–	1	42	1	51
25-44	–	36	7	2	2	137	6	190
45-64	–	–	7	–	3	35	3	48
>64	–	–	1	–	2	16	3	22
Total	**7**	**42**	**16**	**2**	**8**	**242**	**14**	**331***

*Four cases fell into more than one category and are not included in this table (all pregnant women with immunosuppression).

In addition, there were 19 unconfirmed congenital cases reported in 2016, all linked to pregnant cases. There were also two unconfirmed pregnant cases linked to congenital cases. (The unconfirmed case numbers are not included in the data presented in this report.)

Other zoonotic organisms

Other zoonotic infections of interest diagnosed in the fourth quarter of 2016 were as follows:

- Ten cases of *Capnocytophaga* sp. were reported, nine of which were bacteraemic. One case was speciated as *C. Ochracea.* Six cases were male (median 55 years) and four cases were female (median 67.5 years). The cases were geographically distributed across England and Wales.
- Seven cases of *Erysipelothrix rhusiopathiae* were reported, of which three were bacteraemic. Four cases were male (median 60 years), two were female (ages 73 and 93 years) and the gender of the remaining cases was unreported (age also unreported).
- Three cases of *Mycobacterium marinum* were reported. All of the cases were male (aged 19, 48 and 69 years), and all were diagnosed by culture. The cases were reported by the East Midlands, the North West and the South East.

Reference

1. https://www.gov.uk/government/publications/hepatitis-e-symptoms-transmission-prevention-treatment/hepatitis-e-symptoms-transmission-treatment-and-prevention

PHE publications gateway number: 2016620.