UK Health Security Agency

Common animal-associated infections (England and Wales): fourth quarter 2020

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Background

This quarterly report is produced by the Emerging Infections and Zoonoses team in the Clinical and Emerging Infections Directorate, UK Health Security Agency (UKHSA).

The report summarises confirmed cases of zoonoses reported in England and Wales between October and December 2020 (fourth quarter) and includes additional information on the quarterly trends for hepatitis E, leptospirosis, and Lyme disease.

The data presented in this report supersedes data in previous reports due to late notifications and de-duplication.

Common animal-associated infections (England and Wales): Q1 2018 to Q4 2020

Table 1. Animal-associated infections in England and Wales: quarterly laboratory reports by specimen date, Q1 2018 to Q4 2020

Disease (organism)	Number of reports														
	2018					2019					2020[1]				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Anthrax (*Bacillus anthracis*)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis (*Brucella spp.*)[3]	0	0	4	8	12	7	4	5	8	24	1	1	6	1	9
Hepatitis E	273	255	210	264	1,002	345	330	291	240	1,206	278	190	271	198	937
Leptospirosis (*Leptospira spp.*)	8	9	39	20	76	12	5	36	38	91	15	7	22	7	51
Lyme disease (*Borrelia burgdorferi*)															
All cases	135	297	821	383	1,636	191	318	781	349	1,639	173	188	625	276	1,262
Acute infections	66	189	632	243	1,130	90	187	466	160	903	53	132	468	155	808
Pasteurellosis (*Pasteurella spp.*)	178	157	207	160	702	173	171	214	214	772	175	153	214	190	732
Q-fever (*Coxiella burnetii*)															
All cases	5	9	5	4	23	3	6	2	4	15	7	5	3	2	17
Acute infections	4	7	5	3	19	2	5	1	1	9	6	3	3	1	13
Toxoplasmosis (*Toxoplasma gondii*)[2]	79	105	83	85	352	75	50	48	57	230	n/a	n/a	n/a	n/a	n/a

[1] Provisional data.
[2] Based on date specimen received.
[3] Serology results, in addition to culture results, introduced in Q1 2019, are available online.
n/a = not available.
Note: Hydatid and Psittacosis data not available due to inconsistencies in surveillance data provided to UKHSA and a laboratory reporting issue, respectively; these are being addressed.

Hepatitis E

The national hepatitis E virus (HEV) surveillance reports reference laboratory data (Public Health Laboratory Birmingham and Blood Borne Virus Unit Colindale) together with additional cases reported by local laboratories through the Second Generation Surveillance System (SGSS). The combined data sets provide a more accurate reflection of the number of acute HEV infected cases reported in England and Wales.

There were 198 laboratory reported cases of HEV infection in the fourth quarter of 2020 compared to 240 cases in the same quarter of 2019, bringing the total number for HEV cases in 2020 to 937. Of those reported in the fourth quarter, 128 (65%) were male (aged 9 to 92 years, median=59.5) and 70 (35%) were female (aged 20 to 87, median=58; Table 2). The persisting observation of the predominance of older men remains unexplained.

Table 2. Laboratory confirmed cases of hepatitis E by age group and sex, Q4 2020

Age group	Male	Female	Total
Under 15	1	0	1
15 to 24	2	4	6
25 to 44	30	18	48
45 to 64	44	23	67
Over 64	51	25	76
Total	**128**	**70**	**198**

Figure 1 shows the number of HEV infections by quarter between 2016 and 2020. Following an increasing trend in 2018 (n=1,002) and 2019 (n=1,206), there was a decrease in reported infections in 2020 (n=937).

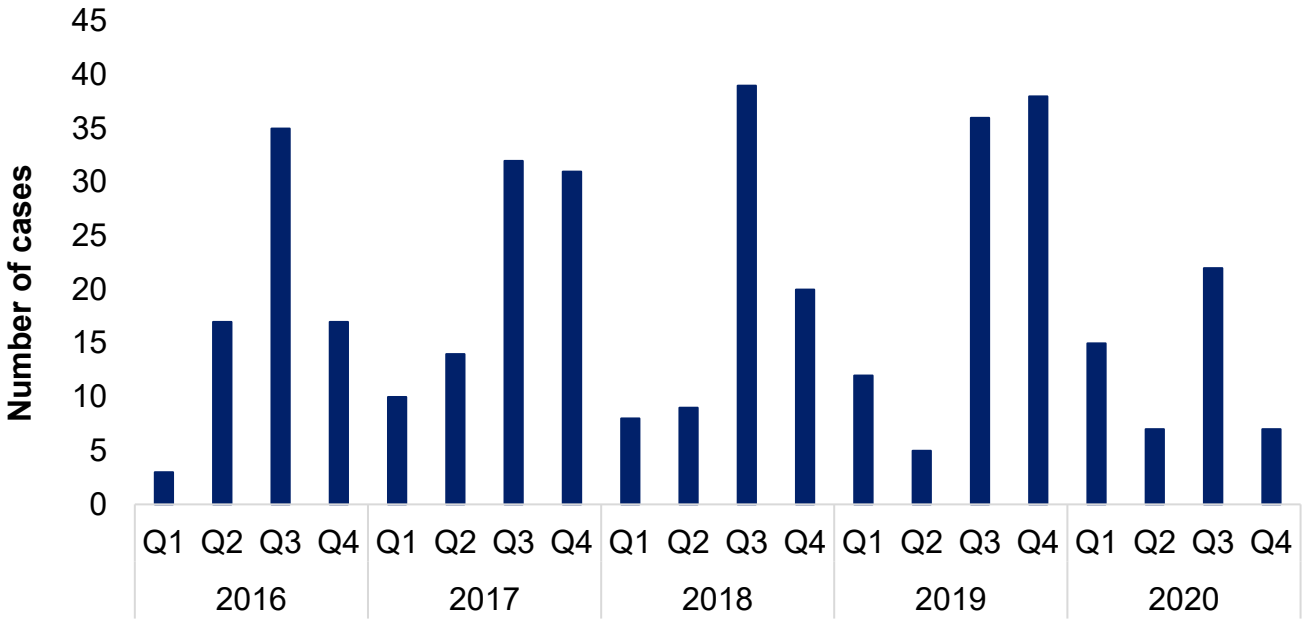
Figure 1. Laboratory confirmed cases of hepatitis E by quarter, Q1 2016 to Q4 2020

Leptospirosis

Data for leptospirosis was obtained from the Rare and Imported Pathogens Laboratory (RIPL, UKHSA Porton). As of 1 August 2020, a laboratory confirmed case of leptospirosis is defined by a positive 16S rRNA PCR result only. An IgM enzyme-linked immunoabsorbent assay (EIA) continues to be performed on all samples of suspected leptospirosis cases. A case with a positive leptospirosis IgM result will usually be treated clinically on the basis of this result, even in the absence of a positive PCR result. A case with a positive IgM but without a confirmatory PCR result is therefore reported as a probable case for surveillance purposes.

There were 7 confirmed cases of leptospirosis reported in the fourth quarter of 2020, bringing the total number of confirmed cases in 2020 to 51. This is significantly less than the 38 cases reported in the fourth quarter of 2019 (n=91). Figure 2 shows the number of confirmed cases reported by quarter over the past 5 years (2016 to 2020). There were 25 probable cases reported in the fourth quarter of 2020. Overall, in 2020, there were 51 confirmed and 115 probable cases of leptospirosis reported.

Figure 2. Laboratory confirmed cases of leptospirosis by quarter, Q1 2016 to Q4 2020



In the fourth quarter of 2020, all the cases were male (aged 30 to 76 years). Cases were reported in the East of England (1), the North West (4), the South West (1) and in Wales (1).

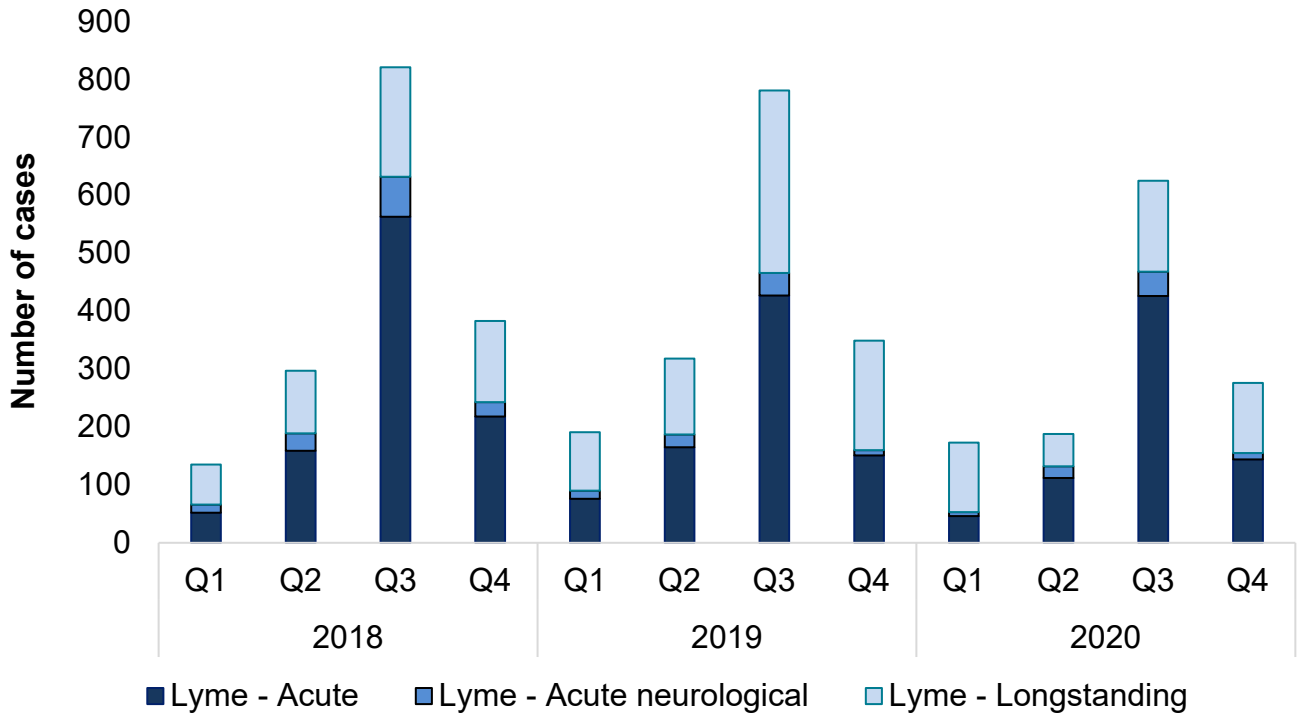
One case reported recent travel abroad to the Middle East. Of the 6 cases that did not report travel abroad, 4 reported potential exposures:

- 3 had a water exposure: one case had contact with sewage water, one case had contact with well water and one case had recently fallen into a riverbed
- one further case had been bitten by a rat

Lyme disease

Data for Lyme disease was obtained from the Rare and Imported Pathogens Laboratory (RIPL, UKHSA Porton). The total number of confirmed Lyme disease cases reported in the fourth quarter of 2020 (n=276) was less than the same period in 2019 (n=349), bringing the total number for 2020 to 1,262. The number of acute cases, however, was similar to the number of acute cases in the same time period in 2019 (Q4 2019: 160; Q4 2020: 155). As shown in Figure 3, the number of cases peaked during the summer months (third quarter), which corresponds to the peak times of exposures to ticks in the UK in the spring and summer months.

Figure 3. Laboratory confirmed cases of Lyme disease by quarter, Q1 2018 to Q4 2020



Of the total cases, 155 (56%) were acute (including 11 with neurological Lyme disease) and 121 (44%) were longstanding. Of the acute cases, 84 were male (aged 2 to 78, median 45) and 71 were female (aged 8 to 76, median 43). Table 3 shows the age group and sex distribution.

Table 3. Laboratory confirmed acute cases of Lyme disease by age group and sex, Q4 2020

Age group	Male	Female	Total
0 to14	6	2	8
15 to 24	4	8	12
25 to 34	20	12	32
35 to 44	12	16	28
45 to 54	16	12	28
55 to 64	15	12	27
65 to 74	8	7	15
Over 75	3	2	5
Total	**84**	**71**	**155**

The regions that reported the most acute cases in the fourth quarter of 2020 were the South East (n=45) and London (n=38) (Table 4). One of the acute cases reported travel to Europe.

Table 4. Laboratory confirmed acute cases of Lyme disease by region, Q1 2019 to Q4 2020

PHE centre	2019					2020				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
East Midlands	3	2	10	3	18	2	1	3	0	6
East of England	10	7	25	13	55	3	5	23	9	40
London	20	41	105	22	188	17	33	90	38	178
North East	2	5	7	2	16	1	4	4	4	13
North West	13	20	36	16	85	5	7	33	24	69
South East	17	50	142	48	257	12	48	152	45	257
South West	16	39	106	41	202	6	29	143	23	201
West Midlands	4	6	6	4	20	4	1	3	2	10
Yorkshire and Humber	3	12	16	6	37	1	2	10	7	20
Wales	2	5	13	5	25	2	2	7	3	14
Total	**90**	**187**	**466**	**160**	**903**	**53**	**132**	**468**	**155**	**808**

Note: specimens sent for Lyme disease referral testing should be accompanied by a completed referral form.

Other zoonotic organisms (provisional data)

There were 19 reports of *Capnocytophaga spp.* in the fourth quarter, bringing the total to 96 cases for 2020. Of the cases reported in the fourth quarter, 11 were speciated to *C. canimorsus*, of which 5 cases were female and 6 were male. Overall, most cases were reported in Yorkshire and the Humber (n=5) followed by the South West (n=3). *Capnocytophaga spp*. are frequently carried in the mouths of companion animals (cats and dogs) or humans and may be associated with an animal bite or opportunistic infections in those with impaired immune systems. Unfortunately, limited information is available in these cases to determine the likely route of exposure.

There were 6 reports of *Mycobacterium marinum* in the fourth quarter, bringing the total to 17 cases for 2020. Exposure information was not available for these cases.

There was one report of *Erysipelothrix rhusiopathiae* in the fourth quarter, bringing the total to 9 cases for 2020. *E. rhusiopathiae* is the cause of swine erysipelas and can cause erysipeloid in humans. Infection is often linked to exposure to infected animals or animal products. No additional information on potential exposures was available for these cases.

There were 4 reports of *Taeniasis* in the fourth quarter, bringing the total to 11 cases for 2020, of which one was speciated to *T. saginata* and one to *T. solium*. Cases were reported throughout England.

There was one report of *Toxocariasis* in the fourth quarter, which was not speciated, bringing the total to 3 cases for 2020. All cases were reported in the East Midlands.

One case of rat bite fever caused by *Streptobacillus moniliformis* was reported in the fourth quarter, bringing the total to 2 cases for 2020. In addition, a third case of *Streptobacillus spp*. was reported in the fourth quarter; speciation information however, is unavailable.

About the UK Health Security Agency

The UK Health Security Agency is an executive agency, sponsored by the Department of Health and Social Care.

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Prepared by: Emerging Infections and Zoonoses Team
For queries relating to this document, please contact Zoonoses@phe.gov.uk

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