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Common animal-associated infections (England and Wales): first quarter 2021

Health Protection Report
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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 January and March 2021 (first 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 2019 to Q1 2021

Table 1. Animal-associated infections in England and Wales: quarterly laboratory reports by specimen date, Q1 2019 to Q1 2021

Disease (organism)	Number of reports											
	2019					2020					2021 ¹	
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Total
Anthrax (<i>Bacillus anthracis</i>)	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis (<i>Brucella spp.</i>) ³	7	4	5	8	24	1	1	6	1	9	1	1
Hepatitis E	345	330	291	240	1,206	278	190	271	198	937	293	293
Leptospirosis (<i>Leptospira spp.</i>)	12	5	36	38	91	15	7	22	7	51	8	8
Lyme disease (<i>Borrelia burgdorferi</i>)												
All cases	191	318	781	349	1,639	173	188	625	276	1,262	119	119
Acute infections	90	187	466	160	903	53	132	468	155	808	59	59
Pasteurellosis (<i>Pasteurella spp.</i>)	173	171	214	214	772	175	153	214	190	732	196	196
Q-fever (<i>Coxiella burnetii</i>)												
All cases	3	6	2	4	15	7	5	3	2	17	3	3
Acute infections	2	5	1	1	9	6	3	3	1	13	2	2
Toxoplasmosis (<i>Toxoplasma gondii</i>) ²	75	50	48	57	230	n/a	n/a	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 293 laboratory reported cases of HEV infection in the first quarter of 2021 compared to 278 cases in the same quarter of 2020. Of those, 175 (60%) were male (aged 21 to 88 years, median=59) and 118 (40%) were female (aged 17 to 89, median=56; 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, Q1 2021

Age group	Male	Female	Total
Under 15	0	0	0
15 to 24	3	3	6
25 to 44	30	24	54
45 to 64	67	56	123
Over 64	75	35	110
Total	175	118	293

Figure 1 shows the number of HEV infections by quarter between 2017 and 2021. The data shows a peak in cases in 2019 (n=1,206) followed by a decrease in 2020 (n=937).

Figure 1. Laboratory confirmed cases of hepatitis E by quarter, Q1 2017 to Q1 2021

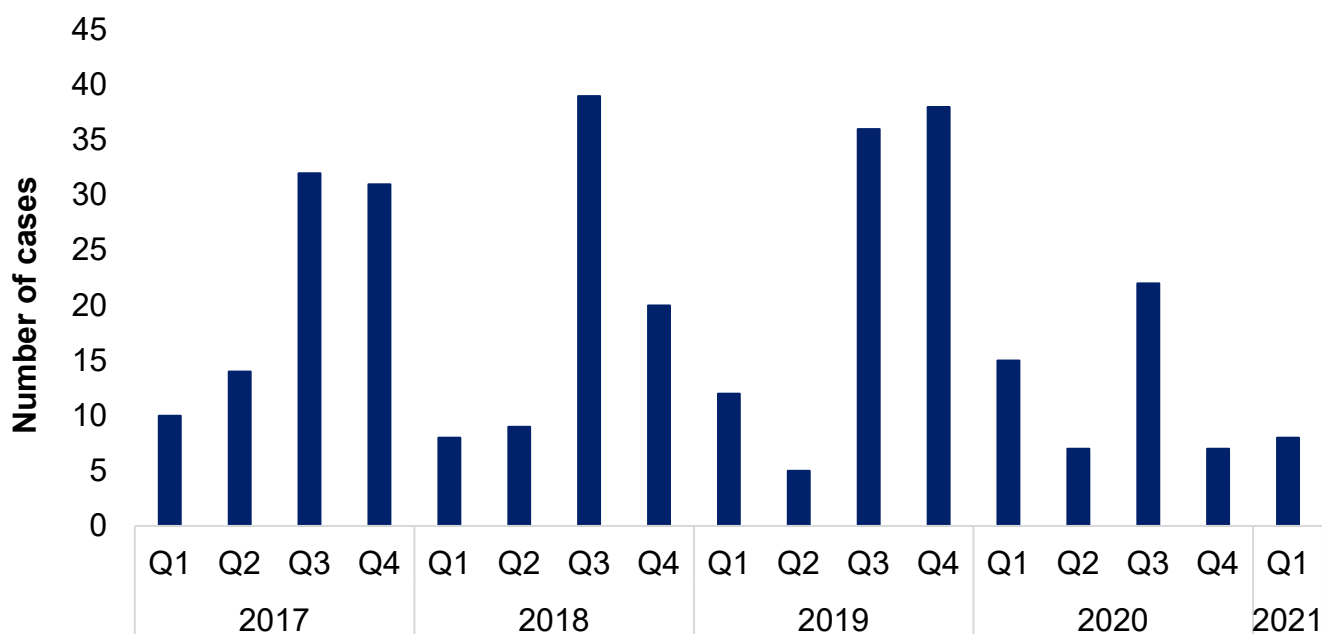


Leptospirosis

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 8 confirmed cases of leptospirosis reported in the first quarter of 2021, compared to 15 cases reported in the first quarter of 2020. Figure 2 shows the number of confirmed cases reported by quarter over the past 5 years (2017 to 2021). There were 31 probable cases reported in the first quarter of 2021.

Figure 2. Laboratory confirmed cases of leptospirosis by quarter, Q1 2017 to Q1 2021



In the first quarter of 2021, all confirmed cases were male (aged 26 to 73 years). Cases were reported in the East of England (1), the North West (1), the South West (4), Yorkshire and the Humber (1) and in Wales (1).

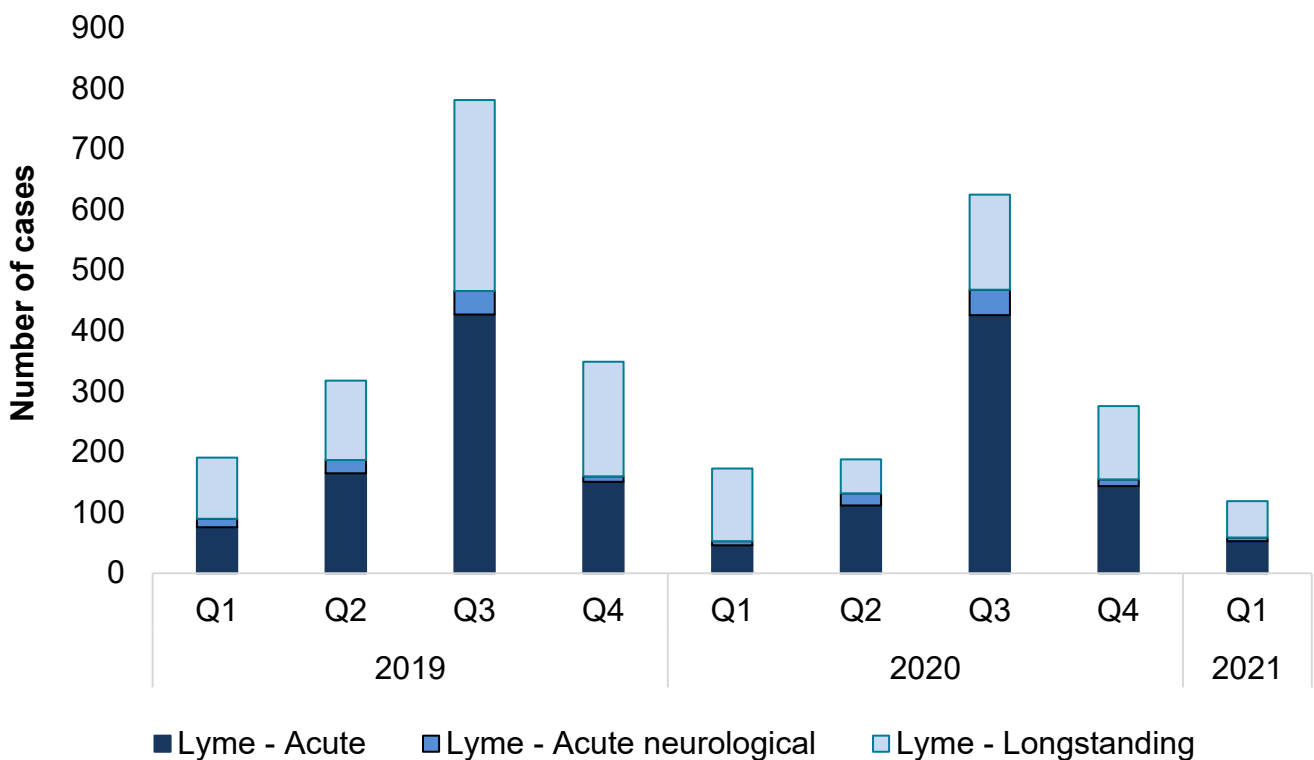
No confirmed cases reported recent travel abroad. Of the 8 confirmed cases that were reported in the first quarter of 2021, 5 reported potential exposures:

- 3 reported an animal exposure, one of which had a recent rat exposure of unknown nature
- one further case had occupational water contact as a sewage worker
- one other case was a farmer but the nature of work and whether there was animal or water contact was not specified

Lyme disease

Data for Lyme disease was obtained from the Rare and Imported Pathogens Laboratory (RIPL, UKHSA Porton). The total number confirmed Lyme disease cases reported in the first quarter of 2021 (n=119) was less than in the same period in 2020 (n=173). The number of acute cases, however, remained similar to the same time period in 2020 (Q1 2020: 53; Q1 2021: 59). 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 2019 to Q1 2021



Of the total cases, 59 (50%) were acute (including 6 with neurological Lyme disease) and 60 (50%) were longstanding. Of the acute cases, 32 were male (aged 4 to 73, median 50) and 26 were female (aged 17 to 78, median 44.5). There was one case where sex and age were not reported. Table 3 shows the age group and sex distribution.

Table 3. Laboratory confirmed acute cases of Lyme disease by age group and sex, Q1 2021

Age group	Male	Female	Unknown	Total
0 to 14	1	0	0	1
15 to 24	4	5	0	9
25 to 34	1	3	0	4
35 to 44	6	5	0	11
45 to 54	8	4	0	12
55 to 64	8	4	0	12
65 to 74	4	4	0	8
Over 75	0	1	0	1
Unknown	0	0	1	1
Total	32	26	1	59

The regions that reported the most acute cases in the first quarter of 2021 were London (n=21) and the South East (n=11) (Table 4). One of the acute cases reported foreign travel to South America.

Table 4. Laboratory confirmed acute cases of Lyme disease by region, Q1 2020 to Q1 2021

PHE centre	2020					2021	
	Q1	Q2	Q3	Q4	Total	Q1	Total
East Midlands	2	1	3	0	6	2	2
East of England	3	5	23	9	40	7	7
London	17	33	90	38	178	21	21
North East	1	4	4	4	13	3	3
North West	5	7	33	24	69	4	4
South East	12	48	152	45	257	11	11
South West	6	29	143	23	201	6	6
West Midlands	4	1	3	2	10	3	3
Yorkshire and Humber	1	2	10	7	20	1	1
Wales	2	2	7	3	14	1	1
Total	53	132	468	155	808	59	59

Note: specimens sent for Lyme disease referral testing should be accompanied by a completed [referral form](#).

Other zoonotic organisms (provisional data)

There were 18 reports of *Capnocytophaga* spp. in the first quarter of 2021. Of these, only 6 were speciated to *C. canimorsus*, of which one case was female and 5 were male. Overall, most cases were reported in the South West (n=5) and 1 case was reported in Wales.

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 2 reports of *Mycobacterium marinum* in the first quarter of 2021. Exposure information was not available for these cases.

There was one report of *Erysipelothrix rhusiopathiae* in the first quarter of 2021. *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 6 reports of *Taeniasis* in the first quarter of 2021, of which 2 were speciated to *T. saginata*. Most cases were reported in Yorkshire and Humber (n=4).

There was one report of *Toxocariasis* in the first quarter of 2021. However, speciation information was not available.

One case of rat bite fever (*Streptobacillus moniliformis*) was reported in the first quarter of 2021.

About the UK Health Security Agency

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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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