

CATEGORY: One Health and Zoonosis

TITLE: Secondary Care Burden of Zoonotic Diseases in England 2017-2019.

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BACKGROUND:

Zoonosis is an infectious disease transmitted from animals to humans through direct contact, food, water or the environment. There are 35 zoonotic diseases endemic to the UK; globally there are over 200^{1,2}. The most recent being COVID-19, caused by the novel coronavirus SARS-CoV-2, resulting in a global pandemic.

OBJECTIVE:

Zoonotic diseases are notifiable to Public Health England, from their quarterly reports we identified the seven most prevalent¹. Using Hospital Episodes Statistics (HES) data we sought to analyse the direct secondary care burden of these seven zoonotic diseases in England between 2017 and 2019.

METHOD:

Using HES data from March 2017 – April 2020; all non-elective admissions, patient counts, bed days, and tariff costs with primary or secondary ICD-10 code related to Hepatitis E (B17), Leptospirosis (A27), Lyme Disease (A69), Pasteurellosis (A28), Q Fever (A78), Toxoplasmosis (B58) and Brucellosis (A23) were extracted for all ages. From this data, we calculated mean length of stay and mean cost per admission.

RESULTS:

The seven zoonotic diseases in this study used 25,850 bed days over the three year period from 3,625 episodes. The total secondary care cost for these admissions was £9,934,220.

Lyme Disease had the highest total cost (£2,759,563), highest total number of admissions (1,590) over the three years but the lowest cost per admission (£2,003), and shortest average length of stay (4.1 days).

Q Fever had the lowest total cost (£228,169) but the highest average cost per admission (£5,890).

Patients admitted for Toxoplasmosis had the highest average length of stay (14.5 days).

Average age of admitted patients was younger for those suffering with Toxoplasmosis (age 22.5), whilst the highest average age was seen in those with Pasteurellosis (age 60.9).

CONCLUSION:

Zoonotic disease can have a substantial negative impact on healthcare and society. The seven zoonotic diseases in this study are not vaccine preventable. COVID-19 has demonstrated the

devastating impact a zoonotic disease with no vaccine can have. Ensuring budget for vaccine development and maximising coverage with vaccines already available could result in significant savings for the healthcare system.

References:

1. Public Health England – Guidance List of Zoonotic diseases (updated 21 January 2019)
<https://www.gov.uk/government/publications/list-of-zoonotic-diseases/list-of-zoonotic-diseases>
2. WHO Zoonoses Factsheet; 29 July 2020. <https://www.who.int/news-room/factsheets/detail/zoonoses>. Accessed 08 January 2021.