

Update on UK Equine Influenza (EI) activity - 10 December 2021

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Overview

Since 9 November 2021 equine influenza (EI) has been reported on ten separate occasions in the UK (details in Table 1), which represents more than 40% of the 24 EI diagnoses made so far this year.

Although these ten outbreaks represent an apparent uplift in confirmed EI activity this year, this should be put in the context of the epidemic that occurred in the UK in 2019, affecting around 10 times as many premises through the year as seen so far in 2021 (Figure 1).

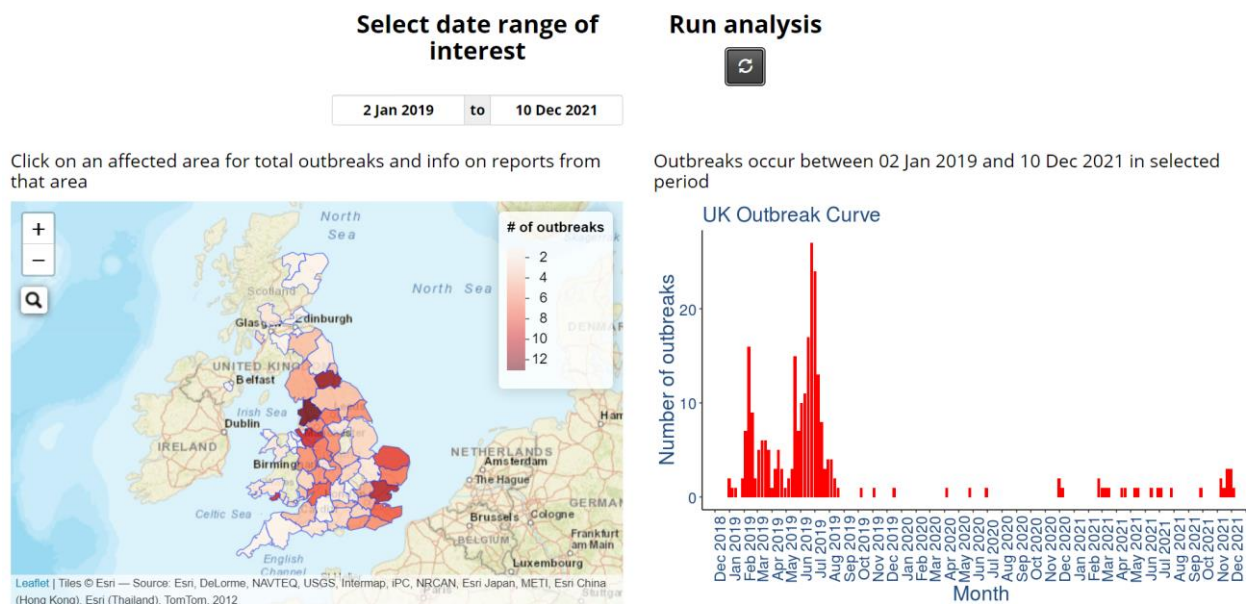


Figure 1: Density map and outbreak curve for confirmed EI outbreaks in the UK between 1 January 2019 and 10 December 2021 (<https://equinesurveillance.org/equiflunet/>)

As in 2019 the EI viruses responsible for the recent 2021 outbreaks have been confirmed as Florida Clade 1 strains and there is continued evidence of regular incursions of EI into the UK through movement of largely non-vaccinated horses from other European countries (Table 1).

The recent cluster of confirmed EI outbreaks highlight that endemic EI is still present in the UK and other European countries and as such owners purchasing and moving horses within and from outside the UK are advised to take sensible precautions to prevent the mixing of EI infected animals with resident horses (see https://equinesurveillance.org/equiflunet/pages_owners_202111.pdf).

Regular vaccination is the cornerstone of EI prevention and control and there is long-standing scientific evidence that six monthly booster vaccinations remain necessary for ensuring optimal protection of equine populations, especially those animals that regularly move to/from and mix at equestrian events and which were a significant driver for the heightened transmission of EI in spring/summer 2019.

Background

In 2019 the UK, along with many other European countries, suffered a major epidemic of equine influenza (EI), which comprised two peaks between January and August 2019 and affecting premises in many UK counties (Figure 1).

The epidemic was associated with a strain of EI virus known as Florida clade 1, which had been largely absent from the UK in the preceding decade but had occurred regularly during that period in the Americas. Of note was that this epidemic (outbreaks confirmed on >220 separate premises) followed only two confirmed EI outbreaks in the UK throughout all of 2018 and this low total was exceeded in the first week of 2019 alone.

During the 2019 epidemic the Equine Infectious Disease Surveillance (EIDS) group, then based at the Animal Health Trust, developed the EquiFluNet online platform for recording in real time the ongoing occurrence of EI in the UK and globally (<https://equinesurveillance.org/equiflunet/>). The platform allows presentation of maps and outbreak curves for EI for any given periods between the beginning of 2019 and the present.

EI activity in 2021

To date (10 December 2021) in 2021 there have been 24 reported outbreaks on separate premises in the UK (Figure 2), thereby representing only around one tenth of the total confirmed in the 2019 epidemic (Figure 1).

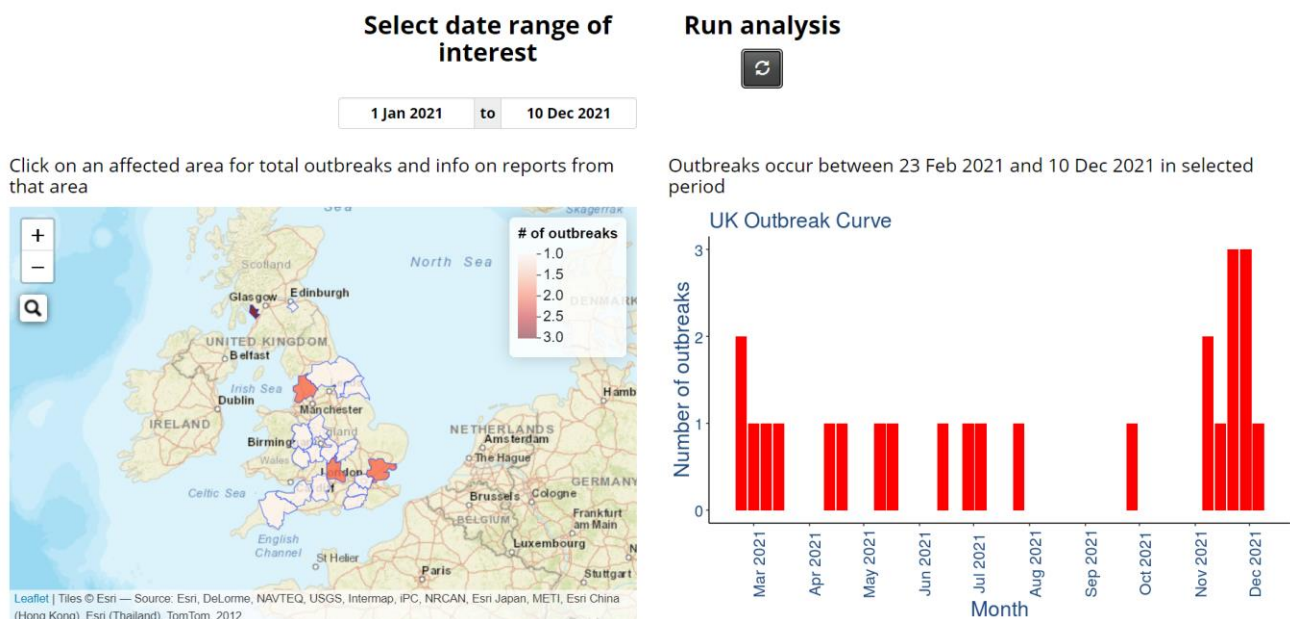


Figure 2: Density map and outbreak curve for confirmed EI outbreaks in the UK between 1 January and 10 December 2021 (<https://equinesurveillance.org/equiflunet/>)

However, 10 of these outbreaks (more than 40%) have been confirmed since 9 November and alone represent a two-thirds increase on the 6 outbreaks confirmed during all of 2020. Details on the recent 10 outbreaks are outlined in Table 1. Analysis of EI viruses recovered from horses in the UK in 2021 conducted by the Horserace Betting Levy Board-supported Equine Influenza Group that is now based at Cambridge University, has confirmed they are Florida Clade 1 strains, closely related to those found in Europe in 2019.

Table 1: Details of 10 outbreaks reported in UK between 9 November and 10 December 2021

ICC report date	Location in UK	Details of cases confirmed by laboratory testing	Diagnostic tests	No. of additional horses reported to have clinical signs	Reported clinical signs	Number of in-contacts	Additional information	Virological information
9 November 2021	East Yorkshire, England	A three-year-old Irish Sports Horse gelding with an unreported vaccination status	PCR on a NP swab	Not reported	Inappetence, lethargy, lymphadenopathy, cough and mucopurulent nasal discharge	Three in contacts with a mixed vaccination status	New arrivals in the preceding few weeks from a sale in the Republic of Ireland	No suitable sample available for analysis
11 November 2021	Greater London, England	An unvaccinated four-year-old non-Thoroughbred	PCR on a NP swab	One unvaccinated foal with clinical signs of coughing	Pyrexia, inappetence, tachycardia, productive cough, mucopurulent nasal discharge	Around 30, mostly vaccinated in-contacts	Case had a secondary infection with <i>Streptococcus zooepidemicus</i> . The premises has a high movement of horses and new arrivals are not quarantined	Confirmed as a Florida Clade 1 strain EI virus
16 November 2021	Worcestershire, England	A vaccinated 11-year-old non-Thoroughbred mare (annual booster due by the end of November)	PCR on a NP swab	Two new arrivals with respiratory signs	Mild pyrexia, lethargy, mucopurulent nasal discharge	12 in contacts and the majority of horses are reported to be vaccinated	Two recent new arrivals with respiratory signs	Confirmed as a Florida Clade 1 strain EI virus
23 November 2021	North Yorkshire, England	An unvaccinated two-year-old Cob gelding	PCR	Not reported	Lethargy, bilateral nasal discharge, pyrexia and cough	Not reported	Case had been transported from Ireland with six in-contacts of mixed vaccination status two days prior to being diagnosed	No suitable sample available for analysis
24 November 2021	Lancashire, England	An unvaccinated two-year-old pony	PCR	Single in-contact reported with clinical signs	Dry cough, mucopurulent nasal discharge and pyrexia	One and is affected	Case had been recently purchased from a horse sale in Cumbria	Confirmed as a Florida Clade 1 strain EI virus
26 November 2021	Northamptonshire, England	An unvaccinated eight-month-old Welsh Pony and an unvaccinated one-year-old Welsh Pony	PCR	No other horses reported to have clinical signs	Coughing	Nine, predominantly vaccinated, in-contacts	One of the cases was reported to have recently been off-site	No suitable sample available for analysis
29 November 2021	Lancashire, England	A lapsed vaccinated seven-year-old non-Thoroughbred and an unvaccinated six-month-old Shetland	PCR on a NP swab	A few in contacts reported to have clinical signs but negative for EI on testing NP swabs by PCR	Cough, nasal discharge, pyrexia	An unreported number of mostly vaccinated in-contacts	One of the confirmed cases is a new arrival from Holland	Confirmed as a Florida Clade 1 strain EI virus
2 December 2021	North Ayrshire, Scotland	An unvaccinated 17-year-old non-Thoroughbred gelding	LAMP and PCR on NP swabs	Two new arrivals from different locations in the preceding week with suspicious signs, but tested negative when samples for EI	Pyrexia, tachypnoea, inappetence, lethargy, dry cough and serous nasal discharge	Around 30 horses on the premises	The case was in-contact with the new arrivals. Around half of the horses on the premises are vaccinated and have not showing clinical signs	*Pending
3 December 2021	Oxfordshire, England	An unvaccinated five-year-old non-Thoroughbred	PCR on a NP swab	No other horses reported to have clinical signs	Lethargy, inappetence, mild pyrexia, mucopurulent nasal discharge	Around 60 horses on the premises, most of which are vaccinated	The case had recently arrived on the premises from a sale in Ireland	*Pending
10 December 2021	Shropshire, England	An unvaccinated three-year-old miniature Shetland pony filly	PCR on a NP swab	No other horses reported to have clinical signs	Lethargy, ocular discharge, dry cough and mucoid nasal discharge	Three in-contact horses, which are vaccinated	The case had recently arrived on the premises	*Pending

EI = equine influenza, EHV-1 = equine herpes virus-1, np = nasopharyngeal, LAMP = loop-mediated isothermal amplification, 3Q = between July and September, * = where results are 'pending', additional testing may be required prior to sequencing to determine strains, this can be due to a low amount of virus present in the submitted sample.

Figure 2: Density map for 10 confirmed EI outbreaks in the UK between 9 November and 10 December 2021
[\(https://equinesurveillance.org/equiflunet/\)](https://equinesurveillance.org/equiflunet/)

