Quality and methodology information: Quarterly Ixodes ricinus tick surveillance data

This report outlines key quality and methodology information (QMI) relevant to the quarterly tick surveillance data published on the UKHSA data dashboard which is voluntarily compliant with the Code of Practice for Statistics.

The report covers the following areas:

1. Source data.
2. Methods used to produce data outputs.
3. Quality of data outputs.
4. Uses of data outputs.

About the data published on the UKHSA data dashboard

Data is collected under the Tick Surveillance Scheme (TSS), set up in 2005 to map and monitor ticks across the UK. The TSS encourages the submission of ticks to the scheme to provide valuable information on the distribution of ticks present across the UK, their seasonal activity, and their host associations.

There are approximately 20 species of tick that are endemic in the United Kingdom (UK). Data presented on the UKHSA data dashboard relates only to the Ixodes ricinus tick (also known as the sheep, castor bean or deer tick) since this species can be found feeding on humans and is the principal vector of the bacterial infection Lyme disease and other tick-borne infections. Further UKHSA information and guidance on ticks and pathogens associated with tick-borne illnesses in the UK can be found on GOV.UK.

Geographical coverage: United Kingdom

Publication frequency: Quarterly

Changelog: QMI report published on 25 June 2025

Contact: Contact information: tick@ukhsa.gov.uk

Source data

Data collection: Data is based on a voluntary submission of Ixodes ricinus tick samples to the TSS by members of the public, including health practitioners, veterinary practitioners and wildlife groups. Data for the Tick Surveillance Scheme is generated when a physical sample and standardised recording form are submitted to the Medical Entomology & Zoonoses Ecology team via post. Upon receipt, taxonomic identification to species level is performed using a microscope. Information from the recording form, including date the tick was found, host it was found on, geographical location of potential tick exposure and any other relevant information, are systematically entered into a secure database.

Data limitations: This tick surveillance data does not provide a wholly accurate and complete picture of Ixodes ricinus tick bite records in the UK since it is reliant on voluntary submission of information. Fewer records are received from Scotland and

Northern Ireland, meaning that the seasonality data are less representative for these areas.

Data strengths: The data enables surveillance of the seasonality of Ixodes ricinus ticks, the primary vector for Lyme disease. This provides an indicator of current human-tick exposure and can be used to guide targeted tick and Lyme disease awareness initiatives.

Methods used to produce the statistics

Annual counts are calculated for each year since 2013 using the recorded date on which the tick was found on the host or within the environment to provide a longer-term picture. Monthly counts are calculated for each of the latest 12 months using the recorded date on which the tick was found on the host or within the environment to present the seasonal trend. Monthly counts are compared with the mean monthly average count from the previous ten years, e.g. the monthly count for December 2024 was compared with the average count for December between 2014 and 2023.

Annual counts and seasonality trend data for the United Kingdom are presented in chart and tabular data form on the UKHSA data dashboard.

Data processing for the UKHSA Data Dashboard

Counts of Ixodes ricinus ticks in England from 2013 onwards are extracted from the tick surveillance report. These data are processed and published on the UKHSA Data Dashboard, to coincide with the release of tick surveillance data from the TSS. The UKHSA Data Dashboard presents metrics on annual tick counts from 2013 onwards, the total monthly records of Ixodes ricinus ticks submitted to the Tick Surveillance Scheme for the current reporting year, and the mean monthly average of tick counts from the previous 10 years. Data are shown by the month the tick was collected.

Once published on the UKHSA Data Dashboard, these data are available to view or download and can also be accessed via an API.

Before publication, data are passed through a quality control process which checks that the data for publication on the UKHSA Data Dashboard are in accord with the data in the TSS report.

This Tick Surveillance Scheme is a passive dataset meaning that not all tick records are reported and recorded.

Quality of data outputs

Quality assurance of data outputs: All submitted TSS records undergo rigorous evaluation and processing by qualified medical entomologists. Data are captured into a secure database, following a standardized operating procedure. Records which fail to meet pre-defined minimum data requirements, such as missing information on the date the tick was found, are excluded from data entry to ensure data quality. The finalised dataset is comprised only of records that satisfy all inclusion criteria.

Impact of ‘imperfect’ data on outputs: The TSS is a passive system, which by its nature, introduces limitation regarding the comprehensiveness of the data collected. Due to voluntary reporting, the dataset represents a subset of the total tick encounters. Additionally, lower reporting rates in some areas, such as Scotland and Northern Ireland, means that the data are potentially skewed which limits the overall use of the dataset for generalising for the whole of the UK.

Revisions and corrections: The temporal acquisition of TSS records is subject to reporting latency, wherein submissions may occur several months after a tick is found. Consequently, the TSS database is updated retrospectively as delayed records are integrated. This necessitates subsequent updates to the data dashboard and is completed at the same time as quarterly data uploads. This maintains data integrity and reflects the most comprehensive dataset.

Uses of the data outputs

Appropriate uses of data: While longitudinal and in-year tick bite record datasets offer valuable insights into temporal patterns of human-tick encounters, direct extrapolation to changes in tick-borne disease risk necessitates caution. The UKHSA considers this dataset alongside additional data streams (epidemiology, pathogen prevalence studies within tick populations), and expert input from entomologists to evaluate observed trends and inform public health guidance.

Known data users and uses: UKHSA uses the data to monitor the seasonality of Ixodes ricinus ticks to better understand the seasonal exposure to ticks in the UK. The dataset also gives an indication of how tick exposure might be changing over time. This information is used to assist in assessing the potential public health impacts of ticks in the UK. It is also used to inform targeting tick awareness raising to reduce the impact of tick-borne disease such as Lyme disease.

Comparability and coherence of data outputs: There are no other datasets to which this data can be directly compared. Though this data is used to inform wider UKHSA reporting on vectors and vector-borne diseases in the UK, e.g. chapter 8 of the Health Effects of Climate Change report. This data also compliments other related surveys and reports:

- The UKHSA National Tick Survey (NTS).
- UKHSA Lyme disease epidemiology and surveillance reporting.