UK Health Security Agency

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Event: Enhanced risk Shiga toxin-producing *E. coli* due to extreme weather

Notified by: Gastrointestinal Infections, Food Safety and One Health (GIFSOH)

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Distribution: Please see page 3 for information with regards to the distribution instructions for this Briefing Note.

Summary

The Gastrointestinal Infections, Food Safety and One Health Division (GIFSOH) are writing to advise and request additional surveillance data from microbiology diagnostic laboratories following the recent extreme weather in the UK.

Background and Interpretation:

In recent years, several outbreaks of STEC have been associated with nationally distributed fresh produce following periods of prolonged dry weather. Notable examples include the 2024 outbreak of 293 cases of O145 and the 2022 outbreak of 259 cases of STEC O157. The 2022 outbreak of O157 occurred within 2 weeks of a period of adverse dry weather, consistent with food chain logistics and the typical incubation period of STEC (2-4 days). Adverse dry weather is known to amplify the risk of contamination of food-borne pathogens in fresh produce and salad items, such as lettuce. Animal faeces in run off from heavy rains which often follow dry weather adds to the risk of contamination of the fresh produce in the fields.

Due to the recent period of unusually hot and dry conditions, GIFSOH is enhancing its surveillance of STEC to improve the early detection of increased transmission and support timely public health interventions to prevent an outbreak similar to those observed previously.

GIFSOH is aware that a number of laboratories have now adopted molecular methods for STEC detection, and that not all STEC PCR positive samples are referred to Gastrointestinal Bacterial Reference Unit (GBRU) for culture and whole genome sequencing (WGS). While improvements to the national surveillance system for capturing STEC PCR-positive detections (via SGSS) are underway, surveillance of non O157 STEC remains suboptimal. To address this gap, GIFSOH is requesting additional information from our NHS colleagues to strengthen situational awareness during this period of elevated risk.

Implications and Recommendations for UKHSA Regions:

HPTs should be aware of this period of enhanced risk and continue to follow agreed guidance and continue to complete enhanced surveillance questionnaires as usual. Completed Enhanced surveillance questionnaires should be sent to VTEC@UKHSA.gov.uk. Where the STEC CIMS wizard is completed, HPTs should also email VTEC@UKHSA.gov.uk noting the CIMS ID for the case.

Implications and Recommendations for UKHSA sites and services:

UKHSA sites and services should continue to report STEC results for national surveillance as usual and should promptly refer samples to the Gastrointestinal Bacteria Reference Unit (GBRU) for confirmation and further characterisation (through WGS) following typical procedures.

Implications and Recommendations for NHS:

All haemolytic uremic syndrome (HUS) cases should continue to be urgently notified by telephone to the local UKHSA HPT **upon clinical suspicion** so that they can begin public health investigations https://www.gov.uk/health-protection-team.

GPs and hospital clinicians should be aware we now entering a period of increased risk for STEC. STEC infection frequently presents as abdominal pain, diarrhoea with or without blood in stool, vomiting and dehydration. Children with STEC may also present with symptoms mimicking a UTI (blood in urine); up to 10% paediatric cases of STEC progress to haemolytic uraemic syndrome (HUS), a triad of thrombocytopenia, acute renal failure and microangiopathic haemolytic anaemia. Diagnosis of STEC has been delayed or missed due to lack of appropriate testing and STEC associated fatalities have occurred in the recent years, particularly in children.

Please consider taking a faecal specimen for STEC PCR and culture particularly in children below 5 years of age when they present with **blood in stool,** abdominal cramps, dehydration and vomiting and send it to your local microbiology lab labelled as ‘suspected STEC’ or ‘suspected HUS’. Alternatively take a **rectal swab** (bacterial culture swab in Amies medium with charcoal – usually a black/blue top bacterial swab) and send it to microbiology labelled ‘suspected STEC/ HUS’.

Microbiology diagnostic laboratories:

All laboratories (NHS, UKHSA Regional Public Health, collaborating laboratories (including private)) to send a stool sample and/or rectal swab in Amies medium with charcoal from suspected cases of HUS immediately to the Gastrointestinal Bacterial Reference Unit (GBRU) at UKHSA, Colindale using the L5 referral form for testing of all STEC serogroups, in addition to following local standard operating procedures (SOPs) for processing stool specimens.

All laboratories should continue to promptly refer all isolates of presumptive STEC O157 and non-O157 (if detected using CHROMagar STEC) to the GBRU at UKHSA, Colindale for confirmation and typing using L4 referral form.

Local laboratories should **provide weekly situation reports (SITREP) to GIFSOH advising of the total number of STEC PCR positive results and STEC culture positive results processed by the laboratory in the preceding week** (further details of patients are not required at this point). In the first instance this should be provided once a week for 8 weeks commencing ASAP providing data for the **W/C 25th May 2026 and concluding with data for the W/C 13th July 2026.** Please send these SITREPS to VTEC@UKHSA.gov.uk by COP (5pm) on Monday of each week.

Continue mandatory laboratory reporting of STEC via SGSS

Any enquiries regarding laboratory testing can be directed to GBRU@ukhsa.gov.uk

Implications and recommendations for Local Authorities:

Local authorities should be aware of this period of enhanced risk.

Instructions for Cascade:

- UKHSA Private Office Groups who cascade onwards within Groups
- UKHSA Health Protection in Regions:
  UKHSA Field Services
  UKHSA Health Protection Teams including UKHSA Regional Deputy Directors
  Deputy Directors in Regions Directorate
- UKHSA Lab Management Teams
- UKHSA Regional Communications
- DHSC CMO (*excluding internal UKHSA briefing notes*)
- OHID Regional Directors of Public Health
- National NHSE Emergency Preparedness, Resilience and Response (EPRR)
- NHSE National Operations Centre
- **UKHSA Regional Deputy Directors** to cascade to Directors of Public Health and Local Authority Environmental Health Teams
- **UKHSA microbiologists** to cascade to non-UKHSA labs (NHS labs and private)
- **UKHSA microbiologists** to cascade to NHS Trust infection leads
- **NHS labs/NHS infection leads/NHS microbiologists/NHS infectious disease specialists** to cascade to Accident and Emergency, Acute Medicine, Paediatrics, Nephrology and Haematology teams in the hospital
- **NHSE National Operations Centre** to cascade to paediatric, infectious disease, nephrology, haematology and microbiology department.
- Royal college of General Practitioners and Royal college of Paediatrics