



OFFICIAL SENSITIVE

Serial number: BN2025/028

21st July 2025

Update on infection with non-toxigenic *C. diphtheriae* involving people experiencing homelessness and with substance use in England

Notified by: Rebecca Cordery

Authorised by: Will Welfare, SRD On Call; Gayatri Amirthalingam, Deputy Director, Immunisation & Vaccine Preventable Diseases; Andrew Hayward, National Lead Inclusion Health; Comms

IRP Level: Routine

Incident Lead: Rebecca Cordery (rebecca.cordery@ukhsa.gov.uk)

Instructions for Cascade

- UKHSA Regions Directorate and Regional Deputy Directors for onward cascade to:
 - UKHSA Field Services
 - UKHSA Health Protection Teams (HPTs)
 - Directors of Public Health
 - UKHSA Lab Management Teams
 - UKHSA microbiologists/Consultants in Public Health Infection to cascade to non-UKHSA labs (NHS labs and private) and NHS Trust infection leads
 - NHS labs/NHS infection leads/NHS microbiologists/NHS infectious disease specialists to cascade to ID, ED, cardiology, cardiothoracic teams, microbiology departments
 - UKHSA Health Equity & Inclusion
 - UKHSA Regional Communications
 - DHSC CMO
 - NHS England for dissemination to Primary Care
 - OHID Regional Directors of Public Health for dissemination to local Drug & Alcohol teams
 - Local Authority Directors of Public Health to cascade to community homeless services; Local Drug Information Systems and Professional Information networks
 - Devolved Administrations to cascade to Medical Directors and other DA teams as appropriate to their local arrangements
 - Crown Dependencies to cascade to teams as appropriate to local arrangements
 - NRC to circulate to:
 - Royal College of Emergency Medicine
 - Royal College of General Practitioners
 - Royal College of Physicians
 - Faculty of Public Health
 - Faculty for Homeless and Inclusion Health
 - Royal College of Surgeons of England
-

Summary:

In a briefing note, 10th February 2025 (BN2025/006), we reported five cases of non-toxicogenic *C. diphtheriae* presenting with fulminant infective endocarditis (IE), with one fatality, in England between July 2024 and January 2025. The cases were predominantly in people experiencing homelessness who were known to use drugs. The severity of clinical presentation and apparent clustering of cases was unusual.

No further severe cases of IE caused by this organism have been identified since the end of January 2025. Retrospective and prospective case finding (01/1/2023 – 11/07/2025) identified 34 cases of non-toxicogenic *C. diphtheriae* in individuals with evidence of a chaotic lifestyle:

- 13 cases with a sterile site or deep tissue sample positive with a non-toxicogenic *C. diphtheriae* (including 5 initial cases presenting with IE)
- 21 cases with a non-sterile site sample positive with a non-toxicogenic *C. diphtheriae* presenting with wound infections.

Where information is available, 50% of cases were known to be homeless or to live in hostel accommodation in cities and 76% had current substance use. 13 cases had *C. diphtheriae* ST559 (others ST8, 32, 5).

Background and Interpretation:

Whilst non-toxicogenic *C. diphtheriae* is known to cause infection in individuals experiencing homelessness and with substance use, an increase in cases has been noted with a range of disease presentations, from mild skin infection (often with coinfections with *Staphylococcus* or *Streptococcus* sp) to blood stream infections. Cases are predominantly reported from cities and may be clustered in some hostel settings.

There is likely to be under diagnosis and reporting of mild non-toxicogenic *C. diphtheriae* infections. A study is underway in homeless shelters and hostels in London to investigate the prevalence of carriage and infection. 169 individuals have been screened with nose and throat swabs +/- skin lesion or wound swabs with only one individual testing positive for non-toxicogenic *C. diphtheriae* to date.

The Incident Management Team has been stood down. The national diphtheria guidance has been updated to support the management of severe presentations of *C. diphtheriae* infection and to include the principles of the management of clusters of infection in settings with vulnerable individuals.

Implications & Recommendations for UKHSA Regions:

- HPTs should inform the national diphtheria team of suspected diphtheria cases on: diphtheria_tetanus@ukhsa.gov.uk, including any information they collate from the reporting clinician on clinical presentation (and consideration of IE) and epidemiological and risk factor information (including substance use, homelessness or rough sleeping).
- Field Services are asked to support completion of the enhanced surveillance questionnaire with supervising clinicians for cases confirmed with a non-toxicogenic *C. diphtheriae* isolate from a **sterile** site. This enhanced surveillance started in January 2025 and will run for 12 months. The questionnaire is available from the national diphtheria team diphtheria_tetanus@ukhsa.gov.uk.
- Cases should be managed in line with current national diphtheria guidance, noting contact tracing and antibiotic prophylaxis are not required for the contacts of non-toxicogenic cases.

- HPTs are asked to inform the national diphtheria team of any outbreaks of non-toxigenic *C. diphtheriae* in hostels or other settings where homeless individuals congregate. When investigating outbreaks of skin or wound infections in hostels e.g. with group A Streptococcus or Staphylococcus aureus, HPTs should consider concurrent infection with *C. diphtheriae* and to request appropriate testing.
- The national diphtheria guidance ([Diphtheria: public health control and management in England - GOV.UK](#)) has been updated to cover the principles of management of severe cases of infection and also clusters of non-toxigenic *C. diphtheriae* in settings for those who are vulnerable e.g. those experiencing homelessness and with substance use.

Patient resources (information leaflets and posters) for those at risk of skin and wound infections, co-produced with clinicians working with those with substance use and experiencing homelessness, are in development.

Implications & Recommendations for UKHSA sites and services:

Microbiologists are reminded of the importance of further investigation of Corynebacterium species identified and their potential clinical significance.

Microbiology labs are asked to refer all local/regional isolates of *C. diphtheriae* to the RVPBRU for toxin-gene testing and to undertake local sensitivity testing to inform antibiotic treatment.

Implications & Recommendations for NHS:

Clinicians, including primary care, community district nursing and tissue viability nursing teams who work with homeless individuals, are asked to continue to:

- be vigilant for *C. diphtheriae* skin and soft tissue infections
- take samples from all infected wounds
- request testing includes *C. diphtheriae* and indicate on the laboratory request form that the individual is homeless or has unstable housing
- to treat skin infections and wounds, including those caused by non-toxigenic *C. diphtheriae*, as directed by antibiotic sensitivities
- consider early referral to hospital if signs of systemic infection
- consider early echocardiography in cases with systemic infection with *C. diphtheriae*, even in the absence of classical cardiac risk factors for IE or a history of intravenous drug use
- discuss all cases of IE with non-toxigenic *C. diphtheriae* with regional cardiology/cardiothoracic specialist centres, as early surgical intervention is key to improved outcomes
- report outbreaks of non-toxigenic *C. diphtheriae* to the local health protection team to enable investigation and control measures.

Microbiology laboratories are asked to undertake local antibiotic sensitivity testing to inform antibiotic treatment. They are also reminded to refer all local/regional isolates of *C. diphtheriae* to the RVPBRU for toxin-gene testing.

Implications and recommendations for Local Authorities:

To cascade to local drug and alcohol services (Local Drug Information Systems and Professional Information networks) to raise awareness amongst staff so they are reminded to direct service users to seek medical advice early should they become unwell.

References/Sources of information

Disease specific UKHSA national guidance is also available:

[Public health control and management of diphtheria](#)

[UK guidelines for the management of contacts of invasive group A streptococcus \(iGAS\) infection in community settings](#)

[PVL-Staphylococcus aureus infections: diagnosis and management - GOV.UK](#)

[UKHSA guidelines for the management of scabies cases and outbreaks in communal residential settings - GOV.UK](#)

ⁱ Patel et al. Fulminant infective endocarditis with toxin-negative *Corynebacterium diphtheriae* in people with substance use experiencing homelessness, England 2024 to 2025. EuroSurveill. 2025 Apr 3;30(13):2500148. Doi: [10.2807/1560-7917.ES.2025.30.13.2500148](https://doi.org/10.2807/1560-7917.ES.2025.30.13.2500148)