Toxigenic *Corynebacterium diphtheriae* Disease in South Africa, Week 40, 2026

Report date: 8 October 2026
Reporting period: 29 December 2025 to 4 October 2026
Date of data extraction: 8 October 2026
The data presented in this report are provisional as of the data extraction date. Case counts are reported and analysed according to the date of first specimen collection or, where the date of specimen collection date is unavailable, the date of first clinical presentation. Data cleaning and validation are ongoing; therefore, the figures presented in this report are preliminary and may change in subsequent reports.

Highlights

- Since the last situational report (week 39, 2026), the following updates are included in this report
  - No new laboratory-confirmed cases of toxigenic diphtheria.
  - One new death in a laboratory-confirmed cases of toxigenic diphtheria.
  - No new asymptomatic carriers of toxigenic *C. diphtheriae.*
- Appropriate public health responses were initiated for all suspected and confirmed cases.

Table 1: Number of suspected, probable and confirmed cases of toxigenic respiratory and cutaneous diphtheria in South Africa, 29 December 2025 to 4 October 2026.

Case definition	Number	Provincial distribution
Laboratory-confirmed toxigenic respiratory diphtheria	43	Gauteng (3/43, 7%) Limpopo (5/43, 12%) Western Cape (35/43, 81%)
Probable diphtheria cases	5	Limpopo (5/5, 100%)
Laboratory-confirmed toxigenic cutaneous diphtheria	2	Gauteng (2/2, 100%)
Suspected diphtheria cases with specimens sent to exclude diphtheria and tested negative	117	Eastern Cape (1/117, 1%) Free State (4/117, 3%) Gauteng (7/117, 6%) KwaZulu-Natal (5/117, 4%) Limpopo (8/117, 7%) Mpumalanga (3/117, 3%) Western Cape (89/117, 76%)
Asymptomatic carriers of toxigenic *C. diphtheriae* identified during contact tracing	10	Limpopo (2/10, 20%) Western Cape (8/10, 80%)
Deaths in probable and laboratory-confirmed toxigenic respiratory diphtheria cases	9	Gauteng (1/9, 11%) Limpopo (2/9, 22%) Western Cape (6/9, 67%)

Epidemiology of respiratory diphtheria cases and asymptomatic carriers, 29 December 2025 – 4 October 2026

Between 29 December 2025 and 4 October 2026, 43 confirmed cases of respiratory diphtheria and 10 asymptomatic carriers of toxigenic *C. diphtheriae* have been identified in South Africa. Most confirmed cases were reported from the Western Cape (81%; 35/43), followed by Limpopo (12%; 5/43) and Gauteng (7%; 3/43) (Figure 1, Table 1). Asymptomatic carriers were reported from the Western Cape (80%; 8/10) and Limpopo (20%; 2/10). Five probable cases were reported from Limpopo (Figure 1, Table 1). The median age of cases of confirmed respiratory diphtheria was 27 years (range: 5-72 years), with 70% (30/43) being 18 years and older. The overall case-fatality ratio (CFR) among probable and confirmed respiratory diphtheria cases was 19% (9/48). The highest CFRs were observed among individuals aged 10–19 years and 30–39 years, at 36% (4/11) in each age group (Table 2). These age-specific estimates should be interpreted with caution given the small number of cases within each age group.

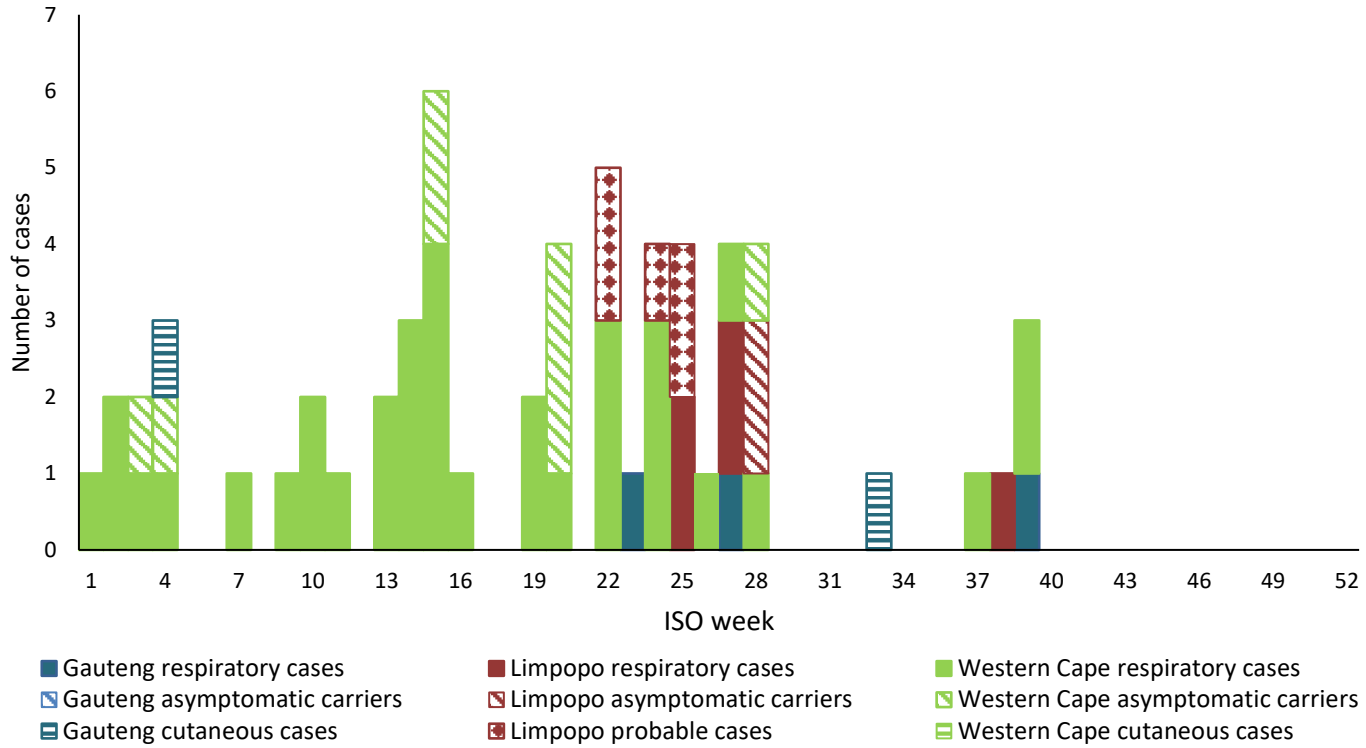

Figure 1: Number of individuals testing positive for toxigenic *C. diphtheriae* (respiratory diphtheria cases, asymptomatic carriers, and cutaneous cases) and probable cases, South Africa, 29 December 2025 – 4 October 2026.
*Note: Case counts are reported and analysed by date of first specimen collection, or by date of symptom onset where the specimen collection date is unavailable. Data cleaning and validation are ongoing; therefore, the figures presented in this report are provisional and may change in subsequent reports. ISO: International Organization for Standardization.

Table 2: Age distribution of laboratory-confirmed and probable respiratory diphtheria cases, diphtheria-related deaths, and case-fatality ratio, 29 December 2025 to 4 October 2026.

Age category (years)	Confirmed cases	Probable cases	Diphtheria-related deaths	Case-fatality ratio (%)
0-9	7	1	1	12
10-19	8	3	4	36
20-29	14	1	0	0
30-39	11	0	4	36
40-49	2	0	0	0
50-59	0	0	0	0
≥60	1	0	0	0
Total	**43**	**5**	**9**	**19**

Case-fatality ratio among confirmed respiratory cases was 16% (7/43) and among probable cases was 40% (2/5).

Clusters and sporadic respiratory diphtheria cases by province

Between 29 December 2025 and 4 October 2026, seven diphtheria clusters were identified, involving 28 individuals. These included 13 confirmed respiratory cases (nine in the Western Cape and four in Limpopo), 10 asymptomatic carriers (eight in the Western Cape and two in Limpopo), and five probable cases (all from Limpopo). Outside these clusters, 30 sporadic respiratory cases with no known epidemiological links were reported, 26 in the Western Cape, three in Gauteng and one in Limpopo (Table 3).

Table 3. Summary of diphtheria clusters reported in South Africa from 29 December 2025 to 4 October 2026

Cluster No.	Week (week start date)[1]	Province (City)	Details	Cluster type
1	2 (5 January 2026)	Western Cape (Cape Town)	2 respiratory cases 1 asymptomatic carrier	Household/family
2	4 (19 January 2026)	Western Cape (Cape Town)	1 respiratory case 1 asymptomatic carrier	Household/family
3	15 (6 April 2026)	Western Cape (Cape Town)	2 respiratory cases 1 asymptomatic carrier	Household/family
4	15 (6 April 2026)	Western Cape (Cape Town)	2 respiratory cases 1 asymptomatic carrier	Household/family
5	19 – 20 (4 - 11 May 2026)	Western Cape (Cape Town)	1 respiratory case 3 asymptomatic carriers	Correctional facility
6	22-26 (29 May- 27 June 2026)	Limpopo (Tzaneen)	4 respiratory cases 5 probable cases 2 asymptomatic carriers	Household/family
7	26-28 (22 June - 6 July 2026)	Western Cape (Cape Town)	1 respiratory case 1 asymptomatic carrier	Household/family

[1]Period between the first infections and the last recorded infections within each cluster, expressed in weeks. Each week starts on a Monday and is labelled by its start date, following the ISO 8601 standard. Based on the date of clinical presentation or sample collection.

Notified suspected cases of diphtheria

From 29 December 2025 to 4 October 2026, there were 117 reports of suspected diphtheria cases who tested negative for *C. diphtheriae*. Alternative diagnoses became available for some individuals with suspected diphtheria, including *Streptococcus pyogenes, Streptococcus dysgalactiae, Staphylococcus aureus* and respiratory viruses such as influenza.

Cutaneous toxigenic diphtheria cases

Between 29 December 2025 and 4 October 2026, two cutaneous toxigenic diphtheria cases were reported from Gauteng. The first case was reported in week four, and the latest case was reported in week 33.

Non-toxigenic diphtheria

From 29 December 2025 to 4 October 2026, 32 individuals with non-toxigenic *C. diphtheriae* (14 asymptomatic, 17 cutaneous, one bacteraemia) have been detected (Table 4).

Table 4: Number of non-toxigenic *Corynebacterium* spp. infections by species and clinical presentation, South Africa, 29 December 2025 to 4 October 2026.

Clinical presentation	*C. diphtheriae*	*C. belfantii*	*C. ulcerans*	Total
Asymptomatic*	14	0	0	14
Cutaneous	17	0	0	17
Respiratory	0	0	0	0
Other**	1	0	0	1
Total	**32**	**0**	**0**	**32**

*Asymptomatic carriers identified as part of contact tracing before confirmation of non-toxigenic *C. diphtheriae*

** Bacteraemia

Microbiology

Of the 55 toxigenic *C. diphtheriae* infections identified, 36 were culture-confirmed; of these, four isolates lost viability, leaving 32 isolates for further phenotypic and genotypic characterisation.

The phenotypic Elek test for confirmation of toxin production showed 100% agreement with the toxin-gene PCR among isolates tested by both methods to date (n = 32). No non-toxigenic toxin-gene–bearing (NTTB) isolates have been identified; such isolates would be Elek-negative but PCR-positive for the toxin gene.

We performed antimicrobial susceptibility testing on 32 isolates using the disc diffusion method in accordance with European Committee on Antimicrobial Susceptibility Testing (EUCAST) guidelines. All tested isolates were classified as susceptible to penicillin, with increased exposure (zone diameter [ZD] range:18–23 mm) and susceptible to erythromycin (ZD range: 27–33 mm) (Figure 2) (1,2).

To date, sequence data are available for 29 of the 32 viable toxigenic *C. diphtheriae* isolates, with sequencing pending for three isolates. All Western Cape isolates are sequence type (ST) 906 (n = 26), the same lineage first detected in 2023 and currently appearing to be localised within this province. Two isolates from Limpopo are ST824, while one cutaneous diphtheria isolate from Gauteng is ST447.

Table 5: Toxigenic *C. diphtheriae* infections by sequence type and province, South Africa, 29 December 2025 to 4 October 2026.

Province	ST 906	ST 824	ST 447	Pending	Total
Gauteng	0	0	1	1	2
Limpopo	0	2	0	0	2
Western Cape	26	0	0	2	28
Total	**26**	**2**	**1**	**3**	**32**

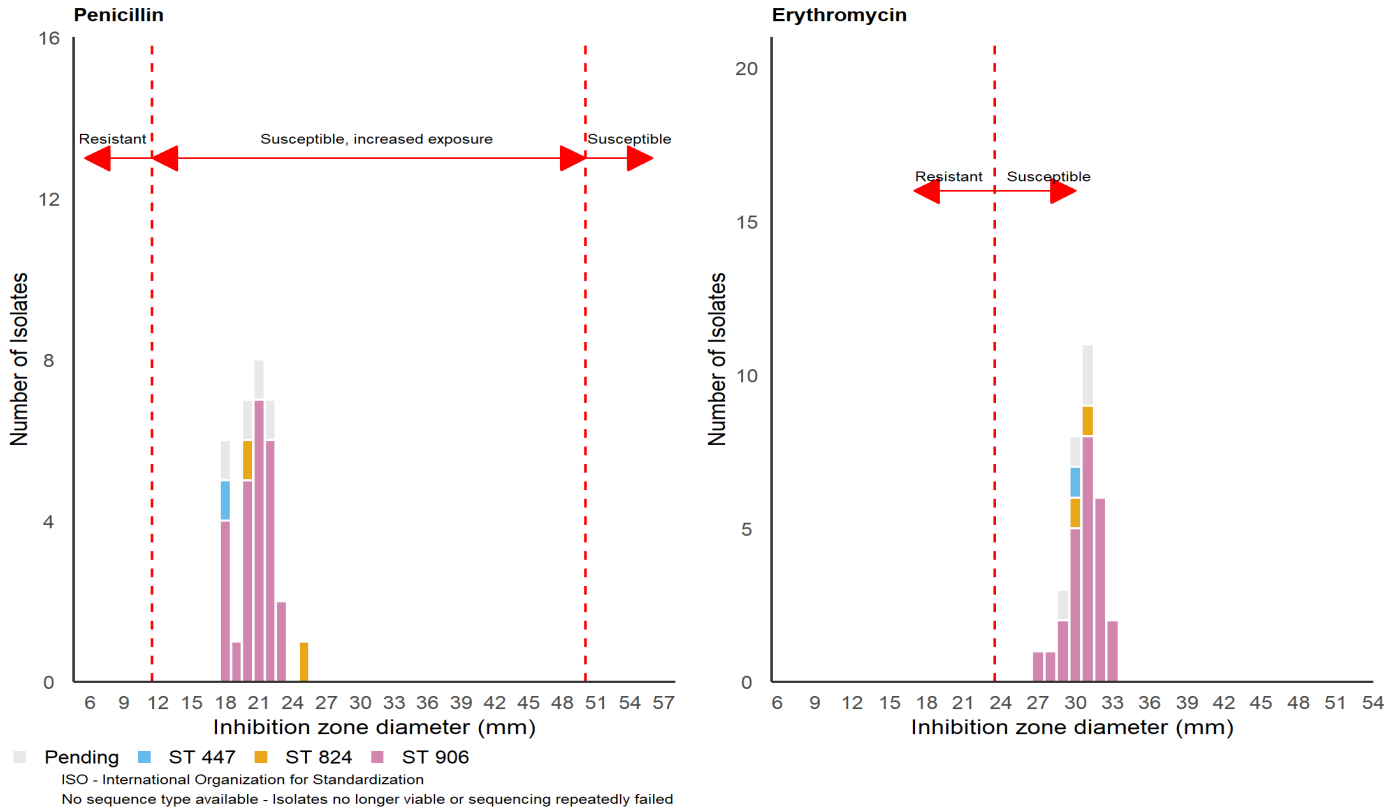

Figure 2: Antimicrobial susceptibility testing for toxigenic *C. diphtheriae* isolates from respiratory diphtheria cases, asymptomatic carriers, and cutaneous cases, South Africa, 2026 (N = 32). The red vertical dashed lines indicate the clinical breakpoints defined by the European Committee on Antimicrobial Susceptibility Testing (EUCAST). Arrows represent the inhibition zone diameter ranges at which *C. diphtheriae* is classified as susceptible, "susceptible at increased exposure", or resistant to each antibiotic.

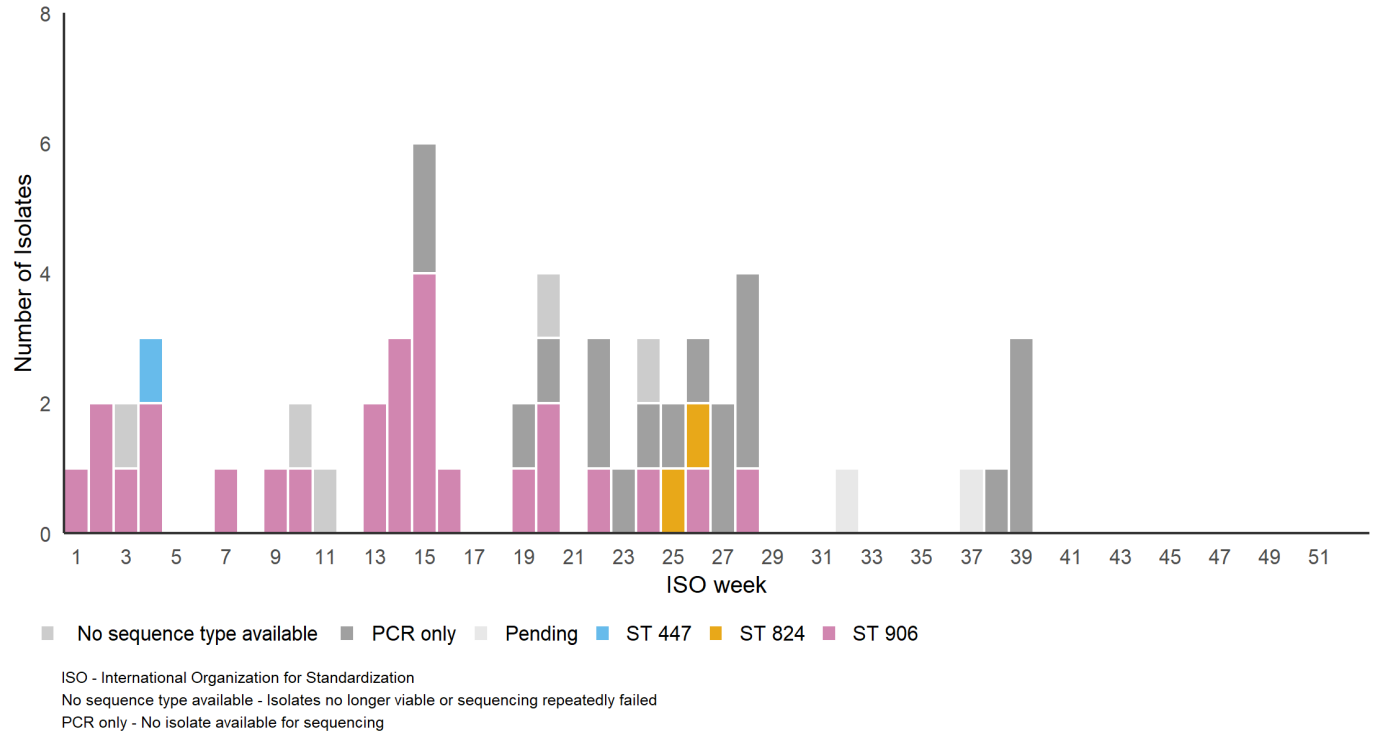

Figure 3: Number of individuals testing positive for toxigenic *C. diphtheriae* (respiratory diphtheria cases, asymptomatic carriers and cutaneous cases) (N=55) by sequence type, South Africa, 29 December 2025 to 4 October 2026.

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Additional resources

Further information on diphtheria case definitions, laboratory testing, clinical management and outbreak response can be found on the National Institute for Communicable Diseases website: https://www.nicd.ac.za/diseases-a-z-index/diphtheria/

References

1. EUCAST. Antimicrobial susceptibility testing: EUCAST disk diffusion method. Version 11.0. 2023. http://www.eucast.org/ast_of_bacteria/disk_diffusion_methodology/
2. Berger A, Badell E, Åhman J, Matuschek E, Zidane N, Kahlmeter G, Sing A, Brisse S. Corynebacterium diphtheriae and Corynebacterium ulcerans: development of EUCAST methods and generation of data on which to determine breakpoints. J Antimicrob Chemother. 2024 May 2;79(5):968-976. doi: 10.1093/jac/dkae056. PMID: 38497937.
3. Williams MM, Waller JL, Aneke JS, Weigand MR, Diaz MH, Bowden KE, Simon AK, Peng Y, Xiaoli L, Cassiday PK, Winchell J, Tondella ML. Detection and Characterization of Diphtheria Toxin Gene-Bearing *Corynebacterium* Species through a New Real-Time PCR Assay. J Clin Microbiol. 2020 Sep 22;58(10):e00639-20. doi: 10.1128/JCM.00639-20. PMID: 32727830; PMCID: PMC7512153.
4. Engler KH, Glushkevich T, Mazurova IK, George RC, Efstratiou A. A modified Elek test for detection of toxigenic corynebacteria in the diagnostic laboratory. J Clin Microbiol. 1997 Feb;35(2):495-8. doi: 10.1128/jcm.35.2.495-498.1997. PMID: 9003626; PMCID: PMC229610.