Enhanced Surveillance of *Clostridioides (Clostridium) difficile* Infection in Ireland:

Q4 2025 National Report

Key Points

- This report includes enhanced surveillance of *C. difficile* infection (CDI) in Ireland for Q3 2025 and Q4 2025 with a focus on Q4 2025.During Q4 2025, a total of 538 cases of CDI were reported to the enhanced surveillance scheme, with 60 of the 63 acute Irish public and private hospitals now participating.
- The national overall rate of CDI in hospitalised patients in Q4 2025 was 3.8 cases per 10,000 bed days used (BDU) [410 cases], which is lower to that reported for Q4 2024 [460 cases; rate = 4.4]
- There were 253 cases of CDI deemed to be hospital-acquired (HA-CDI), of which 233 were new, representing a national HA-CDI rate of 2.2 [median rate = 1.3]
- With regard to acquisition, while *C. difficile* was mostly associated with acute hospitals (253; 47%), there were many cases associated with the community (165; 31%) and long-term care facilities (24; 8%)
- CDI symptom onset occurred in the community for 42% of all cases (n=228):this highlights the importance of considering CDI in patients with potentially infectious diarrhoea across all healthcare settings, including hospitals, primary care, and long-term care facilities. It also reinforces the need for standardised testing protocols in all microbiology laboratories—ensuring that all unformed faecal specimens from patients aged ≥2 years are routinely tested for CDI regardless of patient location or clinician request.
- Whole genome sequencing was performed at the Irish *C. difficile* National Reference Laboratory (NRL) on isolates during Q3 and Q4 2025. ST8 (11%), ST2 (11%) and ST11 (8%) were most frequently reported. Across all matched cases (n=425; 65%), 93 clusters were identified.

Introduction

C. difficile (CDI) continues to be a significant concern in healthcare settings, particularly in hospitals and long-term care facilities. This report provides an overview of the current CDI trends, including the incidence, hospital-acquired rates, and sources of infection. It also highlights the results of whole genome sequencing performed on *C. difficile* isolates to better understand the epidemiology and potential outbreaks. This data is essential for monitoring the effectiveness of infection prevention and control measures across healthcare settings.

Methodology

The CDI enhanced surveillance protocol with all details on the programme is available on the HPSC website at: https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/clostridioidesdifficile/enhancedsurveillance/.

Results

Results are displayed in 4 sections below

Part 1: National CDI Epidemiology

Part 2: Hospital-acquired CDI (HA-CDI) Epidemiology

Part 3: *C. difficile* Testing Methods

Part 4: *C. difficile* Irish National Reference Laboratory (NRL) Genomic Sequence results

Part 1: National CDI Epidemiology

Table 1. National CDI epidemiology: Current quarter versus same quarter in 2024

Summary	2024Q3	2024Q4	2025Q3	2025Q4
Total reported cases	**617**	**615**	**584**	**538**
CDI case type				
New Cases	510(83%)	504(82%)	478(82%)	444(83%)
Recurrent cases	48(8%)	54(9%)	56(10%)	49(9%)
Unknown cases	59(10%)	57(9%)	50(9%)	45(8%)
CDI Origin				
-Healthcare Associated cases	**343(56%)**	**342(56%)**	**310(53%)**	**294(55%)**
Reporting hospital	278(81%)	279(82%)	248(80%)	253(86%)
Long Term Care Facility	41(12%)	38(11%)	40(13%)	25(9%)
Other Healthcare Facility	24(7%)	24(7%)	20(6%)	15(5%)
Unknown Healthcare Facility	0(0%)	1(0%)	2(1%)	1(0%)
-Community Associated cases	**162(26%)**	**155(25%)**	**177(30%)**	**165(31%)**
Ambulatory Care	5 (3%)	3(2%)	14(8%)	9(5%)
-Discharged 4-12 weeks from HCF	**41(7%)**	**51(8%)**	**38(7%)**	**29(5%)**
-Unknown Origin	**71(12%)**	**67(11%)**	**59(10%)**	**50(9%)**
CDI Onset				
-Healthcare Onset	**295(48%)**	**320(52%)**	**286(49%)**	**263(49%)**
Reporting hospital	245(83%)	267(83%)	235(82%)	225(86%)
Long Term Care Facility	36(12%)	34(11%)	38(13%)	24(9%)
Other Healthcare Facility	10(3%)	14(4%)	7(2%)	10(4%)
Unknown Location	4(1%)	5(2%)	6(2%)	4(2%)
-Community Onset	**271(44%)**	**241(39%)**	**243(42%)**	**228(42%)**
-Unknown Onset location	**51(8%)**	**54(9%)**	**55(9%)**	**47(9%)**
CDI Severity				
Critical care admission or colectomy	16(3%)	15(2%)	13(2%)	13(2%)

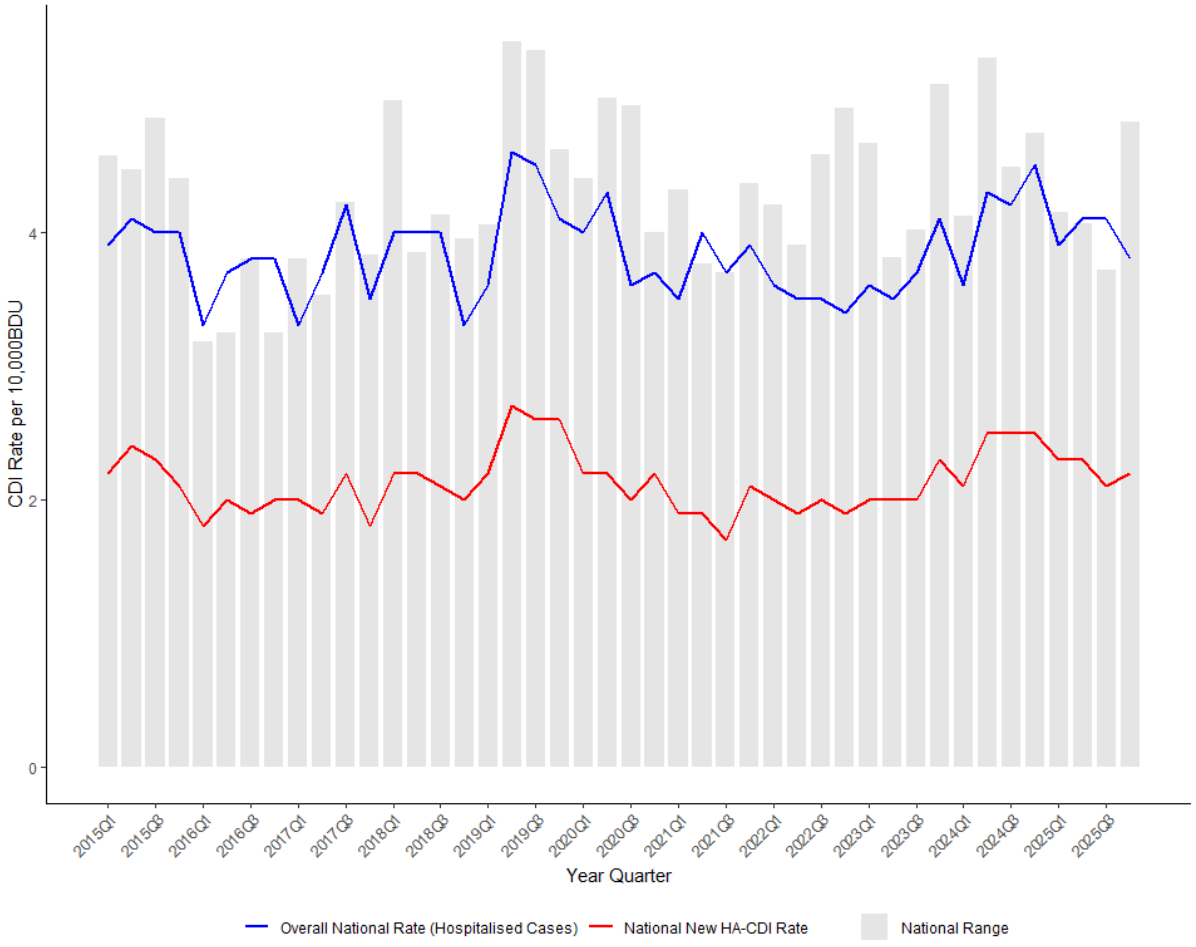
- Since Q3 2025, one tertiary hospital has sent GP and most LTCF specimens to an external laboratory for testing. Cases from this pathway are not included in the enhanced surveillance programme.

Table 2. Severity of illness in this quarter

Surgery (Colectomy)	ICU Admission			Total
	Yes	No	Unknown	
Yes	0	4	0	**4**
No	9	475	0	**484**
Unknown	0	1	49	**50**
Total	**9**	**480**	**49**	**538**

Part 2: Hospital-acquired CDI (HA-CDI) Epidemiology

Figure 1. Quarterly National HA-CDI rates over the last ten years



Overall National Rate (Hospitalised Cases) = rate of all cases per 10,000 bed days used where Yes has been recorded for Hospital admission.

National New HA-CDI Rate = the rate of new healthcare-associated CDI cases per 10,000 bed days used, where case type is recorded as 'New', origin is 'HCAI', and origin facility is 'This hospital'.

Table 3. Quarterly HA-CDI data over the last two years

Year Q	Number of hospitals	Number of Cases Reported				CDI rate per 10,000 BDUs		
		New	Recurrent	Unknown	Total	Rate	Range	Median
2024Q1	59	232	18	5	255	2.0	0.0–4.1	1.0
2024Q2	59	269	25	9	303	2.5	0.0–5.3	1.0
2024Q3	57	257	20	1	278	2.5	0.0–4.5	1.4
2024Q4	57	257	20	2	279	2.5	0.0–4.7	1.0
2025Q1	58	243	22	2	267	2.3	0.0–4.1	0.6
2025Q2	58	240	32	1	273	2.3	0.0–4.1	1.4
2025Q3	59	224	23	1	248	2.1	0.0–3.7	1.2
2025Q4	60	233	20	0	253	2.2	0.0–4.8	1.3

Part 3: *C. difficile* Testing Methods

All hospitals participating in the enhanced CDI surveillance system during reported use of a *C. difficile* testing method recommended by the updated National Clinical Guidelines for Surveillance, Diagnosis & Management of *C. difficile* Infection in Ireland (2014). This includes either one of a variety of two-step testing methods or a single-step method using molecular polymerase chain reaction (PCR) test for *C. difficile* toxin gene as displayed in Table 3, along with stratification by hospital type.

The most recent European guidelines (ESCMID, 2021) recommend the use of a two-step testing algorithm, due to concerns about the specificity of single-step molecular tests when used alone.

Table 4 . *C. difficile* testing methods utilised in current quarter, by hospital type.

Test Category	Hospital Type				
	General	Private	Specialist	Tertiary	Total
1 STEP: PCR for toxin gene	2	0	3	0	**5**
1 STEP: Toxin EIA	0	0	1	0	**1**
2 STEP: GDH AND Toxin EIA	0	2	0	0	**2**
2 STEP: GDH AND TOXIN EIA with TOXIN PCR confirmation	4	6	2	0	**12**
2 STEP: GDH EIA AND Toxin PCR	3	0	0	0	**3**
2 STEP: PCR and EIA confirmation	16	5	8	8	**37**
Total	**25**	**13**	**14**	**8**	**60**

Part 4: *C. difficile* Irish NRL Genomic Sequence results

Table 5 . CDI NRL sequence results matched with HPSC enhanced data.

	Total cases		ST8		ST2		ST11	
	n	%	n	%	n	%	n	%
Total reported cases with sequence typing	**425**	**-**	**48**	**-**	**46**	**-**	**34**	**-**
CDI toxin genotype								
tcdA positive	410	96	48	100	46	100	28	82
tcdB positive	422	99	48	100	46	100	34	100
tcdC positive	400	94	48	100	46	100	34	100
cdtA/cdtB positive	69	16	0	0	4	9	34	100
CDI cases identified as part of clusters	**93**	**22**	**12**	**25**	**12**	**26**	**12**	**35**
CDI case type								
New Cases	409	96	47	98	43	93	32	94
Recurrent cases	16	4	1	2	3	7	2	6
Unknown cases	0	0	0	0	0	0	0	0
CDI Origin								
-Healthcare Associated cases	309	73	34	71	31	67	24	71
-Community associated cases	91	21	10	21	13	28	7	21
-Discharged 4-12 weeks from HCF	25	6	4	8	2	4	3	9
-Unknown Origin	0	0	0	0	0	0	0	0
CDI Severity								
Critical Care admission or colectomy	9	2	-	-	-	-	-	-

The NRL received 318 *C. difficile* isolates in Q3 2025 and 340 *C. difficile* isolates in Q4 2025 (total n=658) spanning 29 hospitals nationally out of which 425(65%) matched with the enhanced surveillance programme at the HPSC as displayed in Table 5. (Please note not all isolates sent to NRL are notifiable CDI cases, isolates can be sent for epidemiological studies, further investigation and so forth. Reason for typing is not currently recorded

For genomic data, please refer to the Public Health Laboratory website, for the *C. difficile* 2024 NRL annual report which is available by clicking here.

The continued development of this Irish national reference laboratory service will add significantly to the understanding of the epidemiology of this significant infection and ultimately influence its control and preventative actions, both here in Ireland and internationally.

Acknowledgments

The HPSC & National Reference Laboratory Service for *C. difficile* would like to sincerely thank all who have contributed to this report, especially Surveillance Scientists, Infection Prevention and Control Nurses, Infection and Prevention Control teams, Medical Scientists, Clinical Microbiologists along with all the staff of the Departments of Public Health across Ireland.

Further Information Any feedback or queries are most welcome. Please contact cdifficiledata@hpsc.ie or microteam@hpsc.ie.

Appendix A: National CDI Enhanced Surveillance Participating Hospitals

Hospital Group	Hospital Name	Category	Type of Hospital	Area
Dublin Midlands	Coombe Women and Infant's University Hospital	Specialist	-	B
	Midland Regional Hospital Portlaoise	General	Model 3	B
	Midland Regional Hospital Tullamore	General	Model 3	B
	Naas General Hospital	General	Model 3	B
	St James's Hospital	Tertiary	Model 4	B
	St Luke's Hospital, Dublin	Specialist	-	B
	Tallaght University Hospital	Tertiary	Model 4	B
Ireland East Hospital Group	Cappagh National Orthopaedic Hospital, Dublin	Specialist	-	A
	Mater Misericordiae University Hospital	Tertiary	Model 4	A
	Midland Regional Hospital Mullingar	General	Model 3	B
	National Maternity Hospital, Holles Street	Specialist	-	C
	National Rehabilitation Hospital, Dun Laoghaire	Specialist	-	C
	Our Lady's Hospital, Navan	General	Model 3	A
	Royal Victoria Eye & Ear Hospital, Dublin	Specialist	-	C
	St Columcille's Hospital, Loughlinstown	General	Model 2	C
	St Luke's General Hospital, Kilkenny	General	Model 3	C
	St Michael's Hospital, Dun Laoghaire	General	Model 2	C
	St Vincent's University Hospital	Tertiary	Model 4	C
	Wexford General Hospital	General	Model 3	C
RCSI Hospital Group	Beaumont Hospital	Tertiary	Model 4	A
	Cavan General Hospital	General	Model 3	A
	Connolly Hospital, Blanchardstown	General	Model 3	A
	Louth County Hospital, Dundalk	General	Model 2	A
	Our Lady of Lourdes Hospital, Drogheda	General	Model 3	A
	Rotunda Hospital Dublin	Specialist	-	A
Saolta Hospital Group	Letterkenny University Hospital	General	Model 3	F
	Mayo University Hospital	General	Model 3	F
	Portiuncula University Hospital	General	Model 3	F
	Roscommon University Hospital	General	Model 2	F
	Sligo University Hospital	General	Model 3	F
	University Hospital Galway	Tertiary	Model 4	F
South/South West Hospital Group	Bantry General Hospital	General	Model 2	D
	Cork University Hospital	Tertiary	Model 4	D
	Cork University Maternity Hospital	Specialist	-	D
	University Hospital Kerry	General	Model 3	D
	Lourdes Orthopaedic Hospital, Kilcreene, Kilkenny	Specialist	-	C
	Mallow General Hospital	General	Model 2	D
	Mercy University Hospital, Cork	General	Model 3	D
	South Infirmary - Victoria University Hospital, Cork	General	Model 2	D
	Tipperary University Hospital	General	Model 3	C
	University Hospital Waterford	Tertiary	Model 4	C
UL Hospital Group	Croom Hospital	Specialist	-	E
	Ennis Hospital	General	Model 2	E
	Nenagh Hospital	General	Model 2	E
	St John's Hospital	General	Model 2	E
	University Hospital Limerick	Tertiary	Model 4	E
	University Maternity Hospital Limerick	Specialist	-	E
Private Hospitals	Aut Even, Kilkenny	Private	-	
	Beacon Hospital, Dublin	Private	-	
	Blackrock Clinic	Private	-	
	Bon Secours, Cork	Private	-	
	Bon Secours, Galway	Private	-	
	Bon Secours, Glasnevin	Private	-	
	Bon Secours, Tralee	Private	-	
	Galway Clinic	Private	-	
	Hermitage Medical Clinic, Dublin	Private	-	
	Mater Private, Dublin	Private	-	
	Mater Private, Cork	Private	-	
	St Vincents Private Hospital	Private	-	
	UPMC Sports Surgery Clinic	Private	-	
Children's Health Ireland	Children's Health Ireland at Crumlin	Specialist	-	
	Children's Health Ireland at Tallaght	Specialist	-	
	Children's Health Ireland at Temple St	Specialist	-	

Appendix B: Case definitions for CDI Enhanced Surveillance

Case Definitions for Surveillance of *Clostridioides difficile* Infection

***For surveillance purposes, a confirmed Clostridioides difficile* infection (CDI) case is a patient two years or older, to whom one or more of the following criteria applies:**

- Diarrhoeal* stools or toxic megacolon, with either a positive laboratory assay for *C. difficile* toxin A (TcdA) and/or toxin B (TcdB) in stools or a toxin-producing *C. difficile* organism detected in stool via culture or other means.
- Pseudomembranous colitis (PMC) revealed by lower gastrointestinal endoscopy.
- Colonic histopathology characteristic of *C. difficile* infection (with or without diarrhoea) on a specimen obtained during endoscopy, colectomy or autopsy.

*** Diarrhoea is defined as three or more loose/watery bowel movements (which are unusual or different for the patient) in a 24 hour period**

CASE TYPE

- **New Case of CDI:**
  - The first episode of CDI, **OR**
  - A subsequent episode of CDI with onset of symptoms **more than eight weeks** after the onset of a previous episode.

- **Recurrent Case of CDI:**
  - A patient with an episode of CDI that occurs **within eight weeks** following the onset of a previous episode **provided that CDI symptoms from the earlier episode resolved with or without therapy.**

ONSET

- **Healthcare onset** » Symptoms start during a stay in a healthcare facility.
- **Community onset** » Symptoms start in a community setting, outside healthcare facilities.
- **No information available** » If no information was available on onset of symptoms

ORIGIN

- **Healthcare-associated case.** This is a CDI patient with either:
  - Onset of symptoms at least 48 hours following admission to a healthcare facility (healthcare-onset, healthcare-associated), OR
  - With onset of symptoms in the community within four weeks following discharge from a healthcare facility (community-onset, healthcare-associated).
- **Community-associated case.** This is a CDI patient with either:
  - Onset of symptoms while outside a healthcare facility, and without discharge from a healthcare facility within the previous 12 weeks (community-onset, community-associated), OR
  - With onset of symptoms within 48 hours following admission to a healthcare facility without residence in a healthcare facility within the previous 12 weeks (healthcare-onset, community-associated).
- **Discharged 4 – 12 weeks from a healthcare facility**

»This is a CDI patient who was discharged from a healthcare facility between four and 12 weeks before the onset of symptoms.

- **No information available**

SEVERE CDI CASE

This is a CDI patient to whom any of the following criteria apply:

- Admission to an intensive care unit for treatment of CDI or its complications (e.g., for shock requiring vasopressor therapy)
- Surgery (colectomy) for toxic megacolon, perforation or refractory colitis
- Death within 30 days after diagnosis if CDI is either the primary or a contributive cause