



Summary Report on Carbapenemase Producing Enterobacterales (CPE) in Ireland

January 2025



Antimicrobial Resistance &
Infection Control Programme

Background Information

Data sources used in this report

The data within this report come from two sources: the HSE's Business Information Unit (BIU) and the National CPE Reference Laboratory Service (NCPERLS).

- **BIU:** The HSE's BIU gathers and maintains a central repository of service data from all hospital and community based health services nationwide. The CPE data from the BIU in this report come solely from the HSE's acute hospital services. All acute HSE hospitals are required to report CPE data to the BIU on a monthly basis.
- **NCPERLS:** The NCPERLS is based at Galway University Hospital and has provided reference services for CPE isolates since October 2012. NCPERLS data are comprised largely from samples sent by the HSE's acute hospitals, but also include data from other acute hospitals, private hospitals and community healthcare services.

Screening samples vs diagnostic samples

- **Screening samples:** Isolates from screening samples (rectal swabs/ faeces) reflect detection of asymptomatic gut colonisation with CPE in the absence of clinical CPE infection. CPE screening samples are generally collected from patients based on national guidance.
- **Diagnostic samples:** In general, isolates from diagnostic samples are likely to reflect clinical infection. Diagnostic samples are collected from a specific site (e.g. urine, wound, blood, etc.) based on a clinical suspicion of infection.
- As detailed in this report, the **large majority** of new CPE cases in Ireland each month are detected via **screening of asymptomatic patients** in acute hospitals. This early detection of CPE during patients' contact with the healthcare system allows for early application of measures to control spread.

BIU Data

Key Points – Jan 2025

- There were 107 newly detected CPE cases reported by HSE acute hospitals with 89.7% of those cases identified from screening samples (asymptomatic colonisation) and 10.3% identified from diagnostic samples (clinical infection). (Table 1)
- Case numbers have decreased slightly in January 2025 when compared to November and December 2024 and remain below the peak seen in July to September 2024. (Figure 1)
- HSE Dublin & Midlands & HSE Mid West were the HSE regional health areas (RHAs) with the highest number of cases this month. (Figure 2)
- 13 HSE acute hospitals reported current outbreaks this month, which is the same as December 2024 (13) and an increase of 1 from November 2024. (Table 2 and Figure 3)

Table 1: Total newly detected CPE cases and screening samples collected in HSE acute hospitals, Jan 2025

Total new CPE cases identified	107
New cases identified from rectal swabs/ faeces (Screening)	96 (89.7%)*
New cases identified from any other site (Diagnostic)	11 (10.3%)*
Total number of screening samples collected	32,117

*The percentages indicate the proportions of new cases identified from screening samples vs new cases identified from diagnostic samples.

Figure 1: National total number of newly detected CPE cases and screening samples collected, Feb 2023 – Jan 2025

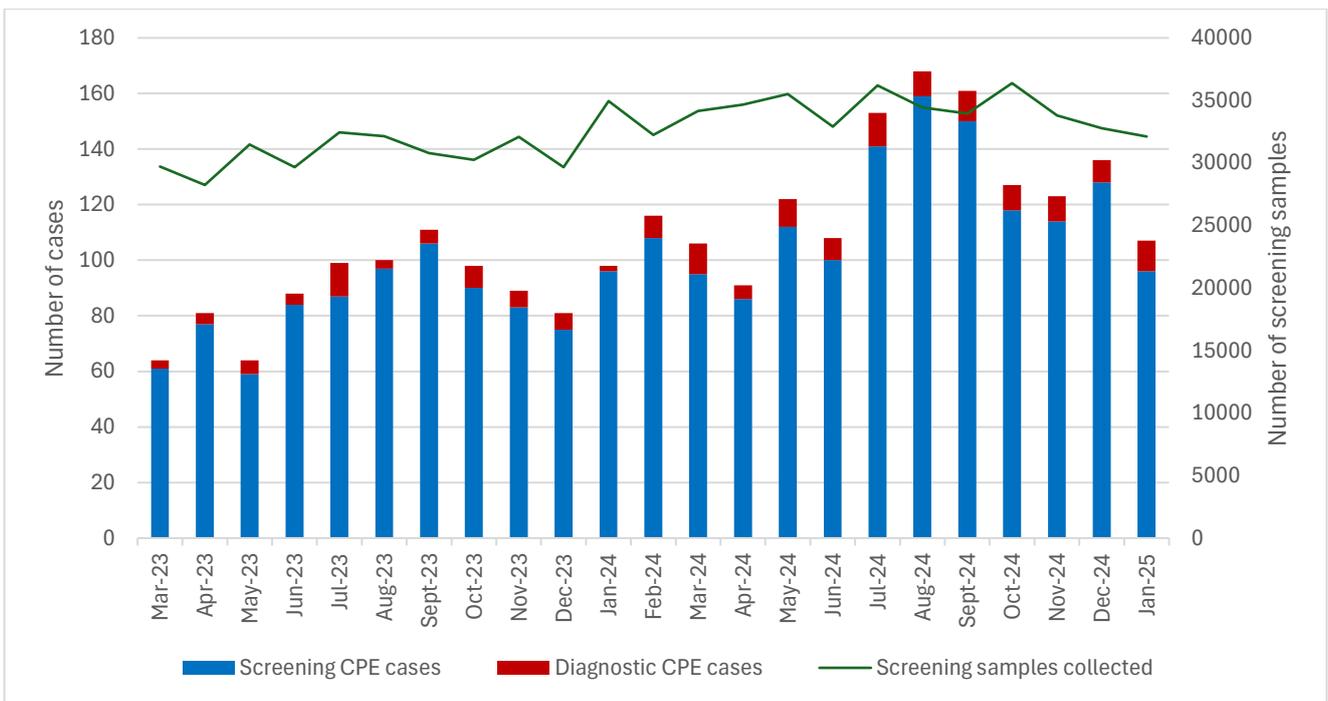


Figure 2: Number of newly detected CPE cases and screening samples collected by HSE RHA, Jan 2025

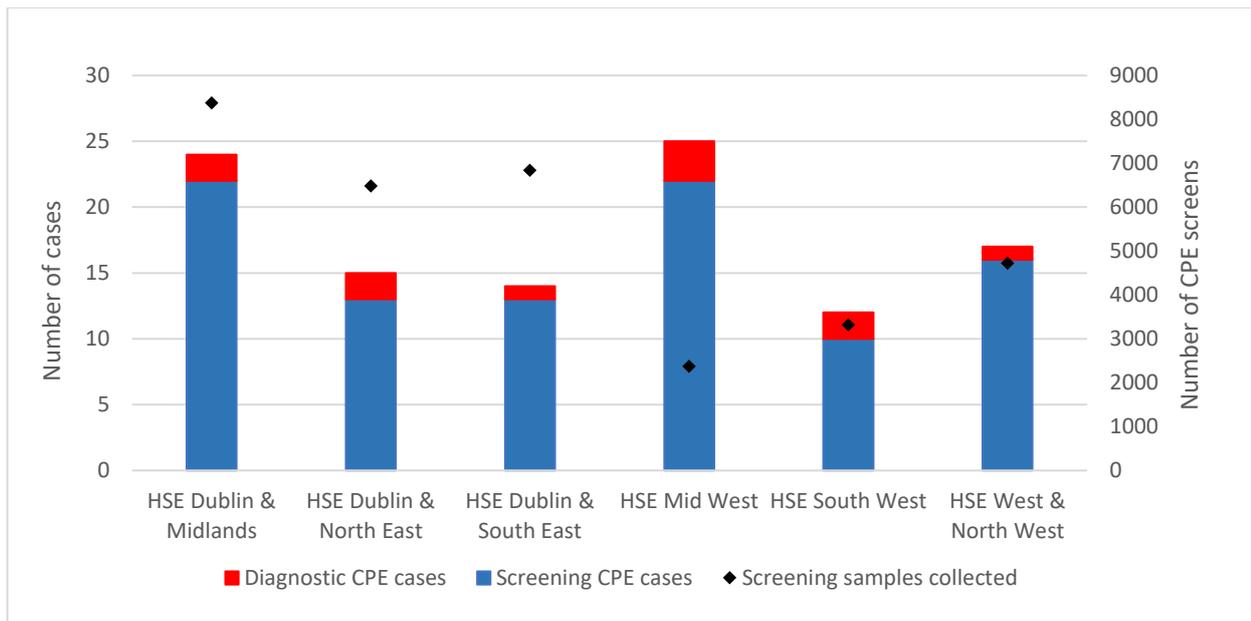
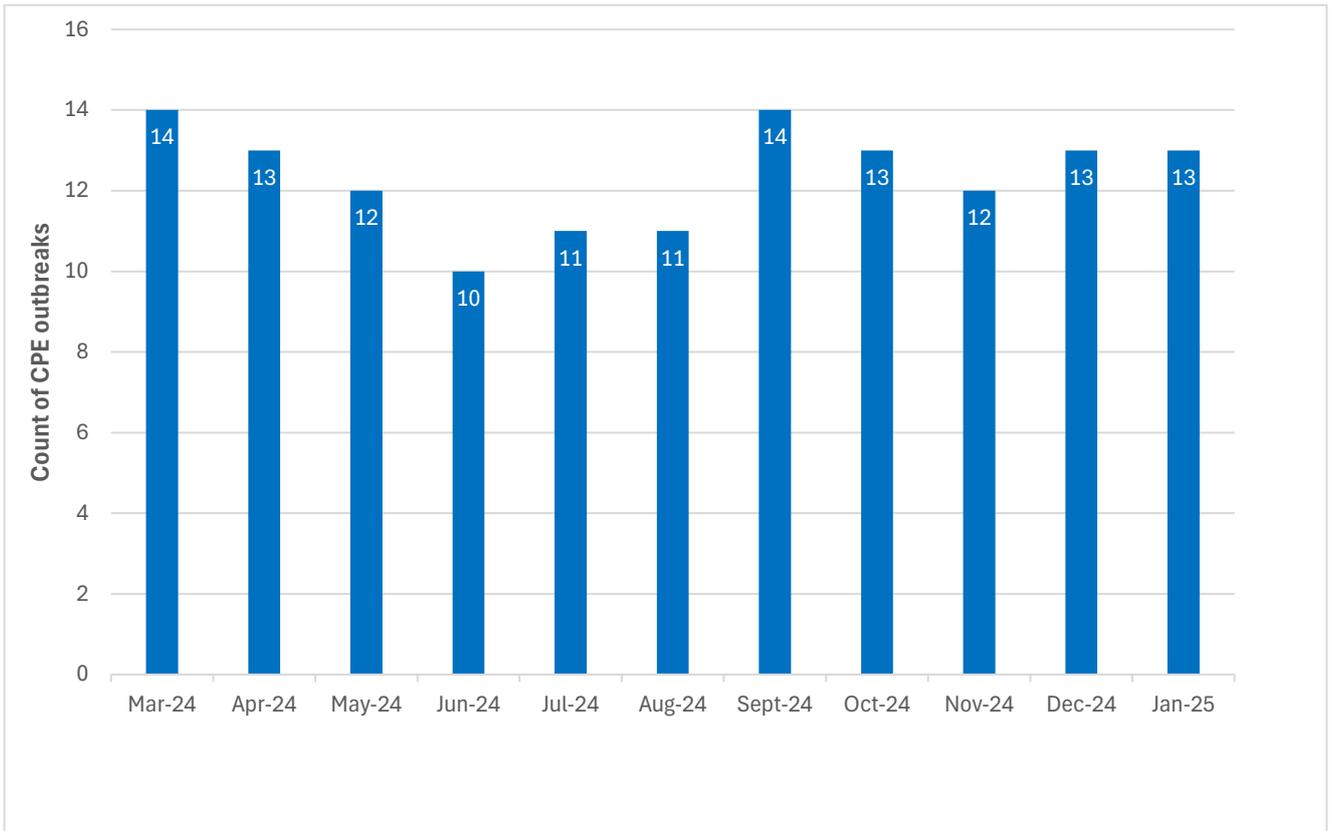


Table 2. Hospitals reporting current CPE outbreaks by HSE RHA, Jan 2025

Health Region	Hospitals reporting CPE outbreaks
HSE Dublin & North East	Cavan General Hospital
	Our Lady of Lourdes Hospital
HSE Dublin & Midlands	MRH Mullingar
	MRH Tullamore
	Naas General Hospital
HSE Dublin & South East	St. Vincent's University Hospital
	Tipperary University Hospital
	UH Waterford
HSE Mid West	UH Limerick
HSE South West	Cork University Hospital
HSE West & North West	Galway University Hospital
	Portiuncula University Hospital
	Sligo University Hospital
Total Count	13

NOTE: 47 of 50 hospitals have provided data returns to the question “Do you have an active/current CPE outbreak in your hospital during this month?”).

Figure 3: Monthly number of HSE acute hospitals reporting current outbreaks, Feb 2024 – Jan 2025



National CPE Reference Laboratory Service (NCPERLS) Data

Key Points – Jan 2025

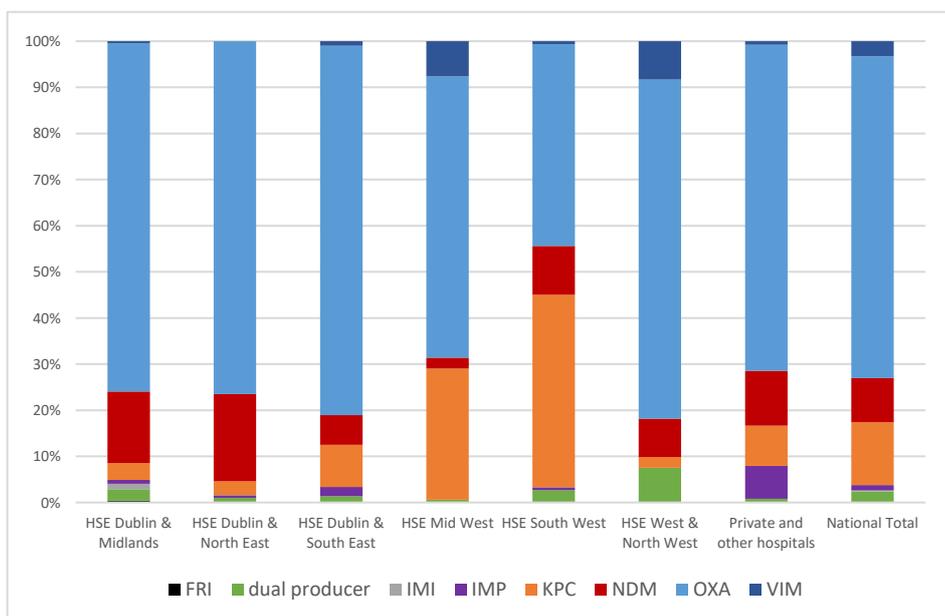
- NOTE: As of January 2025, quarterly quotas have been implemented for the number of isolates detected from screening samples that can be sent to NCPERLS for whole genome sequencing. These quotas only apply to Model 4 hospitals. This may result in under-reporting of the total number of cases identified from screening samples each month as well as variations in the species and carbapenemase types that are presented. Cases from diagnostic samples are not affected. Also to note that there are exceptions to the quarterly quotas during a CPE hospital outbreak which would add to variations seen for the proportions of species and carbapenemase types.
- There were 110 newly detected CPE cases reported by the NCPERLS with 88.2% of those cases identified from screening samples (asymptomatic colonisation) and 11.8% identified from diagnostic samples (clinical infection) (Table 3).
- Over the past 12 months, OXAs compose the largest proportion of carbapenemase type nationally at 69.7% (Figure 4). Distribution of carbapenemase type varies by region (Figure 4).
- The most common OXA type was OXA-48 (68.6% of all OXA) followed by OXA-244 (22.0%), OXA-181 (7.3%) and others (Figure 5).
- Escherichia coli* continues to be the most commonly detected species carrying CPE, making up 39.0% of newly detected cases in 2024 and 44.5% of newly detected cases in 2025 YTD. (Figure 6)

Table 3: Total newly detected CPE cases reported by the NCPERLS, Jan 2025

Total new CPE cases identified	110
New cases identified from rectal swabs/ faeces (Screening)	97 (88.2%)
New cases identified from any other site (Diagnostic)	13 (11.8%)

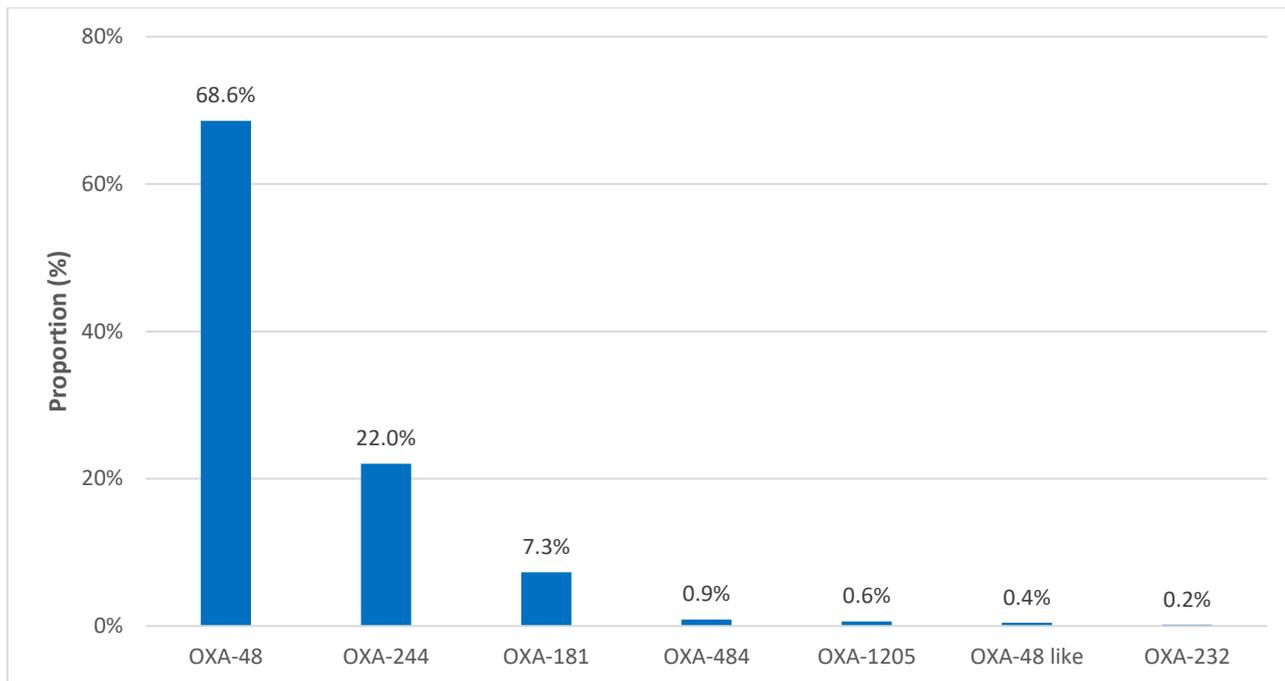
*The percentages indicate the proportions of new cases identified from screening samples vs new cases identified from diagnostic samples.

Figure 4: Distribution of carbapenemase type of newly detected CPE cases by region, Feb 2024 – Jan 2025



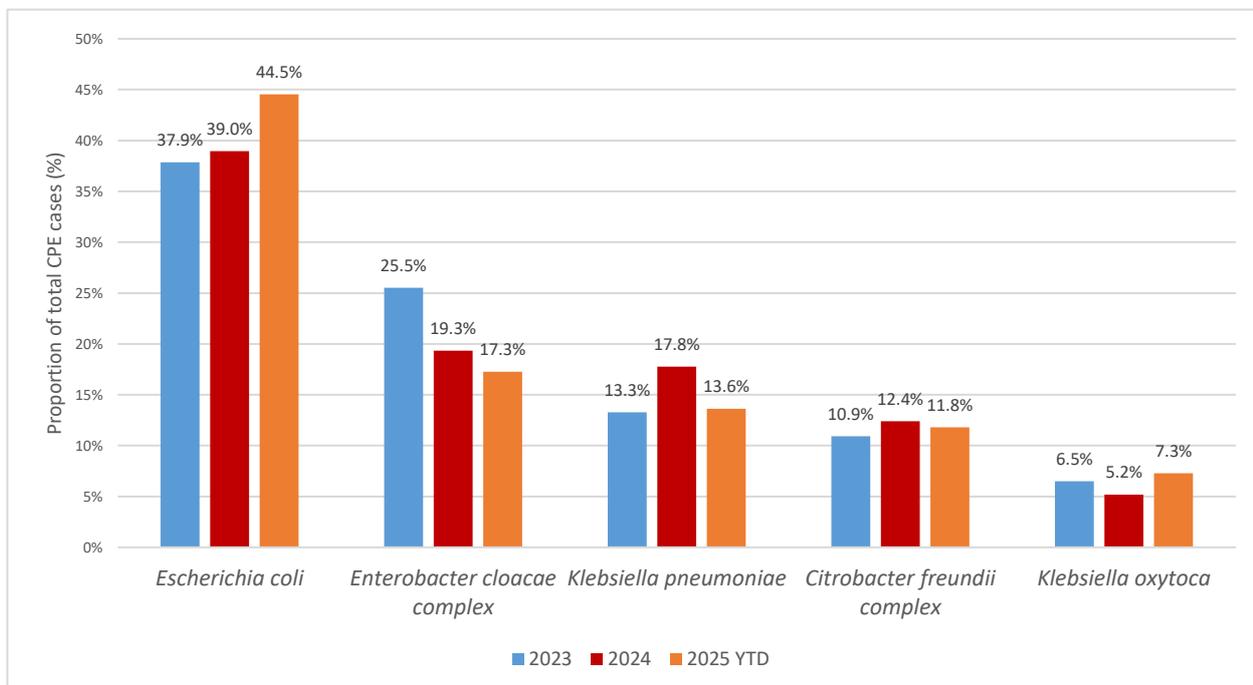
NOTE: Dual producers include: OXA/VIM, OXA/NDM, OXA/KPC, OXA/IMP/KPC/NDM.

Figure 5: Proportion of OXA genotypes, Feb 2024- Jan 2025



NOTE: Proportions shown represent the prevalence of OXA genes across all non-duplicate isolates, including dual producers (where two or more carbapenemase genes were detected). The “OXA-48 like” gene is representative of a variant that has a poor or inconclusive ID and that cannot be confirmed by a second method.

Figure 6: Top five most commonly detected CPE by species as proportion of total newly detected CPE cases per year, 2023 – 2025 (YTD)



NOTE: All remaining species comprise fewer than 2% of new cases and have been omitted from this graph for clarity.

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