Summary Report on Carbapenemase Producing Enterobacterales (CPE) in Ireland

April 2025

RESIST

Antimicrobial Resistance & Infection Control Programme

Background Information

Data sources used in this report

The data within this report comes 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 comes 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 is comprised largely from samples sent by the HSE's acute hospitals, but also includes 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 – April 2025

- There were 88 newly detected CPE cases reported by HSE acute hospitals with 94% of those cases identified from screening samples (asymptomatic colonisation) and 6% identified from diagnostic samples (clinical infection) (Table 1).
- Case numbers in April 2025 have increased from March 2025 but are lower than the numbers in late 2024 and remain below the peak seen in July to September 2024 (Figure 1).
- HSE Dublin & Midlands and HSE South East were the HSE regional health areas (RHAs) with the highest numbers of cases this month (Figure 2).
- 10 HSE acute hospitals reported current outbreaks this month, which is a decrease of 1 from March 2025 (Table 2 and Figure 3).

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

Total new CPE cases identified	88
New cases identified from rectal swabs/ faeces **(Screening)**	83 (94%) *
New cases identified from any other site **(Diagnostic)**	5 (6%) *
Total number of screening samples collected	33,692

*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, May 2023 – Apr 2025

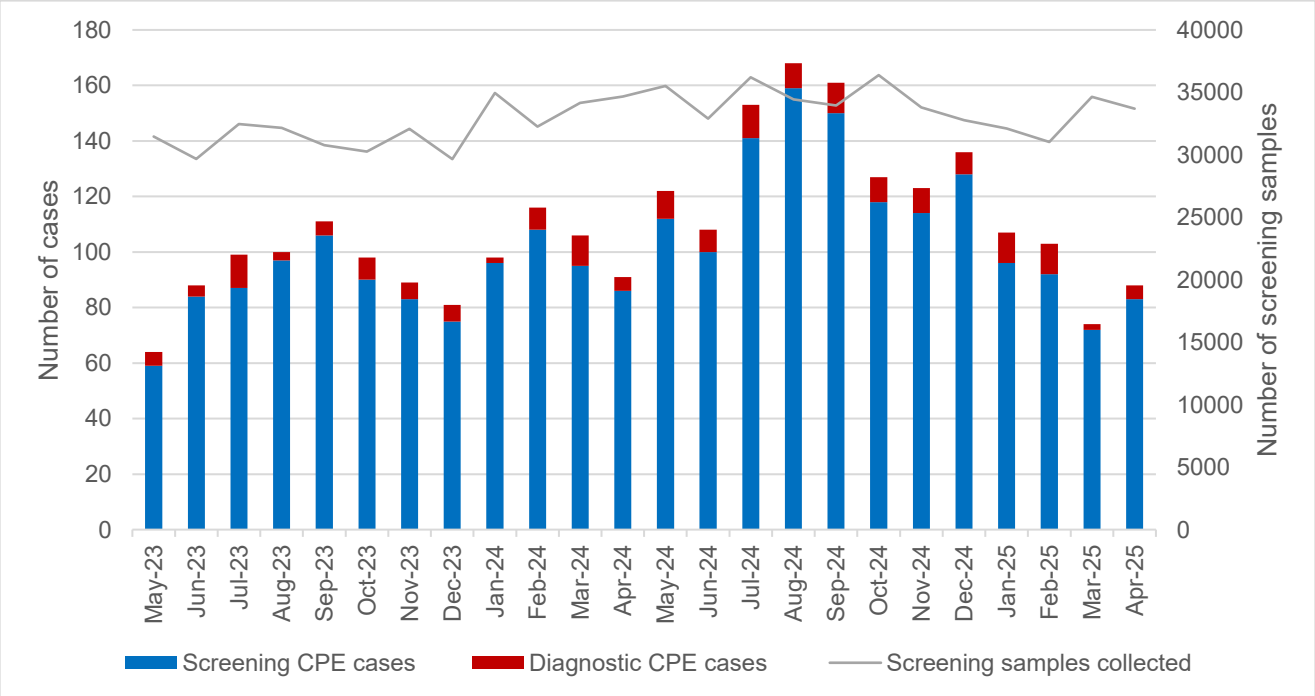


Figure 2: Number of newly detected CPE cases and screening samples collected by HSE RHA, Apr 2025

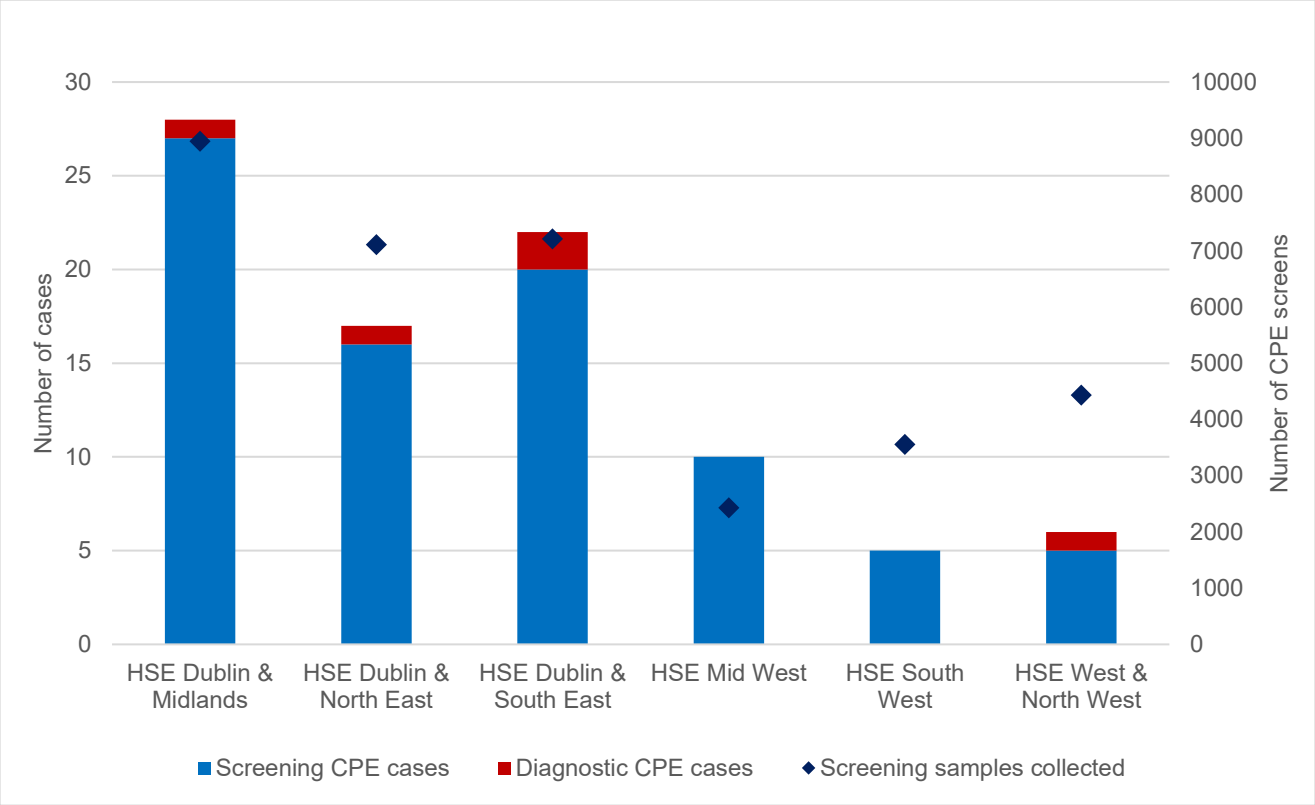
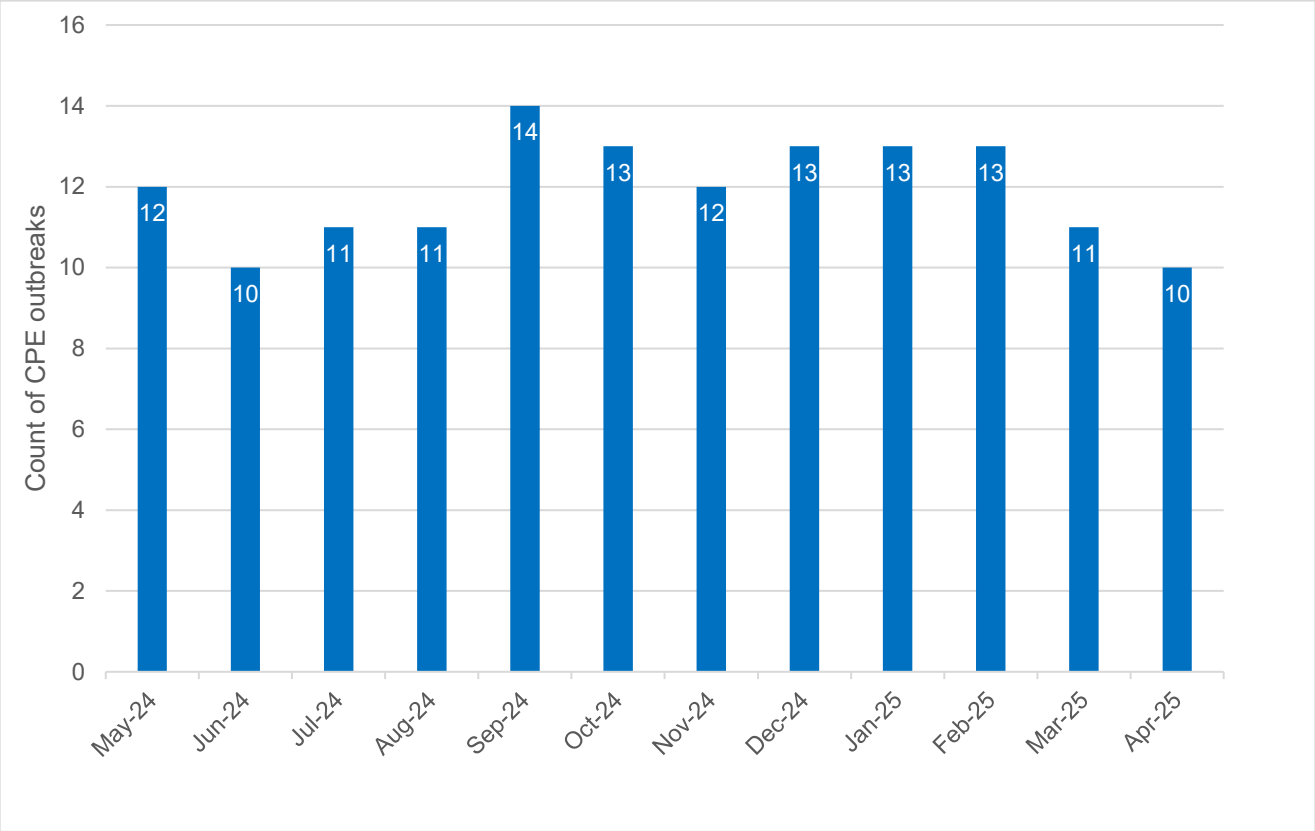


Table 2. Hospitals reporting current CPE outbreaks by HSE RHA, April 2025

Health Region	Hospitals reporting CPE outbreaks
HSE Dublin & North East	Beaumont Hospital
	Cavan General Hospital
HSE Dublin & Midlands	MRH Mullingar
	Naas General Hospital
HSE Dublin & South East	St. Vincent's University Hospital
	Tipperary University Hospital
HSE Mid West	UH Limerick
HSE South West	Cork University Hospital
HSE West & North West	Galway University Hospitals
	Portiuncula University Hospital
Total Count	**10**

NOTE: **48 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, May 2024 – Apr 2025



National CPE Reference Laboratory Service (NCPERLS) Data

Key Points – April 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 82 newly detected CPE cases received by the NCPERLS during April 2025 with 91.5% of those cases identified from screening samples (asymptomatic colonisation) and 8.5% identified from diagnostic samples (clinical infection) (Table 3).

- Over the past 12 months, OXAs compose the largest proportion of carbapenemase type nationally at 68.0% (Figure 4). Distribution of carbapenemase type varies by region (Figure 4).

- The most common OXA type was OXA-48 (68.2% of all OXA) followed by OXA-244 (21.6%), OXA-181 (7.4%) and others (Figure 5).

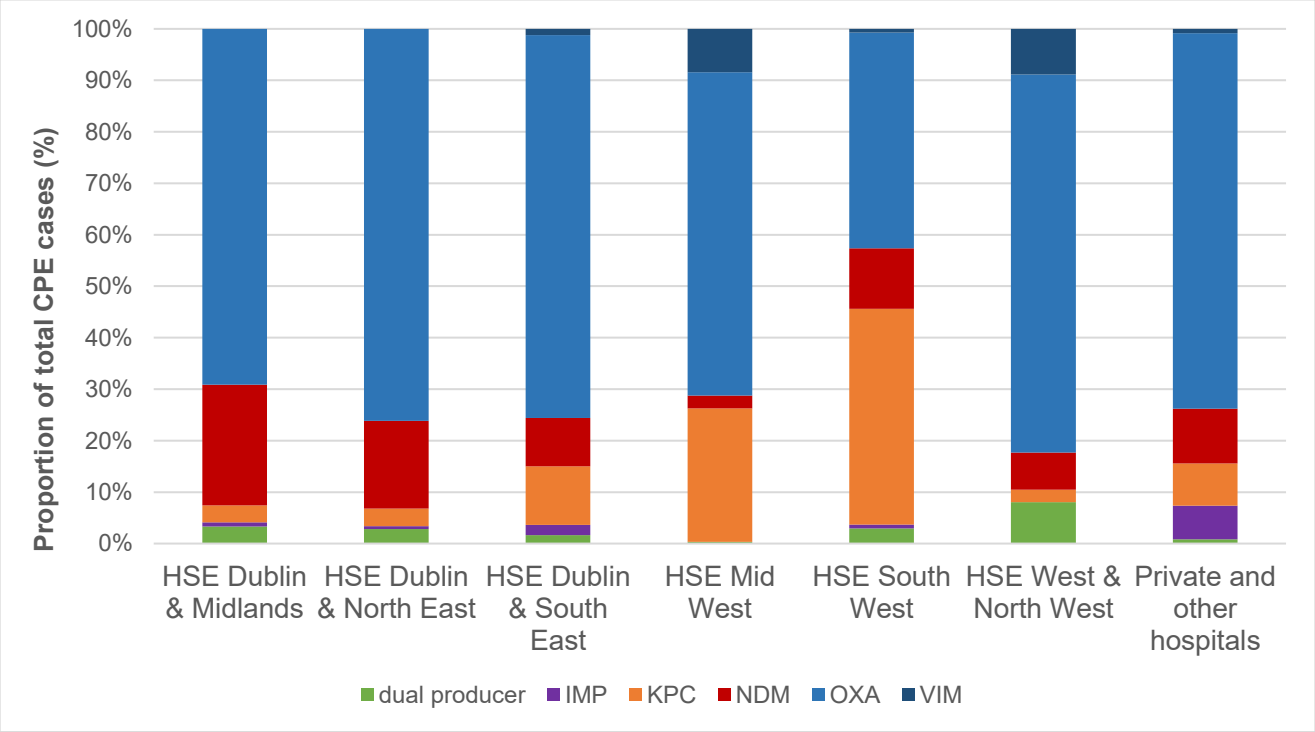
- *Escherichia coli* continues to be the most commonly detected CPE species, making up 38.9% of newly detected cases in 2024 and 42.9% of newly detected cases in 2025 YTD (Figure 6).

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

Total new CPE cases identified	82
New cases identified from rectal swabs/ faeces **(Screening)**	75 (91.5%)*
New cases identified from any other site **(Diagnostic)**	7 (8.5%)*

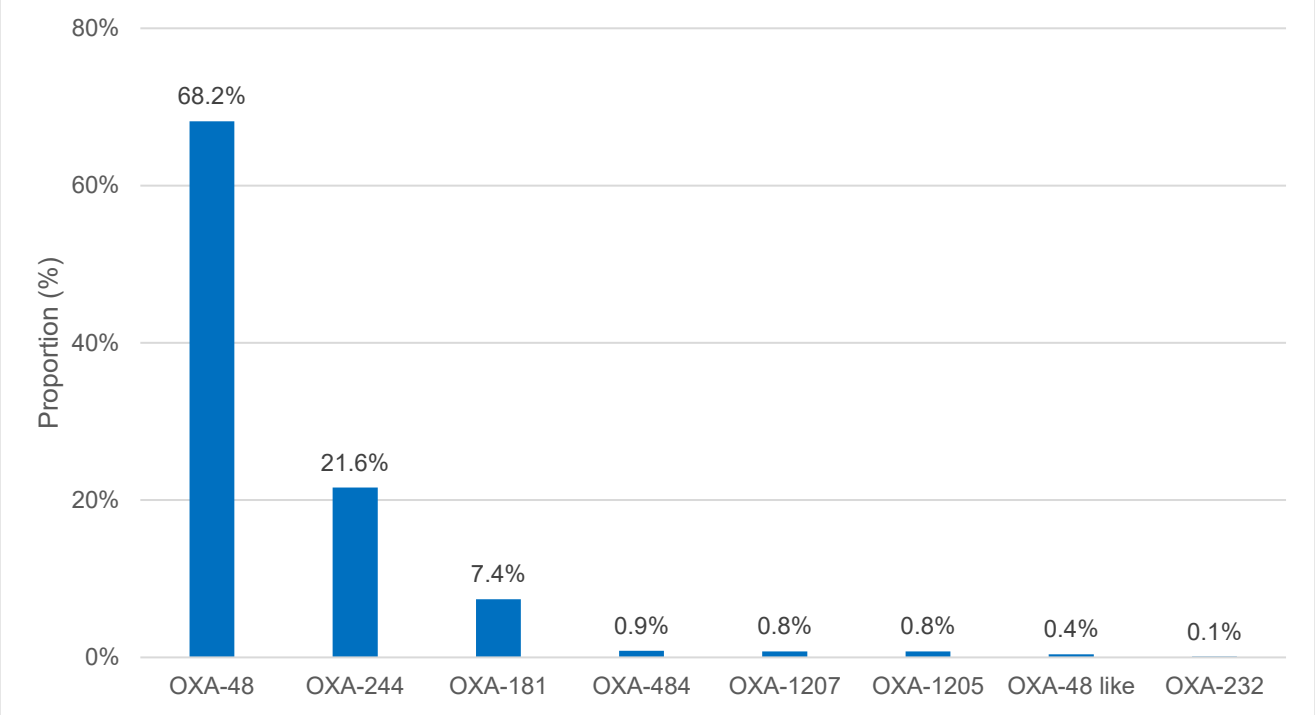
*The percentages indicate the proportions of new cases identified from screening samples vs new cases identified from diagnostic samples.

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



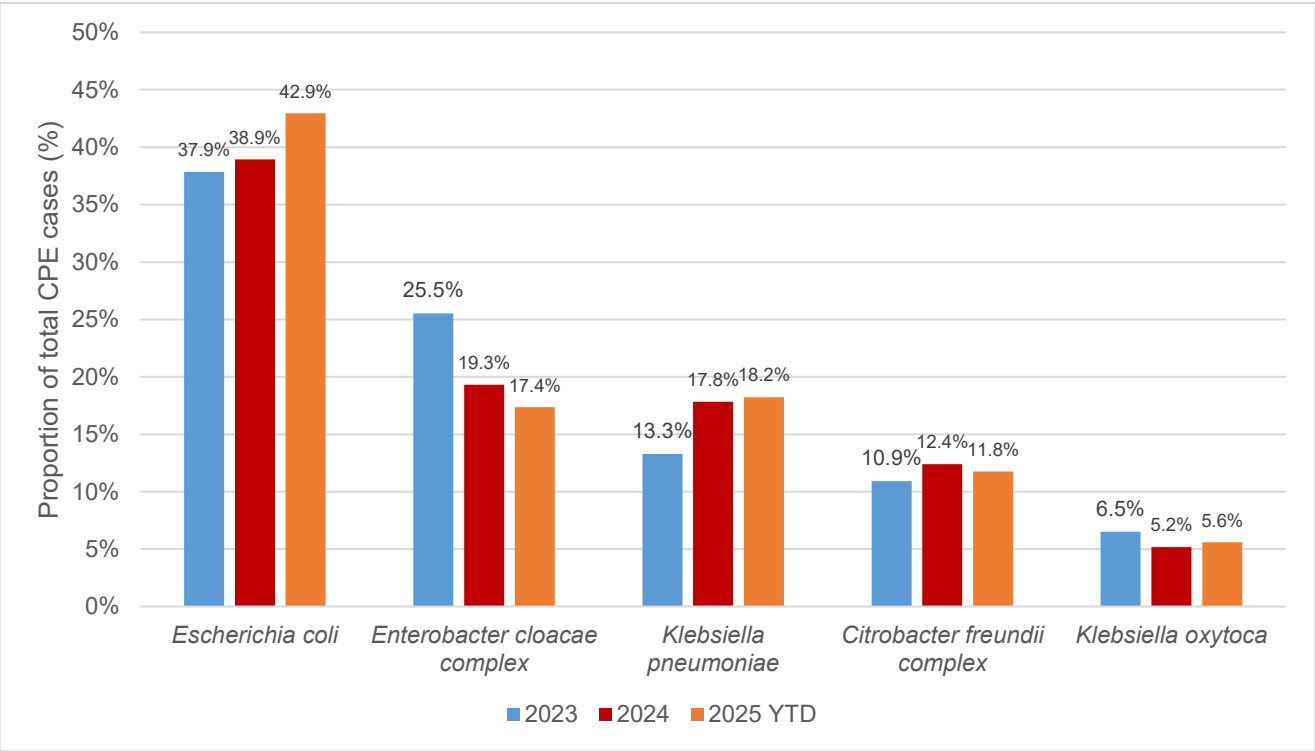
NOTE: Dual producers include: OXA/NDM, KPC/NDM, OXA/KPC/NDM, OXA/VIM, OXA/KPC, OXA/IMP, KPC/VIM.

Figure 5: Proportion of OXA genotypes, May 2024 - Apr 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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