

# A RETROSPECTIVE AUDIT OF ADMISSION SCREENING FOR CARBAPENEMASE-PRODUCING *ENTEROBACTERIACEAE*

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## INTRODUCTION

- Carbapenemase-Producing *Enterobacteriaceae* (CPE) represent a significant challenge to hospital infection control teams (1) (2)
- It is essential to identify and isolate patients with risk factors for CPE colonisation (3)
- A PHE toolkit was released in 2013 to facilitate this in acute trusts (4), advising that high risk patients are:
  - Isolated in a side room on admission
  - Three rectal swabs are taken 48hrs apart if initial swabs are CPE-negative

## AIMS

As primary aims, this study aimed to determine the following:

- The proportion of CPE-positive patients who were appropriately isolated on admission as per the PHE toolkit
- Determine the number of rectal screens needed to identify CPE carriage

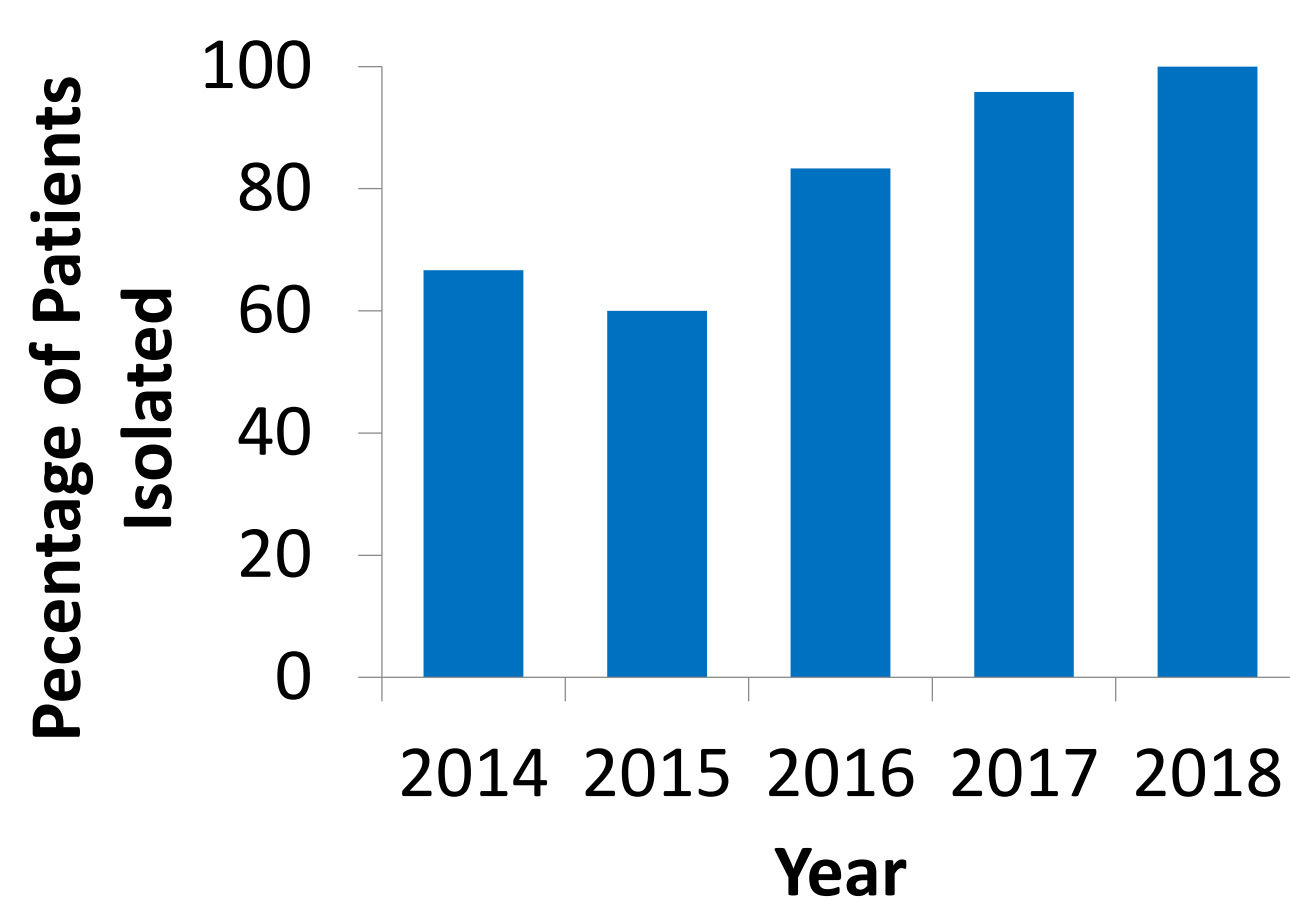
The secondary aims of the study were to determine the number of CPE-positive patients admitted each year and how this has changed, and to determine how CPE carriage was diagnosed in these patients

## METHODS

- All CPE-positive patients admitted to Heartlands, Good Hope, or Solihull Hospitals Dec 2013- April 2018, were identified retrospectively
- Patients who were not admitted for over 48 hours or patients who were transferred out of the trust prior to the diagnosis of CPE being made were excluded.
- The microbiology records of all patients were checked for the method of CPE identification and the number of the positive screen

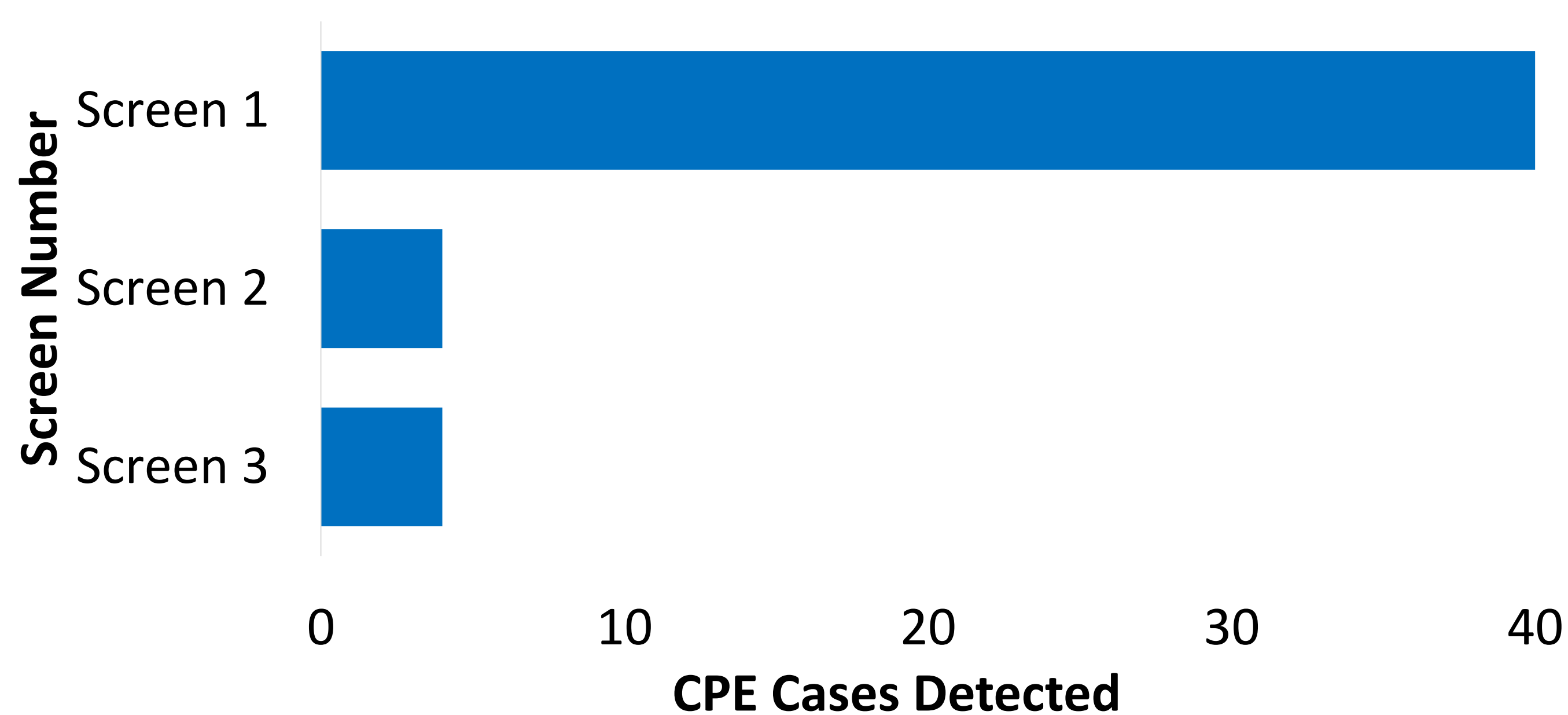
## RESULTS

- 61 of the 72 (84.6%) CPE positive patients included in the study were appropriately isolated in line with PHE toolkit guidance
- The compliance with screening improved year on year



**Figure 1:** Proportion of CPE-positive isolated appropriately

- The number of CPE-positive patients admitted rose each year



**Figure 2:** Number of rectal swab screens required to diagnose CPE carriage in individuals diagnosed in this manner

- 48 of the 72 (66.7%) of the CPE-positive patients were identified on rectal screening, whilst the remaining 24 (33.3%) were identified through other microbiological tests, most commonly a urine culture
- All 48 of these patients were admitted for conditions other than infection
- Most cases of CPE detected by rectal screening were detected by the first screen done, with the second and third screens revealing relatively few additional cases

## DISCUSSION

- High rate of suspected CPE patient isolation
- A prospective audit to identify all patients at risk of CPE colonisation would be needed to assess true compliance with the PHE toolkit
- Only one screen was needed to identify CPE carriers in most cases
- Reducing number of CPE screens required for high-risk patients would help to reduce costs by reducing the number of patients needing side room isolation

## REFERENCES

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