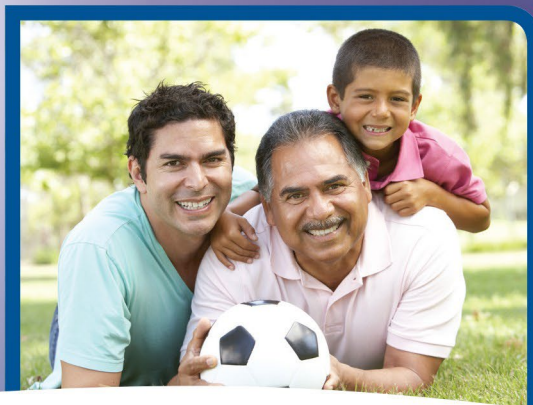


Carbapenemase-producing Enterobacterales (CPE)

Surveillance protocol version 2



Carbapenemase-producing Enterobacterales (CPE) surveillance protocol V2

Public Health Services

Department of Health, Tasmania

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Contents

Contents	3
Background.....	4
Surveillance objectives.....	4
Definitions	5
Case definition	5
Inclusions	5
Exclusions	5
Data collection process	6
Data collection responsibilities	6
Reporting	7
Information management	7
References	7

Background

Enterobacterales are a large group of Gram-negative bacteria and includes microorganisms such as *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae complex* and *Proteus mirabilis*. These microorganisms form part of the normal human bowel flora but can spread outside of the gastrointestinal tract and cause infections in other body sites.

Carbapenemase-producing Enterobacterales (CPE) produce the enzyme carbapenemase, which inactivates carbapenems, a group of antibiotics that are highly active against Gram-negative organisms. Infections caused by CPE can be more difficult to treat due to the resistance to carbapenems.

Tasmanian laboratory identified CPE is notifiable under the *Public Health Act 1997*, thus all CPE cases identified in Tasmania are notified to the Director of Public Health by the identifying Tasmanian laboratory.

The Tasmanian Infection Prevention and Control Unit (TIPCU) monitors and reports on CPE identified within Tasmania in accordance with the surveillance methods outlined in this protocol.

Surveillance objectives

1. To monitor CPE cases, clusters, and trends with respect to person, place and time, and emergence of antibiotic resistance.
2. To detect cases and guide immediate action and control measures to prevent further disease transmission by:
 - a. Detect and contain CPE by providing infection prevention and control guidance, and by guiding screening criteria where relevant.
 - b. Identifying cases and contacts where isolation is recommended.
3. To inform the planning and implementation of evidence-based policy, service provision, prevention strategies, and other public health interventions.

Definitions

Screening specimen – a rectal swab and/or faecal specimen that identifies CPE.

Clinical specimen – any other specimen that identifies CPE.

Relevant personnel – person/s external to Public Health Services who cross checks CPE data; this is usually infection prevention and control personnel or healthcare workers in residential aged care facilities (RACF).

Case definition

- A case of an Enterobacterales species that expresses one or more carbapenemase genes.

Inclusions

- Repeat clinical or screening specimens where a different Enterobacterales species identified.

Exclusions

- Repeat screening or clinical specimens where the same Enterobacterales species is identified.
- Duplicate results of the same specimen.

Data collection process

- All CPE cases identified in Tasmania are notified to Public Health Services (PHS) by the identifying laboratory.
- TIPCU personnel identify cases that meet the case definition and enter the relevant laboratory and demographic information.
- The CPE data is sent to the relevant personnel for enhanced data collection, cross checking against their own data set, and attribution of CPE identified at their site, then returned to TIPCU.
- TIPCU make any changes or additions to the final version of the data.

Data collection responsibilities

	Notification	Data
Laboratory	Notifies PHS of results.	<ul style="list-style-type: none"> • Hospital identification number where available. • Date of birth. • Surname. • Sex. • Specimen date. • Specimen laboratory number. • Specimen site. • Name of organism. • CPE gene. • Antibiotic susceptibilities (when done).
TIPCU	Identifies if the CPE specimen meets the case definition. New case: <ul style="list-style-type: none"> • Enters minimum patient/client data. • Sends data to relevant personnel to cross check the notification with their own data and to complete attribution of CPE. • Enters returned data and makes any changes. Duplicate results excluded.	<ul style="list-style-type: none"> • Hospital identification number when not provided by laboratory. • Indigenous status. • Postcode. • Hospital code. • Laboratory code. • Hospital or RACF admission date if case was an inpatient/RACF resident at time of specimen. • Days between admission and specimen. • Type of specimen - clinical (site) or screening.
Relevant personnel	Provides enhanced data to TIPCU.	<ul style="list-style-type: none"> • Enters missing data. • Corrects erroneous data. • Attribution of CPE.

Reporting

TIPCU produce publicly available, annual surveillance reports that are available online and on request to TIPCU.

Information management

All information held by TIPCU is in accordance with the information privacy principles as set out in the *Personal Information Privacy Act 2004*.

Information shared by laboratories (public and private) pursuant to the *Public Health Act 1997* is held in accordance with the *Personal Information Privacy Act 2004*.

Refer data or information requests to the Director of Public Health or delegate.

References

- Australian Commission on Safety and Quality in Health Care. Recommendations for the control of carbapenemase-producing Enterobacterales (CPE). A guide for acute care health service organisations. Sydney: ACSQHC, 2021. Available at: https://www.safetyandquality.gov.au/sites/default/files/2022-06/recommendations_for_the_control_of_carbapenemase-producing_enterobacterales_final_accessible_pdf_version_november_20212.pdf