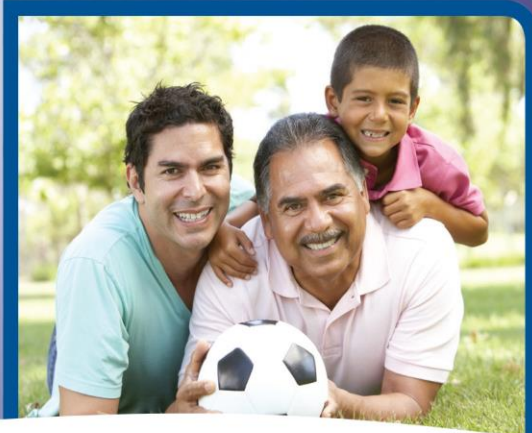


# *Clostridium difficile* infection (CDI)

## Surveillance protocol



## ***Clostridium difficile* (CDI) infection surveillance protocol**

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# Background

*Clostridium difficile* is a Gram positive, spore forming bacterium that is rarely found in healthy adults but is a frequent cause of healthcare associated diarrhoea. Some strains of *C. difficile* produce toxins that can cause a spectrum of gastrointestinal disease ranging from mild diarrhoea to fulminant colitis that that may lead to intestinal perforation and death.

*Clostridium difficile* infection (CDI) is primarily a hospital associated disease, resulting from:

- normal bowel flora of patients being disrupted through antibiotic treatment, cytotoxic therapy, immunosuppression and gastric acid suppression; and/or
- Opportunities for transmission of the organism to patients within a hospital environment.

TIPCU monitors and reports on CDI identified within the acute Tasmanian public hospitals: Royal Hobart Hospital (RHH), Launceston General Hospital (LGH), Mersey Community Hospital (MCH), and the North West Regional Hospital (NWRH). Surveillance methods used are outlined in this protocol.

## Definitions

**Inpatient healthcare facility** – facility where patients can be admitted for overnight stay and includes acute private or public hospitals, rural hospital, sub-acute facility, long term care facility and nursing home.

**Inpatient** – a patient who has a minimum of an overnight stay in a healthcare facility.

**Outpatient** – a patient who visits a healthcare facility for a medical, allied health or similar appointment.

**Day case** – a patient who attends a healthcare facility for a full or part day for a course of treatment.

**Diarrhoea** – unformed faeces that takes the shape of the container

***Clostridium difficile* infection (CDI) case definition** – all cases of diarrhoea where:

- the stool sample yields a positive result in a laboratory assay for *C. difficile* toxin A and/or B; or
  - a toxin-producing *C. difficile* organism is detected in the stool sample by culture or other means.
- Note: an additional positive specimen collected from the same patient more than eight weeks since the last positive test is regarded as a new case.

### **Exclusions to the case definition**

1. Cases where a previous positive test has been obtained within the last eight weeks.
2. Patients less than two years old.

## Definitions (continued)

CDI case exposure classifications are identified for all CDI cases:

CDI case exposure classifications	Description
<b>A.</b> Healthcare Associated (HCA) – Healthcare facility onset	A patient with CDI symptom onset (or date and time of stool specimen collection if a laboratory system is used) >48 hours* after admission to a health care facility
<b>B.</b> Healthcare Associated (HCA) – Community onset	<p>A patient with CDI symptom onset (or date and time of stool specimen collection if a laboratory system is used) in the community or within 48 hours (2 days) of admission to a healthcare facility, provided that symptom onset was less than four weeks after the last discharge from a healthcare facility.</p> <p>Attribute to:</p> <ul style="list-style-type: none"> <li>the reporting period during which the case patient was discharged from the healthcare facility before CDI symptom onset.</li> <li>the healthcare facility from which the patient was last discharged, providing the patient was an inpatient of that healthcare facility for more than 48 hours (2 days).</li> </ul>
<b>C.</b> Community associated	A patient with CDI symptom onset (or date and time of stool specimen collection if a laboratory system is used) in the community OR within 48 hours* of admission to a healthcare facility, provided that symptom onset was more than 12 weeks after the last discharge from a healthcare facility.
<b>D.</b> Indeterminate onset	A CDI case that does not fit any of the above criteria for exposure setting (eg onset in community but within four and 12 weeks of discharge from a healthcare facility).
Unknown exposure	Exposure setting cannot be determined because of a lack of data
Recurrent CDI case	An episode of CDI that occurs within eight weeks or less after the onset of a previous CDI episode, provided that CDI symptoms from the earlier episode resolved with or without therapy

## Surveillance process

- CDI episodes identified at the RHH, LGH, MCH and NWRH are notified electronically to TIPCU by the identifying laboratory.
- Laboratory notifications are entered into the TIPCU spreadsheet by TIPCU personnel within two working days of receipt.
- TIPCU perform data validation quarterly in consultation with the relevant infection control personnel.
- Electronic forms are stored in the TIPCU shared drive.
- Validated data is published quarterly within eight weeks of the end of the relevant quarter.

## Data validation

CDI data is validated quarterly in the following way:

- Identifying laboratories perform a data extraction of all CDI identified at in the RHH, LGH, MCH and NWRH during the relevant quarter and send the extracted data to TIPCU.
- TIPCU apply the case definition to the cases, remove case definition exclusions and categorise each case according to the 'CDI case exposure definition'
- TIPCU sends CDI data to hospital infection control personnel to cross check against their own CDI notifications for the relevant quarter.
- The validated data is returned to TIPCU

## Surveillance process responsibilities

	Notification	Data
<b>Laboratory</b>	<ul style="list-style-type: none"> <li>Notifies results to TIPCU electronically each quarter</li> </ul>	<ul style="list-style-type: none"> <li>Hospital identification number</li> <li>Date of birth</li> <li>Sex</li> <li>Specimen date</li> <li>Specimen laboratory number</li> <li>Name of organism</li> <li>Other testing results –culture, GDH, toxin, PCR</li> </ul>
<b>TIPCU</b>	<ul style="list-style-type: none"> <li>Enters minimum patient data into CDI spreadsheet after accounting for exclusion criteria</li> <li>Applies ‘CDI case exposure definition’ to all cases identified within Tasmanian public hospitals</li> <li>Requests cross check of data from hospital infection control personnel</li> <li>Updates data following validation.</li> </ul>	<ul style="list-style-type: none"> <li>Surname – initials</li> <li>First name – initials</li> <li>Laboratory code</li> <li>CDI case exposure classification</li> <li>Current hospitalisation – hospital code, date of admission, date of discharge</li> </ul>
<b>Infection control personnel; General Practitioner</b>	<ul style="list-style-type: none"> <li>Cross checks data and CDI case exposure definitions</li> <li>Returns validated data to TIPCU within 2 weeks of receipt of request.</li> </ul>	<ul style="list-style-type: none"> <li>Ward where specimen taken</li> </ul>

# 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*.

All data or information requests must be referred to the Director of Public Health.

## Contact details

### TIPCU

Telephone – 03) 6166 0605

Email – [tipcu@dhhs.tas.gov.au](mailto:tipcu@dhhs.tas.gov.au)

### CDPU

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