



## ***Clostridioides difficile* Infection Trigger Tool**

**Health Protection Scotland**

**March 2019**

**Version 4**

<b>Definitions:</b>	
<b>CDI Trigger:</b>	The number of confirmed <i>Clostridioides difficile</i> ( <i>C. difficile</i> ) infection (CDI) cases in a given time period which prompts immediate investigation by the Infection Prevention and Control Team (IPCT) to determine if interventions are necessary to ensure patient safety.
<b>Confirmed case:</b>	Any person whose stool has tested positive for <i>C. difficile</i> infection in a two-step laboratory testing algorithm (using a glutamate dehydrogenase (GDH) or polymerase chain reaction (PCR) screening test followed by a confirmatory test using toxin immunoassay or cell-culture cytotoxicity assay) at the same time as they have experienced diarrhoea not attributable to any other cause, or whose stool has tested positive at the same time as they have been diagnosed with pseudomembranous colitis (PMC).
<b>Suspected case:</b>	Any person experiencing symptoms indicative of CDI not yet laboratory confirmed.
<b>Asymptomatic case:</b>	Any person without symptoms whose stool has tested positive for <i>C. difficile</i> .
<b>Healthcare associated case:</b>	Any person with onset of symptoms at least 48 hours (>48 hrs) following admission or up to 4 weeks following discharge from a healthcare setting.
<b>Community associated case:</b>	Any person with onset of symptoms while outside a hospital and without discharge from a hospital within the previous 12 weeks, or with onset of symptoms within 48 hours (<48 hrs) following admission to a hospital without stay in a hospital within the previous 12 weeks.

A *Clostridioides difficile* infection (CDI) trigger should be set for all clinical areas by the IPCT and known by the clinical team.

A CDI trigger is not synonymous with the term outbreak. Some triggers may be outbreaks but some will be due to natural variation in the incidence of the alert organism, or, due to chance. Only by investigating CDI triggers can it be determined if systems need to be changed or improved.

### Objectives:

- To enable early detection and investigation of potential outbreaks.
- To enable the IPCT to determine if there is an issue with infection control, antimicrobial prescribing, or clinical care, that is increasing patient vulnerability to CDI or increasing the risk of cross-transmission.
- To enable the IPCT to identify natural variations in the epidemiology of local CDI.
- To create a culture and system that minimises patient susceptibility to CDI and cross-transmission.

### Responsibilities:

<b>Senior Charge Nurse (Ward manager)</b>
<ul style="list-style-type: none"> <li>• Recognise and report clinical cases (triggers) to the IPCT as per local reporting systems</li> <li>• Lead and complete the clinical actions as required</li> <li>• Ensure communication to all staff, including locums and bank staff who function within the care area</li> <li>• Ensure communication to patients, relatives and visitors as relevant</li> </ul>
<b>Clinicians</b>
<ul style="list-style-type: none"> <li>• Confirm that clinical care is compliant with local/national guidance, including observations, specialist referrals and antibiotic therapy</li> <li>• Report to IPCT if there are concerns regarding infection control and CDI prevention</li> <li>• If a pharmacist is unavailable, review antimicrobial prescribing with advice from the microbiologist</li> </ul>
<b>Infection Prevention &amp; Control Team (IPCT)</b>
<ul style="list-style-type: none"> <li>• Set triggers and identify immediately through local surveillance when a trigger occurs</li> <li>• Work with the senior charge nurse and clinicians to complete this trigger tool</li> <li>• Identify if CDI triggers are due to system errors amenable to correction or reflect natural variation</li> <li>• Understand the epidemiology of the CDI trigger by using the Reference Laboratory, where required</li> </ul>
<b>Pharmacist</b>
<ul style="list-style-type: none"> <li>• Review the antibiotic regimens of all patients in the clinical area ensuring consistency with local policy</li> <li>• Provide recommendations for prescribing to reduce the risk of CDI to patients</li> <li>• Report triggers to the Antimicrobial Management Team if required</li> </ul>

*Clostridioides difficile* guidance and supporting tools are available in the National Infection Prevention and Control Manual (NIPCM) in the A-Z Pathogens section: <http://www.nipcm.hps.scot.nhs.uk/a-z-pathogen>

Situation Assessment (IPCT)		
Care setting:		
Senior Nurse in Charge:		
Lead IPCT member for this trigger:		
CDI Trigger for this area:		
Number of confirmed patient cases:		
Number of possible patient cases:		
Number of staff cases:		
Date CDI Trigger exceeded:		
HIIAT Assessment (as per <a href="#">Appendix 14</a> of the NIPCM)		
<input type="checkbox"/> GREEN	If support is required contact HPS and complete HIIORT as per <a href="#">Appendix 15</a> of the NIPCM	
<input type="checkbox"/> AMBER OR RED	Report to HPS and complete HIIORT as per <a href="#">Appendix 15</a> of the NIPCM	
Investigations		
Specimens obtained for all symptomatic cases?	<input type="checkbox"/> Yes	Record number of specimens collected/results if available:
	<input type="checkbox"/> No	Actions taken:
Isolates submitted to Scottish Salmonella, Shigella and <i>Clostridioides difficile</i> Reference Laboratory for typing? <i>(in cases of severe disease or outbreak as per CDI <a href="#">Surveillance Protocol</a>)</i>	<input type="checkbox"/> Yes	Date submitted:
	<input type="checkbox"/> No	State why not/actions taken:
Have any severe cases of CDI been identified?* <i>(see definition for severe case in footnote)</i>	<input type="checkbox"/> Yes	Complete the <a href="#">CDI Severe Case Investigation Tool &amp; Guidance Framework</a>
	<input type="checkbox"/> No	
Trigger assessment		
Trigger confirmed? <i>(confirm the case number is correct, CD acquisition was within the care area, patient population/ward size has not recently changed)</i>	<input type="checkbox"/> Yes	Report Trigger locally
	<input type="checkbox"/> No	Trigger not exceeded
Outbreak confirmed?	<input type="checkbox"/> Yes	Complete <a href="#">Immediate Infection Control Checklist</a> (see page 4). Complete <a href="#">CDI Daily Actions Checklist</a> (see page 5)
	<input type="checkbox"/> No	
Clinician completed review of risk factors (pharmaceutical and other)?	<input type="checkbox"/> Yes	Risk factors identified:
	<input type="checkbox"/> No	Record actions taken:
Completed by (Name/designation):	Date:	

\*A severe case of CDI is defined as any patient with CDI who:

- Has, or had, one or more severity markers, i.e. temperature >38.5°C, WBC > 15 cells x 10<sup>9</sup>/L creatinine > 1.5 x baseline, suspicion of PMC, toxic megacolon, ileus, or CT evidence of severe disease.
- Has died within 30 days following a diagnosis of CDI where it is recorded as either the primary or a contributory factor on the death certificate.
- Has persisting CDI where the patient has remained symptomatic and toxin positive despite 2 courses of appropriate therapy.

<b>Immediate Infection Control Checklist</b> <b>Nurse in charge to complete with an IPCT member</b>	
<b>Patient placement</b>	
<input type="checkbox"/>	Patients with suspected/confirmed CDI have been isolated in single rooms with ensuite facilities
<input type="checkbox"/>	Patients with suspected/confirmed CDI have been separately cohorted if single rooms not available
<input type="checkbox"/>	Consider designating staff (cohort nursing) to care for CDI patients
<input type="checkbox"/>	All doors to isolation rooms/cohort areas are kept closed (following a risk assessment)
<input type="checkbox"/>	Discharges and transfers to internal/external departments for reasons other than clinical necessity have been cancelled or rescheduled
<b>Patient care</b>	
<input type="checkbox"/>	Patients with CDI have had their clinical condition reviewed; including assessment of CDI severity and referral to gastroenterologists/surgeons/microbiologists as per national/local guidance
<input type="checkbox"/>	Patients with CDI have had their medication reviewed, specifically the use of antibiotics, proton pump inhibitors and laxatives
<input type="checkbox"/>	Patients with CDI are on appropriate CDI specific therapy that is compliant with local policy (pharmacist to advise)
<input type="checkbox"/>	Stool samples have been obtained and sent for laboratory testing to confirm possible CDI cases
<input type="checkbox"/>	A process for recording bowel movements is in place with all stools recorded and described
<input type="checkbox"/>	Dedicated reusable care equipment is available for the specific use of individual patients with CDI
<input type="checkbox"/>	Patients are aware of their CDI status (or their relatives/carers if appropriate) and the actions being undertaken regarding treatment and any restrictions and precautions to prevent ongoing cross-transmission ( <i>document in case notes</i> )
<b>Personal Protective Equipment (PPE) and Hand Hygiene (HH)</b>	
<input type="checkbox"/>	Disposable gloves and aprons must be used by all staff when providing direct patient care
<input type="checkbox"/>	PPE is changed between patients, removed before leaving the isolation room/area and discarded as healthcare waste
<input type="checkbox"/>	Liquid soap and water is used for hand hygiene as per WHO 5 Moments
<b>Care environment</b>	
<input type="checkbox"/>	The environment has been de-cluttered; all non-essential items and equipment have been removed
<input type="checkbox"/>	Portable cooling fans have been removed from isolation areas (owing to the risk of airborne dissemination of <i>C. difficile</i> spores by fans)
<input type="checkbox"/>	A cleaning regime has been established for the cohort/isolation area and all equipment in the area using a disinfectant or combined detergent/disinfectant at a dilution of 1,000 parts per million available chlorine
<input type="checkbox"/>	Twice daily cleaning and disinfection of all frequently touched surfaces is in place using a disinfectant or combined detergent/disinfectant at a dilution of 1,000 parts per million available chlorine
<input type="checkbox"/>	Toilets and commodes in isolation rooms/areas have been cleaned using a disinfectant or combined detergent/disinfectant at a dilution of 1,000 parts per million available chlorine
<b>Access restriction</b>	
<input type="checkbox"/>	Symptomatic staff have been excluded from work and can return when symptom-free for 48 hours, when bowel movements have returned to normal, and (if CDI confirmed) once treatment is completed
<input type="checkbox"/>	Ward closure has been considered if there are inadequate facilities or staff to ensure patient safety
<input type="checkbox"/>	Temporary restriction of visiting and exclusion of non-essential staff has been considered
<b>Knowledge &amp; Information</b>	
<input type="checkbox"/>	All staff in the care area have been informed of the CDI trigger and the infection control requirements
<input type="checkbox"/>	Patients (or relatives/carers) have access to written information on CDI including prevention and control measures
<input type="checkbox"/>	If ward/care area is closed to admissions, an IPCT approved notice has been placed on ward doors
<b>Completed by (name/designation):</b>	
<b>Date:</b>	

This checklist should be used as soon as the trigger threshold for your healthcare setting has been exceeded and/or an outbreak of *Clostridioides difficile* infection (CDI) is suspected; nurse in charge to complete daily with IPCT input.

### Clostridioides difficile Infection Daily Actions Checklist

<b>Care area:</b>		<b>Date:</b>							
<b>Date of symptom onset:</b>		<b>Completed by (initials):</b>							
<b>Comments:</b>		<b>Total symptomatic patients today:</b>							
		<b>Total confirmed positive patients today:</b>							
		<b>Total patients giving cause for concern due to CDI today:</b>							
		<b>Total staff symptomatic and/or diagnosed today:</b>							
<b>Patient Placement</b>									
Doors to isolation/cohort rooms are closed and signage communicating contact isolation precautions is clearly displayed									
<b>Transfers, discharges, admissions</b>									
All transfers have been pre-communicated with the receiving service (ambulance/hospital)									
Ward or bay closure to admissions has been discussed with the IPCT and communicated to all staff/patients/visitors									
<b>Clinical Management</b>									
Daily clinical assessments and medication reviews have been completed for all symptomatic patients									
Patient stool charts have been completed for today									
Stool samples have been obtained and sent for laboratory testing to confirm possible CDI cases ( <i>Seek advice from IPCT</i> )									
IPCT have undertaken a root cause analysis for all SEVERE CDI cases ( <i>Using the <a href="#">CDI Severe Case Investigation Tool</a></i> )									
IPCT have been notified of any new confirmed and/or symptomatic cases and any associated deaths									
<b>Personal Protective Equipment (PPE)</b>									
Single use disposable aprons and gloves are available for staff providing direct care									
<b>Safe Management of the Care Environment</b>									
Patient isolation rooms/cohort rooms have been decontaminated at least once today with detergent followed by or including 1000 parts per million available chlorine									
Frequently touched surfaces have been decontaminated at least twice today									
Terminal decontamination of isolation/cohort rooms has been carried out following patient transfer, discharge, or once the patient is no longer considered infectious; this includes removal and laundering of all curtains and bed screens									
Reusable care equipment has been decontaminated after use/prior to use on another patient as per <a href="#">Appendix 7</a> of the NIPCM									
<b>Information/ Advice</b>									
Patients have been informed of all screening requirements/investigation results									
Patients being discharged (or their relatives/carers) have been given the <a href="#">Patient Information Leaflet</a> and <a href="#">Laundry Leaflet</a>									
All staff on duty have been informed that there is a CDI trigger in this care area									
Any changes to visiting policy have been communicated with all patients/visitors/staff members									
A HIIAT assessment has been completed today if required as per <a href="#">Appendix 14</a> of the NIPCM									
IPCT to confirm if ward/care area can lift restrictions and Daily Actions Checklist no longer required									

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