PREVENTION & MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION POLICY

V5

29th January 2016
Summary.

Process to follow on receipt of Clostridium Difficile

On receipt of C.difficile result which has occurred 72 hours after admission, IPCN to complete Datix

IPAC Nurse to schedule date/time of the review meeting and e mail RCA tool to:

- Ward Manager and Consultant
- CC: Link Practitioner, Matron, Divisional Nurse, DGM, Divisional Director, Consultant/Joint DIPC, Chief Executive, IPAC team, Antibiotic Pharmacist, Speciality Lead, Speciality Governance Lead and Microbiologists

Audit and Surveillance Co-ordinator to enter data onto MESS

The IPAC Nurse to carry out a retrospective review of similar cases over the past 28 days to identify potential links/hotspots and commence a period of increased incidence where appropriate.

IPAC CNS to co-ordinate RCA process.

The review meeting timetable to be reviewed by the CNS and the Ward Managers to be contacted to assure attendance at the meeting.

Ward Manager, Consultant and Antibiotic Pharmacist to complete their sections of the RCA document.

Findings to be forwarded to IPC team on Day 4.

If RCA document is not received by Day 5 the IPAC CNS to contact Ward Manager, Consultant or Antibiotic Pharmacist as appropriate.

IPAC Consultant Nurse and/or Joint DIPC, IPAC CNS, Ward Manager, Consultant or Medical Representative, Consultant Microbiologist and Antibiotic Pharmacist to attend HCAI meeting and undertake any action required

Following the review meeting, the IPAC CNS will forward the agreed action plan to the Ward Manager and the Consultant,

- c.c. Link Practitioner, Matron, Divisional Nurse, DGM, Divisional Director, Consultant/Joint DIPC, Chief Executive, IPAC team and Microbiologists, Antibiotic Pharmacist

The progress of the Action plan to be reported at the Infection Prevention and Control Steering Group by the Matron or Divisional Representative.
Appendix 9. GDH-cytotoxin testing protocol for Clinical Microbiology Lab..........................25
Appendix 10. Action plan for diagnosis & management of Clostridium difficile associated diarrhoea (CDAD) based on GDH & cytotoxin assay.................................................................26
1. Introduction

1.1. The toxin produced by Clostridium difficile was first identified as the cause of antibiotic associated colitis and diarrhoea in 1977.

The bacterium produces two potent toxins (Toxin A & B) that cause mucosal damage and inflammation of the large bowel. Although in most cases it causes a relatively mild illness, occasionally, particularly elderly patients may develop a severe form of the disease called ‘pseudomembranous colitis’. This condition is characterised by significant damage to the large bowel, and may lead to gross dilation with possible rupture or perforation of the bowel leading to sepsis and death.

C. difficile infection is often acquired in hospital, and almost all patients who develop C. difficile diarrhoea are taking, or have recently been given antibiotic therapy. Nearly all antibiotics have been causally associated with C. difficile however; some such as cephalosporins, piperacillin-tazobactam, co-amoxyclov, ciprofloxacin, levofloxacin, clindamycin and meropenem are more strongly associated whereas gentamicin, vancomycin, and trimethoprim are much less often associated.

It has been firmly established that person to person transmission can occur in the hospital setting and indeed major outbreaks have resulted. Staff hands are the most important mode of transmission, but studies have also demonstrated that C. difficile, as a spore forming organism, can survive for long periods of time in the environment and on contaminated equipment.

The sensible use of antibiotics is the key to the prevention of C. difficile infection. Unnecessary use of antibiotics must be avoided. Where possible, short courses of narrow-spectrum antibiotics, of only three to five days, are preferred to longer courses. All antibiotic prescriptions should be kept under review.

Trust antimicrobial prescribing guidance must be followed. Antimicrobial prescribing audits will be conducted regularly.

1.2. This version supersedes any previous versions of this document.

2. Purpose of this Policy/Procedure

2.1. This policy provides details on how to reduce the risk of transmission of Clostridium difficile within healthcare settings and information on the appropriate treatment of patients with Clostridium difficile infection. This document takes into consideration the prevalence of C. difficile both locally and nationally and national guidance.

3. Scope

3.1. This policy applies to all staff working in The Royal Cornwall Hospitals NHS Trust.

4. Definitions / Glossary

4.1. Definitions are contained within the text.
5. Ownership and Responsibilities

5.1. Role of the Divisional Managers
Divisional Managers must ensure that resources are available for health care workers to undertake effective standard and isolation precautions.

5.2. Role of Ward Sister/Charge Nurses and Departmental Managers
Ward Sisters/Charge Nurses and departmental managers are responsible for ensuring that staff are aware of this guidance and that the guidance is implemented.

5.3. Role of Medical Staff
Medical Staff are responsible for managing Clostridium difficile as a diagnosis in its own right.

5.4. Role of the Hospital Infection Prevention and Control Committee
The Hospital Infection Prevention and Control Committee is responsible for:

- Approving this policy
- Monitoring the implementation and compliance with this policy

5.5. Role of Individual Staff
Each individual has a clinical and ethical responsibility to carry out effective Infection prevention and control procedures and to act in a way, which minimises risk to the patient.

6. Standards and Practice

6.1. Principles of Management
Clinicians should apply the following mnemonic protocol when managing suspected potentially infectious diarrhoea:

<table>
<thead>
<tr>
<th>S</th>
<th>Suspect that a case may be infective where there is no clear alternative cause for diarrhoea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Isolate the patient and consult with the infection prevention and control team (IPAC) while determining the cause of the diarrhoea.</td>
</tr>
<tr>
<td>G</td>
<td>Gloves and aprons must be used for all contacts with the patient and their environment.</td>
</tr>
<tr>
<td>H</td>
<td>Hand washing with soap and water should be carried out before and after each contact with the patient and the patient’s environment.</td>
</tr>
<tr>
<td>T</td>
<td>Test the stool for toxin, by sending a specimen immediately</td>
</tr>
</tbody>
</table>
6.2. Diagnosis

- Based on national guideline diagnosis of CDI is done by two tests strategy. All stool samples are initially screened by GDH (Glutamate dehydrogenase) assay. GDH concentration in stool increases during Clostridium difficile overgrowth in the gut, therefore detection of GDH indicates Clostridium difficile colonisation but not necessarily toxin production. GDH positive specimens are tested by cytotoxin/CDAB VIDAS assay for confirmation of toxin production. A positive toxin production confirms the diagnosis of C. difficile infection.

- Specimens must be obtained and sent promptly from patients with suspected infective diarrhoea. Diarrhoeal stool samples submitted from all hospital in-patients (excluding neonates) will be tested routinely for C. difficile toxin.

- In General Practice, only diarrhoeal stool samples from patients over 65yrs of age will be tested routinely for Clostridium difficile toxin. If a GP requires a C. difficile toxin test on a younger patient this must be specifically requested.

- Other departments specifically requiring a C. difficile toxin test (e.g. out-patients) must request that test on the form when sending the sample.

- Samples taken early in C. difficile infection may be toxin negative. Samples should be repeated after 48 hours in patients presenting a clear clinical picture of C. difficile infection with on-going symptoms and a negative initial sample.

- A microbiology request form must be completed appropriately and the specimen container closed securely to avoid leakage.

6.3. Management of a patient with diarrhoea/suspected C. difficile infection (See Good Practice Guide to C diff – Appendix 6)

6.3.1. Isolation

- The patient must be isolated a single room, with en-suite facilities where possible and dedicated items of equipment. Where en-suite facilities are unavailable, a dedicated commode should be allocated. Source isolation procedures as per the Isolation Policy must be followed.

- If there are several cases on a ward and there are not enough single rooms to isolate all cases, considerations should be given to cohorting cases in a designated bay with a toilet specifically allocated to the bay.

- Symptoms must be assessed and documented using a Bristol stool chart (appendix 3)

- The vacated bed space must be cleaned prior to admitting the next patient as per instructions for terminal cleaning in Source Isolation Policy.
6.3.2. **Hand Hygiene**
Staff hands are the most important mode of transmission from patient to patient. *Soap and water* must be used for hand hygiene rather than alcohol rub - soap and water is far more effective. Patients must also be encouraged to wash their hands. If the patient is bed bound, patient wet wipes should be offered for hand hygiene as an alternative to soap and water.

6.3.3. **Maintaining Standards of Care**
Infection control measures should not compromise the patient’s care and should not affect the patient’s freedom to be mobilised or attend other departments for health care related visits.

6.3.4. **Protective Clothing**
Gloves and aprons must be worn for direct patient contact with symptomatic patients or when cleaning the isolation room/bay. Hands must be washed with soap and water following removal of protective clothing.

6.3.5. **Family Visitors**
Protective clothing is unnecessary unless involved in personal care. Visitors should be advised to wash their hands immediately prior to leaving the isolation room. Visitors should be advised to avoid eating and drinking within the room. If visitors disclose the fact that they are taking antibiotics, they should be advised of the increased risk of infection.

6.4. **Action required once Clostridium difficile confirmed**

6.4.1. **Isolation precautions**
Transfer to the isolation ward should be made via the Infection Prevention & Control (IPAC) team or site coordinator. Previously described isolation precautions in single room or cohort must be maintained. Hand hygiene and protective clothing measures as above.

6.4.2. **Hand Hygiene**
Staff hands are the most important mode of transmission from patient to patient. *Soap and water* must be used for hand hygiene rather than alcohol rub - soap and water is far more effective. Patients must also be encouraged to wash their hands. If the patient is bed bound, patient wet wipes should be offered for hand hygiene as an alternative to soap and water.

6.4.3. **Protective Clothing**
Gloves and aprons must be worn for direct patient contact with symptomatic patients or when cleaning the isolation room/bay. Hands must be washed with soap and water following removal of protective clothing.

6.4.4. **Patient Information**
The affected patient should be provided with an explanation of C. difficile infection and an information leaflet.
6.4.5. **Staff**  
Staff very rarely suffer from symptoms related to C.difficile. However, should staff be receiving antibiotics then they may be at some risk of infection, and therefore should avoid contact with known cases of C.difficile infection.

6.4.6. **Family visitors**  
Protective clothing is unnecessary unless involved in personal care. Visitors should be advised to wash their hands immediately prior to leaving the isolation room. Visitors should be advised to avoid eating and drinking within the room. If visitors disclose the fact that they taking antibiotics, they should be advised of the increased risk of infection.

6.4.7. **Cleaning**  
A chlorine based disinfectant must be used for daily routine cleaning of the environment where patients with Clostridium difficile are being nursed. This may be single rooms or a cohort bay, such as the isolation unit.

6.4.8. **Treatment**  
- C. difficile infection must be treated as a diagnosis in its own right.
- Stop antibiotics, if possible. This may suffice to prevent diarrhoea developing further. If symptoms are judged enough to warrant treatment, refer to Antibiotic Policy.
- Refer to treatment algorithm (Appendices 4 & 5)
- Treatment days should be counted from the end of any course of other antibiotics if they cannot be stopped immediately.
- Do NOT give anti-motility agents such as Loperamide (risk of toxic megacolon).
- For advice contact the duty Medical Microbiologist.
- If patient develops bloody diarrhoea or signs of an acute abdomen the possibility of pseudomembranous colitis must be considered, and an urgent surgical opinion should be sought, in addition to further discussions with a Microbiologist.
- After 5 days treatment with metronidazole or vancomycin, if the patient still has diarrhoea reconsider diagnosis

6.4.9. **Monitoring of condition**  
The severity of CDI must be assessed each day by the clinical team as follows:

- Mild CDI is not associated with a raised WCC; it is typically associated with less than 3 stools of type 5–7 on the Bristol Stool Chart (see Appendix 3) per day.
- Moderate CDI is associated with a raised WCC that is <15 x109/L; it is typically associated with 3–5 stools per day.
• Severe CDI is associated with a WCC >15 x 10⁹/L, or an acute rising serum creatinine (i.e. >50% increase above baseline), or a temperature of >38.5°C, or evidence of severe colitis (abdominal or radiological signs). The number of stools may be a less reliable indicator of severity.

• Life-threatening CDI includes hypotension, partial or complete ileus or toxic megacolon, or CT evidence of severe disease.

• NB: Neutropenic patients will have a low WBC/no WBC. Advice must be sought from a microbiologist and/or the patient’s consultant.

**Fluid balance chart must be maintained and a nutritional assessment undertaken.**

6.4.10. Clearance
- It is not necessary to send specimens to confirm a patient is negative for C. difficile toxin unless asked to by a member of the IPAC team.

- Follow up stool samples are of no value since they often remain positive even in patients who have recovered symptomatically.

- Once a patient has had 72 hours without diarrhoea and a return to normal bowel habits they can be considered non-infectious. Source isolation precautions can then be stopped.

6.4.11. Relapse
If further diarrhoea occurs, relapse must be suspected. The patient must be isolated and treatment discussed with a Medical Microbiologist.

6.4.12. Transferring of Patients with C. difficile
- Minimising the movement of patients between wards will reduce the exposure of other patients to C. difficile when a case of C. difficile infection has been identified.

- If it is necessary to transfer a patient with C. difficile due to clinical need, the receiving area must be informed prior to transfer.

- The IPAC Infection Prevention & Control Team must be informed of the transfer as soon as possible.

- When a patient has been positive but symptoms have resolved, the receiving area should be informed. This will ensure that the diagnosis of C. difficile is considered if the patient has any further diarrhoea.

6.4.13. Discharge
- Medical staff must ensure that the diagnosis of C. difficile infection is noted on the information sent to the patient’s General Practitioner, and the patient should be advised to report to their GP if they experience further diarrhoea.
Patients must be advised not to take anti-diarrhoeal agents such as Loperamide, if they experience further diarrhoea.

If a patient still has symptoms on discharge, agencies that will provide care for the patient must be informed and the information completed on the transfer form.

6.4.14. Cleaning following discharge of the patient

Terminal cleaning of the single room/bay must be undertaken once the patient has been discharged from the ward (appendix 8). Hydrogen Peroxide Vapour should be used for the terminal cleaning of the single room.

After a case of clostridium difficile, the mattress (static and pressure relieving) must be cleaned with a chlorine based detergent. A check of the mattress integrity must be carried out. Any potential damage must be reported to the equipment library immediately so that an alternative mattress can be supplied. All items of equipment must be cleaned (having consulted with manufacturer’s guidance) with a chlorine based detergent.

6.5. Increased Incidence and Outbreak

A period of increased incidence (PII) is defined as: two or more new cases (occurring >48 hours post admission, not relapses) in a 28-day period on a ward.

An outbreak of *C. difficile* diarrhoea: two or more cases caused by the same strain related in time and place over a defined period that is based on the date of onset of the first case.

The following actions must be undertaken if a PII is identified on a ward

- The Specialty Lead, Senior Matron, Matron, ward manager and directorate Manager must be informed by the IPAC team
- A weekly *C. difficile* ward audit must be undertaken, using the Department of Health’s *C. difficile* High Impact Intervention (HII) tool by the ward staff. The audit should continue until the weekly score is >90% in three consecutive weeks and there have been no further >48 hours cases of CDI on the ward during that period. The audit results must be fed back to the Senior Matron, Matron and The IPAC team.
- A weekly antibiotic review in the ward (using local tools); must be carried out be the antibiotic pharmacist.
- The whole ward must be cleaned with chlorine based detergent agent until no further symptomatic patients are present on the ward. Each bed space must be cleaned separately with separate cloths.
- The microbiology laboratory must use the HPA *Clostridium difficile* Ribotyping Network for England (CDRNE) or Centre for Infections to undertake PCR (polymerase chain reaction) ribotyping of all isolates from patients in the ward.
- An incident meeting must be held as determined by the size and rate of growth of the PII by assessment of the situation by the Director of Infection Prevention & Control (DIPC) and/or the duty microbiologist with the clinical director and consultants, depending on the number of cases.
6.6. Root Cause Analysis (RCA)
A RCA must be undertaken for all reported cases of C. difficile. The investigation must be co-ordinated by the Ward Sister/Charge Nurse. (Appendix 7)

6.7. Death
- If C. difficile causes or contributes to the death of a patient, the clinician in charge of the patients care must discuss the case with the Coroner prior to the death certificate being issued (this is a local policy agreement with the coroner).
- If a patient with C. difficile dies, the death certificate must state whether C. difficile was part of the sequence of events leading directly to death or whether it was the underlying cause of death. If either case applies C. difficile should be mentioned in Part 1 of the certificate.
- If C. difficile was not part of the sequence of events leading directly to death but contributed in some way to it, this should be mentioned in Part 2.
- A root cause analysis investigation must be implemented for patients where C. difficile is mentioned on part one of the death certificate.

7. Dissemination and Implementation
This policy will be implemented via the following routes:
- Information regarding the policy will be included in the Infection Prevention and Control newsletter.
- The policy will be included in the Trust’s Document Library
- The policy will be circulated to all Link Practitioners and Matrons

8. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>The management of patients with C. difficile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead IPAC team</td>
<td></td>
</tr>
<tr>
<td>Tool</td>
<td>Through practice review and audits.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Weekly during ward visits and documented on ICNet.</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>Reporting to ward sister/Charge nurse on the day if isolation not carried out appropriately. Reporting to microbiologists any concerns regarding treatment. Report by exception to the Infection Prevention and Control Steering Group persistent non-compliance with policy.</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Ward Sister to take immediate action where non-compliance with policy identified.</td>
</tr>
<tr>
<td>Change in practice and</td>
<td>Required changes to practice will be identified and actioned immediately. A lead member of the team will be identified to take</td>
</tr>
</tbody>
</table>
9. **Updating and Review**
   This policy will be reviewed within 3 years.

10. **Equality and Diversity**
   
   10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the **Equality and Diversity website**.

   10.2. **Equality Impact Assessment**
   
   The Initial Equality Impact Assessment Screening Form is at Appendix 2.
Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>PREVENTION &amp; MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION POLICY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td></td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>1st April 2016</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>31st March 2019</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Louise Dickinson, Dr Chakrabarti Infection Prevention and Control</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872254969</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>This policy has been developed to provide a practical document to equip all healthcare staff at the Royal Cornwall Hospitals NHS Trust with the necessary information on the recognition, management and treatment of Clostridium difficile infection.</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>GDH, Clostridium difficile, diarrhoea.</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT PCH CFT KCCG</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Director of Nursing</td>
</tr>
<tr>
<td>Date revised:</td>
<td></td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>PREVENTION &amp; MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION POLICY V3</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Hospital Infection Prevention and Control Committee</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes:</td>
<td></td>
</tr>
<tr>
<td>Name and Post Title of additional signatories:</td>
<td>‘Not Required’</td>
</tr>
<tr>
<td>Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings:</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Name:</td>
<td></td>
</tr>
<tr>
<td>Signature of Executive Director giving approval:</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet Intranet Only</td>
</tr>
<tr>
<td>Document Library Folder/Sub</td>
<td>Clinical / Infection Prevention &amp; Control</td>
</tr>
</tbody>
</table>
## Links to key external standards

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Health Protection Agency. Regional Microbiology Network. (2007) A good practice guide to control <em>Clostridium difficile</em>.</td>
</tr>
</tbody>
</table>

## Training Need Identified?

No

## Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Jan 08</td>
<td>V1.0</td>
<td>Initial Issue</td>
<td>IPAC Team</td>
</tr>
<tr>
<td>11 Mar 10</td>
<td>V2.0</td>
<td>Revised and updated</td>
<td>Louise Dickinson Consultant Nurse Infection Prevention and Control</td>
</tr>
<tr>
<td>21 Jan 13</td>
<td>V3</td>
<td>Revised and re-formatted. Inclusion of Hydrogen Peroxide Vapour for terminal clean</td>
<td>Louise Dickinson Consultant Nurse Infection Prevention and Control</td>
</tr>
<tr>
<td>29.01.16</td>
<td>V5</td>
<td>Specific information on GDH added</td>
<td>Dr Chakrabarti Infection Control Doctor.</td>
</tr>
</tbody>
</table>

**All or part of this document can be released under the Freedom of Information Act 2000**

**This document is to be retained for 10 years from the date of expiry.**
## Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of service, strategy, policy or project (hereafter referred to as policy) to be assessed: <strong>PREVENTION &amp; MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION POLICY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area: Infection Prevention and Control</td>
</tr>
<tr>
<td>Name of individual completing assessment: Louise Dickinson</td>
</tr>
<tr>
<td><strong>1. Policy Aim</strong>*</td>
</tr>
<tr>
<td><strong>2. Policy Objectives</strong>*</td>
</tr>
<tr>
<td><strong>3. Policy – intended Outcomes</strong>*</td>
</tr>
<tr>
<td><strong>4. How will you measure the outcome?</strong></td>
</tr>
<tr>
<td><strong>5. Who is intended to benefit from the Policy?</strong></td>
</tr>
<tr>
<td><strong>6a. Is consultation required with the workforce, equality groups, local interest groups etc. around this policy?</strong></td>
</tr>
<tr>
<td><strong>c. Please list any groups who have been consulted about this procedure.</strong></td>
</tr>
</tbody>
</table>
7. The Impact
Please complete the following table.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>✓</td>
<td></td>
<td>Infections may affect any age</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>✓</td>
<td></td>
<td>Infections may affect any gender</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td>✓</td>
<td></td>
<td>Infections may affect any groups.</td>
</tr>
<tr>
<td>Disability - Learning disability, physical disability, sensory impairment and mental health problems</td>
<td>✓</td>
<td></td>
<td>Infections may affect all regardless of disability</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>✓</td>
<td></td>
<td>Infections may affect any religion</td>
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<tr>
<td>Marriage and civil partnership</td>
<td>✓</td>
<td></td>
<td>Infections may affect all people – married or otherwise</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>✓</td>
<td></td>
<td>Although unlikely to occur in this group cases have been reported</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>✓</td>
<td></td>
<td>Infections may affect all regardless of sexual orientation</td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. or
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended. [ ] Yes [✓] No

9. If you are not recommending a Full Impact assessment please explain why.

None of the equality strands have been identified in the initial impact assessment

Signature of policy developer / lead manager / director

Date of completion and submission

Names and signatures of members carrying out the Screening Assessment
1. Louise Dickinson
2. 

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust’s web site.

Signed Louise Dickinson Date 29.01.16
### Appendix 3. Adult Bowel Chart

**BRISTOL STOOL CHART**

<table>
<thead>
<tr>
<th>Date / Time</th>
<th>Type of stool (use number from Bristol Stool Chart)</th>
<th>Quantity of stool</th>
<th>Pain and/or distress when passing stool</th>
<th>Interventions eg. enema, laxatives etc</th>
<th>Date specimen obtained</th>
<th>Signed and designation</th>
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**Nursing Documentation**

- **Type 1**: Separate hard lumps, like nuts (hard to pass)
- **Type 2**: Sausage shaped but lumpy
- **Type 3**: Like a sausage but with cracks on its surface
- **Type 4**: Like a sausage or snake, smooth and soft
- **Type 5**: Soft blobs with clear-cut edges (passed easily)
- **Type 6**: Fluffy pieces with ragged edges, a mushy stool
- **Type 7**: Watery, no solid pieces. Entirely liquid

**Types 1 - 2**: Indicate constipation

**Types 3 - 5**: Normal stools

**Types 6 - 7**: Diarrhoea

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Prevention and Management of Clostridium difficile infection policy

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Appendix 4. Treatment Algorithm, first or second episode

**FIRST or SECOND EPISODE** of *C. difficile* infection

- **Diarrhoea AND** one of the following: Positive *C. difficile* toxin test **OR** results of *C. difficile* toxin test pending **AND** clinical suspicion of CDI

- Ideally discontinue non-*C. difficile* treatment antibiotics to allow normal intestinal flora to be re-established

- Suspected cases must be isolated

**Symptoms/signs of non-severe CDI**

- Oral metronidazole 400 mg tds 10-14 days

**DAILY ASSESSMENT**

- Symptoms improving
  - Diarrhoea should resolve in 1-2 weeks
  - Recurrence occurs in ~ 20% of cases after first episode, 50-60% after second episode

- Symptoms not improving or worsening
  - Should not normally be deemed a treatment failure until received at least one week of treatment
  - However, if there is evidence of severe CDI (WCC >15, acute rising creatinine and/or signs/symptoms of colitis)

- Switch to oral vancomycin 125 mg qds 10-14 days

**Symptoms/signs of severe CDI**

- WCC>15, acute rising creatinine and/or signs/symptoms of colitis
- Oral vancomycin 125 mg qds 10-14 days

**DAILY ASSESSMENT**

- Symptoms not improving or worsening
  - Should not normally be deemed a treatment failure until received at least one week of treatment
  - However, if evidence of severe CDI continues or worsens

- Surgery/GI/micro/ID consultation

**AND**, depending on degree of ileus, vancomycin 125-500 mg PO/NG qds, +/- metronidazole 500 mg iv tds 10 days

**PLUS CONSIDER** intracolonic vancomycin (500mg in 100-500 ml saline 4-12 hourly) given as retention enema: 18 gauge Foley catheter with 30 ml balloon inserted per rectum; vancomycin instilled; catheter clamped for 60 minutes; deflate and remove

- Further surgery/GI/micro/ID consultation
  - Depending on choice of therapy (see above) consider:
    1. high-dose oral/NG vancomycin (500 mg PO qds) ± rifampicin 300 mg PO bd
    2. IV immunoglobulin 400 mg/kg, one dose, and consider repeating

Anti – motility agents should not be prescribed in acute CDI

Prevention and Management of Clostridium difficile infection policy
Appendix 5. Treatment Algorithm, third or subsequent episode

**RECURRENT C. difficile infection (Third or Subsequent Episode)**
Discuss case with microbiologist as alternative treatment maybe appropriate

- **Diarrhoea AND one of the following:**
  - Positive *C. difficile* toxin test
  - Results of *C. difficile* toxin test pending AND clinical suspicion of CDI

- Must discontinue non-*C. difficile* treatment antibiotics if at all possible to allow normal intestinal flora to be re-established

---

**ASSESS SEVERITY**

- Symptoms/signs of non-severe CDI
  - Oral vancomycin 125 mg tds 14 days

- **DAILY ASSESSMENT**
  - (include review of severity markers, fluid/electrolytes)

- **Symptoms improving**
  - Diarrhoea should resolve in 1-2 weeks

  - Recurrence occurs in 40-60% of relapsing cases or third episode

- **If multiple recurrences, especially if evidence of malnutrition, wasting etc.**

---

1. Review ALL antibiotic and other drug therapy (consider stopping PPIs and/or other GI active drugs)
2. Consider supervised trial of anti-motility agents alone (if NO abdominal symptoms or signs of severe CDI)
   - Also Consider:
3. Vancomycin tapering/pulse therapy (4-6 week regimen)
4. Oral vancomycin 125 mg qds + oral rifampicin 300 mg bd for two weeks (no robust evidence for effectiveness)
5. IV immunoglobulin, especially if albumin status worsens
6. Donor stool transplant
## Appendix 6. HPA Good Practice Guide

### HPA REGIONAL MICROBIOLOGY NETWORK

A good practice guide to control *Clostridium difficile*

January 2007

These “good practice” recommendations, if followed and sustained, will result in a significant reduction in the burden of *Clostridium difficile* (CD) within NHS Trusts and enhance patient safety.

No single measure will be sufficient to avert an outbreak and ALL 5 MEASURES (Steps 1-5) need to be implemented 100% of the time to achieve control of this preventable infection, maintain patient confidence and protect the hospital reputation.

### THESE ARE PATIENT SAFETY ISSUES

- Rapid detection – active surveillance – early action on any rise in numbers
- Establish diagnostic criteria and identify wards with high rates
- Isolate infected patients or initiate cohort nursing/isolation ward
- Enhance environmental cleaning/ward decluttering
- Strengthen and implement antibiotic prescribing policy
- Health care workers (HCW) education and training including domestic staff

### Groups at Risk

<table>
<thead>
<tr>
<th>Groups at Risk</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older patients</td>
<td>Stay on Intensive Care Unit</td>
</tr>
<tr>
<td>Severity of underlying disease</td>
<td>Duration of hospital stay</td>
</tr>
<tr>
<td>Non surgical gastrointestinal procedures</td>
<td>Duration of antibiotic course</td>
</tr>
<tr>
<td>Presence of nasogastric tube</td>
<td>Administration of multiple antibiotics or multiple courses</td>
</tr>
<tr>
<td>Anti-ulcer medications</td>
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</tbody>
</table>

### Clinical symptoms

- asymptomatic
- watery diarrhoea
- fever
- loss of appetite
- nausea
- abdominal pain/tenderness
- stool smell/green appearance

### Complications

- relapse diarrhoea
- pseudomembranous colitis
- toxic megacolon
- perforations of the colon
- sepsis
- death

### Patient monitoring and Treatments

- Early diagnosis and treatment will prevent complications and save lives
- HCW must have heightened awareness – could this be *Clostridium difficile* associated diarrhoea (CDAD)?
- HCW must quickly identify deterioration in the patient’s clinical condition
- Stop all unnecessary antibiotics
- If CD diagnosed treat with Metronidazole or Vancomycin
- Monitor fluid balance: Correct dehydration due to diarrhoea
- Monitor diarrhoea: Stool chart
- Monitor signs of deterioration: rising CRP, falling albumin levels, rising WBC, pyrexia
- Ensure kidney function maintained, prevent renal failure
- Assessment for colectomy: involve specialists (Gastroenterologist and Surgeon) early (A patient care pathway may help)

### Specimens/Diagnosis

- Early diagnosis prevents complications and saves lives
- Stool samples should be taken and tested within 18 hours of onset of symptoms or admission of a symptomatic patient
- Toxin detection by Enzyme Immuno Assay (EIA)
- Colonic appearance
- Biopsy – histological appearance
- Radiological appearance

### Surveillance

- Early detection and control saves lives
- Active surveillance is required for rapid detection and intervention – Target specialities with high rates
- CDAD is preventable and there is not an acceptable level, however the following approach should maintain patient confidence and the hospital’s reputation
- Take action at: >3 cases a month or 0.5/1000 bed days
- Implement full action plan at: 5-10 cases a month or >0.5/1000 bed days
- Outbreaks must be reported as a Serious Unfoward Incident (SUI)
- Deaths associated with CDAD must be categorised as attributable or contributory and adequately recorded on the death certificate

(A statistical process chart may help monitoring)

### Transmission

- Early isolation prevents spread
- Patient to patient spread
- Spread by healthcare workers
- Spread in the environment

### Opportunities and Costs

- Early action - more savings
- Increased length of stay – 21 days
- Cost £4000 per case
- Patient experience – satisfaction - outcome
- Enhanced patient confidence and hospital reputation

### THE CARE BUNDLE

- Prudent antibiotic prescribing
- Isolation of infected patients
- Enhanced environmental cleaning
- Hand hygiene
- Personal protective equipment
- Staff education and training

### Step 1

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<th>Step 1</th>
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<tr>
<td>Good antibiotic prescribing</td>
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<tr>
<td>Use minimum duration</td>
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<tr>
<td>Avoid using broad spectrum antibiotics unless there is a good clinical need (especially extended spectrum cephalosporins and fluoroquinolones)</td>
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<tr>
<td>Restrict prescription of IV antibiotics</td>
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<tr>
<td>Use stop dates &amp; one dose prophylaxis</td>
</tr>
<tr>
<td>Ensure an antibiotic pharmacist is employed</td>
</tr>
<tr>
<td>Monitor antibiotic usage per specialty</td>
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</table>

### Step 2

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<th>Step 2</th>
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<tbody>
<tr>
<td>Early isolation of infected patient</td>
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<tr>
<td>All infected patients must be nursed in a side room</td>
</tr>
<tr>
<td>Serious consideration must be given to cohort nursing or opening an isolation ward if cases exceed side room isolation capacity</td>
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(In these circumstances a discharge policy will help - and a dedicated consultant for the ward ensures best delivery of care)

### Step 3

<table>
<thead>
<tr>
<th>Step 3</th>
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<tbody>
<tr>
<td>Enhanced environmental cleaning</td>
</tr>
<tr>
<td>Additional cleaning using chlorine based disinfectant</td>
</tr>
<tr>
<td>Ensuring patient equipment adequately cleaned and stored eg commodities</td>
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### Step 4

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<tr>
<td>Reinforce hand washing/hygiene (alcohol gel does not kill spores)</td>
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### Step 5

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<th>Step 5</th>
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<tr>
<td>Encourage personal protective equipment use</td>
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ACKNOWLEDGEMENTS: The Department of Health, Professor Brian Quinlan, Professor Mark Wilcox and Dr Giuseppe Bigiardi for the material used to prepare this document

Prevention and Management of Clostridium difficile infection policy

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Appendix 7. Process to follow on receipt of Clostridium Difficile

On receipt of C.difficile result which has occurred 72 hours after admission, IPCN to complete Datix

IPAC Nurse to schedule date/time of the review meeting and e mail RCA tool to:
Ward Manager and Consultant
CC: Link Practitioner, Matron, Divisional Nurse, DGM, Divisional Director, Consultant/Joint DIPC, Chief Executive, IPAC team, Antibiotic Pharmacist, Speciality Lead, Speciality Governance Lead and Microbiologists

Audit and Surveillance Co-ordinator to enter data onto MESS

The IPAC Nurse to carry out a retrospective review of similar cases over the past 28 days to identify potential links/hotspots and commence a period of increased incidence where appropriate.

IPAC CNS to co-ordinate RCA process.
The review meeting timetable to be reviewed by the CNS and the Ward Managers to be contacted to assure attendance at the meeting.

Ward Manager, Consultant and Antibiotic Pharmacist to complete their sections of the RCA document.
Findings to be forwarded to IPC team on Day 4.
If RCA document is not received by Day 5 the IPAC CNS to contact Ward Manager, Consultant or Antibiotic Pharmacist as appropriate.

IPAC Consultant Nurse and/or Joint DIPC, IPAC CNS, Ward Manager, Consultant or Medical Representative, Consultant Microbiologist and Antibiotic Pharmacist to attend HCAI meeting and undertake any action required

Following the review meeting, the IPAC CNS will forward the agreed action plan to the Ward Manager and the Consultant,
c.c. Link Practitioner, Matron, Divisional Nurse, DGM, Divisional Director, Consultant/Joint DIPC, Chief Executive, IPAC team and Microbiologists, Antibiotic Pharmacist

The progress of the Action plan to be reported at the Infection Prevention and Control Steering Group by the Matron or Divisional Representative.
### Appendix 8. Terminal Clean Schedule

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<thead>
<tr>
<th>Product</th>
<th>Actichlor+ / MagicMaxx</th>
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<tbody>
<tr>
<td><strong>Equipment Required</strong></td>
<td>High dusting tool, High dusting mop head, Dust control system (Applicator tool), Hygienic mop roll, Disposable cloths, Mop and Bucket, Cleaning Trolley, Gloves, Warning signs</td>
</tr>
<tr>
<td><strong>Cleaning Standard</strong></td>
<td>Area must be clean, tidy and free from potential infection. Area should be safe and inviting for further occupancy.</td>
</tr>
<tr>
<td><strong>Health and Safety (Pre)</strong></td>
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<tr>
<td>• Always clean from top to bottom and outside to in</td>
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<tr>
<td>• Work in a systematic fashion from left to right</td>
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<tr>
<td>• Display warning signs</td>
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<tr>
<td>• Cleanse hands and fit disposable gloves and apron prior to entering room/area.</td>
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<tr>
<td><strong>Cleaning Method</strong></td>
<td>Prior to Domestic Services arriving, ward staff should ensure that:</td>
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<tr>
<td>1. Domestic Supervisor checks room/area prior to commencement of cleaning</td>
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<tr>
<td>2. Remove curtains (from left to right) and place in a pink dissolvable bag followed by a red bag</td>
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<tr>
<td>3. Dispose of remaining excess items ie magazines, newspapers, flowers, plants, serviettes, tissues, disposable bags, air pipes, handtowels, tissues, open cloths.</td>
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<td>4. Remove all large items of litter and debris from floor</td>
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<td>5. Dispose of clinical and domestic waste inc. sharps bins</td>
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<tr>
<td>6. Clean bin and rel ine with clinical waste bag</td>
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<tr>
<td>7. All remaining furniture to be placed to one side of room ie beds, tables, chairs, lockers, footstools</td>
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<tr>
<td>8. High Dust area, including vents, high window ledges, around ceiling corners and light fittings (Refer to High Dusting procedure)</td>
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<td>9. Hand wash wall from floor to hand height (if surfaces visibly soiled)</td>
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<tr>
<td>10. Damp dust periphery of room / area especially ledges, notice boards, cupboards inside and out, lamps, Bedside TV units, pipe work, radiators, light sockets and frames and hand basins (Particular attention to frequently touched areas ie door handles, radio control, taps etc)</td>
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<tr>
<td>11. Damp dust all furniture especially underneath framework ie beds, mattresses, pillows, note holders, tables, chairs, lockers, footstools, book/bible covers, menus (Refer to damp dusting procedure)</td>
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<tr>
<td>12. Dust Control cleared floor area (Refer to Dust Control procedure)</td>
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<tr>
<td>13. Damp mop cleared floor area. (Refer to Damp mopping procedure)</td>
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<tr>
<td>14. All cleaned furniture to be placed to clean side of room ie beds, tables, chairs, lockers, footstools</td>
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<tr>
<td>15. Repeat steps 8-13</td>
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<tr>
<td>16. Place used items ie gloves, cloths, aprons into clinical waste bag, tie and place for disposal. Clean and rel ine waste bin</td>
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<tr>
<td>17. Re-hang clean curtains (Refer to Curtain hanging procedure)</td>
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<tr>
<td>18. Replace furniture and equipment into original positions</td>
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<tr>
<td>19. Domestic Supervisor checks room/area prior to reoccupation</td>
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<tr>
<td>20. Domestic Supervisor confirms to clinical staff and Domestic Helpdesk that area is ready for re-use.</td>
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### Individual responsibilities

A maximum of 5 people are designated to conduct an outbreak clean in a 4-6 bedded ward bay at a time

**Allocation of tasks / work responsibilities:**

- DOMESTIC SUPERVISOR & DOMESTIC ASST 1 – STEPS 3,4,5,6,8,9,10,12,13
- DOMESTIC ASSTs 2 & 3 – STEPS 3,4,5,6,7,11 & 14
- DOMESTIC ASST 5 – STEPS 2,16 & 17

### Health and Safety (Post)

- All equipment should be thoroughly cleaned after use before leaving the room/area.
- Do not walk on wet floor
- Wipe feet and wash hands thoroughly
Appendix 9. GDH-cytotoxin testing protocol for Clinical Microbiology Lab

GDH VIDAS assay
7 days / week
Mon-Fri run at 15.00

GDH VIDAS Result
Available at 16.30

Inform ICN and duty Microbiologist

GDH VIDAS assay
7 days/Week
Sat/Sun/Holiday run at 11.00

GDH VIDAS Result
Available at 13.00

Cytotoxin assay
5 days/week
Mon-Fri run at 16.30

POSITIVE
NEGATIVE

VIDAS Toxin assay
Sun/Monday
Run at 11.00

POSITIVE
NEGATIVE
EQUIVOCAL / LOW POSITIVE

Refer to action plan for management of C. difficile based on GDH-Cytotoxin assay

Cytotoxin assay

NEGATIVE
POSITIVE

A CASE OF CDAD
Appendix 10. Action plan for diagnosis & management of Clostridium difficile associated diarrhoea (CDAD) based on GDH & cytotoxin assay

**GDH / Cytotoxin assay**
(Stool Bristol chart 5-7)

- **GDH NEG**
  - The diarrhoea is NOT due to *C. difficile*
  - No repeat testing within next 48 hrs
  - Possible exclusion of other causes e.g Norovirus / non infectious diarrhoea if symptom persists

- **GDH POS Cytotoxin POS**
  - A case of *C. difficile* diarrhoea, CDAD
  - Management as RCHT *C. difficile* guideline

- **GDH POS Cytotoxin NEG**
  - Colonized with *C. difficile*, NOT a case of CDAD
  - Isolate if symptomatic
  - Review symptomatic
  - STOP antibiotics if possible
  - STOP PPI/laxative if possible
  - Risk assessment for CDAD

- **>/= 2 High risk factors**
  - IBD
  - Type 6/7 stool >/= 3 /day
  - Consider oral Metronidazole / Vancomycin
  - Repeat testing after 48hr (only cytotoxin)

- **Low risk factors**
  - Stool Type 5 or below or Type 6/7 stool < 3 /day
  - No offensive smell
  - Consider oral Probiotics for 7 days if available (if NOT immunosuppressed)
  - Repeat testing after 48hr (only cytotoxin)

- **>/= 3 samples are negative for cytotoxin, the episode is NOT due to CDAD**
  - Possible exclusion of other causes e.g Norovirus / non infectious diarrhoea