



## CLINICAL GUIDELINE

# Antimicrobial pharmacist input to a Clostridioides Difficile Infection (CDI) ward trigger

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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<b>Approval Group:</b>	Antimicrobial Utilisation Committee

### Important Note:

The online version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

# Standard Guidance for Antimicrobial Pharmacist Input to a *Clostridioides Difficile* Infection (CDI) Ward Trigger in NHS Greater Glasgow & Clyde

## Aim

To ensure a consistent and appropriate Antimicrobial Pharmacist (AMP) approach to a ward CDI Trigger Tool in NHS Greater Glasgow & Clyde (GG&C).

## Procedure

1. The local AMP (see appendix for contact information) should be contacted by the Infection Prevention and Control Team (IPCT) when a CDI Trigger Tool has been initiated<sup>1</sup>. **NOTE:** if the AMP is unavailable the IPCT should contact the ward charge nurse and/or medical team and ask for antimicrobial prescribing on the ward to be reviewed by the medical team.
2. The AMP should contact the Antimicrobial Management Team (AMT) Data Analyst and request database access to enter antimicrobial prescribing data for the trigger ward. The data analyst will also provide the previous 24 months antimicrobial usage data for the ward. This data should include the antibiotics at most risk of causing CDI i.e. cephalosporins, quinolones, co-amoxiclav, clindamycin and piperacillin/tazobactam<sup>2</sup>.
3. The AMP should visit the ward concerned as soon as possible and review the antibiotic regimens of all patients on the ward and assess compliance with local antibiotic prescribing policy<sup>3</sup>. The AMP should enter the antimicrobial prescribing data directly into the GG&C antimicrobial prescribing database. If the database is not available the AMP should use the GG&C Antimicrobial Prescribing Audit Form (See Appendix) to collect the data. This data can then be added to the GG&C antimicrobial database when time is available. **Any immediate concerns regarding antibiotic prescribing should be discussed and addressed with the ward charge nurse, medical staff and microbiology if necessary, before leaving the ward.**
4. Once the antibiotic regimens of all patients on the ward have been assessed and the antibiotic usage data has been obtained from the data analyst the AMP should complete the standard CDI Trigger Tool: Antimicrobial Pharmacist Report (Appendix 3). This report includes the following sections:

- |                   |  |
|-------------------|--|
| <b>Section A.</b> | Comparison of ward figures for antibiotic use in comparison to current NHSGGC figures. The AMP should highlight any concerns.  |
| <b>Section B.</b> | Assessment of antimicrobial prescribing and documentation in comparison to national targets and 'best in class' results from local ongoing antimicrobial audit. The AMP should highlight any issues or concerns. |
| <b>Section C.</b> | Assessment of CDI patients to ensure appropriate CDI treatment in line with NHSGGC policy <sup>4</sup> . The AMP should highlight any issues or concerns   |

regarding antibiotic prescribing that could have contributed to increase patient susceptibility during this admission.

**Section D.** The antimicrobial usage data outlined above should be attached to the template report and any concerns regarding increased use highlighted.

**Section E.** Summary of sections A-D highlighting any good practice and areas for improvement.

**Section F.** Action points to be shared with the antimicrobial management team (AMT), antimicrobial utilisation committee (AUC) and acute infection control committee (AICC).

5. The completed CDI Trigger Tool: Antimicrobial Pharmacist Report should be forwarded to the IPCT as soon as possible and copied to the following ward staff: senior charge nurse, lead consultant and lead clinical pharmacist.
6. The AMP should inform the AMT of any immediate issues or concerns in antimicrobial prescribing highlighted by the CDI Trigger Tool. The completed CDI Trigger Tool Report should be forwarded to the AMT and action points from Section F shared at the next scheduled AUC and AICC meetings to be noted and discussed if necessary. Completed report should be added to the AMP Teams channel.
7. Sections E and F of the CDI Trigger Tool: Antimicrobial Pharmacist Report should be included in the subsequent antimicrobial report to local Safer Use of Medicines and Clinical Governance meetings.
8. Compiled antimicrobial audit data for GG&C Trigger Tool Wards should be presented annually to the AUC and AICC to identify any common themes to support antimicrobial stewardship improvement or improvement in the management of CDI.
9. **NOTE:** When a Severe CDI Case Review is undertaken in addition to the ward CDI Trigger Tool document, the AMP should be made aware of the date of the Severe Case Review by the IPCT. As part of the case review the AMP can provide expert advice and identify any issues or concerns regarding the antimicrobial prescribing section of the Severe Case Review Tool. This will enable the AMP to highlight any antimicrobial stewardship issues identified to the AMT to inform and support ongoing antimicrobial stewardship quality improvement.

## References

1. Health Protection Scotland Clostridioides Difficile Infection Trigger [CDI Trigger Tool - NHSGGC](#)
2. [Clostridioides difficile \(C.diff\) infection \(CDI\)](#)
3. [Infection Management, Empirical Antibiotic Therapy in Adults \(165\) | Right Decisions](#)
4. [Clostridioides Difficile infection: management of suspected or proven infection in adults \(189\) | Right Decisions](#)

## Appendix 1

Antimicrobial Pharmacist	Acute Site	Contact Information
Rachael Rodger	<b>Royal Alexandra Hospital</b> (Mon, Tue, Thur) & <b>Vale of Leven Hospital</b> (Wed)	0141 314 6146 0141 314 7294 pg 56260 <a href="mailto:Rachael.Rodger@nhs.scot">Rachael.Rodger@nhs.scot</a>
Lee Stewart	<b>Queen Elizabeth University Hospital</b>	0141 451 6263 or 0141 201 1100 pg 16055 <a href="mailto:Lee.Stewart3@nhs.scot">Lee.Stewart3@nhs.scot</a>
Fiona Robb	<b>Gartnavel General Hospital</b> (Tues) <b>Queen Elizabeth University Hospital</b> (Mon, Wed & Thur)	0141 451 6261 or 0141 201 1100 pg 15008 <a href="mailto:Fiona.Robb3@nhs.scot">Fiona.Robb3@nhs.scot</a>
Siobhan Carty	<b>Queen Elizabeth University Hospital</b>	0141 451 6260 or DECT Phone 0141 232 4083 <a href="mailto:Siobhan.Carty2@nhs.scot">Siobhan.Carty2@nhs.scot</a>
Amy Robertson	<b>Queen Elizabeth University Hospital</b> (Fri only)	0141 451 6261 or 0141 201 1100 pg 15008 <a href="mailto:Amy.Robertson7@nhs.scot">Amy.Robertson7@nhs.scot</a>
Scott Gillen	<b>Glasgow Royal Infirmary</b>	0141 201 3246 0141 211 4000 pg 13997 <a href="mailto:Scott.Gillen@nhs.scot">Scott.Gillen@nhs.scot</a>
Anna Reuben	<b>Glasgow Royal Infirmary</b> (Wed only)	0141 201 3246 0141 211 4000 pg 12009 <a href="mailto:Anna.Rueben2@nhs.scot">Anna.Rueben2@nhs.scot</a>
Karen Downie	<b>Inverclyde Royal Hospital</b> (Wed & Thur)	0141 314 9504 Ex 04070 pg 51072 <a href="mailto:Karen.Downie@nhs.scot">Karen.Downie@nhs.scot</a>

## Appendix 2

Greater Glasgow & Clyde Antimicrobial Prescribing Audit			
COMPLETE ONE FORM PER PATIENT FOR ALL PATIENTS RECEIVING ANTI-INFECTIVES TODAY. RECORD CURRENT ANTIBIOTICS ONLY.			
<b>Date of Audit:</b> <b>Hospital:</b> Beatson GGH GRI IRH QEUIH RAH Stobhill VoL <b>Ward:</b> <b>Speciality:</b> <b>Directorate:</b> Medical W+C Surgery Regional RAD	<b>Total Number of patients on Ward on day of Audit</b> (Record only once per ward)  <b>Patient Date of birth / Age</b>  <b>Gender:</b> M / F	<b>Allergies Recorded on Kardex:</b> Y / N / NKDA <b>State Allergies:</b> _____  <b>If Antibiotic Allergy is patient currently receiving that Antibiotic?</b> Y / N	
<i>*see Infection Management Guideline/Handbook</i>	<b>Anti-infective 1</b>	<b>Anti-infective 2</b>	<b>Anti-infective 3</b>
<b>1. Antibiotic</b>	IV / IM / Oral / Other (state)	IV / IM / Oral / Other (state)	IV / IM / Oral / Other (state)
<b>2. If IVOST'd, state length of IV therapy (in days)</b>	_____ days IVOST day: M Tu W Th F Sat Sun	_____ days IVOST day: M Tu W Th F Sat Sun	_____ days IVOST day: M Tu W Th F Sat Sun
<b>3. For current antibiotic is duration stated on Drug Kardex?</b>	Y / N	Y / N	Y / N
<b>4. Is the indication documented clearly in notes on day 1 of antibiotic therapy / 1<sup>st</sup> day on ward?</b>  <b>5. State Indication AND tick broad infection type category</b>  <b>6. If Prophylaxis, med or surg?</b>	Y / N  Medical or Surgical	Y / N  Medical or Surgical	Y / N  Medical or Surgical
	RTI <input type="checkbox"/> UTI <input type="checkbox"/> Abdo/bil <input type="checkbox"/> SSTI <input type="checkbox"/> Bone/jnt <input type="checkbox"/> Neut sap <input type="checkbox"/> CNS <input type="checkbox"/> Surg site <input type="checkbox"/> ENT <input type="checkbox"/> Endocarditis <input type="checkbox"/> Bacteraemia <input type="checkbox"/> ?Source <input type="checkbox"/> Other <input type="checkbox"/> Unsure <input type="checkbox"/>	RTI <input type="checkbox"/> UTI <input type="checkbox"/> Abdo/bil <input type="checkbox"/> SSTI <input type="checkbox"/> Bone/jnt <input type="checkbox"/> Neut sap <input type="checkbox"/> CNS <input type="checkbox"/> Surg site <input type="checkbox"/> ENT <input type="checkbox"/> Endocarditis <input type="checkbox"/> Bacteraemia <input type="checkbox"/> ?Source <input type="checkbox"/> Other <input type="checkbox"/> Unsure <input type="checkbox"/>	RTI <input type="checkbox"/> UTI <input type="checkbox"/> Abdo/bil <input type="checkbox"/> SSTI <input type="checkbox"/> Bone/jnt <input type="checkbox"/> Neut sap <input type="checkbox"/> CNS <input type="checkbox"/> Surg site <input type="checkbox"/> ENT <input type="checkbox"/> Endocarditis <input type="checkbox"/> Bacteraemia <input type="checkbox"/> ?Source <input type="checkbox"/> Other <input type="checkbox"/> Unsure <input type="checkbox"/>
<b>7.i) On the day of audit is antibiotic choice in line with GGC guidelines?</b>	Y / N	Y / N	Y / N
<b>ii) or as per micro/ID advice</b>	Y / N	Y / N	Y / N
<b>iii) or AMP judged appropriate</b>	Y / N	Y / N	Y / N
<b>iv) AMT physician judged appropriate</b>	Y / N	Y / N	Y / N
<b>8. If not in line with IMG, or as per microbiology advice provide reason why</b>  (tick all applicable reasons)	Don't know / not documented <input type="checkbox"/> No guideline <input type="checkbox"/> Drug allergy <input type="checkbox"/> GI intolerance <input type="checkbox"/> Recent antimicrobials <input type="checkbox"/> Recent hospitalisation <input type="checkbox"/> Renal impairment <input type="checkbox"/> Hepatic impairment <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Interacting drug <input type="checkbox"/> Treatment failure/ Second line <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Other _____	Don't know / not documented <input type="checkbox"/> No guideline <input type="checkbox"/> Drug allergy <input type="checkbox"/> GI intolerance <input type="checkbox"/> Recent antimicrobials <input type="checkbox"/> Recent hospitalisation <input type="checkbox"/> Renal impairment <input type="checkbox"/> Hepatic impairment <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Interacting drug <input type="checkbox"/> Treatment failure/ Second line <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Other _____	Don't know / not documented <input type="checkbox"/> No guideline <input type="checkbox"/> Drug allergy <input type="checkbox"/> GI intolerance <input type="checkbox"/> Recent antimicrobials <input type="checkbox"/> Recent hospitalisation <input type="checkbox"/> Renal impairment <input type="checkbox"/> Hepatic impairment <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Interacting drug <input type="checkbox"/> Treatment failure/ Second line <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Other _____
<b>9. If IV for &gt;72h, is IV appropriate?</b>	Y / N / NA / Not evaluable	Y / N / NA / Not evaluable	Y / N / NA / Not evaluable
<b>10. Alert / Restricted antibiotic? *</b>	Alert Y/N    Restricted Y/N	Alert Y/N    Restricted Y/N	Alert Y/N    Restricted Y/N
<b>11. If yes why was this prescribed? *</b> (tick all applicable reasons)	Permitted indication <input type="checkbox"/> Permitted prescriber <input type="checkbox"/> Microbiology advice <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Unauthorised <input type="checkbox"/> Unknown/other <input type="checkbox"/> Other _____	Permitted indication <input type="checkbox"/> Permitted prescriber <input type="checkbox"/> Microbiology advice <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Unauthorised <input type="checkbox"/> Unknown/other <input type="checkbox"/> Other _____	Permitted indication <input type="checkbox"/> Permitted prescriber <input type="checkbox"/> Microbiology advice <input type="checkbox"/> Culture & Sensitivities <input type="checkbox"/> Unauthorised <input type="checkbox"/> Unknown/other <input type="checkbox"/> Other _____
<b>12. Cation interactions?</b> (only assess for CURRENT kardex)	Y / N / NA If Y: Fe Ca Mg Other _____ Managed: N Spaced Cation held Other/comments:	Y / N / NA If Y: Fe Ca Mg Other _____ Managed: N Spaced Cation held Other/comments:	Y / N / NA If Y: Fe Ca Mg Other _____ Managed: N Spaced Cation held Other/comments:
<b>13. Missed doses?</b> (only assess for CURRENT kardex)	# doses missed: # doses cation compromised: # doses prescribed: Reasons for missed doses:	# doses missed: # doses cation compromised: # doses prescribed: Reasons for missed doses:	# doses missed: # doses cation compromised: # doses prescribed: Reasons for missed doses:

*Clostridioides Difficile* Infection (CDI) Trigger Tool: **Antimicrobial Pharmacist Report**  
NHS Greater Glasgow & Clyde

Date of Assessment:	Hospital:	Ward:
Directorate:	Speciality:	Total Number of Patients Screened:
% Patients on Antibiotics:	Number of Oral Antibiotics:	Number of IV Antibiotics:

<b>Section A</b> Ward Data for patients on antibiotics	Trigger Ward	GG&C Mean (2024)	Comment / Action Required
Mean Patient Age (years)		69	
% of patients prescribed antibiotics prescribed oral		64	
% of patients prescribed antibiotics prescribed IV		44	
Mean duration of IV antibiotics prior to IVOST (days)		4	
% of patients prescribed antibiotics prescribed restricted '4C' antibiotics (co-amoxiclav, clindamycin, quinolones & cephalosporins).		23	
% of patients prescribed antibiotics prescribed protected antibiotics <a href="#">Protected Antimicrobial policy (adult) (045)   Right Decisions</a>		19	
% oral antibiotic doses missed		3	
% IV antibiotic doses missed		3	

<b>Section B</b> Antimicrobial Prescribing: Documentation and Policy Compliance	Trigger Ward	Target %	Comment / Action Required
% Antibiotic indication documented in medical notes		95	
% Antibiotic choice as per GG&C policy or as per microbiology/infectious diseases advice <a href="#">Infection Management, Empirical Antibiotic Therapy in Adults (165)   Right Decisions</a>		95	
% Restricted antibiotics (co-amoxiclav, clindamycin, quinolones & cephalosporins) appropriate as per GG&C policy or as per microbiology/infectious diseases advice <a href="#">Infection Management, Empirical Antibiotic Therapy in Adults (165)   Right Decisions</a>		95	

% IV Antibiotic Route Appropriate where IV > 72 hours		95	
% Oral antibiotic duration/stop date recorded on HEPMA		75	'Best in class' for treatment courses of oral antibiotics, excluding prophylaxis.
% IV antibiotic duration/stop date recorded on HEPMA		50	'Best in class' target

Section C CDI Individual Patient Assessment		
Patient 1		Comments/Action Required
Current CDI Treatment is In line with GG&C CDI Management Guidelines. <a href="#">Clostridioides Difficile infection: management of suspected or proven infection in adults (189)   Right Decisions</a>	Y/N	
All antibiotic treatment has been reviewed and rationalised or discontinued if possible.	Y/N	
Any other medications that can potentially worsen CDI have been reviewed and discontinued if possible e.g. PPI, H2 antagonist, laxatives.	Y/N	
During this current admission have there been any issues with antimicrobial prescribing that may have increased this patient's susceptibility to CDI?	Y/N	
Patient 2		Comments/Action Required
Current CDI Treatment is In line with GG&C CDI Management Guidelines. <a href="#">Clostridioides Difficile infection: management of suspected or proven infection in adults (189)   Right Decisions</a>	Y/N	
All antibiotic treatment has been reviewed and rationalised or discontinued if possible.	Y/N	
Any other medications that can potentially worsen CDI have been reviewed and discontinued if possible e.g. PPI, H2 antagonist, laxatives.	Y/N	
During this current admission have there been any issues with antimicrobial prescribing that may have increased this patient's susceptibility to CDI?	Y/N	

**Section D**  
Antimicrobial Usage Reports for previous 24 months

**Section E**  
Summary of Sections A-D (highlight any concerns, good practice and areas for improvement)

**Section F**  
Action Points from AMP review

Completed by: Antimicrobial Pharmacist

Page

Date