Saving Lives: reducing infection, delivering clean and safe care

High Impact Intervention No 7

Care bundle to reduce the risk from *Clostridium difficile*

Aim

To reduce the risk of infection from and the presence of *Clostridium difficile,* outlining guidance for management

Context

The Health Act 2006 Code of Practice[1] states that NHS organisations must audit key policies and procedures for infection prevention and control. This high impact intervention helps trusts achieve this aim by providing a focus for activity and a method for measuring the implementation of policies and procedures. *Clostridium difficile* is a specific alert organism highlighted in the Code of Practice, and NHS organisations must have a policy in place which makes provision for prompt diagnosis, isolation and cohort nursing of infected patients, infection control procedures, environmental decontamination and antibiotic prescribing.

Guidance on the prevention and control of *Clostridium difficile* associated disease (CDAD) was first published by a joint Department of Health (DH) and Public Health Laboratory Service working group in 1994.[2] After outbreaks in 2005, CMO and CNO issued a professional letter to the NHS in December 2005 and this guidance was extended in a further DH letter in December 2006. From April 2007, primary care trusts were required to agree local targets for reducing CDAD numbers with NHS trusts and foundation trusts.

CDAD is a spectrum of disease from mild diarrhoea to severe and life-threatening condition.[3] CDAD is transmitted by clostridial spores capable of surviving for long periods of time in the environment and which are shed in large numbers by infected patients. Those most at risk of CDAD are older patients and those who have had a recent course of antibiotics.[4]

The Health Protection Agency's surveillance system shows that from January to December 2006, the total number of reports of CDAD in patients over 65 years of age for England was 55,681 in acute trusts, a rate of 2.45 cases per 1,000 bed days.[5] With an average increased length of stay of 21 days, the cost of CDAD has been estimated at over £4,000 per case.[6] With 55,000 cases, a 10% reduction in infection could save 115,500 bed days and £22 million.

Five main factors have been identified as being necessary to reduce the incidence of CDAD[7] which, if rigorously applied, would contribute to a reduction in infection rates: prudent antibiotic prescribing,[8] hand hygiene,[9–11] environmental decontamination,[12–17] isolation/cohort nursing[18,19] and personal protective equipment.[18–20]
In 2003, the DH document *Winning ways*[20] recommended that hospital staff apply "rigorously and consistently the measures known to be effective in reducing the risks of healthcare associated infection". This was followed in 2004 by the DH action plan[21] which established an NHS-wide programme for standards of hygiene.

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Evidence-based guidelines for the prevention of healthcare acquired infections have been produced by the EPIC group at Thames Valley University.[17] In 2004, the Infection Control Nurses Association published an audit tool which provides a methodology for monitoring infection control activities in acute trusts,[18] and the 'clean**your**hands' campaign has been implemented in most acute trusts in England.[11] Compliance with good hand hygiene is an essential element of the care process to reduce the risk of cross-infection.[9]

Most recently a survey and report by the Healthcare Commission and the Health Protection Agency[7] have shown gaps in implementation of guidance.

Why use the care bundle?

This care bundle is based on EPIC guidelines, expert advice and other national infection prevention and control guidance. It should support implementation of local and national policy. The purpose is to act as a way of improving and measuring the implementation of key elements of care.

The risk of infection reduces when all elements within the clinical process are performed every time and for every patient. The risk of infection increases when one of more elements of a procedure are excluded or not performed.

Elements of the care process

The list of elements to reduce and prevent infection caused by *Clostridium difficile* is based on the above guidance and includes those outlined below.

Prevention of spread of *Clostridium difficile*

Prudent antibiotic prescribing
- Precribe antibiotics according to national guidance* and local policy; minimise use of broad spectrum antimicrobials.
- Review antimicrobial medication daily.
- Include stop dates in antimicrobial prescriptions.

Correct hand hygiene
- Wash hands with soap and water before and after each contact with CDAD patient.
- Implement clean**your**hands campaign trust-wide.**

Environmental decontamination
- Implement enhanced cleaning in areas with CDAD patients.
- Use chlorine-based disinfectants or other sporicidal products to reduce environmental contamination with *Clostridium difficile* spores as per local policy.
- Ensure deep clean and decontamination of rooms after discharge of CDAD patients.

Personal protective equipment
- Always use disposable gloves and apron when handling body fluids and when caring for patients with CDAD.

Isolation/cohort nursing
- Always use a single room if available.
- Cohort care for CDAD patients should be applied if single rooms are not available.

NOTES:

* Saving Lives now includes a summary of best practice for antimicrobial prescribing available at www.clean-safe-care.nhs.uk

** the use of alcohol handrubs in a *Clostridium difficile* outbreak situation is ineffective.

Using the bundle to ensure all elements of care are performed

Checking compliance with the elements in the care process will show the elements which were or were not performed. The tools on the CD will help you to:

1 identify when all elements have been performed
2 see where individual elements of care have not been performed
3 enable you to focus your improvement effort on those elements which are not being consistently performed

Using the compliance tool

1 Each time a care element is performed, insert a tick in the relevant column. If the action is not performed leave it blank.

2 Do this for each action, ensuring you tick it only when an element of care is performed correctly.

3 Calculate the totals and compliance levels by totalling the columns and using the tools provided (on the CD or at www.clean-safe-care.nhs.uk).

4 Your goal is to perform every element of care every time it is needed. The "All elements performed" column should be ticked when every care element is given correctly. This should total to 100% compliance when all care elements have been given correctly on every occasion.

5 Where elements have not been performed overall compliance will be less than 100%. This provides immediate feedback for users of the tool on those elements missed, and actions can then be taken to improve on compliance levels.

6 The percentage compliance figures for individual care elements show you where you need to focus effort to improve overall compliance.

7 The number of times when all elements are performed should be the same as the number of observations you perform. For example if you monitor the care process 10 times, then there should be 10 occasions when all elements were performed.

When the calculation is completed, the calculator tools on the CD (or at www.clean-safe-care.nhs.uk) will automatically show compliance graphs and run-charts for each element of care and for overall compliance with each high impact intervention. This will show you visually where to focus your improvement efforts to achieve full compliance.

Example

Care elements / Observation	Care element 1	Care element 2	Care element 3	Care element 4	All elements performed
1	✔		✔	✔	
2	✔	✔		✔	
3	✔	✔	✔	✔	✔
4	✔	✔	✔		
5	✔	✔	✔	✔	✔
Total number of times an individual element was performed	5	4	4	4	2
% when element of care was given	100%	80%	80%	80%	40%

This example shows that while most care elements were performed on only two occasions were ALL elements performed correctly. Overall compliance with all elements was only 40% and as a result the risk of infection was significantly increased.

Best practice guides

Clostridium difficile infection. Prevention and management[2]

Recommended resources

Many guidelines and papers are available in the National Resource for Infection Control at www.nric.org.uk
The NHS infection control e-learning package available from www.infectioncontrol.nhs.uk
National *Clostridium difficile* Standards group: report to the Department of Health[2]

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283198/HI7 1p 50k Oct07 (GRE)