SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST

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EXECUTIVE SUMMARY: BOARD OF DIRECTORS

19 OCTOBER 2011

Subject:	Update on the Clostridium difficile *(C.diff)* Action Plan
Supporting Director:	Professor Hilary Chapman, Chief Nurse / Chief Operating Officer
Author:	Mr Chris Morley, Deputy Chief Nurse
Status (see footnote):	N

PURPOSE OF THE REPORT:

This report describes the current level of performance on *C.diff* and has the most recent version of the action plan and the report from the external review of the C.diff action plan attached.

KEY POINTS:

- The Trust is not currently on the required trajectory to meet its *C.diff* target for 2011/2012.
- The target for the year is 134 and the Trust had recorded 125 cases by the end of September.
- An action plan to reduce incidence was agreed at the Board of Directors meeting on 15 June 2011.
- The action plan has been updated and further actions have been added in response to the external review. (1.13 – 1.20, 2.13 – 2.18, 3.6 – 3.8, 4.6, 5.8 – 5.13 and 7.7)
- Representatives from the Strategic Health Authority and Health Protection Agency attended the Trust on 9 September 2011 to discuss the situation with C.diff and the associated action plan. They stated at the end of the meeting that they did not feel that any more could be done by the Trust to improve performance. The Trust has received written confirmation of their conclusions added.

IMPLICATIONS:

Achieve Clinical Excellence	Need to maintain the Trust's reputation for high standards on infection control
Be Patient Focused	Important element of patient safety
Engaged Staff	Need to ensure that staff are aware of the current challenges regarding *C.diff*

RECOMMENDATION(S):

It is recommended that the Board of Directors note the current level of performance on *C.diff* and the progress with the actions contained within the action plan.

APPROVAL PROCESS:

Meeting	**Presented**	**Approved**	**Date**
Board of Directors			19 October 2011
Healthcare Governance Committee			24 October 2011

CLOSTRIDIUM DIFFICILE ACTION PLAN

Action plan to address the rise in cases of *Clostridium difficile* (*C.diff*) at Sheffield Teaching Hospitals NHS Foundation Trust

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
1	**Reducing Contamination on High Risk Wards**				
1.1	Identify the wards that have had the highest incidence of *C.diff* in the previous 2 years.	31 May 2011	Director of Infection Prevention and Control	Low	Achieved
1.2	Produce a phase 1 deep clean programme to deliver a deep clean to the high risk wards at the Northern General Hospital, to be done bay by bay	31 May 2011	Deputy Chief Nurse	Low	Achieved
1.3	Produce a phase 1 deep clean programme to deliver a deep clean to high risk wards at the Royal Hallamshire Hospital using a decant ward	30 June 2011	Deputy Chief Nurse	Low	Achieved
1.4	Building on the existing deep clean team, recruit further staff to enable the deep clean programme to be delivered at the Royal Hallamshire and Northern General Hospitals using the Cambridge model	30 November 2011	Hotel Services Director	Medium	The Cambridge model has a team which perform functions currently undertaken by our Domestic Services, Estates and Infection Control Team. Increase of 16 WTE planned.
1.5	Reconfigure services to enable a vacant ward to become available at the Northern General Hospital site to be used as a decant ward for the deep clean programme	30 September 2011	Deputy Chief Operating Officer	High	Work is actively progressing to achieve this, but decant ward not likely to be available until November 2011
1.6	Produce a phase 2 deep clean programme.	30 June 2011	Deputy Chief Nurse	Low	Achieved and ongoing, remaining flexible to the pattern of infections.
1.7	Produce a definition for a high incidence ward and the action to be taken as a result of being categorised as a high incidence ward	30 June 2011	Deputy Chief Nurse	Low	Achieved
1.8	For each of the quarter 1 high incidence wards to be visited by representatives of Estates to assess whether there are any environmental issues which could be impacting on infection control that need resolving.	30 June 2011	Estates Director	Low	Achieved and ongoing

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
1.9	10 additional Housekeepers to be recruited to work across 9 high incidence wards identified since April	30 November 2011	Deputy Chief Nurse	Low	Staff to be in post by November 2011.
1.10	Increase capacity to the Rapid Response cleaning teams across the Trust but to be particularly available to the Assessment Units / A&E	30 November 2011	Hotel Services Director	Low	
1.11	Optimise the admission process so that where appropriate, patients transfer directly from A&E and patients staying on Assessment Units are either discharged or transferred to the appropriate ward in a timely manner	30 September 2011	Deputy Chief Operating Officer	High	On-going work – Patient Flow Champions in place to improve the flow from A&E and Assessment Units
1.12	Remove all radiator covers on inpatient wards and clean the radiator and cover prior to heating being turned on for winter	31 October 2011	Hotel Services Director	Low	Programme on schedule.
1.13	The specification for returning to normal cleaning following a ward being on either amber or red status to be agreed and circulated	30 November 2011	Deputy Chief Nurse/ Hotel Services Director	Low	
1.14	The Deep Clean Programme will be continued through the winter of 2011. The Programme will be scheduled for three months in advance to allow some planning but also flexibility in the Programme	31 October 2011	Deputy Chief Nurse	Low	Achieved and on-going
1.15	**DIFFICIL-S®.** will be used on the Medical Assessment Units and Surgical Assessment Centre as an extension of the current trial/beginning of a roll out of this product	31 October 2011	Deputy Chief Nurse	Low	
1.16	A feasibility project will be undertaken to scope the possibility of an on site decontamination centre for large equipment such as commodes, wheelchairs etc.	31 December 2011	Deputy Chief Nurse/ Deputy Chief Operating Officer	Low	
1.17	Test the competence of Hotel Services staff to ensure that cleaning standards are consistently achieved.	30 September 2011	Hotel Services Director	Low	Achieved and on-going. This is tested through staff performance reviews, staff monitoring and supervision.
1.18	An initial assessment of the implications of the new national cleaning standards to be produced and submitted for discussion.	31 October 2011	Hotel Services Director	Low	

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
1.19	A gap analysis submission regarding the new national cleaning standards to be submitted as part of the 2011 / 2012 Business Planning process.	30 November 2011	Hotel Services Director	Low	
1.20	The importance of ensuring clinical equipment is kept clean by nursing staff will be reinforced by the use of the decontamination of clinical equipment bundle in the Infection Prevention and Control accreditation programme.	30 September 2011	Deputy Chief Nurse	Low	Achieved and ongoing.
2	**Optimising Infection Prevention and Control Practice**				
2.1	All areas across the Trust to undertake monthly commode and *C.diff* care bundle audits	30 April 2011	Deputy Chief Nurse	Low	Achieved
2.2	For high risk wards, an infection prevention and control review is to be completed for each month and a score of higher than 85% to be achieved	31 May 2011	Deputy Chief Nurse	Low	Achieved
2.3	For high risk wards, an audit of the cleanliness of commodes is to be undertaken weekly and submitted centrally to the Infection Prevention and Control team. Standard to be achieved is 100%	31 May 2011	Deputy Chief Nurse	Low	Achieved. Note: The external review felt that commode audits should be undertaken more frequently, however, high risk wards are currently auditing commodes weekly, all wards are required to audits commodes monthly and any area which has a raised incidence of C.diff receives weekly audits from the Infection Prevention and Control team.
2.4	A statement on the importance of hand hygiene and adhering to the rules on 'bare below the elbow' to be prepared and disseminated from the Medical Director's Office	30 June 2011	Medical Director	Low	Achieved
2.5	Commodes on every ward in the Trust to be inspected by the Infection Prevention and Control team and any commodes felt to be unsuitable to be condemned and replaced	31 July 2011	Deputy Chief Nurse	Low	Achieved
2.6	Every ward area to be cleaned in all areas using Chlorclean during the first week of each month	30 April 2011	Deputy Chief Nurse	Low	Achieved

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
2.7	For high risk wards, Chlorclean to be used as standard for cleaning	30 June 2011	Deputy Chief Nurse	Low	Achieved
2.8	To trial the use of a new cleaning solution, **DIFFICIL-S®.**	31 August 2011	Deputy Chief Nurse	Low	Trial completed but being expanded into MAUs and SAC. Evaluation of information being gathered but further research evidence has been published to support the use of this product
2.9	Temporarily expand the Infection Control Nursing team to help to monitor and audit Infection Prevention and Control practice across the Trust and support the Deep Clean Team by providing HPV support.	31 July 2011	Deputy Chief Nurse	Low	Infection Control nursing team expanded. Additional support to the deep clean team for HPV is provided through agency staff.
2.10	For the enhanced *C.diff* ward Matron to visit every high risk ward and provide support to the Ward Manager.	31 July 2011	Deputy Chief Nurse	Low.	Achieved.
2.11	All high incidence wards to have an Infection Control Nurse work clinically on the ward	30 June 2011	Deputy Chief Nurse	Low	Achieved and ongoing.
2.12	All high incidence wards to have a named Infection Control Nurse linked to them	31 July 2011	Deputy Chief Nurse	Low	Achieved.
2.13	A prospective audit of the time to diagnosis and the time to isolate patient with *C.diff* to be undertaken.	31 December 2011	Director of Infection Prevention and Control	Low	Prospective collection of data to commence with sample data from 1 October onwards. Information to be collected in the lab and from root cause analysis
2.14	The recommendation not to change the approach to the diagnosis of *C.diff* until there is further guidance coming out of the current research commissioned by the Department of Health through the Health Protection Agency is noted and actioned.	30 September 2011	Director of Infection Prevention and Control	Low	Achieved
2.15	High risk patients (those known to have had *C.diff* previously) are highlighted on admission and receive a review by the Infection Control Team.	30 September 2011	Director of Infection Prevention and Control	Low	Achieved. Existing practice is that the Infection Control Team review all these patients during their hospital stay to ensure they are appropriately managed and that the Infection Control Doctor is informed if antibiotics are started for any reason to ensure that this is necessary.

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
2.16	Revised criteria for the information required on sending a stool sample to be implemented.	31 October 2011	Deputy Chief Nurse	Low	The revised criteria for samples is as follows: ▪ Bristol stool type score to be clearly stated ▪ Patient not to have had either recent enema/suppositories or new laxative use ▪ The sample should follow an episode of diarrhoea which is a change of bowel habit for the patient ▪ All requests must be signed by a registered nurse or doctor and the signature must be legible
2.17	The Microbiology Laboratory will instigate a check test in positive cases of *C.diff* toxin to ensure that there is no possibility that this could be a "false positive".	31 October 2011	Director of Infection Prevention and Control	Low	
2.18	The Infection Prevention and Control accreditation programme will be reviewed to ensure that it contains current relevant audits to provide the most effective assurance about Infection Prevention and Control practice.	30 September 2011	Deputy Chief Nurse	Low	Achieved and ongoing.
3	**Evidence Based Prescribing**				
3.1	Ciprofloxacin to be removed from inpatient areas, except for a very few clinically appropriate areas.	30 June 2011	Medical Director	Low	Achieved
3.2	Antibiotic prescribing will be audited quarterly as part of the Infection Control Accreditation.	31 July 2011	Director of Infection Prevention and Control	Low	Achieved. The external review understood that the quarterly audit compliance was done using antimicrobial pharmacists, this was a misunderstanding and this check is done by medical staff from the ward concerned. The results from these audits will be used to target areas and ensure that antimicrobial prescribing practice is improved.

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3.3	The inpatient prescription chart is to be amended to include a specific section on antibiotic prescribing.	31 August 2011	Director of Pharmacy	Low	Achieved
3.4	Guidance will be issued to the Medical Assessment Unit to reduce the use of Co-amoxiclav, except in those places where it is clearly indicated.	31 July 2011	Director of Infection Prevention and Control	Low	Achieved. Information included on a credit card size card and given to Junior Doctors in August.
3.5	Implement guidelines on the prescription and rationalisation of proton pump inhibitors.	31 July 2011	Medical Director	Low	Proton pump inhibitors suppress the production of acid in the stomach and are therefore sometimes associated with *C.diff* infections. Guidance issued 27 July 2011. It was noted by the External Review that it is prudent to review PPI usage alongside antibiotic prescribing to be assured the use of PPI is appropriate and follows clear clinical indications.
3.6	The apparent peak in the use of higher risk antibiotics in April, May and June 2011 is to be investigated	31 October 2011	Director of Infection Prevention and Control/ Chief Pharmacist	Low	
3.7	Antibiotic prescribing is to be reviewed on the post take ward round by the Consultant in MAUs and SAC. Any antibiotics prescribed will require the counter-signature of a Consultant to confirm that they think it is appropriate. In the absence of a signature, the pharmacist will contact the Consultant.	31 October 2011	Medical Director	Low	
3.8	A review of the antimicrobial training programmes is to be undertaken to ensure clinicians have the necessary knowledge and competency to prescribe and administer prudently.	30 September 2011	Director of Infection Prevention and Control/ Chief Pharmacist	Low	There is currently and Infection Control e-learning package that all staff have to complete and within the course for Doctors, there is a section on antimicrobial prescribing.

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4	***C.diff* Case Follow Through and Actions**				
4.1	Any case of *C.diff* to be followed by an extended clean of the bed space, toilet, dirty utility rooms and nurses' station	30 June 2011	Hotel Services Director	Low	Achieved
4.2	IPC Team to produce Root Cause Analysis tool for clinical areas to use following cases of *C.diff.*	30 June 2011	Director of Infection Prevention and Control	Low	Achieved and ongoing.
4.3	Lessons learnt disseminated across the organisation	30 September 2011	Director of Infection Prevention and Control	Low	This information is to be sent out across the organisation during October 2011
4.4	Cases of *C.diff* to be subject to a department based Root Cause Analysis to be returned centrally.	31 July 2011	Director of Infection Prevention and Control	Low	Achieved and ongoing.
4.5	A review of the cases from quarter 1 to be undertaken to try to identify and trends or recurring patterns.	31 August 2011	Deputy Chief Nurse	Low	Achieved and the results fed back at a weekly CEO summit.
4.6	Following the External Review the root cause analysis tool has been simplified to capture the key information necessary	31 October 2011	Director of Infection Prevention and Control	Low	New tool being piloted at present to be rolled out during October 2011. NB: antibiotic use is included in the RCA tool and forms part of the Infection Control Doctor's review.
5	**Further Raising the Profile of Infection Prevention and Control**				
5.1	A series of *C.diff* summits will be held, chaired by the Chief Executive and involving Nurse Directors, Clinical Directors, Lead Nurses, Matrons and Ward Managers for the high risk ward, to outline the current situation and the plans required to improve performance on *C.diff.*	30 June 2011	Chief Executive	Low	First summit held on 8 June 2011. Second summit held on 4 July 2011.
5.2	Internal communication strategy will be developed and implemented.	31 July 2011	Communications Director	Low	Achieved and ongoing.

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5.3	Targeted support will be made available to clinical areas requiring support with infection control issues from the Chief Executive, Medical Director and Chief Nurse / Chief Operating Officer.	31 August 2011	Deputy Chief Nurse	Low	CEO visit to high incidence wards on 29 June 2011. Achieved and ongoing
5.4	Infection control to be discussed in the first hour of the following Trust meetings: - Board of Directors - Healthcare Governance Committee - Trust Executive Group - Clinical Management Board - Operational Board	31 July 2011	Trust Secretary	Low	Achieved and ongoing.
5.5	Weekly C.diff meetings will be held by the Chief Executive or Chief Nurse / Chief Operating Officer in his absence, to consider the previous week's performance on C.diff and the root causes of any cases, determining what further support or actions are required to further reduce incidence of *C.diff.*	31 July 2011	Chief Executive	Low	First meeting held on Monday, 11 July 2011. Achieved and ongoing.
5.6	Weekly C.diff operational group comprising Deputy Chief nurse, Director of Infection Prevention and Control, Hotel Services Director and Estates to be held to ensure progress with the action plan and to address any operational issues.	31 July 2011	Deputy Chief Nurse	Low	First meeting held on Tuesday, 5th July 2011. Achieved and ongoing
5.7	A series of meetings to be held for Domestic Services staff highlighting the reasons why effective cleaning is so important, led by the Infection Control Team.	30 September 2011	Hotel Services Director	Low	Meetings took place during September 2011 and were well attended and received.
5.8	A fresh campaign on Infection Prevention and Control is to be devised and implemented.	31 November 2011	Communications Director	Low	
5.9	A monthly *C.diff* briefing is to be held on both campuses to brief all wards and departments regarding performance on *C.diff* and the root cause of any cases to maintain focus on this issue. This will replace the previous weekly *C.diff* meetings.	31 October 2011	Deputy Chief Nurse/ Director of Infection Prevention and Control	Low	

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
5.10	A meeting is to be held on both campuses with Clinical Directors and the Medical Infection and Prevention Control Leads to make sure they are fully briefed on the situation with *C.diff.*	30 November 2011	Director of Infection Prevention and Control/ Medical Director	Low	
5.11	The Chief Executive is to meet with Consultants in Geriatric/Stroke Medicine to discuss the importance of Infection Prevention and Control with them.	30 November 2011	Chief Executive	Low	
5.12	A list of items to be discussed at Directorate meetings or Directorate Governance meetings regarding infection control, will be devised and circulated to Clinical Directors with high rates of C.diff.	31 October 2011	Director of Infection Prevention and Control / Deputy Chief Nurse	Low	
5.13	Examples of good practice in Infection Prevention and Control, particularly the management of C.diff will be collected and disseminated through the C.diff briefings.	30 November 2011	Deputy Chief Nurse	Low	
6	**Monitoring**				
6.1	A weekly email will be sent to Clinical Directors, Medical Infection Prevention and Control leads, Nurse Directors, Matrons and Lead Nurses from the Director of Infection Prevention and Control regarding the number of *C.diff* cases recorded each week.	31 May 2011	Director of Infection Prevention and Control	Low	Achieved and ongoing.
6.2	A daily email will be sent from the Director of Infection Prevention and Control to the Chief Executive, Chief Nurse / Chief Operating Officer and Deputy Chief Nurse for onward dissemination to Clinical Directors, Medical Infection Prevention and Control leads, Nurse Directors, Matrons, Lead Nurses and Ward Managers for any wards affected.	30 June 2011	Director of Infection Prevention and Control	Low	Achieved and ongoing.

	ACTION	KEY MILESTONES	PERSON RESPONSIBLE	RISK ASSESSMENT	COMMENTS
7	**Learning from others**				
7.1	Visit Cambridge University Hospital's NHS Foundation Trust to understand how they have reduced their C.diff rate.	31 July 2011	Deputy Chief Nurse Hotel Services Director	Low	Deputy Chief Nurse and Director of Infection Prevention and Control visited on 28 June 2011. Hotel Services Director visited on 22 July and report provided.
7.2	Consider whether the Health and Safety Laboratory can offer any help with improving C.diff rates through their human factors work.	31 July 2011	Deputy Chief Nurse	Low	Deputy Chief Nurse and Director of Infection Prevention and Control met representatives from the Health and Safety Laboratory on 30 June 2011.
7.3	Speak to other Trusts who have either low rates of C.diff or have been challenged by C.diff performance previously and identify any additional actions they have implemented which could be implemented at STHFT.	31 July 2011	Deputy Chief Nurse	Low	Deputy Chief Nurse has spoken to senior staff at Hull and Chesterfield during July 2011. DIPC and Lead IPCN met with Lead IPCN from UHL in August.
7.4	Commission on external review of the Trust's performance on C.diff and associated action plan.	31 August 2011	Chief Nurse/ Chief Operating Officer	Low	Review completed on 23 August 2011.
7.5	Meet with representatives of the Yorkshire and Humber Strategic Health Authority and South Yorkshire cluster PCTs to determine whether any further actions should be taken.	30 September 2011	Chief Nurse / Chief Operating Officer	Low	Meeting took place on the 9 September 2011. The Trust has received a written summary of the meeting.
7.6	Clinical Director for Renal Services to make contact with the National Renal Czar Donal O'Donoghue to determine the current position with peer Renal Units and if there were any further specific actions which could be taken to address the *C.diff* challenges faced	31 October 2011	Clinical Director Renal Services	Low	
7.7	Following the External Review the *C.diff* Action Plan has been updated and includes the issues identified by the review	31 October 2011	Deputy Chief Nurse	Low	

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11 October 2011

Dear Hilary

I said that I would write following our visit to you on the 9 September re C.diff and I'm sorry for the delay in doing so. At the end of our meeting the team summed up by saying that we felt that you were "leaving no stone unturned" in your efforts to reduce the levels of C.diff infection that you are reporting. This view is reinforced by the external review that you commissioned comprising Brian Duerden, Bharat Patel and Janice Stevens who also hold that view.

It is obvious that you and your team are experts themselves and have taken a systematic and robust approach to implement best practice in reducing HCAI, a fact which is further evidenced by your lack of an MRSA bacteraemia so far this year. The stark contrast in C.diff rates and the patient populations on your two main sites obviously tells a story, so it strikes me that anything that can be done to reduce occupancy, throughput or acuity at the Northern General, must have a beneficial effect. I see from the most recent figures on MESS that your rates continue to be slightly down so hopefully the deep cleaning regime is having an effect.

Please be in touch if you think we can offer anything else and I will do likewise.

Yours sincerely

David Thompson

David Thompson
Associate Director of Clinical Engagement/Chief Nurse

Cc: Dr Christine Bates, Sheffield Teaching Hospitals NHS FT
Chris Morley, Sheffield Teaching Hospitals NHS FT
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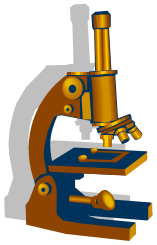

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6 September 2011

Dear Hilary

Thank you for inviting us to undertake an HCAI review: to help you understand why, despite a continued focus on HCAI, performance against your *Clostridium difficile* standard has deteriorated. To determine this, you asked us to review the actions the trust is currently taking to see if the systems and processes in place are sufficiently robust and advise if there are additional actions you could take.

At the outset we would like to thank the staff that we met who were helpful, candid and professional. They were willing to share their experiences and observations and had a genuine desire to understand what further action needs to be taken to ensure that the trust achieves low numbers of *Clostridium difficile* infections.

Having talked to staff, observed practice on the wards and reviewed the data it is clear that the trust is undertaking a significant number of actions in order to attempt to reduce the levels of infection. Our overall observations are that the actions you are focusing on are in fact the correct ones; however there are a number of areas where these actions can be strengthened and we would, therefore, make the following comments and recommendations.

Prudent antibiotic prescribing.

The trust has in place a comprehensive set of policies and guidelines that would support prudent antibiotic prescribing. That said, having reviewed the data you supplied on the usage of higher risk antibiotics, it appears that there has been increased use over the last two years, which is contrary to your policy. In addition to this there was a significant peak in the use of these antibiotics in April, May and June 2011, which requires investigation. The increased usage of antibiotics cannot be explained by increased patient activity as the graph that shows antibiotic usage by 1000 bed days shows an increase in average monthly use of about 10% in 2010/11 compared with 2009/10.

An audit undertaken by your pharmacy team looking at duration of antibiotics given showed that a significant number of patients stay on antibiotics longer than five days. In order to improve this

position, you have developed a new prescription chart which will make it more apparent that antibiotics need to be reviewed at five days and issued a "credit card" prompt for all medical staff. To ensure staff comply with the policies and guidelines we would suggest:

- You significantly strengthen your assurance processes with more frequent audits and checks. Your plan to audit compliance quarterly using the antimicrobial pharmacist will not be sufficient and we would instead recommend that in fact their role should be to test the effectiveness of the controls put in locally by the directorates to assure compliance.

- There should be greater directorate accountability and ownership of this including use of junior doctors to help monitor compliance, regular checks by the ward pharmacist and a greater of awareness by nurses of the need to check before administering antibiotics beyond five days.

- Reviewing antimicrobial training programmes to ensure clinicians have the necessary knowledge and competence to prescribe and administer prudently.

Proton Pump Inhibitors (PPIs).

There is widespread use of PPIs in the trust, as in many other hospitals in the UK and elsewhere. The evidence as to their possible effect in predisposing to *C. difficile* infections is contradictory and unclear. However there is some evidence and anecdotal reports that hospitals with high PPI usage may be more likely to have issues with CDI. We believe it would be prudent to review PPI usage alongside prudent antibiotic prescribing to be assured that the use of PPIs is appropriate and follows clear clinical indications. This would conform with good prescribing practice in general and would take account of possible links to CDI risk.

Cleaning.

It was clear from visiting the wards that the hospital appears clean, uncluttered and well maintained. There were examples of good practice observed such as use of cleaning logs. The domestic service team were highly committed and appeared to work effectively with the nursing teams. The team use the original national cleaning specification and undertake training and audit. The team have only recently begun to assess competence. The trust has invested significant funding to ensure adequate resources are available including a 24 /7 rapid response team. It is also currently embarking on a "deep clean" programme. We were impressed with the response of the cleaning team and the practice of introducing enhanced cleaning. It would be an effective use of resources to agree the criteria for returning to normal cleaning specifications such as a specified period since the ward was declared as being at amber (or red) status. As these assessments are made monthly, the minimum would be a month of non-alert status. This approach would need to be kept under review.

The nursing team have responsibility for cleaning a number of pieces of equipment and audit data suggests there is scope for improvement particularly with commode cleaning Discussion with teams suggested that there is some variation in the ownership of this function and scope to achieve a more consistent approach across the Trust. There are examples of good practice across the trust but these appear to be shared reactively with ward staff when they are faced with a problem rather than proactively shared to achieve spread and adoption.

We would recommend therefore;

- You have instituted a rolling programme of deep cleaning which we would support and encourage wherever possible to increase the pace. You are looking to have a decant ward available so that wards can be emptied and fully deep cleaned. This has always been an ideal approach to deep cleaning if it is possible from the point of view of space availability and the need for complex equipment and facilities. Where it is not possible to decant, a bay by bay approach is an alternative, but the extension of the deep cleaning to the common ward areas (nursing stations, stores, treatment rooms and, particularly sluices and bathrooms/toilets) is much more difficult and we do not know what impact the continued use of these common areas has on the speed of recontamination of the cleaned areas. Although the common areas other than the nurses' station are included in the deep clean at some point, they will be in use for the still active bays while individual bays are being cleaned, thus presenting a continuing possibility of early recontamination from areas not yet cleaned. Similarly, the nurses' station should be included in a deep clean because it is a common meeting point where surface contamination can occur leading to recontamination of cleaned areas if not included.
- You are testing the use of cleaning product "Difficil-S" (which received a Rapid Review Panel recommendation 2) which we believe can only enhance your current cleaning programme; therefore we suggest you continue with its use.
- You should undertake commode audits more frequently until you can be assured there is high compliance across Trust.
- Collect the examples of good practice used by wards, share widely and actively encourage adoption.
- Promote the importance to nursing staff of "everyone's responsibility" with regard to ensuring equipment is kept clean and ready to use.
- When staff visited Cambridge they viewed a system where ward staff could get equipment cleaned by the facilities staff on a rolling programme. This may be an option worth further exploration
- Continue to test competence of facilities staff to ensure cleaning standards are consistently achieved.
- The national cleaning standards have recently been updated and re-launched and we would recommend these are utilised and adopted.

Root cause analysis

Root cause analysis on *C. difficile* cases has only recently been introduced. The trust has designed its own tool which we feel is quite cumbersome, staff feel takes considerable time to complete and it appears difficult to extricate information

We would recommend RCA is undertaken on every case and that the tool be simplified to capture the key information necessary to understand what further action needs to be taken.

We were concerned that an audit by the antimicrobial pharmacist of antibiotic treatment of patients who developed *C. difficile* infection showed extended length of treatment and repeated courses of antibiotics and had been reported through the microbiologists, but had not fed directly into the RCA process. This requires further exploration; however analysis of antibiotic use needs to feature in any revamped RCA tool.

Patient flow

Frequent patient movement is a factor that increases the risk of transmission of infection. Information shared indicates that there are frequent ward transfers and movement of patients at the Trust. We are aware that the Trust has been undertaking significant reconfiguration of services and this is on-going, therefore we would recommend that as part of your work you actively seek ways to minimise patient movement which includes your rationale and use of your Medical Assessment Units. We were surprised to find that you have three MAUs for the one hospital site and that these were being used for more extended treatment of patients than is usual in an MAU. We were told that it was not unusual for some patients to remain in an MAU for 2 or 3 days whereas it would be usual to try to move patients through such units in less than one day. Extended stay in an MAU provides more potential opportunity for transmission of infection which is then dispersed around the hospital when the patients are eventually moved on.

Diagnosis and Isolation

It was not possible to determine whether time to diagnosis and time to isolate patients was a factor in the increased number of cases. This is because the trust does not appear to audit or track this. We would recommend, therefore, that you put in place a process to check and assure compliance to policy. Your diagnostic algorithm has not changed and we do not recommend any change in your approach until there is further guidance coming out of current research commissioned by DH through the HPA.

In helping to prevent the risk of transmission we would recommend that you develop a method of identifying high-risk patients when admitted and instituting enhanced infection control measures at an early stage on an assumption that they may be colonised or infected and may be likely to develop overt infection themselves or contribute to the contamination of the environment. Your very detailed analysis of your cases suggests that an appreciable number have had previous admission to your trust, or others; if they can be identified it may help in instituting preventive measures earlier. This links to our comments about the patient flow situation in MAUs.

Training

Although there are a significant number of training programmes in place, the trust cannot be assured that they are being consistently undertaken as there do not appear to be robust training records in place. In addition it is not possible to determine if the training is resulting in assured competence. We recommend that recording systems should be improved to show that staff have had not only induction training but also the continued annual updates. For clinical professionals this should be linked to their annual personal review and appraisal records.

Renal Services

There have been a number of cases of *C.difficle* in the renal unit. Discussion with the renal multidisciplinary team indicated they had undertaken comprehensive RCA of their cases and were committed to taking whatever action necessary to avoid further cases. We recommended that they make contact with the national renal tsar Donal O'Donaghue to determine the current position with peer units and if there were further specialist actions that could be taken to address the *C.difficle* challenges faced. This collaborative approach has proven successful in renal units in reducing MRSA blood bacteraemias

Current *Clostridium difficile* action plan

There is a comprehensive set of actions in place which are being robustly monitored and implemented. However, following this review we would recommend that the plan is reviewed and re-prioritised, placing a significant focus on the issues identified in the review.

Revitalising your HCAI effort

The trust has been working relentlessly over the last few years and made great improvements in MRSA and initially with *C.difficile*. There would be value in considering how to re-energise your efforts by working with your communications team to refresh messages and approach. Your *C. difficile* challenge may benefit from a "campaign" approach to energise all staff. We noticed that graphs, tables or records of HCAI cases/rates, results of audits etc. were not on obvious display in the wards we visited. A higher visibility, to both staff and patients/visitors could put it more clearly at the forefront of staff priorities. This revitalisation might also include reviewing your current relevant audit programme to ensure the processes in place provide the most effective assurance.

In considering your "campaign" it would be also worth identifying ways to reinforce and emphasise the importance of local ownership and accountability, as our discussion with staff suggested that although staff do recognise the importance of preventing infection, there still seems to be a significant central focus on action and a reliability on the infection prevention team to "sort it out". This is perpetuated by your Trust action plan which does not distinguish between corporate and directorate responsibility, in fact every action appears to have the responsibility of a corporate or executive member of the team.

In conclusion you have most of the actions required to combat *C. difficile* infection in place in the action plan but the whole campaign may need an even higher profile and a tightening of compliance assurance in each area. There is nothing new to recommend in terms of our understanding of *C. difficile* epidemiology and its control. The focus should continue to be on: antibiotic stewardship; prompt diagnosis and isolation; cleaning and environmental hygiene; and patient flow.

This report was written by Professor Brian I. Duerden CBE,BSc,MD,FRCPath,FRCPE and Professor Janice Stevens CBE MA RGN with input from Dr Bharat Patel, MBBC,MSc,MRCPath/FRCPath Consultant Medical Microbiologist, Health Protection Agency, and Ms Eileen Foster MA,MSc,RGN who took part in the review visit on August 23, 2011.

If we can be of further assistance or you require further clarity on any of the point mentioned, please do not hesitate to contact us.

Kind regards

Professor Brian I. Duerden CBE,MD and Professor Janice Stevens CBE