East Sussex Hospitals NHS
NHS Trust

Subject:	**Eastbourne District General Hospital Clostridium Difficile Outbreak – A Report for the East Sussex HOSC**
Date:	*6th July 2009*
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Introduction

As an important component of our drive to deliver high quality, safe care for patients, infection control has always been taken seriously at East Sussex Hospitals NHS Trust. The trust has implemented and developed a comprehensive programme of activities to embrace national initiatives and to reduce infection rates.

In the last quarter of 2008/2009 an outbreak of *Clostridium difficile* associated diarrhoea presented at Eastbourne District General Hospital within the medical division. This note sets out the background to infection control in the trust; the approach taken to control the C Diff outbreak; the approach the trust is taking to identify lessons; and priorities for 2009/10.

Background

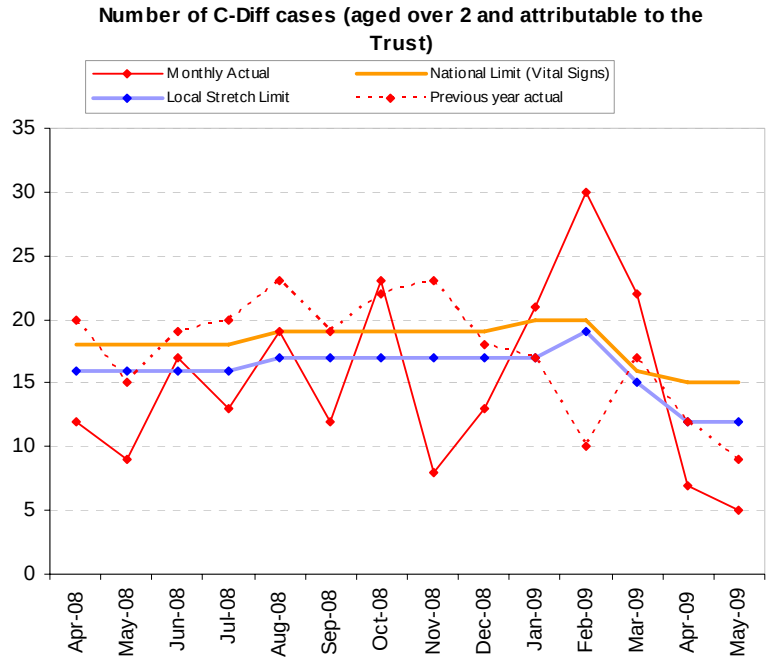
Within the East Sussex Hospitals Trust, the Chief Nurse is the Executive lead for Infection Prevention & Control. Dr Barry Phillips (Critical Care Consultant) is the trust's Director of Infection Prevention & Control (DIPC), supported by a dedicated Infection Control Team. Both he and the Chief Nurse report directly to the Chief Executive. Infection Control is discussed at every Board and Executive Team meeting.

Each Division within the trust has a designated clinician lead for infection control. There are also approximately 80 infection prevention link nurses across the trust. Some highly specialised clinical areas, for example operating theatres, have also developed dedicated infection control groups to facilitate the implementation of infection control initiatives. A dedicated Intravenous Therapy team has been established (from September 2007) to significantly reduce IV-device related MRSA infections. Infection control is included in staff induction and appraisal.

The trust has worked closely with its PCT colleagues and local health economy leads to agree joint strategies for the reduction of healthcare associated infections, which can lead to hospital admission. PCT infection control leads are members of the Trust Infection Control Committee and of a weekly steering group which analyses all reportable infections, both community and hospital acquired. The group has successfully introduced methods of sharing information between the hospital and community healthcare providers in relation to specific infections.

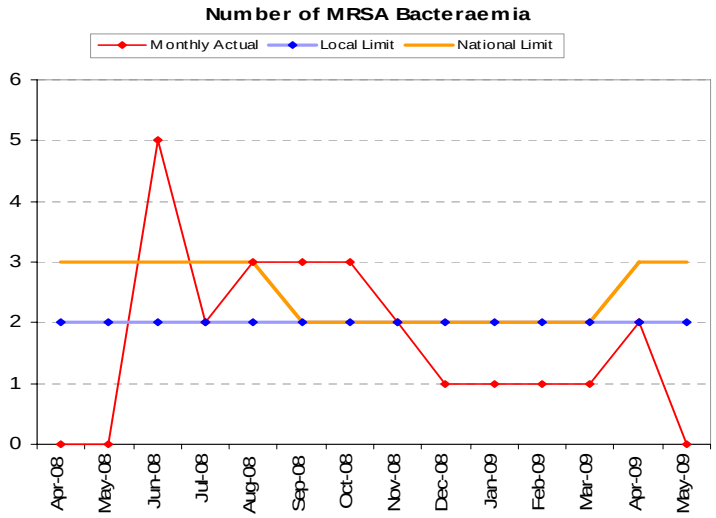
Performance

For 2008/09, the trust agreed with our Primary Care Trust partners trajectories for reducing *Clostridium difficile* toxin positive (CDT) cases for all patients aged 2 and over. The graph below shows trust performance against these local and national limits.



MRSA bacteraemia

In 2008/09, the Trust reported 22 MRSA bacteraemia infections, of which 12 were hospital acquired, 8 were acquired prior to admission to the Trust (community acquired or other healthcare related) and 2 were contaminated samples. This is a reduction of 58% on the previous year. The following graph illustrates the Trust position against local and national reduction limits.



Each episode of MRSA bacteraemia is investigated by a root cause analysis (RCA), which includes input from the Medical Microbiologist, nursing staff and the patient's consultant.

In common with other NHS trusts, East Sussex Hospitals Trust is required to register with the new Care Quality Commission and declare its compliance against the code for the prevention of healthcare associated infections. The trust has successfully been registered by the CQC without conditions.

Clostridium difficile associated diarrhoea (CDAD) – the 2009 outbreak

As a matter of routine good practice, East Sussex Hospitals Trust closely monitors cases of *Clostridium difficile* associated diarrhoea and investigates periods of increased incidence, defined by Department of Health guidelines as when 2 or more cases are present in the same area within 30 days. During 2008/09 a number of small outbreaks were identified, managed and confined to single patient bays. Each of these incidents was examined and any relevant lessons identified and acted upon.

Following investigations into increased incidence during January and February 2009 an outbreak of 027 strain *Clostridium difficile* was identified within the medical wards at the Eastbourne DGH. The outbreak had a significant impact on hospital activity. On March 6th the Infection Control Team recommended the closure of six medical wards to new admissions to allow vacation, deep cleaning and decontamination with hydrogen peroxide prior to reopening to new admissions. To support this process new medical admissions were temporarily diverted to its sister site Conquest Hospital, and other neighbouring Trusts.

The trust's response – managing the outbreak

From the start of this outbreak, the trust followed a twin-track approach, based on a treatment strategy to deliver the best possible care to the increased number patients who developed CDAD and a prevention strategy to reduce the number of new cases developing. This approach was driven forward through daily, multi-disciplinary meetings, chaired by the Chief Executive and involving the Health Protection Agency (HPA), the South East Coast SHA, our PCTs and key members of the trust dealing with the outbreak.

The key features of these complementary strategies are set out below.

Treatment Strategy:

- Rapid set up of a dedicated isolation ward on the Eastbourne Hospital site. This involved setting up a ring fenced 15 bedded cohort isolation facility on East Dean ward (with its structure and operation based on a hybrid of similar units at Worthing and Brighton). The East Dean isolation ward has been working well with an approximate nursing to patient ratio of 2:1.

- Establishing a multi disciplinary ward round, with direct input from a microbiology consultant, senior nursing staff, physiotherapy, occupational therapy, nutritionist pharmacy and surgery.

- Providing clear information to patients and their family on diagnosis of C.Diff, including upon movement to East Dean. This was also disseminated to GPs and community services through close links with Community and PCT Directors of Infection and Prevention Control.

- Additional measures around cleaning, purchasing of equipment and facilities alterations which allowed the rapid set up of this isolation ward. This has been overseen by senior facilities staff.

- Dedicated Consultant care with resident locum medical doctor and daily medical registrar availability to support the resident. The resident doctor dedicated to East Dean is employed from 9am-5pm 5 days a week. He has an outreach assessment protocol which allows early assessment for admission to East Dean of patients with known diagnosis of C. Diff. Weekend cover is provided by medical on call teams which provide a daily review of patients on East Dean.

<u>Prevention Strategy:</u>

- A programme of deep cleaning and Hydrogen Peroxide vaporisation of all medical wards. This has been undertaken as a rapid rolling program designed to keep potentially at risk patient groups away from the general medical patient population.

- Dissemination of outbreak alerts through the divisional directors, the infection control team, infection control link facilitators and junior doctor representatives.

- Clear rules for the admission and discharge of patients have been established with social services.

- Laboratory support has been extended to allow routine weekend C Diff testing with protocols for involvement of the microbiology consultant. Movement of the newly diagnosed C Diff patient must then occur within **1 HOUR** to East Dean ward. Towards the later stages of the outbreak, an in-house capability for rapid testing for the 027 stain was established (addressing previous delays in outsourcing strain testing.)

- Boost to the infection control team by secondment of nurses and secretarial support from other departments and community (PCT infection control nurses)

- Rapid review of root cause analysis done on each of the CDAD cases to establish early learning points.

- Introduction of new antibiotic policy guided by consultant microbiologists and the post graduate centre. Introduction of limited dosage antibiotics through regular feedback on daily divided dosage data to clinical directorates and to the board and regular auditing of policy compliance across all clinical directorates.

- Establishment of link Physicians to enable close monitoring of infection control measures, audits and care bundle compliance at a Divisional level within the trust.

Following close liaison with the Health Protection agency and implementation of the strategies set out above, the outbreak was declared over on 14 April.

Learning lessons and next steps

East Sussex Hospitals Trust invited experts from the Health Protection Agency into the trust for a peer review exercise to look at the way we were managing the outbreak of *Clostridium difficile* at Eastbourne District General Hospital. The review team praised the trust for acting promptly to identify the outbreak and reacting to implement containment and control measures, including the provision of a dedicated cohort ward for patients affected. They have made a number of recommendations (ranging from the very specific such as the positioning of elbow taps in sluices to more general observations on how to build on the already strong culture of infection control in the trust).

The trust has drawn up an action plan to take forward all of these recommendations: follow up work is already in hand and well advanced. The trust is currently preparing a report, setting out the background to the outbreak, key lessons and recommendations, and what we are doing about them. Broadly speaking, our analysis of events leading up to the outbreak suggests the following factors in combination were the main drivers:

- 20% higher than normal winter peak hospital admissions
- Background of high incidence of winter flu like symptoms
- Use of antibiotics for respiratory infections (this was clinically necessary to treat the primary medical condition)
- Elderly population
- Highly virulent strain of Clostridium Difficile (ribotype 027)

An Infection Control Steering Group continues to meet on a weekly basis, bringing together clinical leaders with the trust and local health economy. This group consists of the trust's Chief Executive, Medical Director, Chief Nurse, Divisional Directors and Nurses, Microbiology Consultants and Infection Control Team, and PCT and HPA representatives as needed. Its remit is to:

- Scrutinise each case of reportable hospital acquired infection, and to ensure co-ordinated action across the organisation.

- Implement recommendations by the Health Protection Unit peer review visit and introduce a gap analysis of current practice to recent Department of Health documents such as “Clostridium Difficile: how to deal with the problem.”

Looking Forward – 2009/10

The trust’s performance against infection control targets for the first three months of 2009-2010 is shown below:

	MRSA		CDAD	
Month	Limit	Actual	Limit	Actual
APRIL	2	2	14	7
MAY	2	0	14	5
JUNE	2	0	13	5
Quarter 1	6	2	41	17

The Eastbourne District General site was the subject of a hygiene compliance spot check by the Care Quality Commission on 9th June 2009. The CQC has given the trust a clean bill of health and found no areas for concern against the criteria they examined.

The trust’s over-arching infection control plan for 2009/10 has a number of objectives, focusing on:

- continuing to meet limits for the reduction of MRSA bacteraemia and *Clostridium difficile* associated diarrhoea

- ensuring compliance with external guidelines, including the Hygiene Code, NHS Litigation Authority standards and Department of Health guidance: *Clostridium difficile* ‘How to deal with the problem’.

- ensuring compliance with revised internal trust policies on MRSA screening and decolonisation, and keeping trust policies under review in line with external guidance and evidence based practice.

- regular reporting and review of antibiotic prescribing by clinicians for review by Divisions.

- compliance with National Cleaning Standards and increasing our Rapid Response Cleaning service to provide full service for extended hours.

- supporting the further development of the trust Infection Control team; embedding the role of the Link Physicians for Infection Control within the trust’s Divisions; and delivering enhanced infection control training for all staff groups.

- completing development of an electronic data capture system for monitoring infection control compliance with Hand Hygiene, high impact interventions and MRSA screening.

- developing and implementing a project for reduction of risk of urinary device related infections.