

**Infection Prevention and Control**  
**Annual Report 2010-11**



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## Executive Summary

- Infection control is central to the delivery of safe, cost effective healthcare. It impinges upon all aspects of healthcare delivery, and consequently has a unique place in the Trust. Throughout 2010-11 the Infection Prevention and Control Team (IPCT) were actively involved in managing the risk of infection both to patients and staff. This involved identifying risks of infection and advising of interventions likely to minimise or eliminate those risks. The team has worked with Divisions to ensure that infection prevention and control remains everybody's responsibility and ownership for it can be demonstrated at all levels in the Trust.
- The target for MRSA bacteraemia was met, with one case identified as having been acquired more than 48 hours after admission.
- The rate of *Clostridium difficile* infections has continued to fall, with 46 cases acquired in the Trust against a target of 45 for the year.
- Timely isolation of patients with infections/colonisation is an important element to prevent cross infection.
- One of the key elements of the national mandatory surveillance system is the ability to interrogate the data to drive patient safety. During the year the Trust has focused upon the management of peripheral vascular catheters infections to support the prevention of catheter related bloodstream infections.
- The Trust has worked to develop a systematic approach to screening patients for MRSA on admission/prior to admission. Capturing all relevant patients can prove difficult due to the complex pathways patients have for referral. During the year the Trust has monitored rates of screening on an individual patient basis; this can\* be onerous and also generates significant laboratory work to process the samples. The Department of Health directive to screen all adult patients has been debated by many experts in the arena of infection control, viewed by many as not the most cost effective use of resources to prevent MRSA infections. In 2011 a national one week prevalence study is being undertaken to review the evidence and report the findings to the Department of Health for future policy development. The Trust will participate in this important study to inform national policy.

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# ANNUAL REPORT INFECTION PREVENTION AND CONTROL

## 1. Introduction

The Trust is committed to the National Patient Safety First campaign; the underpinning ethos of the campaign is to achieve no avoidable deaths and no avoidable harm. Many of the elements of this campaign are closely aligned to preventing healthcare associated infections and are underpinned by consistently high standards of care.

The Trust is committed to achieving the goal of no preventable healthcare associated infections. Healthcare associated infections are infections that occur in patients more than 48 hours after admission to the hospital, or an infection that occurs following interaction with healthcare services in the community.

It can be difficult defining absolute points in time when infections are acquired. There are many factors that can influence how infections are defined as either hospital acquired or community acquired. In terms of MRSA bacteraemia, cases are defined as community acquired when the sample is taken within 48 hours or prior to admission, for cases of *Clostridium difficile* it is when the sample is taken within 3 days of admission or prior to admission. However, these definitions are used for surveillance purposes, and setting targets for reductions in community and acute Trust settings. One of the important elements that can be overlooked when reviewing the targets is the recent interaction with any healthcare setting. Factors that include recent admission or discharge from hospital, recent antibiotic treatment in primary care, domain of the patient and the time the sample was taken are all relevant and need careful consideration if practices are to be improved to reduce healthcare associated infections across the range of healthcare settings. This emphasises the importance of working closely with all healthcare providers, with the common goal of establishing consistent best infection control practices in all healthcare settings, and learning from investigations to improve practices across the spectrum of healthcare providers.

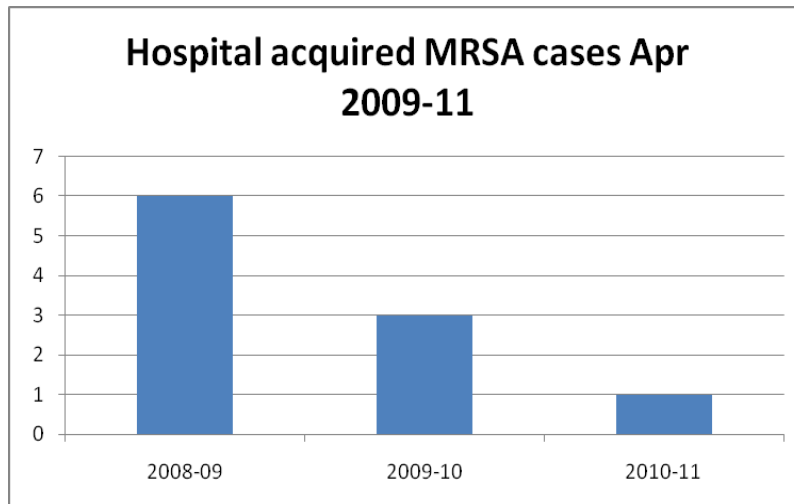
An unannounced visit from the Care Quality Commission in January 2011 found:

*“The clinical areas within the hospital are clean and well maintained to prevent and control infection. Patients and people visiting the ward areas are informed and encouraged to take precautions to prevent infection. Staff demonstrated appropriate and safe practices in infection prevention and control. There are appropriate arrangements to minimise the risk of infection between patients, including screening patients, the use of disposal curtains and isolation facilities.”*

## 2. MRSA Bacteraemia

The Trust has demonstrated excellent performance in reduction of MRSA bacteraemia for this year. The Trust has reported 1 case of MRSA bacteraemia acquired in the Trust in March 2011, the first since September 2009. The target set for 2 cases for the year was met.

The chart below demonstrates the reduction in cases of hospital acquired MRSA bacteraemia since 2008.



The Department of Health issued guidance for MRSA screening of elective and emergency patients, the Trust implemented this guidance into the revised MRSA policy. However, nationally there is concern that this approach to MRSA screening may not be cost effective in preventing more serious MRSA infections and a national research project is currently being undertaken to review these recommendations.

It is important to take account of the many components of effective infection control practices that contribute to reduction in healthcare associated infections; these include good hand hygiene, care of invasive devices, providing a safe, clean environment and patient involvement in preventative hygiene measures. It is therefore important to focus the work programme for the forthcoming year on all of the elements.

### 3. Meticillin Sensitive *Staphylococcus aureus* (MSSA)

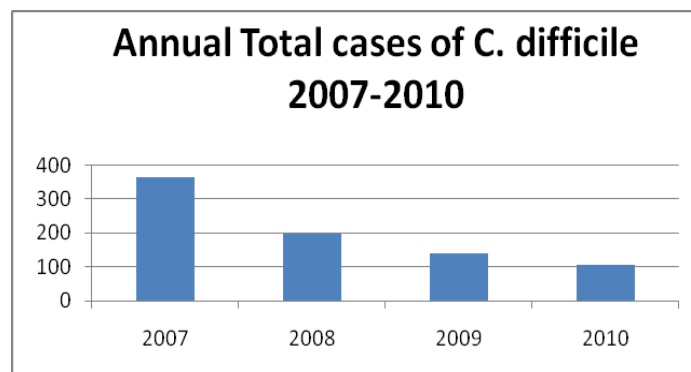
*Staphylococcus aureus* is a common bacteria that commonly colonises the human skin. Like MRSA it is a bacterium that causes a range of infections when the bacteria enter the body. The range of infections are from very minor (superficial skin infections) to life threatening infections of the heart valves, joint infections and blood stream infections.

From January 2011 the Trust is required to report MSSA bloodstream infections via the national mandatory surveillance system, in the same way as MRSA bloodstream infections are reported. The work underpinning reduction in MRSA supports prevention of MSSA, although patients are not routinely screened in the same way. Patients undergoing regular dialysis are screened for MSSA on a routine basis as renal patients are considered most at risk of infection due to the nature of their treatment. At the Trust we also screen cardiology patients prior to insertion of internal pacemaker devices following a joint review by IPCT and Cardiologists of patients who developed infections following the procedure. Cases are allocated to the Trust or the community according to the time the specimen was taken e.g. post-48 hours are allocated to acute trust. Since January 2011, 2 cases of MSSA bloodstream infections have been reported as acquired in the Trust.

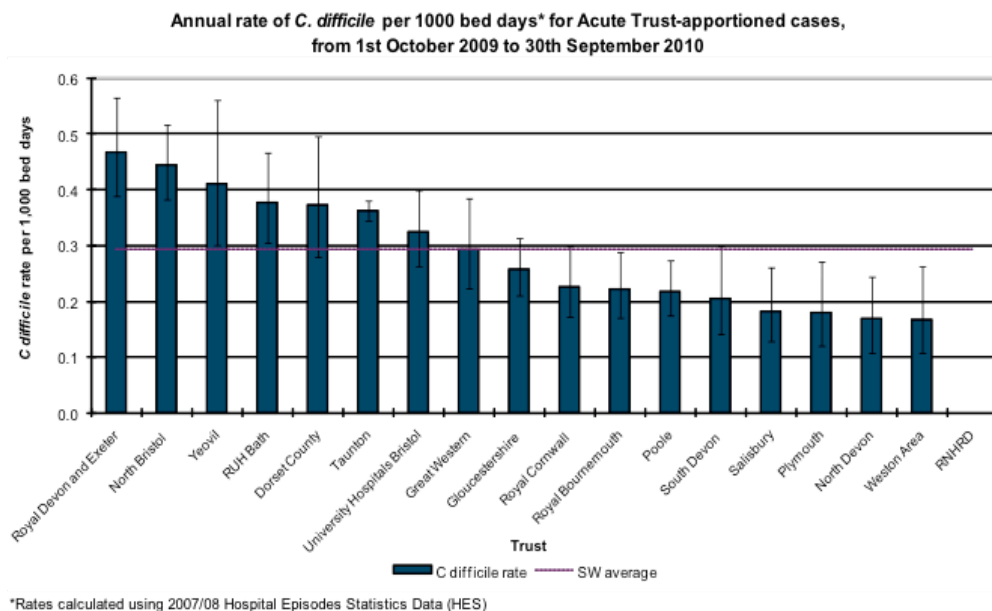
### 4. *Clostridium difficile*

Rates of *Clostridium difficile* have continued to reduce but targets remain challenging for the Trust. In 2011 the target for the Trust was 45 cases, the Trust reported 46 cases. Nationally there is growing concern regarding the accuracy for the testing methodology used for *Clostridium difficile*. There are more sensitive tests available than are currently used at the Trust. Trusts that have introduced these more sensitive tests have reported increase in cases detected of up to 60%. National guidance is expected in the summer 2011, this will be reviewed at the Infection Prevention Committee.

The chart below demonstrates the overall reduction in total number of cases of *Clostridium difficile* since 2007.



The following chart demonstrates local rates of *Clostridium difficile* acquired in acute Trusts. It is important to note that some Trusts have introduced more sensitive testing methods, thereby increasing their rates of detection. It is clear from this data that the Trust has to focus efforts on further reduction of cases of *Clostridium difficile* in the forthcoming year.



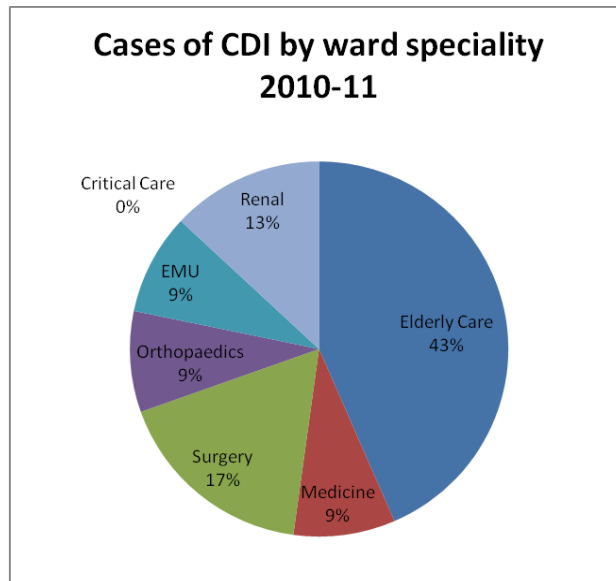
The Trust with the highest rate of *C. difficile* for Acute-Trust apportioned cases for October 2009 to September 2010 was Royal Devon & Exeter (0.47 per 1,000 bed days). The South West average was 0.3 per 1000 bed days and RNHRD reported the lowest rate, with North Devon and Weston having the lowest rates in the non-single speciality Trusts (0.17 per 1,000 bed days).

Source data HPA SW HCAI report July-September 2010.

During 2010-11 there were 2 reported outbreaks of *Clostridium difficile* infection in one elderly care ward. A comprehensive review of the outbreak was undertaken. Key actions were implemented, these included increased en-suite isolation facilities, development of admission policy for the ward, review of housekeeping standards, introduction of enhanced training for housekeeping staff. Since this period (June-October) there has been a reduction in cases on the ward.

Patients admitted to elderly care are considered to be most at risk of acquiring *Clostridium difficile* infection. This is in line with epidemiology of the infection whereby it is acknowledged that elderly debilitated patients are at increased risk of the disease. However, the number of cases of infection in elderly care patients has reduced following the introduction of the previously stated control measures. Therefore, targets for divisions will be set and agreed for the forthcoming year in line with the Trust target. The

chart below demonstrates the percentage of cases of *Clostridium difficile* cases by speciality during 2010-11.



Targets for Divisions to reduce rates of *Clostridium difficile* infections will be set for the forthcoming year. It is important that Divisions focus upon these reductions as this infection can have serious longer term complications for patients, result in increased length of stay and have been estimated to have excess costs of £4000 per patient.

A key target for the forthcoming year is to achieve early isolation of patients who develop unexplained diarrhoea. This can be difficult to achieve when Trusts are expected to operate with high occupancy rates, but must be seen as a critical control measure to prevent secondary cases that occur following exposure to index cases of patients with *Clostridium difficile* infection.

## **5. Infection Prevention and Control Team (IPCT)**

The IPCT has been strengthened by the appointment of Emma Hoyle in her role as Matron for Infection Prevention and Control. The key underpinning elements of her role will be to work closely with housekeeping staff and Matrons to improve standards of cleanliness and to improve standards of decontamination of medical devices within the Trust.

The IPCT consists of:

- Dr Clements, Consultant Microbiologist, Infection Control Doctor
- Anne Smith, Nurse Consultant IPC
- Emma Hoyle, Matron IPC
- Gloria Moss, Trainee Specialist Nurse IPC
- Robin Parsons, Antibiotic Pharmacist
- Cheryl Heard, Senior Secretary IPC.

Gloria Moss has completed her BSc Nursing with Dundee University during the year.

The IPCT works closely with the Matrons, Ward Sisters and support service staff to facilitate development of best practice across the Trust.

For the forthcoming year a trust wide work program has been developed, this will be supported by the IPC Link staff. Link staff play a critical role in clinical practice, providing the opportunity to develop knowledge and take the key components to clinical practice to influence and where necessary change practice. During 2010-11 there have been many organisational changes that have at times inhibited the IPC work programme. However, with the formation of the new Clinical Divisions there is an opportunity to firmly embed IPC supported by Matrons, Ward Sisters and Link Nurses.



*Deputy Ward Sister Tracey Maltravers and S/N Devon Rowland of Purbeck Ward demonstrating the board displaying key results of infection control audits, this ensures that staff are aware of elements of practice and can*

The IPCT plans to strengthen the role of IPC Link staff in the forthcoming year, underpinning their roles by developing their knowledge and skills ensuring that the fundamental elements of the role are clear, concise and effectively utilised within clinical areas.

**6. Infection Prevention Committee (IPC)**

The IPC is chaired by the Chief Executive, Jean O’Callaghan. During the year the IPC met on six occasions. Each of the Divisions is required to develop an annual Healthcare Associated Infection Improvement plan; progress against these plans is reported at the IPC by the Matron for the division. This provides the opportunity to discuss the aspects of reducing infections that have been successful or challenging and the forum for discussion to improve practice.

The IPC is a sub-committee of the Senior Management Team with the overall aim of supporting the Trust assurance structures. A separate Decontamination Committee reports to the IPC.

The IPC receives reports on healthcare associated infections, healthcare associated deaths, relevant root cause analysis investigations and compliance with hand hygiene and managements of peripheral vascular catheters. The antibiotic pharmacist also reports results of antibiotic audits undertaken during the year.

Progress against the annual IPC work programme is also monitored at the IPC.

Key themes emerging during the IPC focus on the improvement with compliance with hand hygiene practice. During the year it was agreed to change the audit tool to the tool developed by the Institute of Health Improvement. This tool focuses upon practices at the patient bedside, providing the opportunity to identify compliance by different staff groups, and where necessary individual staff members. Using this more specific audit

tool, some Matrons report that rates of compliance appear to have decreased. However, where the audit cycle has been utilised fully, with engagement of the clinical teams results have demonstrated sustainable change in practice. Results of hand hygiene audits are now displayed publically at ward entrances. It would appear that staff are now more engaged with the audit results. Hand hygiene is considered the most effective measure to prevent healthcare associated infections, therefore hand hygiene remains a key standard practice for all healthcare workers employed by the Trust and I am prepared to take action for staff reported as non-compliant.

Another key theme that has become the focus of the IPC is the time taken to achieve isolation of patients with infections, particularly *Clostridium difficile*. A recently published paper suggests that within a short period of time following the onset of diarrhoea the surrounding environment can become contaminated. Previously staff were dependent upon positive laboratory results before isolating patients. There is now a significant emphasis on isolating patients at the onset of diarrhoea to reduce environmental contamination this reduces the risk of cross infection.

## **7. Surveillance**

Surveillance of infections is one of the most important components of infection prevention and control practice.

The Trust participates in the national mandatory surveillance system for recording cases of MRSA bacteraemia, *Clostridium difficile* infections, and since January meticillin sensitive *Staphylococcus aureus* bloodstream infections. In June this surveillance will be extended to include *Escherichia coli* (E. coli) bacteraemia. This data is being collected as there is a concern that rates of E. Coli bacteraemia are increasing nationally, with a 5% increase in reported number of cases between 2009-10. E. coli is the most common cause of bacteraemia, the highest rates are in those aged over 64 years, the second most common group those aged less than 1 year old, with a higher incidence in males than females.

In 2010-11 the IPC team has undertaken surveillance of hip replacements. Gloria Moss, Infection Control Nurse has worked closely with the orthopaedic team to develop a robust system of surveillance taking account of both the inpatient episode of care, and perhaps given the short length of stay the 30 day follow up following the procedure. The post discharge surveillance was undertaken by Mike Peake, physiotherapist, and provides assurance that rates of infection are accurately detected. The surveillance period was July-December 2010. Over this six month period a total of 144 patients were included in the surveillance. Of these 144 patients included in the surveillance 2 patients developed post operative superficial wound infections, detected at outpatient

follow up appointments. This represents an overall rate of 1.4%, against a national rate of 1.2%, however this data should be interpreted with caution as not all Trusts undertake post discharge surveillance when infections are more likely to be detected.

There has been some significant progress with the Infection Control Database (ICDB). The database provides a most useful working tool for recording relevant information on patients with infections, and records patients in single rooms in the Trust. There is further work required to develop the Consultant Microbiologists elements within the database to produce information regarding rates of healthcare associated infections.

## **8. Outbreaks of Infection**

### **8.1 Norovirus**

During 2010-11 there have been 12 outbreaks of Norovirus resulting in ward closures. Norovirus is considered the most infectious cause of diarrhoea in England and Wales, outbreaks are common in semi closed settings like hospitals, schools, nursing homes and cruise ships.

Outbreaks of Norovirus are essentially difficult to predict, and are a cause of major disruption to services. When outbreaks occur on wards this impacts upon elective activity and correct placement of patients on wards. Control measures are in place, assessing patients for symptoms at the point of admission, discussion with General Practitioners prior to admission and advising visitors and staff not to enter the Trust if they have symptoms. However, due to the sudden onset of symptoms there is frequently no prodromal period with awareness prior to the onset of vomiting/diarrhoea. During this year staff have reported on several occasions that visitors have suddenly developed vomiting during a visit, or have visited and then revealed when made aware of the outbreak that they have had symptoms in the preceding days. This makes control mechanisms very difficult to implement.

I have issued proactive press statements to alert members of the public to the potential problems associated with Norovirus, but unfortunately not all people visiting the Trust followed this advice. The following table outlines the ward closures and numbers of patients/staff on the wards affected. The numbers of staff affected relates to numbers of staff working directly on the ward during the outbreak and does not take account of other Trust staff. It is important to note that the table does not represent all incidences of Norovirus when control measures are successfully put in place (e.g. early isolation of symptomatic patients, robust control housekeeping standards, and restricted access to bay) thereby preventing a wider outbreak resulting in ward closure.

**Table to demonstrate the numbers of Ward Closures due to Norovirus for 2010-11.**

<b>Ward</b>	<b>Date ward closed</b>	<b>Date ward reopened</b>	<b>Patients affected</b>	<b>Staff working on ward affected</b>
Purbeck	04/04/2010	08/04/2010	5	5
Ilchester	06/04/2010	17/04/2010	6	2
Hinton	07/04/2010	12/04/2010	3	1
Barnes	24/04/2010	02/05/2010	5	0
Ilchester	08/12/2010	24/12/2010	20	0
Day Lewis	31/12/2010	10/01/2011	18	1
Prince of Wales	05/01/2011	11/01/2011	3	0
Purbeck Ward	10/02/2011	16/02/2011	6	6
Hinton	03/03/2011	09/03/2011	7	0
Day Lewis	10/03/2011	19/03/2011	11	0
Hardy	14/03/2011	27/03/2011	8	3
Ilchester	26/03/2011	02/04/2011	15	3
<b>Total</b>			<b>107</b>	<b>21</b>

## 8.2 *Clostridium difficile*

There were two outbreaks of *Clostridium difficile* reported on Barnes Ward. A full patient safety investigation was undertaken to review the circumstances of the ongoing outbreak that occurred between June-October 2010.

Several key issues were identified as potential root causes of the cross infection:

- Environment inadequately cleaned due to shortage of cleaning hours.
- Insufficient facilities for isolation of patients with infections.
- Use of temporary housekeeping staff;
- Inadequate training procedures for substantive/temporary housekeeping staff leading to unacceptable standards of environmental cleaning;
- Patient mix with high percentage of confused wandering patients;

Following this review an action plan was developed, and implemented. This has resulted in significant reduction in the numbers of cases of *Clostridium difficile* infections. The ward now has two additional en-suite isolation rooms to increase their capacity for early isolation of patients with symptoms. Cleaning audits across the Trust indicate the significant improvement in cleaning standards; this is supported by a robust training programme for all housekeeping staff.

## 9. Antibiotics: Usage and cost summary for financial year 2010/2011.

Over the last year, a variety of audits both prospective and retrospective, were undertaken at DCHFT to investigate antibiotic prescribing. These included the ertapenem usage audit, the penicillin allergy audit, the annual point prevalence audit and numerous ward-specific 'appropriate antibiotic audits'.

Full details and the results of these audits can be found on the Clinical Audit website on the Trust Intranet.

### 9.1 Ertapenem usage audit

Since ertapenem was approved for use on Trust antibiotic guidelines (mid 2009) its use has increased substantially and in a recent financial review of the Pharmacy drug budget, an increased spend on ertapenem was highlighted. In light of this, an audit was commissioned to investigate whether the prescribing of ertapenem at DCHFT was in accordance with current Trust guidelines.

The audit indicated that in the large majority of cases, ertapenem was being used in accordance with Trust guidelines. Despite this encouraging result, an action point of the audit was to consider reducing overall usage of ertapenem (to reduce risk of resistance developing) and one recommendation was to review the place of ertapenem on the diabetic foot antibiotic treatment guidelines.

A new diabetic foot treatment guideline has been produced and is currently out for comment with the Endocrine team.

### 9.2 Penicillin allergy audit

It is policy at DCHFT that if a patient has a drug allergy, both the name of the offending drug and the nature of the reaction is recorded in the allergy section of the Medicines Prescription chart. This is not always happening and it is apparent that there is a particular problem around the designation of "penicillin allergy", with some patients being deemed penicillin allergic when in fact they are not and consequently are being treated with second line antibiotics.

In some cases, second line antibiotics are less effective than first-line antibiotics, can be more expensive and/or are "high-risk" antibiotics for *C. difficile*.

The results of the audit clearly demonstrated that contrary to DCHFT policy, documentation regarding penicillin allergy on the Medicines Prescription chart is poor. **Only ~ 50% of patients labelled as "penicillin allergic" had any details of the alleged reaction documented in the allergy box** and that **30% of the patients**

***labelled as being “penicillin allergic”, did not have any convincing evidence to suggest that they actually had an allergy.***

An action plan to introduce education aiming to improve penicillin allergy documentation will hopefully reduce the unnecessary usage of second-line antibiotics (including “high risk” for *C. difficile* antibiotics) and consequently may help reduce *C. difficile* rates at DCHFT.

### **9.3 Appropriate antibiotic audits**

A number of audits were undertaken on various wards to investigate antibiotic prescribing practice. These prospective audits are designed to pick up any developing trends or problems with prescribing. One advantage of these audits is that the Microbiologist and the Antibiotic Pharmacist can give immediate feedback and education to prescribers on the ward.

### **9.4 Increased surveillance of prescribing of “high risk” antibiotics in Elderly Care patients**

Over the last year, 43% of all cases of *Clostridium difficile* infections were on Elderly Care wards (see graph on page 8 of this report). In response to this, a recent Pharmacy-Microbiology initiative was to increase surveillance of elderly care patients. Ward Pharmacists and Pharmacy Technicians identify patients on “high risk” antibiotics and refer them to the Antibiotic Pharmacist for review. The Antibiotic Pharmacist reviews the prescription and refers any that are deemed inappropriate to the attention of a Microbiologist – who contacts the prescribing team and offers advice on prescribing alternative appropriate and “lower risk” antibiotics.

In the first week of the initiative eight patients were identified as being on “high risk” antibiotics and four were prescribed alternative “lower risk” antibiotics as a consequence.

In the future, and if resources allow, it is hoped to extend the increased surveillance of “high risk” antibiotics to all of the wards at DCHFT.

### **9.5 Annual Point Prevalence Audit March 2011**

The Antibiotic Point Prevalence Study is an annual one-day “snapshot” audit of antibiotic prescribing and was undertaken at Dorset County Hospital Foundation Trust in March 2011 as part of a regional study that included over 7500 patients across 17 other Trusts from the South West of England.

The data can be used to compare the Trust’s performance with others in the region and highlight areas of best practice.

## Findings

- The standard of antibiotic prescribing at Dorset County Hospital NHS Foundation Trust was comparable to that of the average in the South West Region.
- On audit day, 36% of patients at DCHFT were on antibiotics, which compares to regional average of 31.9%. The last two years data has shown that DCHFT has had ~36% of patients on antibiotics and this is trending higher than both regional average and that of other hospitals in the local area (Poole – 26%, RBH and Salisbury 31%).
- The ward pharmacists considered doses were appropriate in 99.3% of cases and that the route was appropriate in 98.5% of cases. This compares to regional average.
- 49.6% (-17% 2010) of inpatient prescriptions had a course length or review date stated on the chart or in the notes compared to the regional average of 59%. More work needs to be done on educating all Drs to add a review date or stop date to all antibiotic prescriptions. This should prompt nursing and/or Pharmacy staff to question ongoing antibiotic prescriptions and may reduce the number of inappropriate prescriptions (reducing unnecessary costs).
- The indication of treatment was documented in 87% (+1% 2010) of prescriptions compared to a regional mean of 92%. This is short of the required standard, which is 100%. Over the last four years the indication documentation result at DCH has reached a plateau. Documenting in the medical notes as to why a patient is on an antibiotic (or any newly started drug) is fundamental and should be done by all prescribers. The audit demonstrates that some prescribers at DCHFT are failing in the very basics of documenting in medical notes and this represents a medico-legal risk to both the prescriber and the Trust.
- In comparison North Devon only had documentation of indication in 75% of antibiotic prescriptions but South Devon, and Weston Trusts claim 100%.
- 77% (+9% 2010) of antibiotic prescriptions at DCHFT were in line with current DCHFT antibiotic guidelines (regional average 83%). This is a significant improvement from last year and may be a result of Microbiology and Pharmacy attempts to get prescribers to use the antibiotic guidelines. However, more work is required to improve this result. If resources allow, in 2011 a new “antibiotic website” should improve the situation further.
- DCHFT usage of the cephalosporins (high risk *C. diff.*) is higher than the regional average (8% v 4.5%), but is similar to other Trusts in the locality and usage remains steady.

- DCHFT is maintaining a low usage of quinolones (high risk *C. diff.*) and is using just above the regional average.

### **Conclusion and Actions**

- The audit did not highlight any *major* problems with antibiotic prescribing at this time but does demonstrate that certain areas of prescribing, especially documentation need improving (e.g. documentation of indication, specifying stop date or review dates on prescriptions).
- Course lengths: recent guidelines haven't improved the situation at DCHFT. New approach to this problem is required – discussions to take place at Antibiotic Working Group and action plan developed.
- Continue with Microbiology – Antibiotic Pharmacist ward visits to encourage and educate prescribers about all aspects of antibiotic prescriptions.

### **9.6 Financial summary for year 2010/2011.**

Table 1 shows the cost of anti-infective drugs prescribed at DCHFT over the last six financial years. Figures include issues to inpatients and outpatients and cover all clinical directorates.

**Table 1.**

	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Antibiotics	£484,401	£437,353	£502,165	£533,879	£484,838	£429,776
Antivirals	£204,742	£271,664	£288,469	£413,768	£454,254	£503,326
Antifungals	£59,170	£58,965	£67,237	£40,457	£110,918	£140,961
<b>TOTAL</b>	<b>£748,313</b>	<b>£767,982</b>	<b>£857,871</b>	<b>£988,104</b>	<b>£1,050,010</b>	<b>£1,074,063</b>

HIV drugs	£492,250
Non-HIV Antivirals	£11,100

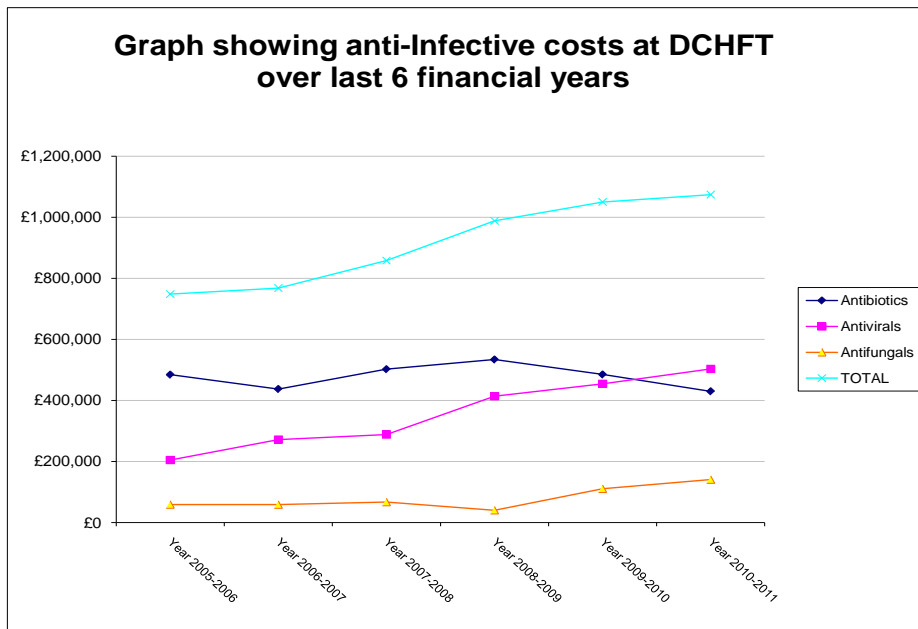
Table 2 shows the percentage difference in cost when compared with financial year 2009/10;

Table 2.

	Spend change
Antibiotics	-11.4 % (£55000 less spent on antibiotics compared to 09/10)
Antivirals (includes HIV drugs)	+ 10.8% (£49000 more spent on antivirals compared to 09/10)
Antifungals	+ 27.1% (£30000 more spent on antifungals compared to 09/10)
<b>GRAND TOTAL</b>	<b>+ 2.3% (£24000 more spent on anti-infectives compared to 09/10)</b>

HIV drugs	+23.3%
Non-HIV Antivirals	-80.0%

Graph 1; A representation of data from Table 1;



## Breakdown summary of financial report 2010/11

### Anti-infectives

- **An increase in both antiviral and antifungal spend was offset somewhat by a significant decrease in the antibiotic spend.**
- Compared to financial year 2009/10, the overall anti-infective spend (including antibiotics, antivirals and antifungals) was up by £24,000 - **up 2.3% to £1,074,000 p.a.**

### Antibiotics

- Compared to the last financial year (2009/10), the antibiotic spend was down by £55,000 - **down 11.4% to £430,000 p.a.**
- When compared to financial year 2008/09, the antibiotic spend this year is down by 19.5% (-£105000).
- The antibiotics spend for 2010/11 is the lowest since detailed reporting began in 2005/06.
- This decrease in cost may not actually correlate to a decrease in “absolute” antibiotic usage but might be explained by the following;
  - i) In the last two financial years, some medium-cost antibiotics have come off patent (e.g. meropenem, Tazocin® and teicoplanin) and cheaper generics brands have become available to the Trust.
- DCH patient activity data is pending and was not available at time of writing this report. It would be interesting to plot cost of anti-infective vs activity.
- There are mechanisms that can demonstrate how antibiotic prescribing practice is changing over time – and thus whether a change in prescribing practice is contributing to decreased spends. Daily Defined Dosages (DDDs) is the “gold standard” monitoring mechanism and is recommended by the World Health Organisation. This method links physical amounts of antibiotic used (in grams) to the number of patients being treated per year.
- A project to determine DDDs for individual antibiotics would be a huge step forward in terms of reporting usage, and would provide valuable data for analysis. Additionally, as this is the “gold standard” used by many UK Trusts, adopting the DDD would enable DCHFT to compare itself with other hospital Trusts (regionally, nationally or even internationally).

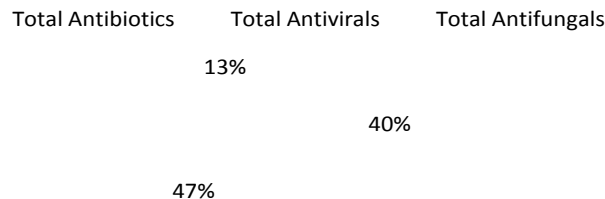
## Antivirals

- Compared to the last financial year (2009/10), the antiviral (AV) spend was increased by £49,000 - **up 10.8% to £503,000 p.a.**
- When compared to financial year 2008/09, the AV spend this year is up by 21.8% (+£90,000).
- As predicted in last years report, the total amount spent on AVs has exceeded that of antibiotics for the first time since detailed reporting began in 2005/06.
- Over the last six years, a regular upward trend in AV spend has developed (see graph 1). Through trend analysis/linear regression it is possible to predict what the probable spend on AVs will be in the next couple of financial years.
- A very large proportion of the AV spend (~95% for 2010/11) is due to HIV treatment which are prescribed via the GUM clinic and dispensed via Healthcare at Home. In 2009/10 88% of total AV spend was accountable to HIV treatment (£400,000 of total £455,000 spend).
- Prescribing of HIV antivirals is by specialist only. Prescriptions are not seen or scrutinised by DCHFT Pharmacy.
- The increase in spend will be accountable to a combination of an increasing local HIV patient population requiring treatment (increased from 35 patients in 2003 to 72 in 2008) and increasingly expensive HIV drug regimens (i.e. increase in quadruple therapy, increased resistance requiring 3<sup>rd</sup> line drugs and salvage therapy).
- HIV population figures for 2009/10 and 2010/11 not yet available for further analysis.

**Figure 1**



### **Breakdown of anti-infective spend 2010/11**



## Antifungals

- Compared to the last financial year (2009/10), the antifungal (AF) spend was increased by £30,000 - **up 27.1% to £141,000 p.a.**
- For the second successive year there has been a substantial percentage increase in the antifungal spend.
- Note that during year 2010/11, one single treatment course cost £30,200. The funding for this ongoing treatment course was/ is approved and covered by the PCT (non-PBR).
- Over the last 5 years however, the AF spend trend has been increasing (haphazardly), and has increased as a proportion of total anti-infective spend from about 8% to 13%.
- It is possible that the increase in spend on AFs is a trend set to continue. For instance, if more patients within the catchment area receive chemotherapy treatment for cancer, then there is likely to be a proportional increase in cases of neutropenic sepsis requiring treatment with (expensive) antifungals.
- Prescribing of antifungal treatment, especially the more specialist and expensive drugs (caspofungin, Ambisome®, voriconazole) are relatively well controlled and require Microbiologist or Haematologist or Intensivist approval reducing the risk of inappropriate prescribing by junior staff.

Robin Parsons

Antibiotic Pharmacist

## **10 HOUSKEEPING SERVICES**

The Patient Environment Action Team (PEAT) undertook its annual assessment. The standards of this assessment take account of the patient experience in relation to food, cleanliness, infection control and the patient environment. The Trust is pleased to announce the improved scores against the stringent assessments undertaken in February 2011. The PEAT team has representatives from Director of Nursing, Deputy Director of Nursing, Head of Facilities, Housekeeping Manager, Patient representatives, Matrons, Infection Control Team and this year an external validator was present during the inspections.

During the year there has been a significant effort to refocus on quality improvements, patients rightly expect to be cared for in a clean environment. Many patients have taken the time to comment on the cleanliness of the hospital, this provides additional assurance that we are maintaining high standards. I lead weekly Managerial Audits, with representatives of Housekeeping, Estates and Infection Control. During these audits we review the previous cleaning audit scores, and undertake a full validation audit using the same tools as the housekeeping and nursing staff use. This provides me with assurance that the standards of auditing are consistent, and helps to identify trends for improvements. During the year housekeeping staff have invested significant time in “on the job” training for housekeeping staff, this ensures that safe processes are in place and provides the opportunity for staff to identify any areas of practice they are not sure about.

Perhaps, most critically is the emergence of nursing staff and housekeeping staff working together as a team to achieve high standards of care. This model is actively fostered, the Critical Care Unit is one example where the highest standards of cleanliness have been achieved and sustained. In the unit the Sister meets regularly with nursing staff for briefings and includes the housekeeper in this process, this level of engagement is successful and commendable, and most importantly achieves results.

## **11 REFURBISHMENT PROGRAMME**

The financial position reduced the planned refurbishment programme in the Trust. However, I am pleased to report that the League of Friends funded the refurbishment of Purbeck, Ridgeway and Abbotsbury Wards. The following photographs demonstrate some of the elements of the refurbished wards that without the support of the League of Friends would not have been achieved this year.



***Purbeck treatment room and main corridor following refurbishment funded by the League of Friends.***

The refurbishment programme is not complete and the financial pressures the Trust is facing mean there will be further delay in completing this work programme. When wards have been refurbished cleaning staff and nursing staff report maintaining cleanliness standards is a lot easier. The following pictures demonstrate the difference between a refurbished sluice and one that has not been refurbished. Clearly the storage facilities enable staff to remove equipment from the floors making cleaning in this critical area easier, more efficient and most importantly more effective.



***Kingfisher Ward sluice***



***Purbeck Ward Sluice***

The main corridor on levels one and two have also been refurbished to a high standard, replacing the carpet with lino in the theme of the Jurassic Coast. Whilst the carpets in corridors did not present a risk of infection to patients, the perception of the hospital environment has been raised, with many positive comments received from patients and staff.

## **12. Partnership working**

During 2009-10 the IPCT have worked closely with Poole and Royal Bournemouth Acute NHS Hospital Trusts and Dorset Community Health Services, Bournemouth & Poole Primary Care Trust, Dorset Mental Health Trust and Dorset and Somerset Health Protection Unit to develop shared policies and practice. During the year Dorset Primary Care Trust appointed a nurse to support community health settings develop infection control services; this has bridged the gap identified in last year's annual report. However, disappointingly this post does not cover residential care homes, whereby without trained nursing staff would benefit from the support of an infection control practitioner to develop practice.

All cases of MRSA bacteraemia and *Clostridium difficile* acquired in the Trust are subject to a Root Cause Analysis investigation. Joint regular review meetings are held, hosted by Dorset Primary Care Trust to discuss the individual cases and to ensure that joint learning is shared across the health community.

The Infection Control Nurses continue attendance at the Dorset Infection Control Forum (DICF) and the Dorset Infection Control Network. The DICF facilitates a review of evolving evidence base and a forum for peer support and development, the Network provides a more strategic function, essentially led by Commissioners.

## **13. Patient involvement**

The IPCT acknowledge the importance of involving patients and visitors with the development of services. The introduction of MRSA screening for all elective and emergency adult patients has generated several enquiries from patients to the IPCT. Most patients appreciate that the screening is beneficial to both protect them and other patients. Being told you are colonized with MRSA can be worrying for patients, and as a team we work hard to allay individual patient concerns. It is important not to forget the impact of being informed that the screen for MRSA is positive, requiring treatment prior to admission for surgical patients, and after admission for emergency patients. Patients known to be colonised with MRSA will also require isolation on admission to hospital. The following excerpt is from a patient, who was willing to share his experience of MRSA, following swabbing prior to a surgical procedure.

*“I had been having trouble with knee pain for many years during which I had had 2 minor operations but mobility reduced and the pain increased so it was decided to replace the problem knee, a bit of a worry! The pre-anaesthetic checks were carried out and because Dorset County Hospital was fully booked I was given an appointment at a private hospital in Bournemouth. No problem or so I thought. Two days before I was due to go in the hospital rang to say I would not be admitted because I was an MRSA carrier! PANIC. A quick internet search revealed you can carry MRSA without being affected by it but it is of course possible to pass it on to others hence the cancelled operation.*

*A rearranged appointment was made at DCH and I was given special body wash and nasal ointment to use in the week prior to the operation with instructions to use the body wash in even the smallest crevices? The morning of the operation I was admitted to DCH to a private room off the main ward to reduce the chance of spreading any infection. After the operation a return to the same room with a notice outside warning people of my isolation. All visitors had to wash hands before and after the visit, with nurses changing gloves and aprons before and after the visit, even a cup of coffee caused a change of gloves and a hand clean each time a cup was collected or delivered a most disconcerting feeling. I could see that each nurse’s visit caused them extra work to maintain hygiene but it was all done with a smile and no problems. It was interesting to see visitors to the ward see the sign outside look in and pass by almost on the other side of the corridor just in case.*

*I was released from hospital earlier than most to reduce risk and free up the private room. It was an experience not to be repeated lightly but I now know that MRSA is not just confined to hospitals but is prevalent in the wider world and can appreciate how it occurs and the measures need to control it.*

*On first being told I was an MRSA carrier I felt “unclean” and that there must be something wrong with me, the complete body wash and nasal ointment treatment were very worrying as were the extra precautions in the hospital but all is well. “*

Understanding the patient’s perspective remains fundamental to IPC practice. It can be easy when routinely involved with patients with infections/colonization to forget the impact this may have on the individual patient. Many patients are concerned regarding their interaction with family and friends, and the feeling of being “unclean” is long established, possibly related to the lack of early public health control measures for contagious diseases. The IPC spend time with individual patients, allaying their fears,

rationalizing treatment and educating staff to prevent misconceptions that arise as a result of their conditions.

#### **14. Policy Review**

The following policies have been reviewed during 2010-11:

- Aseptic technique
- Hand Hygiene
- Clostridium difficile
- Ward Outbreak Pack
- Norovirus Policy
- Listed Diseases and infectious agents
- Standard Precautions
- Extended Spectrum Beta Lactamase
- Infection Control Policy
- Urinary Catheter Policy
- Isolation Policy
- Ward Closure Policy
- Major Outbreak Policy
- Influenza Policy
- Blood Culture
- MRSA Policy
- Transmissible spongiform encephalopathy

#### **15. Audit Programme**

The IPCT have facilitated and supported wards to undertake elements of the Saving Lives audits including:

- Insertion and management of peripheral venous cannula;

- Insertion and management of Central Venous catheters;
- Insertion and management of urinary catheters;
- Management of ventilated patients.

These audits are a cyclical process involving impromptu observational audit, rapid feedback to clinical staff and appropriate action in response to the results.

- The Clinical Support Worker team has undertaken regular audits of the recording of peripheral venous catheters. These results have been fed back to Matrons and Ward Sisters, providing an independent validation that supports best practice for the care of peripheral vascular catheters.
- The IPCT have also undertaken an audit of the management of urinary catheters. Following this audit a new urinary catheter policy was developed and implemented across the Trust.
- The results of MRSA screening are audited by information department and reported on the Trust Key Performance Indicator.

## **16. Education**

The IPCT have attended all mandatory trust training days, delivered to Clinical and Non-clinical staff groups. The training programme has been updated to reflect contemporary practices and in response to learning from Root Cause Analysis investigations.

A Trust review of mandatory training requirements was undertaken during the year, a new approach to blended learning is anticipated for 2011-12 to reflect different learning styles and access.

The IPCT have worked closely with housekeeping staff to develop a bespoke training programme to facilitate effective relevant training. This programme has been well received and staff report a greater understanding of their IPC responsibilities in relation to their practice.

Training sessions for volunteers have also been well received.

## 17. Conclusion

Overall during 2010-11 the Trust has made significant progress to reduce healthcare associated infections. MRSA bacteraemia rates and rates of *Clostridium difficile* are the lowest ever reported for the Trust. This is reassuring for patients.

Arrangements to manage patients with influenza were in place in response to the increased incidence in seasonal influenza, and the Trust did not report any outbreaks of influenza in the Trust.

Norovirus outbreaks increased during the year, essentially in line with reported increases in the community and in line with the Health Protection Agency alert system. These outbreaks remain difficult to prevent, and it is difficult to record when outbreaks have been prevented. The housekeeping staff responded well to the difficult task of deep cleaning the wards following outbreaks of Norovirus, working through weekends and nights to ensure that delays in reopening wards did not happen.

Clinical Divisions need to maintain their engagement with the IPC work programme in the forthcoming year to ensure that practices to prevent healthcare associated infections are clear and that practice is consistent. The Trust remains committed to the provision of safe, clean care and is proud of the achievements in 2010-11