



Annual DIPC Report 2011-2012

Healthcare you can Trust

Director of Infection Prevention and Control Annual Report 2011/12

1.0 Executive Summary

In December 2010 a revised code of practice was introduced for the prevention and control of health care associated infections (HCAI); The Health Act (2008), Code of Practice on the Prevention and Control of Infections and Related Guidance. The code of practice is also referred to as the Hygiene Code and is regulated by the Care Quality Commission. The Trust remains fully compliant with the Hygiene Code.

The Hygiene Code requires the Director of Infection Prevention and Control (DIPC) to produce an annual report on the state of healthcare associated infections in the organisation. This report covers the period from April 2011 to the end of March 2012 and informs the Board of the progress being made to reduce HCAI and to agree the Annual Programme (Appendix 2) for sustained reduction and improvements in infection control practices for 2012/13.

The drive to reduce HCAI was also aligned to the Trust Priority Objective to keep patients safe and minimise harm and the Quality Improvement Objective to reduce infections.

2011/12 was the third year in succession that the Trust came in under trajectory for Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemias, and the fourth year where the Trust has achieved the trajectory for *C.difficile* cases. For both infections a stretch target had been set and these were also achieved.

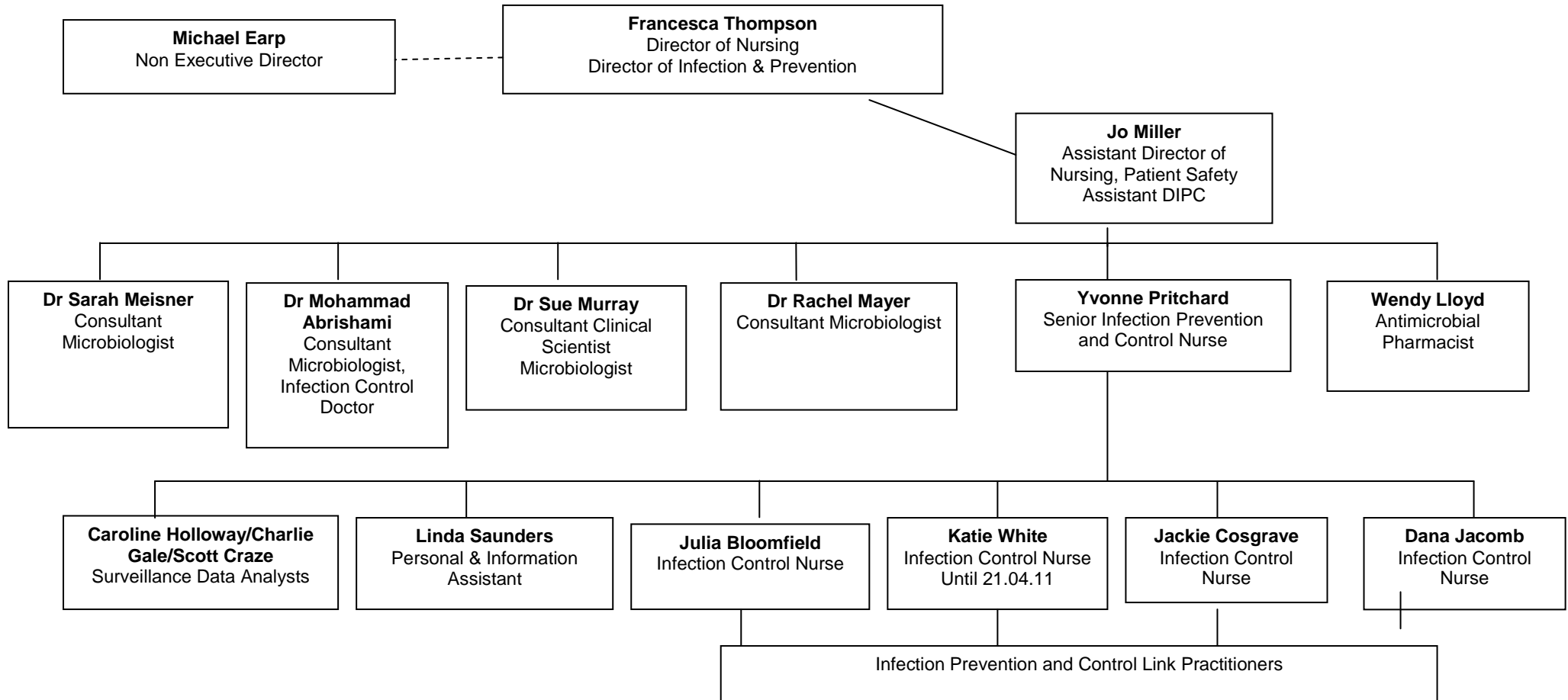
2.0 Introduction

This report will provide:

- A description of the Infection Prevention and Control infrastructure
- An update on the Trust's performance against key targets
- A summary of initiatives and activities
- Detail of key successes and areas for future development
- An overview of collaborative working both within and external to the Trust.

3.0 Infection Prevention and Control Team (IPCT)

3.1.1 Structure Chart



3.1.2 Infection Prevention and Control Arrangements

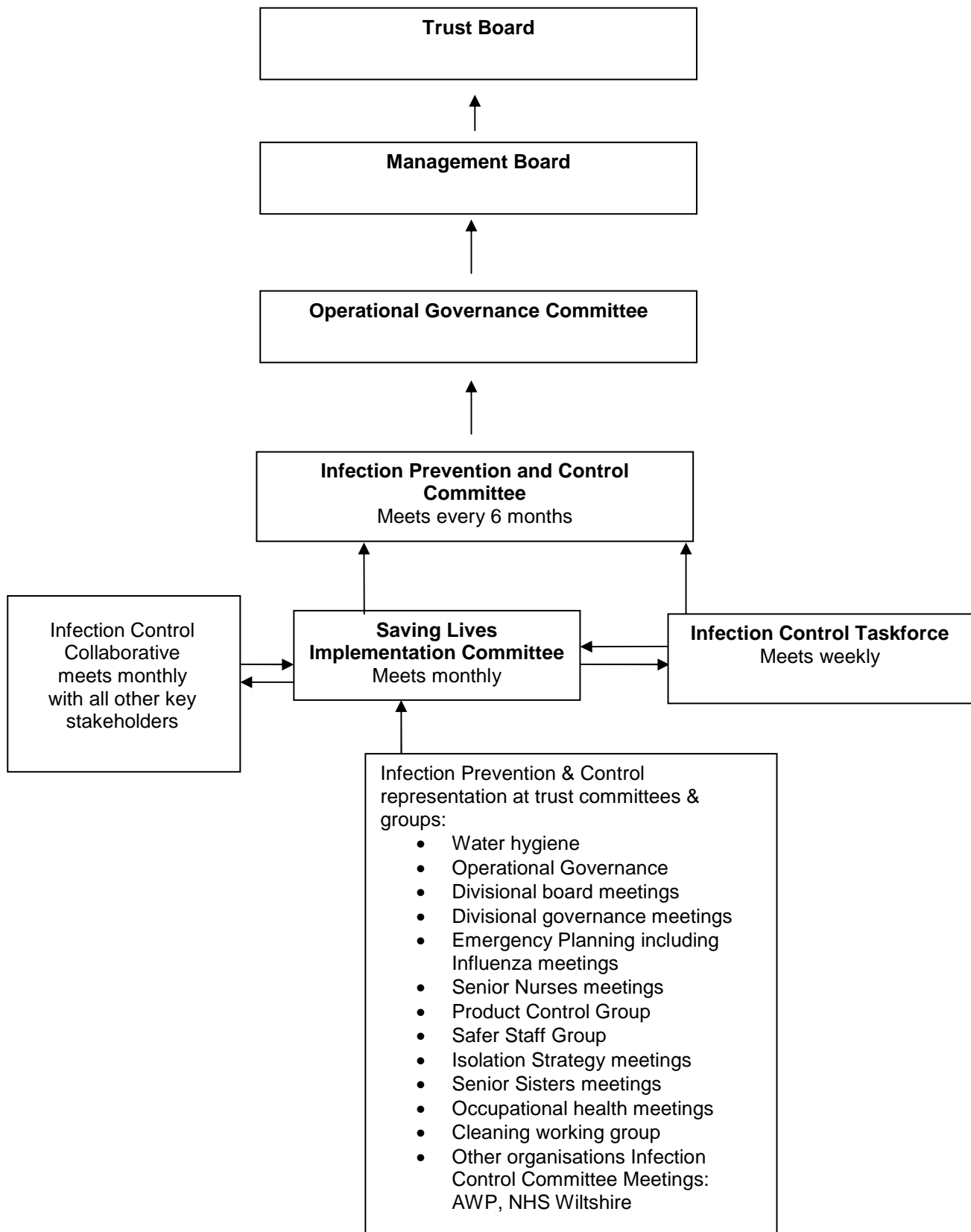
- The Chief Executive holds the ultimate responsibility for all aspects of Infection Prevention and Control within the Trust.
- The Director of Nursing is the designated executive lead; Director of Infection Prevention and Control (DIPC). She reports directly to the Chief Executive and the Board, and she is the chair of the Infection Prevention and Control Committee (IPCC).
- The Assistant DIPC supports the DIPC and provides cover in her absence. The Assistant DIPC is the Senior Infection Prevention and Control Nurse's line manager.
- The Infection Control Doctor (ICD) is also a consultant microbiologist. The ICD has funding to provide five infection control sessions per week and is the deputy chair of the IPCC.
- The Senior Infection Prevention and Control Nurse is responsible for the operational management of the Infection Prevention and Control Team and for ensuring that the Infection Prevention and Control Strategy is embedded.
- The Infection Prevention and Control Nurses (IPCNs) provide clinical infection control advice and support Trust staff in the delivery of the Strategy.

3.1.3 Infection Prevention and Control Team Establishment

The IPCT establishment WTE is 1.00 Senior IPCN (band 8a), 0.60 IPCN (band 7), 1.65 IPCNs (band 6) and 0.81 band 3 assistant.

The RUH team also provide a limited service to Avon and Wiltshire Mental Health Partnership (AWP); mainly dealing with outbreaks in their local hospitals and establishments.

3.1.4 Infection Prevention and Control Committee and reporting



4.0 RUH Performance

4.1 Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemias (Tables 1-3)

The reporting of MRSA bacteraemias is mandatory for all NHS Trusts. The Trust was set a stretch target by NHS South West of 3 MRSA bacteraemias for the year 2011/12. The Trust set its own local objective of just 1 case of MRSA bacteraemia for the year.

The Trust's final position at the end of year was 1 post-48 hour case in total, which was 2 cases under the national trajectory. This is the third year in succession that the Trust has been able to report such an achievement.

The cases were reported as 3 pre-48 and 1 post-48 hours of admission to hospital: a 50% reduction in the number of 'hospital acquired' cases on the previous year.

There were no cases of MRSA bacteraemia in patients in Critical Care. At the time of writing this report it has been more than four years since their last MRSA bacteraemia case.

Root cause analysis investigations were carried out for all incidents of MRSA bacteraemia and action plans were produced. Details of all MRSA bacteraemias are shared with Management Board and at Saving Lives Committee and Divisional meetings, in addition to the PCT Collaborative meeting.

4.1.2 MRSA Screening

All NHS Trusts are required to have implemented MRSA screening of elective patients from April 2009. Compliance is audited quarterly by the Infection Prevention and Control Team and reported to the SHA via the Commissioners. The Trust is 100% compliant at the time of writing this report.

The screening of non-elective admissions became mandatory on 31 December 2010. Quarterly audits of compliance are also carried out by the Infection Prevention and Control Team. The Trust is 97% compliant at the time of writing this report.

The Trust took part in the National One Week Prevalence Audit of MRSA screening in May 2011. The full report from this audit has not been published yet however it is expected that it will identify the effectiveness of screening in relation to MRSA reduction and also whether the screening programme is cost-effective.

Table 1: MRSA bacteraemia (post-48 hours) infection rate data April 2011-March 2012

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTALS
Actual no. bacteraemia	0	1	0	0	0	0	0	0	0	0	0	0	1
Monthly trajectory (national target)	1	0	0	0	0	0	1	0	0	0	1	0	3
Difference between actual and national trajectory	-1	0	0	0	0	0	-1	-1	-1	-1	-2	-2	-2
Monthly trajectory (stretch target)	1	0	0	0	0	0	0	0	0	0	0	0	1
Difference between actual and stretch trajectory	-1	+1	0	0	0	0	0	0	0	0	0	0	0

Table 2: Pre and Post 48 hours distribution

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTALS
Pre 48 hours	0	0	0	0	2	0	0	1	0	0	0	0	3
Post 48 hours	0	1	0	0	0	0	0	0	0	0	0	0	1

Table 3: Post 48 hour MRSA Bacteraemias by Division

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTALS
Medicine	0	1	0	0	0	0	0	0	0	0	0	0	1
Surgery	0	0	0	0	0	0	0	0	0	0	0	0	0

4.2 Meticillin Sensitive *Staphylococcus aureus* (MSSA) bacteraemias

The Department of Health introduced mandatory reporting of MSSA bacteraemias from 1 January 2011. At present NHS trusts have not been set targets for MSSA reduction. Root cause analysis investigations have been carried out for all cases to assist with the identification of any particular trends or areas of concern. Reporting of the cause or source of MSSA bacteraemias is not mandatory currently.

Table 4: MSSA bacteraemias April 2011 – March 2012

Month	No. of pre-48 hour MSSA bacteraemias	No. of post-48 hour MSSA bacteraemias
April	1	1
May	3	0
June	1	2
July	3	3
August	1	0
September	2	0
October	2	0
November	1	0
December	3	0
January	1	0
February	0	4
March	1	2
2011/12 TOTALS	19	12

4.3 *Escherichia coli* (E.coli) bacteraemias

The mandatory surveillance of E.coli bacteraemias commenced on 1 June 2011 however the Trust has been submitting data to the Health Protection Agency since April 2011. All positive blood cultures taken at the Trust are reported and these are not separated into community or trust acquired categories. No reduction targets have been set at the time of writing this report.

For the purposes of this report the cases have been broken down into pre-72 and post-72 hours.

Table 5: E.coli bacteraemias April 2011-March 2012

Month	No. pre-72 hour E.coli bacteraemias	No. post-72 hour E.coli bacteraemias	Total
April	8	2	10
May	14	7	21
June	11	3	14
July	17	3	20
August	10	1	11
September	11	2	13
October	15	3	18
November	10	2	12

December	13	1	14
January	8	6	14
February	9	2	11
March	11	3	14
2011/12 TOTALS	137	35	172

4.4 *Clostridium difficile* infections (Tables 6 and 7)

The reporting of the numbers of cases of *Clostridium difficile* (CDI) infections is mandatory for all NHS Trusts. For 2011/12 the RUH was set a target of 59 with a stretch target of 46 cases. This included all cases of CDI identified 72 hours or more after admission. The total number of cases reported for the year 2011/12 was 46. This was the fourth year in succession where the Trust finished the year within the trajectory.

4.4.1 A period of increased incidence of CDI was noted on the trauma unit during December 2011 and January 2012. A meeting was held with ward staff, the antimicrobial pharmacist and the IPCT to review possible causes. The areas of concern highlighted were cleaning, the number of beds within the Acute Care Unit (ACU) and the lack of isolation facilities within the ACU. A deep clean was carried out and plans were made to reduce the number of beds within this area. Estates also identified that an isolation room could be made within the existing ACU area.

Table 6: *Clostridium difficile* infection Post 72 Hours RUH only

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTALS
RUH Post 72 hours	2	4	3	3	3	1	3	7	2	7	3	8	46
Monthly trajectory (national target)	5	5	5	8	3	4	3	4	3	7	6	7	59
Difference between actual and national trajectory	-3	-1	-2	-5	0	-3	0	+3	-1	0	-3	+1	13
Monthly trajectory (stretch target)	3	4	3	7	3	3	4	2	5	4	4	4	46
Difference between actual and stretch trajectory	-1	0	0	-4	0	-2	-1	+5	-3	+3	-1	+4	0
Rolling Total	2	6	9	12	15	16	19	26	28	35	38	46	46

Table 7: *Clostridium difficile* infection Post 72 Hours by division

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTALS
Medicine	2	3	2	2	2	1	2	7	0	5	2	7	35
Surgery	0	1	1	1	1	0	1	0	2	2	1	1	11
TOTALS	2	4	3	3	3	1	3	7	2	7	3	8	46

5.0 Benchmark Data for HCAs

Table 8: Figures taken from Mandatory Surveillance System April 2011 – March 2012

Infection	RUH	SALISBURY	GREAT WESTERN HOSPITALS	TAUNTON	UNIVERSITY HOSPITALS BRISTOL	NORTH BRISTOL
MRSA Rates: Post: 48 -ours	0.05	0.28	0.20	0.01	0.08	0.35
C Diff Rates: Post: 72 -ours	2.29	3.10	0.83	1.98	2.08	2.27
MRSA Rates: Post: 48 -ours	0.60	0.70	0.54	0.33	1.54	0.99
Ecol Rates: pre and post: 48 -ours	6.27	4.58	5.76	5.55	6.27	4.57

Bed days for each trust are taken from the KH03 quarterly files.
Infection figures taken from MESS (mandatory electronic surveillance system)
Rates are per 10,000 bed days

6.0 Norovirus Outbreaks

Norovirus is estimated to cost the NHS in excess of £100 million per annum in years of high incidence. Approximately 3000 people are admitted to hospitals in England with norovirus each year and this infection spreads very quickly and places a huge burden on health care services.

Table 9: Estimated costs of outbreaks at RUH

Year	Total number of bed days lost	Estimated cost of outbreaks
2010/11	2121	£968k
2011/12	758	£365k

New guidelines were launched in November 2011: Guidelines for the Management of Norovirus in Acute and Community Health and Social Care Settings. These were produced by the Norovirus Working Party, a multidisciplinary group from the Healthcare Infection Society, Health Protection Agency, Infection Prevention Society and other stakeholders. The document focuses on organisational preparedness and actions required during and after outbreaks. One of the key elements within this guidance is the ability to close small areas, e.g. bays, rather than whole wards if the environment permits this. This reduces the impact on patients and health care services as the operational impact may be less severe.

During 2011/12 there were fewer outbreaks of norovirus at the RUH than in the previous two years. Regionally there was a small peak during January and February 2012 and this was mirrored within the Trust.

In the period 2011/12 34 areas had restrictions imposed due to outbreaks and norovirus was confirmed as the cause of 26 of these incidents. The cause of the remaining 8 outbreaks was not identified. Root cause analysis investigations were carried out by the Senior Infection Prevention and Control Nurse when 3 or more whole wards were closed during the same period and findings were reported to the Operational Governance Committee.

The Infection Prevention and Control Team have continued to visit all non-elective admission areas daily to support staff with the identification of patients with diarrhoea and/or vomiting requiring isolation. These patients are tagged on Millennium with infection risk alerts so that staff are aware of these issues when patients are transferred to other wards and departments. The IPCT also attend a daily bed meeting to inform attendees of potential outbreaks and feedback on requests for isolation.

6.1 Ward with restricted access due to outbreaks 2011/12

Table 10: Wards with restrictions in place due to confirmed or suspected norovirus 2011/12.

Month	Ward	No. patients affected	No. staff affected	No. bed days lost
April 2011	Combe	11	2	22
	Respiratory	14	2	48
	MSSU	5	0	20
	Combe	12	4	27
	Victoria	6	2	39
	Midford	21	0	35
May 2011	Combe	13	1	63
	Waterhouse	7	0	29
July 2011	Midford	22	3	35
	Combe	18	1	84
September 2011	Respiratory	9	1	19
	Combe	7	2	11
October 2011	MAU Areas B&C*	12	0	1
	MAU Area A*	7	0	0
December 2011	Forrester Brown*	12	1	43
	Victoria*	8	0	1
January 2012	MSS female bay*	4	0	5
	Waterhouse	18	4	75
	Combe	24	8	12
	SAU Areas A&B	9	0	12
	Parry Bay 4*	3	0	4
February 2012	Helena Areas A&B	11	4	14
	Victoria	14	2	4
	Combe	17	2	17
	Forrester Brown A	22	9	25
	Haygarth	18	6	73
	RSW bays 3&4*	4	0	5
	Waterhouse bay 3	2	0	0
	Helena Area A&B	6	0	6

	Ward	No patients affected	No. staff affected	No. bed days lost
	Combe bay 3	2	0	6
	Pulteney bay 1	2	0	0
March 2012	Helena C±	1	0	4
	MAU Area B	6	0	17
	Pulteney bay 2*	5	0	2
Total number of bed days lost due to outbreaks 2011/12				758

*Norovirus was not confirmed as the cause.

±Ward closed as single patient could not be isolated.

7.0 HCAI associated deaths

All deaths where HCAI is recorded on the death certificate as part 1; the primary cause, are treated as serious untoward incidents (SUI) by the Trust. For each SUI a root cause analysis is carried out in order to identify possible causes and actions to be taken to prevent similar incidents.

During 2011/12 there were a total of 7 HCAI deaths: 5 *Clostridium difficile* and 2 MRSA bacteraemias. Results of investigations and subsequent action plans were reported through the Infection Prevention and Control PCT Collaborative.

7.1 MRSA bacteraemia deaths – Two patients were certified as having died from MRSA bacteraemias; one in August 2011 and the other in November 2011. Both patients had the infection on admission (pre-48 hours) and root cause analysis investigations were undertaken by the PCT Infection Prevention and Control Teams.

7.2 *Clostridium difficile* deaths – *Clostridium difficile* was recorded as the primary cause of death of 5 patients during 2011/12. One patient who died in June 2011 was a post-72 hour case and a root cause analysis was undertaken by the clinician in charge of the patient's care. The patient had been admitted from a community hospital six weeks earlier for treatment of sepsis and an underlying malignancy. Antibiotics were prescribed appropriately however the patient developed severe *C.difficile* with complications as a result of treatment.

The other 4 patient deaths occurred in September, October, December 2011 and February 2012. All of these patients were admitted with symptoms and *Clostridium difficile* was detected within 72 hours of admission. Root cause analysis investigations were led by the PCT infection Prevention and Control Teams.

8.0 Influenza

The number of patients admitted with influenza declined during 2011/12 and there was just one patient admitted with the pandemic strain (H1N1). As a result there was less pressure on critical beds and the influenza cohort ward did not have to be utilised. There were no cases of influenza recorded between April and December 2011.

Table 11: Patients admitted with confirmed influenza

	Number of patients with:			
	Influenza A	Influenza B	H1N1	Other strains
January 2012	0	0	1	0
February 2012	3	0	0	0
March 2012	5	0	0	0

From 10 October 2011 all trusts commenced weekly mandatory reporting of influenza patients in HDU and ITU beds, including deaths from influenza. From the start of the mandatory reporting period until 31 March 2012 there have been only 2 patients with influenza in RUH critical care beds and no recorded deaths associated with the infection. This data is submitted to the Department of Health weekly by the Business Intelligence Team.

The Pandemic Influenza Management Group met just once during the year to review preparedness plans and patient flow arrangements. Meetings will continue to occur when there is a risk of an increase in the number of patients expected to contract influenza and these will be led by the Emergency Planning Lead.

Doors have been fitted to the entrances of each bay on Parry Ward as this will be used as an influenza cohort ward at times of increased incidence.

9.0 Trust Antimicrobial Stewardship programme

An Antimicrobial Stewardship Programme is a key component in reduction of HCAs and forms part of the quality improvement strategy for patient safety to reduce inappropriate prescribing and optimise antibiotic use. In November 2011 the DoH guidance "Antimicrobial Stewardship: Start Smart then Focus – Guidance for Antimicrobial Stewardship in Hospitals" was launched.

This recommends a "Start Smart then Focus" approach for all antibiotic prescriptions. A pilot project is underway on Medical Short Stay to implement an "Antimicrobial Prescribing Decision" process within 48 hours of commencing antibiotics

A recommendation within this document is that a multidisciplinary Antimicrobial Stewardship Team is set up to ensure engagement on antimicrobial quality improvement projects across the RUH. Terms of reference and membership of the Group are currently being established.

10.0 Key successes for 2011/12

- Significant reduction in MRSA bacteraemias and at year end having just one case during the year.
- Significant reduction in the number of cases of *Clostridium difficile* infection to complete the year on trajectory
- Continuation of the monthly ward based Saving Lives audit programme
- Continued regular use of hand hygiene education boxes by matrons, link practitioners and key managers in their areas of responsibility

- Improvements in hand hygiene practices in inpatient and outpatient departments to meet and sustain 95% compliance
- A continued drive to improve cleanliness of patient equipment, particularly commodes. Many wards have adopted the use of the Saving Lives High Impact Intervention No. 8 'Cleaning and Decontamination of Clinical Equipment.
- Maintaining links with other local infection control teams in other local trusts, Primary Care Trusts and the Health Protection Agency
- Maintenance of 100% compliance with MRSA screening of elective patients
- Participation in the National One Week MRSA Screening study
- Review of all *Clostridium difficile* positive patients by antimicrobial team with a focus on ensuring prompt appropriate treatment and review of causative factors
- Formal referral process established for ward pharmacists to refer patients to the antimicrobial team for review as part of daily ward rounds.
- Participation in regional Antibiotic Point Prevalence audit allowing benchmarking of RUH antimicrobial prescribing with 18 other Trusts This showed for most antibiotic parameters RUH results were better than the regional benchmark, but with room for improvement in documentation of antibiotic course lengths.
- A review of cleaning services at the Trust was undertaken and approval to increase the cleaning establishment was granted by Management Board.
- Implementation of the Maximiser tool for cleaning audits. This has reduced the length of time spent undertaking the audits and has provided the IPCT with more accurate information on where there are issues with maintaining cleanliness
- The Infection Prevention and Control Team won RUH Team of the Month in April 2011 and Team of the Year for 2011.

11.0 Infection Prevention and Control Initiatives and Activities 2011/12

There were a number of initiatives maintained or introduced by the DIPC and the IPCT. These included:

- Continuing the weekly Infection Control Taskforce meetings. This group meets weekly and works to 90 day cycles in order to bring about changes in practice and culture. The members include senior clinicians, senior nurses, antimicrobial pharmacist and senior managers
- Development of an Isolation Strategy to improve and enhance existing isolation facilities
- Delivery of the first Caring for You event in December 2011 on 'The Rise and Fall of the Superbug'
- Production of a patient story on norovirus for Trust Board
- Revision and ratification of infection prevention and control procedural documents
- Continued focus on antibiotic stewardship. The Antimicrobial Pharmacist has audited practices against the policy and regularly attends ward rounds with the consultant microbiologists.
- Antimicrobial consumption data for the Trust in form of Defined Daily Doses reported quarterly by Antimicrobial Pharmacist. Usage of broad spectrum

antibiotics such as cephalosporins, quinolones and carbapenems monitored for unexpected trends in prescribing

- All antibiotic prescribing guidelines reviewed and updated
- An Infection Prevention and Control study day for Link Practitioners which took place in September 2011
- Update of ICNet surveillance system to improve result gathering and surveillance
- Implementation of infection risk alerts on Millennium
- The Infection Prevention and Control Link Practitioners continued to meet bi-monthly and had a variety of educational sessions delivered by speakers from the Trust and also some external sources.
- An infection control awareness week took place in October 2011 focusing on the launch of Saving Lives High Impact Intervention No.8. The event took place in conjunction with national infection control week.
- The IPCT were involved in the Hand Care Week during April 2011 in collaboration with Health and Safety and Occupational Health.
- IPCT involvement with the new NICU building during both the planning and commissioning phases.

12.0 Monitoring of Hygiene Code Compliance

The Trust is registered with the Care Quality Commission (CQC) under the Health and Social Care Act 2008, and as a legal requirement must protect patients, staff and others from acquiring health care associated infections by compliance with the Hygiene Code.

Compliance with the Essential Standards of Quality and Safety Outcome 8 (Regulation 12) is assessed quarterly by the Corporate Lead and a report is issued to the Saving Lives Implementation Committee.

One of the key areas for compliance with the standards is that staff are provided with policies to help prevent and control infections. During 2011/12 the IPCT reviewed all of the procedural documents that were due for revision and these were ratified by the Operational Governance Committee.

The most recent compliance assessment in March 2012 recorded a 'yellow' risk outcome; compliance mostly met with minimal impact on patients and services. This outcome relates to two procedural documents which are being revised by Estates and Occupational Health: the Water Hygiene and Staff Health policies. Earlier versions of these documents are already in existence and the risk was considered low whilst awaiting ratification. One other risk identified was the number of isolation facilities currently provided within the Trust. Work is underway to address this; doors have already been added to bays on Parry ward allowing for cohorting of small groups of patients with infections and the Isolation Strategy has been approved by Management Board to increase and enhance existing facilities.

13.0 Collaborative Working with the Cleaning Team and PEAT Assessment

The Infection Prevention and Control Team continue to work closely with the Cleaning Team. The Facilities Manager is a member of the Infection Control Taskforce and there is IPCN representation at the monthly Cleaning Working Group.

A cleaning review was undertaken in 2011 and approval was received from the Board to increase the cleaning establishment. Microfibre cleaning has been introduced on the new NICU Department and it is planned that this will also be introduced on Forrester Brown early in the Financial Year 2012/13.

The Patient Environment Action Team (PEAT) inspection was carried out in February 2012. The IPCNs were involved with the assessment along with the DIPC, Cleaning Department Managers, matrons, PALS and patient representatives. The inspection report had not been received at the time of writing the DIPC Annual Report.

14.0 Collaborative Working with other trusts, PCTs and the Health Protection Agency (HPA)

The Infection Prevention and Control Team meets monthly with colleagues from NHS B&NES, NHS Wiltshire, NHS Somerset, Great Western Hospital (Wiltshire Community Health Services), Avon and Wiltshire Mental Health Partnership (AWP), the Royal National Hospital for Rheumatic Diseases, Great Western Ambulance Service and the HPA. The meetings enable the teams to share ideas and practices and also to ensure that there is consistency of advice and guidance across the local health community.

The PCTs and HPA are represented at the RUH IPCC and are provided with standing slots on the agenda so that they are able to provide feedback on any activities or outbreaks to the Committee. The RUH IPCNs also attend the AWP and NHS Wiltshire infection prevention and control committees.

The Senior IPCN for NHS B&NES commissioners undertakes regular inspections of wards and departments within the RUH in order to gain assurance that the environment and practices are of a good standard. If problems are identified during the inspection actions are taken and an action plan is provided to the Commissioners by the IPCT and relevant matrons.

15.0 Key areas to progress during 2012/13

- Maintain top performance targets for MRSA and *C.difficile* reduction
- The introduction of a second test for *C.difficile* in line with Department of Health guidance
- Review the infection prevention and control surveillance service
- South West Antibiotic Point Prevalence Study February 2013
- Audit of all patients with *C.difficile* to determine antibiotics received in 6 weeks prior to positive result and treatment
- Adherence to Start Smart Then Focus antibiotic initiative
- *C.diff* Think Tank to be launched to identify further infection reduction strategies
- Development of a side room tool in conjunction with the Site and Millennium Teams

16.0 Action Plan

Refer to the Annual Programme 2012/13.