

Infection Prevention & Control

Annual Report

2014 – 2015

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Approved by:

Infection Prevention & Control Committee June 2015

Quality Committee June 2015

Trust Board July 2015

Executive Director:

Dr Jean O’Driscoll, Director of Infection Prevention & Control

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The Infection Prevention & Control Team

Safe & compassionate care,

every time

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Executive Summary

This was another busy year for the Infection Prevention & Control Team (IPCT)

We reported 3 cases of MRSA (Meticillin Resistant *Staphylococcus aureus*) Bacteraemia, one of which was considered to be a contaminant. Post infection review of the other 2 infections showed that they were linked to urinary catheters which has led to a focus on preventing these sorts of infections across the Trust. Our published rate of MRSA Bacteraemia infections for 14/15 was 1.2/100,000 bed days (UK average: 0.9)

We reported 37 cases of BHT attributable Clostridium difficile infections against a trajectory limit of 32 cases. Our rate of Clostridium difficile infection was 40.5 per 100,000 bed days (UK average:41 per 100,000 bed days). A lapse in care was identified in only one of the 37 cases (patient given co-amoxiclav even though over 85 years old). We have been given a limit of 33 cases of Clostridium difficile infection for 2015/16. Each case is reviewed in liaison with our local CCG Infection Control Lead on a monthly basis.

We continue to report MSSA (Meticillin Sensitive *Staphylococcus aureus*) and E.coli (*Escherichia coli*) Bacteraemias as part of mandatory surveillance. Only 16 of the 66 MSSA Bacteraemia cases were considered to be "BHT attributable", i.e. detected more than 48 hours after the patient's admission of these 16, only 5 were "healthcare associated".

Of 218 E.coli Bacteraemia cases identified during the year, only 22 were detected more than 72 hours after admission. Only 6 of the 22 were related to urethral catheterisation being carried out after admission to BHT. We continue to look at these cases closely in order to identify any lessons that can be learned. Again, no targets have been set for this indicator.

We were successful in minimising the impact of Norovirus outbreaks due largely to the use of our Norovirus Toolkit. Only 2 confirmed Norovirus outbreaks were reported, a significant reduction from 13 in 2013/14. There was also a significant reduction in community Norovirus activity.

For the fifth successive year our infection rate following elective knee replacement surgery was below the UK average (1% v 1.7%). Our infection rate following elective hip replacement surgery was also below the UK average (0% v 1.5%). For the first time, we continuously monitored infections following repair of neck of femur fractures and, overall, our infection rate was lower than the UK average for this procedure too (1.4% v 1.6%).

The overall uptake of influenza vaccine amongst staff was 55.8%, in line with the overall UK uptake of 54.9%. We hope to improve on this in 2015/16.

Audits of Infection Prevention & Control practices continue in line with the Audit Programme. There were particularly impressive numbers of observations in the Monthly Hand Hygiene Observational Audits totalling 316,643 for the year, with an overall compliance of 99%.

Infection Prevention & Control continues to be a key priority for BHT and is recognised from Board to Ward as a core Patient Safety issue.

Priorities for 2015/16 include the development of an antimicrobial stewardship strategy and ensuring we are fully compliant with the Health Code 2008 and any reissues. We will also strengthen areas identified as weak in 2014/15 i.e. completing audit cycles and ensuring safe transfer of patients with infections between wards and hospitals within our Trust.

Dr Jean O'Driscoll MB FRCPATH
Director of Infection Prevention and Control
Buckinghamshire Healthcare NHS Trust

Introduction

The report outlines the Team's activities over the past 12 months. Commitment to preventing the spread of infection is essential from all staff in all departments and at all levels of management in order to maintain a high standard of infection prevention & control practice throughout the Trust.

Infection Prevention & Control Arrangements

The Trust serves a population of approximately 500,000-525,000 people with inpatient beds at Stoke Mandeville, Wycombe, Amersham, Marlow, Thame and Buckingham Hospitals. Dr O'Driscoll has continued in her role as Director of Infection Prevention & Control, and the Infection Prevention & Control governance arrangements for the Trust in 2014/15.

The Infection Prevention & Control Team (IPCT) included the following staff 2014-2015

DIPC & Consultant Microbiologist

3 x Consultant Microbiologist

1 x Lead Nurse

3 x Band 7 Infection Prevention & Control Nurses

3 x Band 6 Infection Prevention & Control Nurses

2.5 Secretaries

Infection Prevention & Control Programme

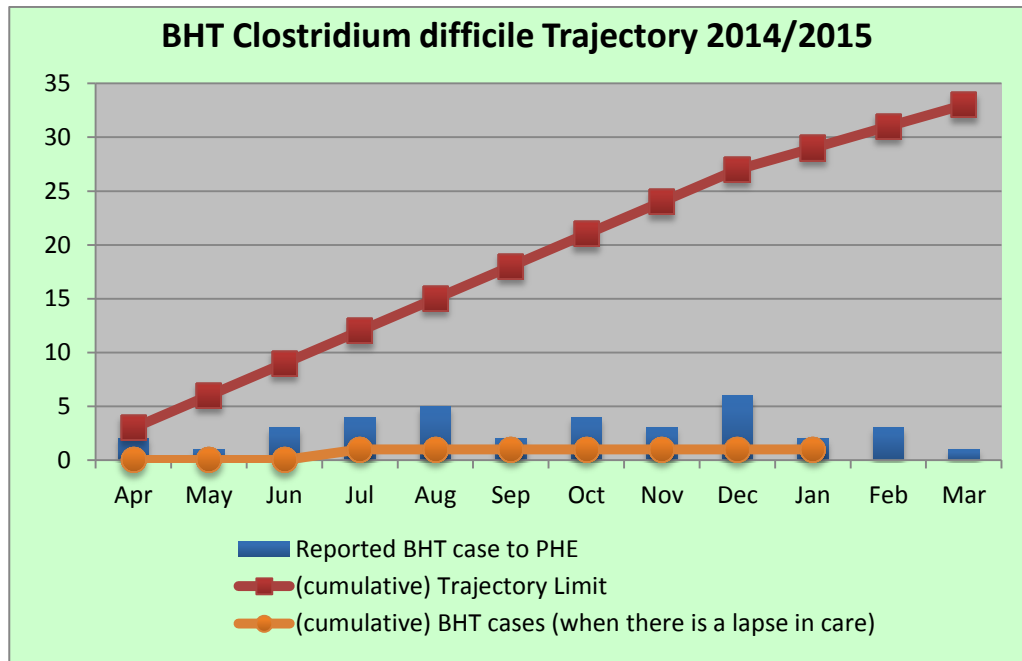
Infection Prevention & Control programme for the year 2014-2015 clearly defines the principles for the Trust in relation to infection prevention & control activities as agreed by the Trust Infection Prevention & Control Committee which monitors the progress of the programme quarterly.

Surveillance (Mandatory & Voluntary)

Clear case definitions for in-house surveillance have been developed and applied to data reported in this report.

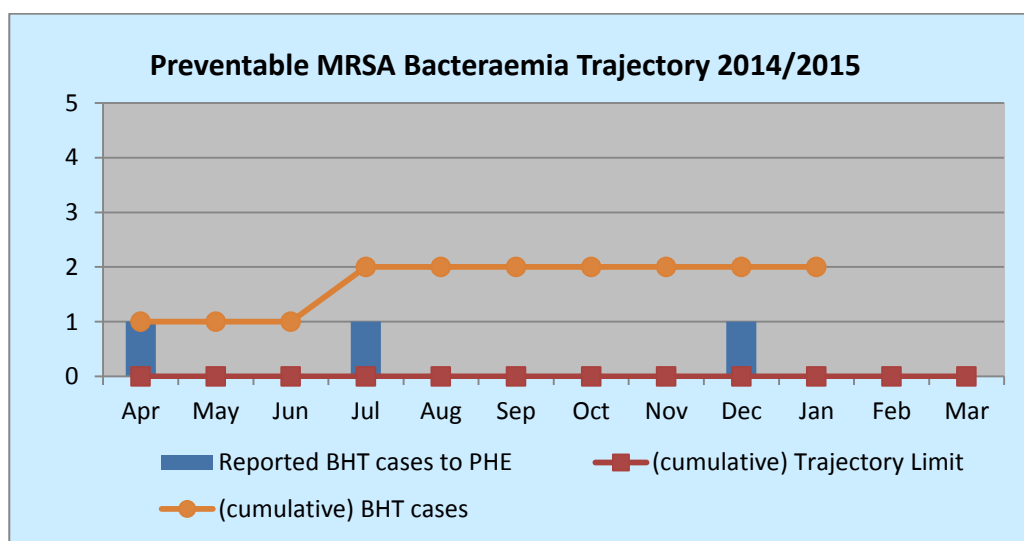
***Clostridium difficile* (Mandatory Surveillance)**

We continue to participate in the mandatory reporting of *Clostridium difficile* Infection. The graph below show our *Clostridium difficile* figures for the year. Our limit for the year was 33. Our year end numbers were 37 cases reported to Public Health England (PHE). There was a lapse in care in one case in that a patient was prescribed co-amoxiclav to treat a Urinary tract infection even though she was more than 85 years old. BHT Policy is that only patients less than 85 years old should be prescribed this antibiotic.



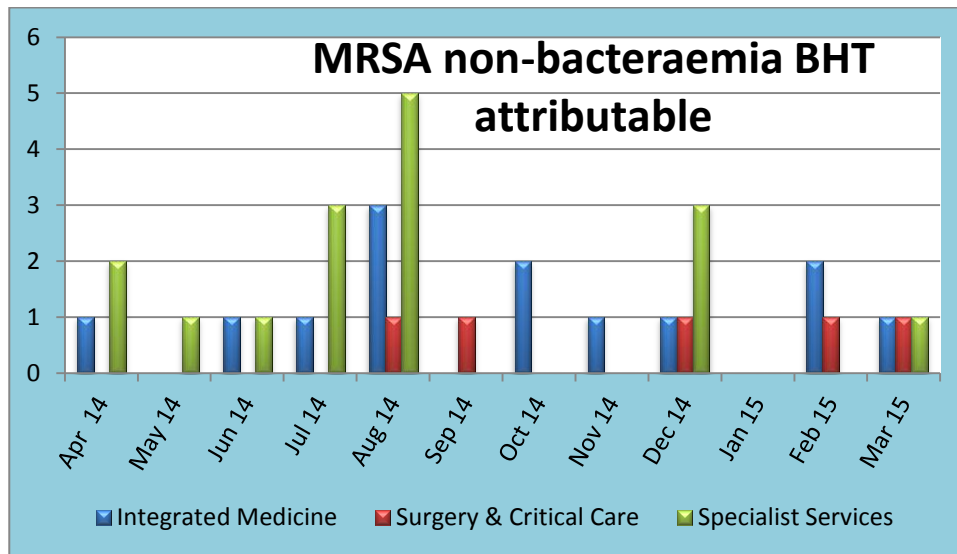
Meticillin Resistant *Staphylococcus aureus* (MRSA) Bacteraemias (Mandatory Surveillance)

Mandatory reporting of MRSA bacteraemia continues. The limit was set at 0 avoidable cases. 3 cases were reported to PHE one of which was a contaminant. A post infection review was undertaken for each case and learning from these were shared across the Divisions.



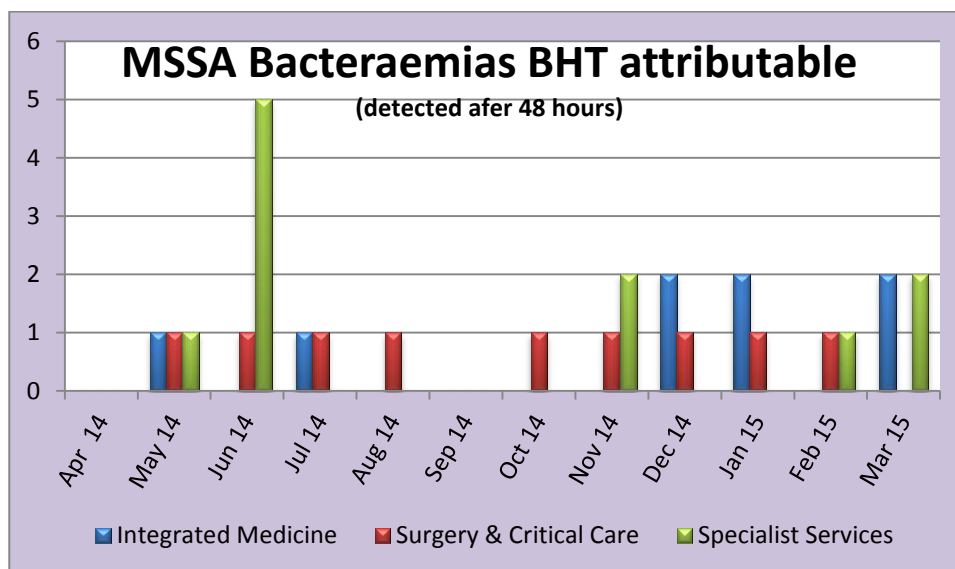
Meticillin Resistant *Staphylococcus aureus* (MRSA) Non-bacteraemias (Voluntary Surveillance)

The number of BHT (attributable) non-bacteraemia MRSA cases, detected by the laboratories from April 2014-March 2015 was 34.



MSSA Bacteraemia (Mandatory Surveillance)

MSSA Bacteraemias detected April 2014 – March 2015. Total numbers detected were 58. The graph below shows BHT-attributed cases by Division.



Glycopeptide Resistant Enterococci (GRE) Bacteraemia (Voluntary Surveillance)

The BHT laboratory detected 2 new cases of GRE Bacteraemias.

Extended Spectrum Beta Lactamase (ESBL) producing bacteria (Voluntary Surveillance)

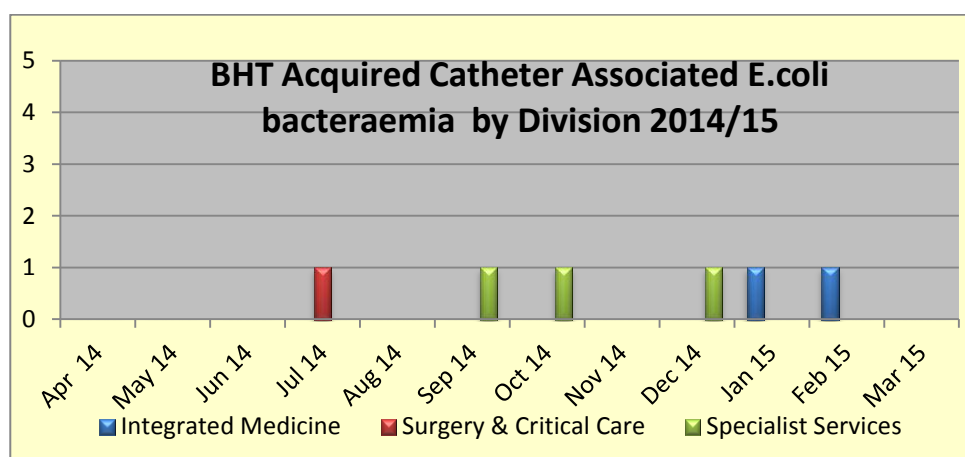
ESBL producing organisms (including strains of *E.coli* and *Klebsiella sp.*) are resistant to a wide range of beta lactam antibiotics. They may also be resistant to other classes of antibiotics. Treatment options are therefore limited and prompt infection control precautions are required when ESBL producing isolates are detected.

The Trust laboratory identified 365 new isolates in urine specimens from April 2014 – March 2015. The table below shows the number of specimens received from the Acute Trust and General Practitioners by year.

Year	Acute Trust	General Practitioners	Totals
2014-15	86	279	365
2013-14	114	231	345
2012-13	98	108	206
2011-12	118	226	344
2010-11	78	195	273
2009-10	90	153	243

E.coli Bacteraemias (Mandatory Surveillance started June 2011)

BHT laboratory identified 218 new *E.coli* bacteraemias. The graph below shows Catheter associated *E.coli* bacteraemias by division for BHT. inserted catheters.



Multi Resistant Acinetobacter Baumanni (MRAB) (Voluntary Surveillance)

Approximately 25% of people may carry Acinetobacter on their skin or in their bowels asymptotically but most strains are not antibiotic resistant. BHT laboratory identified 5 new isolates of MRAB 2014/15, (compared with 11 in 2013/14, 15 in 2012/13, 6 in 2011/12).

Orthopaedic Surgical Site Surveillance (Mandatory Surveillance)

BHT continues to partake in the national Surgical Site Infection Surveillance (SSIS). The programme was established to encourage hospitals to use surveillance to improve the quality of patient care by enabling them to collect and analyse data on surgical site infections (SSI) using standardised methods. The data allows individual hospitals to compare their rates of SSI with collective data from all hospitals participating in the service. There are 12 defined categories of surgical procedures within the national SSIS programme. Orthopaedic SSI surveillance has been mandatory for all Trusts since 2004/2005.

The figures are presented separately for Wycombe & Amersham (W&A) and Stoke Mandeville Hospital (SMH) because they are analysed and reported separately by the Centre for Infection in Colindale. The figures below include all infections (in-patients, readmissions and post discharge).

Continuous surveillance of infections following repair of neck of femur (emergency procedures) was undertaken. Hip and knee replacement surgery infection surveillance was undertaken over a three month period (July 14 – September 14).

Total number of procedures April 2014 – March 2015			
	Totals	Infections	National Infection Rate
Repair of neck of femur	289	4 (1.4%)	1.6%
Total number of procedures July 2014 – September 2014			
	Totals	Infections	National Infection Rate
Hip replacements	80	0	1.5%
Knee replacements	102	1(1.0%)	1.7%

Post Caesarean Section Infection Surveillance

Surveillance of C.section wound infections was undertaken with IPC & Obstetric Department from Jan-Mar 2015 (3 months).

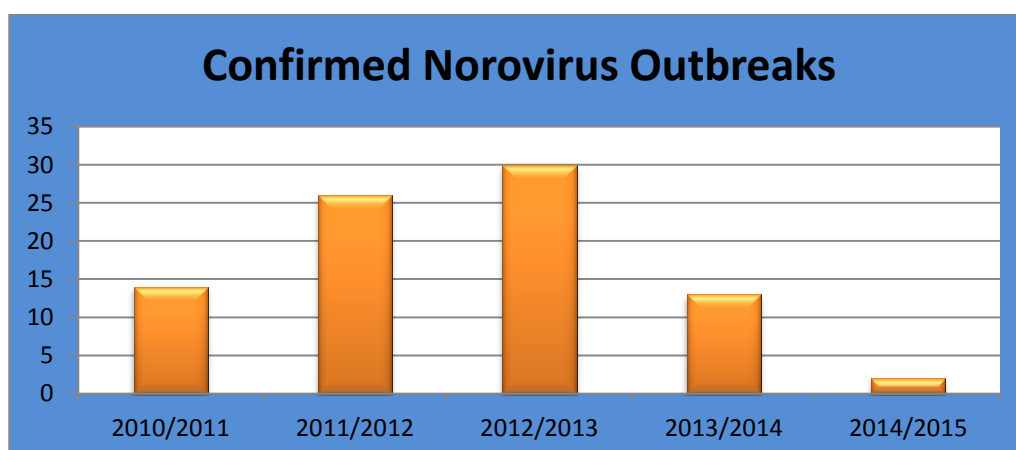
Total C.sections 361 (28%)
Overall Infection rate 3.6%

Literature reviews have reported post C.section wound infection rates ranging from 2-10%.

Outbreak Reports

A total of 11 outbreaks including 2 confirmed Norovirus outbreaks occurred between April 2014– March 2015. This was the lowest number of Norovirus outbreaks recoded in recent years.

The graph shows confirmed Norovirus outbreaks for this and previous years.



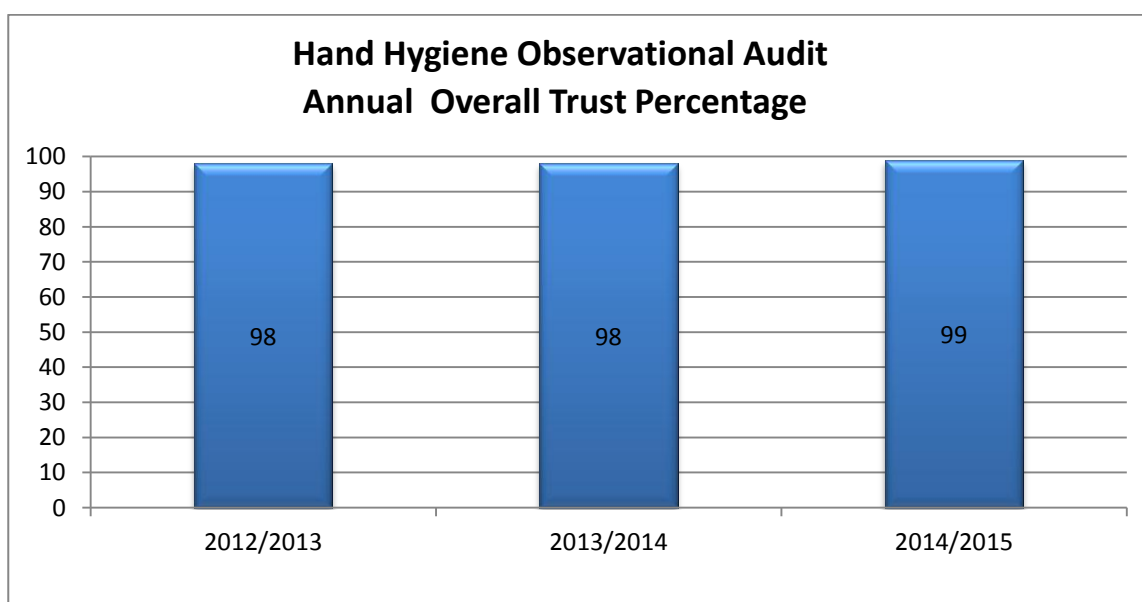
Hand Hygiene

BHT continued with the Hand Hygiene Observational Audit throughout 2014-2015. The Trust also continues to observe the World Health Organisation (WHO) Global Hand Hygiene Day on May 5th each year.

Summary of Hand Hygiene Observational Audit 2014/2015

Each ward, Department and staff group at the Trust undertake monthly auditing of hand hygiene practices and compliance with the Bare Below the Elbows principle. Each element of the WHO "Five moments for Hand Hygiene" is assessed separately for each staff group. These results are uploaded onto a central drive and are available for each Manager to view. Summaries are reported in the monthly Infection Prevention and Control Report, discussed at SDU and Divisional Quality meetings, and reviewed at Trust Board meetings. Compliance of at least 95% with each element is required. To ensure that the reporting gives a reliable indication of hand hygiene practices, ad hoc audits are carried out in addition by members of the IPC Team. If an area scores less than 95%, feedback is given and the ad hoc exercise repeated. These ad hoc results are reported separately from the main audit results.

For 2014/15, the overall Annual self-reported compliance with hand hygiene for the Trust was 99% which is an increase of 1% on the previous year.



The total number of observations has increased year on year. See table below

Annual Overall Trust Observations		
2012/2013	2013/2014	2014/2015
210,321	277,423	316,643

Annual Divisional Percentage has increased by 1% in all divisions during the last year.

	Integrated Medicine	Surgery & Critical Care	Specialist Services
2014/2015	99	99	99
2013/2014	98	98	98
2012/2013	Divisions changed in the middle of this year		

Annual Divisional Observations

	Integrated Medicine	Surgery & Critical Care	Specialist Services
2014/2015	110,961	124,460	81,222
2013/2014	89,727	91,444	96,252
2012/2013	Divisions changed in the middle of this year		

Annual Staff Group Percentage

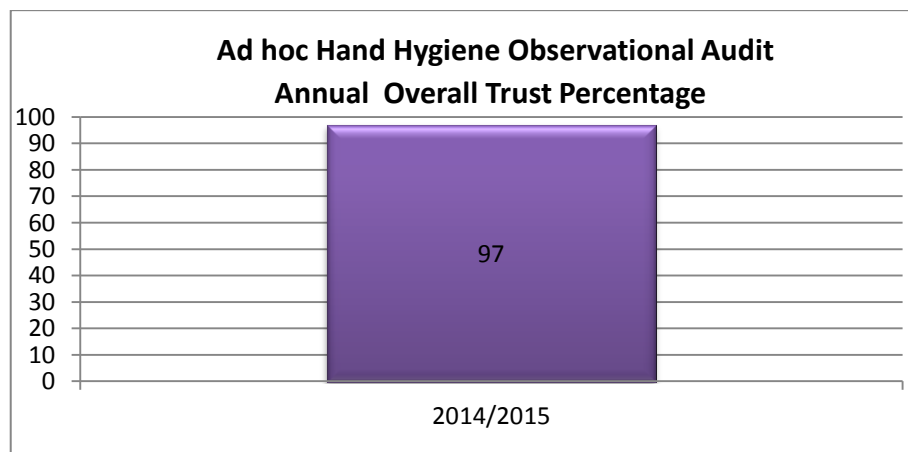
	Doctors	Nurses /Midwives /Students	HCA's	Phlebotomists	Therapists	Others
2014/2015	98	99	99	99	99	98
2013/2014	95	99	99	98	99	97
2012/2013	95	99	98	96	98	97

Annual Staff Group Observations

	Doctors	Nurses /Midwives /Students	HCA's	Phlebotomists	Therapists	Others
2014/2015	82,159	115,493	56,540	11,235	25,954	25,262
2013/2014	66,929	101,846	50,674	8,353	24,370	25,251
2012/2013	44,498	83,604	35,274	4,299	18,694	23,952

Ad hoc audits results:

The overall Annual compliance as assessed by Ad hoc Hand Hygiene Observational Audits was 97%.



The total number of Ad hoc Observations

Annual Overall Trust Ad-hoc Observations
2014/2015
6759

Annual Divisional Ad hoc Percentage

	Integrated Medicine	Surgery & Critical Care	Specialist Services
2014/2015	98	98	93

Annual Divisional Ad hoc Observations

	Integrated Medicine	Surgery & Critical Care	Specialist Services
2014/2015	2,541	2,541	1,677

Annual Staff Group Ad hoc Percentage

	Doctors	Nurses /Midwives /Students	HCA's	Phlebotomists	Therapists	Others
2014/2015	97	98	100	100	99	93

Annual Staff Group Ad hoc Observations

	Doctors	Nurses /Midwives /Students	HCA's	Phlebotomists	Therapists	Others
2014/2015	1,376	2,225	1,616	432	685	425

Link Practitioner Programme

Study days for Infection Prevention & Control Link Practitioners were held following the programme below:

Infection Prevention & Control Link Practitioners Study Day Programme 2014-2015	
Study Day 1 – 17th June 2014	
<ul style="list-style-type: none"> • Nutrition & Hydration • MRSA Swabs • ATP/Fit Testing • Coping with Carbapenemase-Producing Enterobacteriaceae (CPE) • Healthcare Acquired Infections • Collaborative Work • Plan Do Study Act (PDSA) 	
Study Day 2 – 23rd September 2014	
<ul style="list-style-type: none"> • MRSA Bacteraemias linked to Urinary Catheters • UCAM/Safety Thermometer Audit • What challenges do spinal injuries patients have in the community with supra-pubic catheters? • Feedback from Urinary Catheter Audit • Practical Scenarios • Catheters Indications and Trouble shooting • PDSA update • Preparation for IPC Week / Golden Commode Award 	

Study Day 3 – 11th November 2014

- MERS Cov: Have host will travel – IPC challenges
- Surewash Presentation
- Ebola – BHT Preparedness
- *Clostridium difficile* Community Case Reviews
- Things link nurses can do to help Estates
- PDSA Divisional Project
- Medirest's Role and How the Link Nurse can achieve the best from their services
- Sodexo's Role and How the Link Nurse can achieve the best from their services

Study Day 4 – 26th February 2015

- Use of Probiotics in preventing antibiotic associated diarrhoea
- Antimicrobial strategy
- Ebola – Learning Lessons
- AmpC – What is it?
- Vomiting Larry

Decontamination

The Trust continues to work towards the provision of a single site CSSD facility. It will be designed to service all of BHT's activity and current contract provisions and it is expected that the new unit will come on line.

Members of the IPCT attend the Trust's Decontamination Committee meetings which are Chaired by the Director of Property Services.

Patient Led Assessments of the Care Environment (PLACE)

Members of the IPCT were involved in the annual PLACE inspections during 2014-2015.

Background: The Trust undertakes an annual assessment of the care environment, over a period of weeks during spring and early summer. Results were published on 29th August 2014. The PLACE assessments are a self-assessment of non-clinical services which contribute to the environment in which healthcare is delivered. The focus of these annual inspections has moved to ensure that patients are fully involved in the process, working in partnership with NHS staff to identify how the Trust is currently performing against a range of criteria, and how services may be improved in the future. The ratio of patient representatives to NHS staff is required to be a minimum of 50%, and a high number of enthusiastic patient representatives were recruited this year to facilitate this process. Each hospital site was assessed, and the results were as follows:

	Stoke Mandeville	Wycombe	Amersham	Thame	Marlow	Buckingham
Cleanliness						
2013	90.02%	69.29%	86.22%	88.38%	97.47%	82.99%
2014	90.47%	99.85%	94.53%	99.42%	99.06%	92.60%
Food						
2013	89.35%	83.59%	84.90%	80.49%	79.93%	73.82%
2014	85.54%	85.90%	85.73%	87.61%	89.96%	76.60%
Privacy, Dignity & Wellbeing						
2013	77.55%	65.65%	61.18%	62.16%	70.59%	72.22%
2014	79.66%	83.70%	79.62%	62.12%	73.48%	72.73%

Condition Appearance & Maintenance						
2013	75.41%	64.62%	68.75%	75.33%	80.82%	68.24%
2014	89.00%	91.20%	83.59%	87.50%	90.00%	75.63%

It should be noted that due to changes in methodology and assessment criteria for food and hydration, and privacy and dignity in 2014, the scores of these two elements are not directly comparable. However it is useful information and provides a snapshot to compare the performance of individual sites within our Trust.

The overall BHT scores were as follows, and included below are scores from a few other sites for comparison purposes:

	Cleanliness	Food	Privacy, Dignity & Wellbeing	Condition, Appearance & Maintenance
Buckinghamshire	94.04%	85.50%	80.05%	88.63%
National Average	97.25%	88.79%	87.73%	91.97%
Milton Keynes	97.61%	80.13%	86.30%	85.7%
Luton & Dunstable	98.09%	87.77%	85.74%	85.23%
Heatherwood&Wexham	98.93%	90.66%	88.22%	94.75%

Infection Control Manual

The infection control manual continues to be updated and new sections added as required and in accordance with the 5 year updating plan.

The following sections were added or updated in 2014-15

Updated Infection Control Manual Sections
1.2 Blood Borne Viruses
1.8 Management of Patients with Glycopeptide Resistant Enterococci
1.4 Clostridium difficile
1.6 Diarrhoea and/or Vomiting including Gastroenteritis
1.7 Extended Spectrum Beta Lactamase and AmpC Beta Lactamase Producing Bacteria
1.11 MRSA
1.13 Management of Newly Emerging Pathogens
1.16 Viral Haemorrhagic Fever
1.20 PVL
1.25 Carbapenemase-producing Enterobacteriaceae (CPE)
2.3 Guideline for Insertion of Central Venous Catheter
2.4 Management of Hickman Indwelling Catheter
2.6 Guideline for Management of Arterial Lines
2.7 Management of Epidural Systems
2.9 Urinary Catheterisation and Care of Closed Drainage System for Indwelling Catheters
3.1 Outbreak of Infections
3.4 Management of Needlestick and other Inoculation Injuries
3.5 Sharps
3.6 Isolation Policy
3.7 Laundry
3.9 Pest Control
3.13 Surveillance of Infections

All sections of the manual were uploaded to the Trust Intranet in addition to being distributed to be included in hard copies of the manual located in clinical areas.

Educational Activities

The IPCT continues to provide training to the Trust via e-learning modules. Separate modules are available for clinical and non-clinical staff. Hand hygiene practical face to face sessions are delivered monthly on set dates organised by the Training Department.

Additional Statutory Face to Face training days have been organised by the Training Department and IPCT give a half hour Infection Prevention & Control session.

Statutory Training Courses	Training Method	Trust Total % Attendance
Attendance required annually		
Infection Prevention & Control (staff with no direct contact with patients)	e-learning / face to face	80%
Infection Prevention & Control (staff with direct contact with patients)	e-learning / face to face	73%
Attendance required every 2 years		
Hand Hygiene Practical (staff with direct contact with patients)	Face to face	66%

IPCT continue to deliver face to face Induction training for all new Trust staff. Further training is delivered by the IPCT for new Oversea nurses, Junior Doctors, IV Study Days, Annual Trained nurse updates and any other ad-hoc training on request.

Audit Activity

The audit programme for the year can be found in the Infection Prevention & control Annual Programme.

Formal reports were provided by Clinical Audit and Effectiveness Department. All formal reports were disseminated to relevant wards, departments and committees to highlight key findings and recommendations for action. Wards and departments were requested to complete the IPC audit action plan within the clinical quality drive to provide assurances that they had addressed all relevant recommendations.

Adenosine-Tri-phosphate (ATP)

ATP is the universal energy molecule found in all animal, plant, bacteria, yeast and mould cells. Residues, particularly food or organic residue contain large amounts of ATP. When left on a surface or pieces of equipment residues can harbour and grow bacteria, cause cross-contamination; develop biofilms and other problems that can compromise quality and safety.

The benefits of using the ATP system is to:

- Assess the cleanliness of a surface/equipment immediately after cleaning
- Optimise and verify that cleaning procedures are working
- Optimise the use of our cleaning products
- Assist in developing and improving cleaning procedures
- Demonstrate with data, trends in cleaning effectiveness
- Cost effective solution to monitoring cleanliness

The IPCT have undertaken ATP testing of areas during times of outbreak, specific problems and random sampling. All results are fed back to the area at the time of testing as well as in a written report. Failures are addressed at the time of testing and the areas are retested at a later date.

For 2014/2015 five further test points were added. The Result Table below shows the list of 20 high use areas that are tested during times of outbreak. Specific areas can also be tested as and when required.

ATP Test Point Results						
Test Points	Result Percentage					
	Pass		Caution		Fail	
	2013/2014	2014/2015	2013/2014	2014/2015	2013/2014	2014/2015
Clean pillow	N/A	100	N/A	0	N/A	0
Commode-underneath	86	86	9	0	5	14
Conduit top (mid height)	80	75	15	12.5	5	12.5
Cotside – Bedframe	75	75	3	12.5	18	12.5
Curtains	N/A	84	N/A	11	N/A	5
Fan blade & outer cage	67	65	11	10	22	25
Floor under bed	73	69	11	9	16	22
Glove box	N/A	100	N/A	0	N/A	0
Hand sanitiser pump top	100	94	0	3	0	3
Handle of bedpan washer	N/A	95	N/A	0	N/A	5
Infusion pump controls	N/A	100	N/A	0	N/A	0
IV Tray – drug prep	92	94	0	6	8	0
Notice board (top edge)	78	75	4	6	18	19
Patient call bell	88	78	6	13	6	9
Patient chair arms	73	69	18	19	9	12
Patient table top	89	88	9	10	2	2
Patient toilet flush	84	88	8	4	8	8
Patient exit toilet door handle	96	88	2	12	2	0
Tap spout	N/A	62	N/A	14	N/A	24
Ward PC Keyboard	70	82	20	6	10	12

NB – total numbers vary as re-testing may have occurred for failure of single areas only

Results 2014/15

As only a specific number of swabs are available each month, not all wards within an area were swabbed; it was left to the Lead to choose areas that would be appropriate. Individual area results were fed back with a recommendation for actions to be put in place if results showed a caution or fail.

Antibiotic Review Group

The group has continued to meet throughout the year.

Quality Patient Safety/Clinical Governance

Dr O'Driscoll represents Infection Prevention & Control at the Quality Patient Safety Group and is responsible for producing the monthly Infection Prevention & Control Reports. Dr O'Driscoll attended Trust Quality Committee meetings. She provides Infection Prevention & Control reports to each Public Trust Board meeting and has direct access to and monthly meetings with the Chief Executive.

Building Projects

IPCT have been involved with the estates team looking at the following building projects:

Phased work within A&E

Spinal reception

Committee/ Group Membership

Committee
Infection Prevention & Control Committee
Trustwide Infection Prevention & Control Group
Health and Safety at Work Committee
Quality Standards Committee
Quality Patient Safety Group
Medical Devices Committee
Medical Equipment Purchasing Committee
Nursing Midwifery & Therapy Professional Board
The Domestic Services Review Group (SMH & W&A)
County Environmental Health Committee
Regional Professional Development Group (Microbiologists)
Decontamination Committee
Buckinghamshire Infection Prevention & Control Committee
Trust Quality Committee
Critical Care Delivery Group
Orthopaedic Infection Group
SDU Governance Meetings
Divisional Board Meetings
Tissue Viability
Hard & Soft Facilities
Monthly Sodexo Performance Monitoring Meeting

Other Activities

Infection Control Times

The Infection Control Times newsletter has continued to be produced and distributed monthly. They share best practice, latest IPC activity and any learning from IPC incidents or root cause analysis.