GREAT ORMOND STREET HOSPITAL FOR CHILDREN NHS FOUNDATION TRUST

INFECTION PREVENTION AND CONTROL ANNUAL REPORT

April 13 - March 14 (Part A)

and

ACTION PLAN April 14 - March 15

(Part B)

Compiled by: Dr John Hartley - Director of Infection Prevention and Control
(Format - Modified from the template recommended in Health and Social Care Act 2008)

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GREAT ORMOND STREET HOSPITAL FOR CHILDREN NHS FOUNDATION TRUST
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AUTHOR: Dr John Hartley - Director of Infection Prevention and Control
Part A Executive summary

1 Introduction

Great Ormond Street Hospital for Children NHS Trust recognises the obligation placed upon it by the Health Act 2006, (updated 2008) to comply with the Code of Practice for health and adult social care on the prevention and control of infections and related guidance.
The Trust supports the principle that infections should be prevented wherever possible or, where this is not possible, minimised to an irreducible level and that effective systematic arrangements for the surveillance, prevention and control of infection are provided within the Trust. This is recognised as a key Trust strategy in the Quality Statement for 2014/15:

Standard 3 Decrease and eliminate hospital acquired infections

The aim of this programme is to focus on

- prevention of exposure to and acquisition of colonisation with antibiotic resistant and other potentially pathogenic microorganisms
- Antimicrobial stewardship
- Healthcare associated infections to be eliminated - Vascular access related infection, gastrointestinal and respiratory viral infections, Surgical Site Infections (SSIs), Post intubation respiratory infection (including ventilator associated infection), *Clostridium difficile* (C. Diff) infection, urinary tract infections from indwelling catheters

The IPC programme is described in the Trust Policy 'Infection Prevention and Control Assurance Framework and Operational Policy', July 2012 (which will be updated in July 2014). This report lists the IPC team structure (and team plan) and some aspects of the policy but mainly reports the results of process (control) and outcome (infection) surveillance and audit. The data shows that a great effort is employed to reduce HCAI, but that they still occur and some are preventable. Health care associated infection is an ever present risk for patients and staff and requires constant application of best practice to reduce to a truly unavoidable minimum. In recognition of the ever growing needs for IPC input the Trust has agreed to fund a new IPC nurse which will significantly increase the team's capacity to develop, educate, encourage and enforce best practice.

2) Description of infection control arrangements

Director of Infection Prevention and Control (DIPC) **-** Dr John Hartley, Microbiologist
Executive lead for IPC -The Chief Nurse, Liz Morgan
Lead Nurse for Infection Prevention and Control – 1 wte, (vacant Feb to June 2014)
Deputy Lead Nurse in IP&C 1 wte, 0.4 wte Clinical Scientist in IP&C
Other consultant microbiologists – 3 PAs
IPC Administrative support and Data Management **–** 1 wte band 4
(The CNSs for Tuberculosis and ID lead on Tuberculosis related issues;
ID consultants contribute to the out of hours advice.)
New IPC Nurse 2014 - The IPC Team have been unable to undertake all planned activities due to staff restraints. This has been acknowledged by the Trust and an additional full time IPC Nurse post has been funded and filled in June 2014.

Antibiotic pharmacist - Part time post within pharmacy
Transformation Team Support – dashboard development and display

Divisional Responsibility
Under the terms of the Trust IPC Strategy set out previously each Division developed a local Divisional group to drive local planning and implementation of IPC actions.

Divisions have chosen to structure this in different ways with an active IPC Board now formed and meeting regularly for the Surgical, Cardiorespiratory, International and Private Patients, Infection Cancer and Immunity and Neurosciences divisions, and as part of the Quality and Risk group for MDTS.

2:3 The Infection Prevention and Control Committee (ICC) meets every two months.

2:4 Reporting lines
The DIPC is accountable to the CEO and reports to the Board and Sen. Management Team.
The DIPC and Lead nurse for IPC meet weekly with Executive lead.
A highlight report of all significant IPC issues is presented weekly to the Safety Team.
An annual plan is written and included in each annual report.

2:5 Links to Drugs and Therapeutics Committee
A Consultant Microbiologist and Infectious Disease Physician are members of the Drugs and Therapeutics Committee. There are antimicrobial working and stewardship groups.

2:7 **IPC advice and On call service.** Continuous advice service provided by IPC Team, Microbiology and Infectious Disease consultants.

3:3 Outbreak Reports
Contemporaneous outbreak reports are written by the IPCT and fed back to clinicians and managers and disseminated through the IPC Committee.

4 Budget allocation to IP&C activities

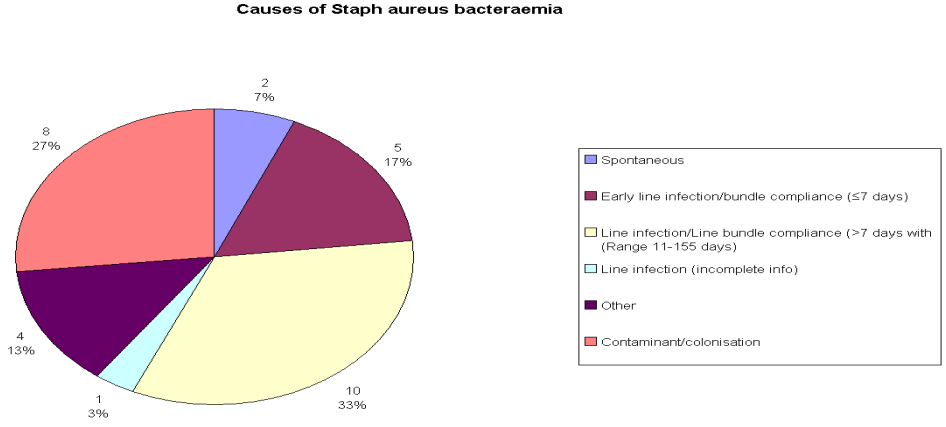
4:1 Staff
Staff budget in Department of Microbiology, Virology and IPC, Laboratory Medicine, ICI-LM

4:2 Support
IT Support and hardware: is supplied within the departmental budget.
There is no separate IPC budget, but emergency outbreak funding is provided by the Trust.

5 HCAI Statistics *2013/14*

5:1 **MRSA bacteraemia =** 1 (most likely a contaminant).

5:2 MSSA bacteraemia = 32 RCAs showed line infection is the most common cause:



5:3 E. coli bacteraemias = 23 episodes
5:4 *Glycopeptide resistant enterococcal bacteraemia (GRE)* *= 0*
***5:5 Clostridium difficile* associated disease** = 13 (against objective of less than 8). Case details were presented to the NHS England, London lead for Infection Prevention and Control and the Clinical Commissioning group. It was agreed that the majority of cases do not represent a care failing and fines for exceeding the objective were not implemented.

5:7 GOS acquired Central Venous Catheter related bacteraemia = 2.1/1000 line days. While this is a low rate, there were 114 episodes. Effort is underway to reduce further.

5:9 Surgical Site Infection Surveillance

The Trust goal is elimination of all avoidable infection through implementation of a GOSH paediatric model of care (incorporating HII, NICE and WHO guidelines) and active surveillance and investigation of serious infections.

Surgical division – has established a SSIS programme including at least one procedure from each specialty. Regular reporting, including dashboard reports on important control points, has started. For the 225 procedures surveyed in 13/14, the total rate was 10%. These were mainly parent reported and further investigation is required.
Critical care and cardiorespiratory – an intermittent surveillance programme has been possible. Overall surveillance for months Dec 13 to Apr 14 covered 362 cardiac procedures and demonstrated a total % surgical infection rate of 6.6%, with no organ space infection.
Neurosciences – continuous audit is performed for permanent shunt procedures, and displayed on the dashboard. RCAs are performed for each infection and a separate audit is performed of compliance with the shunt insertion protocol.

5:10 Viral infections detected while at hospital

Children, parents and staff frequently enter the Trust incubating these common infections and act as sources for localised outbreaks. GOSH Trust outbreak and prevention policy includes isolation of children with suspected viral respiratory infection or gastro-enteritis with emphasis on recognition and early intervention.

Respiratory viral infections detected in 2013/14:			
	Total	Community onset	Hospital onset
Total	252	172	80
Enteric viral infections detected in 2013/4			
Total	360	229	131

Over all there has been an increase in detection of viruses in children admitted to the trust. No wards were closed in 2013/14.

5:11 MRSA Admission Screening and rates
Nose and throat swab screening rate at 48 hours for inpatient admissions remaining in for > 48 hours, all patients. Target > 95%: 2013 screen compliance = 95%

Screening compliance for ICU inpatient admissions (30 day prior or within 24 hours) to critical care areas in 2013. Target 100%: 2013 PICU 98%, NICU 98%, CICU 85%.

MRSA cases of colonisation/carriage at GOSH

In 2013 there were 171 children with first detections,14 probably or possibly acquired in the hospital. Each case is investigate and no outbreaks were detected.

5:12 Multiple resistant 'gram negative' (MDRGN) organisms screening and rates

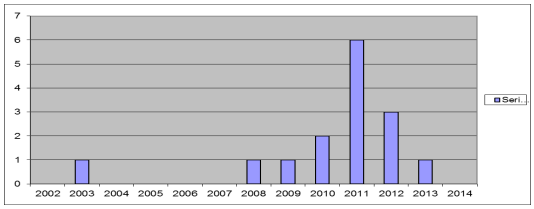
Faecal screening for inpatients remaining in for > 48 hours; target >75%: 2013 rate = 86%

MDR-GN carriage/colonisation - In 2013 testing revealed 158 first detections, 119 came in colonised, 39 were possible cross infection. No outbreaks were detected.

The organisation is at its limit in ability to apply controls mechanisms without adverse impact on other aspects of care provision, however we feel it is essential to continue to do so.

Carbapenemase resistant gram negatives and the CPE Tool Kit

There is national concern regarding the increase in carbapenemase producing enterobacteriaceae, reflected in the publication of a control Tool kit by Public Health England. CPEs have been screened for at GOSH for some years, number detected per year is shown in bar chart:



The Tool kit guidance was reviewed and debated in the Trust IPC committee. We have elected to continue with the current universal stool admission screen request (not introducing rectal swabs) and aim to improve compliance with the admission risk assessment and screening rate through education of staff. Future developments of the Trust admission documentation will need to include specific questions in the risk assessment.

5:13 Serious Untoward incidents involving Infection and major outbreaks - In the 2013/14 there was one SIs regarding admission screening for risk of developing chickenpox.

6 Hand Hygiene and Aseptic Protocols

Hand Hygiene and CVC on going care guidelines

The Trust clinical practice guidelines are available on the GOSH Web within the Infection Control link. Alcohol gel hand hygiene products are placed inside all ward areas to encourage staff, visitors and patients to decontaminate their hands within the clinical area. Compliance with the CVL ongoing care bundle is essential for the prevention of line infections. Regular audit is undertaken (see section 9).

7) Facilities Annual Report Summary - 2014

(Report from Ms Margaret Hollis, Head of Decontamination)

Estates and Facilities became one Directorate from April 2014. End users across the Trust have noted a more responsive service is being provided since the transition

PLACE

Early indication is the PLACE 2014 assessment scores have shown significant improvement from 2013. Attributable to the increased involvement of the young person in the process.

Catering
Over the past year Catering have put in place a Catering Improvement Plan in response to the 2013 PLACE assessment.
Environment
Additional measures have been put in place to monitor the cleanliness of the environment.
Decontamination
The Sterile Services provision of service for GOSH transferred to Guys and ST Thomas Hospitals NHS Foundation Trust September 2013. The quality of service delivered has been monitored as deemed acceptable by the Clinical staff at GOSH
GOSH have maintained accreditation status to BS ISO 13485:2003 for Endoscopy and Medical Equipment decontamination.

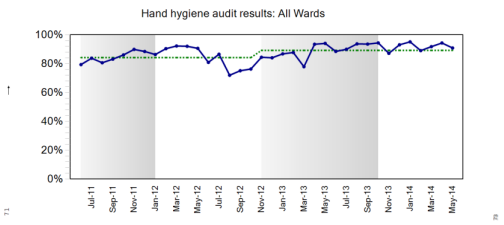
8. Estates annual report summary for IPC

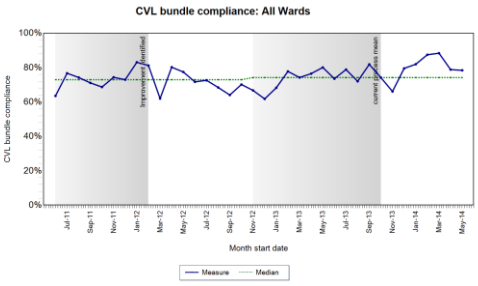
(Report from Mr Brain Needham, Senior Operations Manager)

The Estate team continue to work closely with the IPC team in improving the practices of maintenance and monitoring of the ventilation and water systems. An Authorised engineer has been appointed in both disciplines.
There is a programme now in place and circulated for all critical ventilation systems and acknowledged by signature from all clinical leads responsible for these areas.
Water systems continue to be tested, monitored and reported on in liaison with the IPC.
MSCB continues to be closely monitored as being operated outside of the guideline under derogation, at the lower temperature of 43^{0}C without any
problems.
Pseudomonas aeruginosa continues to be tested for but presently does not present itself as a risk under the on-going control measures undertaken by the Estates and clinical teams.
The education to all leads of the importance of having the ventilation system verification take place is in their interest to enable Estates to providing a safe operation environment for all.
The ward user manuals have been written and distributed and mainly acknowledged by all, with only two areas, being more complicated, asking for further simplification of the write up.

9 Audit

A Trust annual IPC audit programme is followed. Due to staff restrictions additional independent IPC team audit and monitoring of practice has not been carried out as planned.
Individual ward and 'All Trust' compliance is published monthly on the dashboards and reviewed by Divisional and Nursing boards.
Hand hygiene and CVC care bundle audit:





Compliance rates have increased but are still not at 100%, across all clinical areas.

Central Venous Line Ongoing Care

Audit of the Saving Lives HII CVL care bundle is performed monthly from all areas with frequent CVLs. A concerted effort was made during 2013/14 to elevate rate above 90%, and this was achieved, the figure for March 2014 representing 251 satisfactory observation out of 273 (rate 91%). However it has since fallen and we need to re-address this.

9:5 Antibiotic prescribing and audit

Antimicrobial stewardship was included as a CQUIN target for 13/14, based on 3 key indicators. Our CQUIN target was to improve the stewardship KPI percentage from a baseline of 45% by 20% i.e. to 54% in the March audit. We achieved 66%, so the CQUIN was achieved. Additional targets for AMS has been included as a CQUIN in 2014/15.

10 Occupational Health

OH continues to provide 'new entrants' screening, "Exposure Prone Procedures" clearance, staff immunisation (including influenza, final uptake 40%, 8% up on last year)) and blood borne virus exposure follow up (84 attendees).

11 Targets and Outcomes

11:1 MRSA bacteraemia - 1 MRSA Bacteraemias in 2013/14, with an objective of 0.

11.2 *Clostridium difficile* infection - GOSH reported 13 cases in 2013/14, against objective of 7. The target remains at less than 8. These were reviewed with the Commissioners and the Trust was not subjected to the possible fines.

11.3 MRSA Screening See 5:11

11.4 Reduction in GOS acquired CVL related bacteraemia

2013/14 CQUIN target (to maintain, within 10%, the base line from 11/12 (2.0 / 1000 line days) was achieved, with an overall rate 2.1/1000 line days.

11.6 Surgical site infection In 2013/14 the Divisions were asked to establish their own surveillance mechanisms, which they have achieved (but not sustained in CCCR). Target for 14/15 is to continue surveillance with regular feedback and undertake RCAs of all organ space infections.

11.7 Root cause analysis for S, aureus bacteraemias

For S. aureus bacteraemias with onset in GOSH. aim to achieve RCA in 100% with onset after 48 hours and not incubating before admission. This was achieved.

12. Training activities

Basic IPC training and update is provided for all staff through either e-learning, face to face teaching from the IPC team or both. Update is now only through e-learning, including assessment questions. Attendance is monitored and records are maintained by the Training Department. More detailed IPC training is provided in quarterly Training days.

Hand hygiene training for staff on wards is provided locally, and by the IPC team for staff without a ward. All episodes should be recorded by the training department.

IV and aseptic non-touch technique training and update is provided for nursing staff locally but currently there is no assurance that this is provided to all medical staff.

Training and competency assessment for intravascular catheter insertion is provided locally and all divisions should be working towards a standard policy. This is not completed.

Part A - Full Infection Prevention and Control Report for GOSH 2013/14 Activity

1 Introduction

Great Ormond Street Hospital for Children NHS Trust recognises the obligation placed upon it by the Health Act 2006, (updated 2008 - effective from 1 April 2010), to comply with the Code of Practice for health and adult social care on the prevention and control of infections and related guidance. Surveillance visits have shown that we are compliant, although there are areas where improvement can be made.

The Trust supports the principle that infections should be prevented wherever possible or, where this is not possible, minimised to an irreducible level and that effective systematic arrangements for the surveillance, prevention and control of infection are provided within the Trust. The Trust is promoting infection prevention and control as one of the key transformation programmes aiming to improve safety and quality of care under zero harm.

It is the policy of the Trust to include in the individual responsibility of every member of staff the need to participate in the prevention and control of infection expressed through compliance with Health and Safety, Control of Substances Hazardous to Health (COSHH), and other legislation and regulations, applying to the safe provision of care.

The Director of Infection Prevention and Control is responsible for the Trusts overall programme for IPC, working closely with the IPC Team, the Executive Lead with responsibility for IPC (currently the Chief Nurse), the Divisional Teams, Corporate services, Clinical Governance and Safety Team and Transformation Team. The IPC team is embedded in the Department of Medical Microbiology, Virology and Infection Prevention and Control. The Trust requires an infection control programme for active investigation, surveillance, prevention and control of infection in patients, staff and visitors to the Trust. This programme is the responsibility of all staff, not just the central IPC Team, and the delegation to and acceptance of this responsibility by Divisional IPC teams has increased and is key to success. The IPC team, Divisional or central, ensures the infection control programme is implemented and any risks related to or likely to cause infection are investigated and appropriate action taken.

The infection control programme aims to continuously review and build on existing activity, driven by local needs, while incorporating and complying with the latest Department of Health (DH), Public Health England or other relevant strategy and regulations as laid out in such documents as:

A Strategy:

- Acute trust toolkit for the early detection, management and control of carbapenemase-producing Enterobacteriaceae, PHE, Dec 2013
- Water Systems. Health Technical memorandum 04-01: Addendum *Pseudomonas aeruginosa* – advice for augmented care units. March 2013
- Legionnaires' Disease. The control of legionella bacteria and guidance on regulations. Health and Safety Executive. Fourth edition 2013

- Updated guidance on the diagnosis and reporting of *Clostridim difficile.* DH March 2012

- Antimicrobial stewardship: 'Start smart – then focus'. Guidance for antimicrobial stewardship in hospitals (England). Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI), DH. Nov 2011

The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidelines came in to effect 1 April 2011

Older guidance is listed in previous reports.

Infection prevention and control is a complex issue and everyone's concern; the Trust continues to support managers and clinical leaders in the drive to reduce healthcare associated infection. Minimising infection is a key target in the trust strategy, incorporated in the Trust Board Assurance Framework, supported by the transformation programme and featured as a key Stretegy in the Quality Statement for 2014/15:

Standard 3 Decrease and eliminate hospital acquired infections

The aim of this programme is to focus on

- prevention of exposure to and acquisition of colonisation with antibiotic resistant and other potentially pathogenic microorganisms
- Antimicrobial stewardship
- Healthcare associated infections to be eliminated
    - Vascular access related infections
        - *Staphylococcus Aureus* - both Methicilin sensitive and Mticilin resistant (MRSA) bacteraemia and other infection
    - Gastrointestinal and respiratory viral infections
    - Surgical Site Infections (SSIs)
    - Post intubation respiratory infection (including ventilator associated infection)
    - *Clostridium difficile* (C. Diff) noting that this is endemic and rarely pathological
    - Urinary Tract Infections from indwelling catheters

Avoid exposure to and colonisation with:

- MRSA
- Antibiotic resistant organisms, including carbapenemase resistant organisms
- *Pseudomonas aeruginosa* and other water-related organisms

The IPC programme is described in the Trust Policy 'Infection Prevention and Control Assurance Framework and Operational Policy', July 2012 (which will be updated in July 2014). This report lists the IPC team structure (and team plan) and some aspects of the policy but mainly reports the results of process (control) and outcome (infection) surveillance and audit. The data shows that a great effort is employed to reduce HCAI, but that they still occur and some are preventable. Health care associated infection is an ever present risk for patients and staff and requires constant application of best practice to reduce to a truly unavoidable minimum. In recognition of the ever growing needs for IPC input the Trust has agreed to fund a new IPC nurse which will significantly increase the team's capacity to develop, educate, encourage and enforce best practice.

This report outlines the progress towards achieving these goals in 2013/4 and strategy for 2014/15.

2) Description of infection control arrangements

2:1 Director of Infection Prevention and Control (DIPC)

- Dr John Hartley, consultant Medical Microbiologist. DIPC since August 2009 (0.3 wte, including role as Infection Control Doctor).

2:2 The Infection Prevention and Control Team (IPCT) during 2013/14

Nursing and clinical scientist establishment:

- Lead Nurse for Infection Prevention and Control - Deirdre Malone in post until Feb 2014. Band 7 secondment joined team until June 2014 when new lead nurse (Helen Dunn) started.
- Deputy Lead Nurse in IP&C - Barbara Brekle
- Clinical Scientist in IP&C – Elaine Cloutman-Green – 2 days per week

The IPC Team have been unable to undertake all planned activities due to staff restraints. This has been acknowledged by the Trust and an additional full time IPC Nurse post has been funded and filled in June 2014.

- The Clinical Nurse Specialist for Tuberculosis and other Infectious Diseases CNSs lead on Tuberculosis.

Medical Staff*:*

- Dr John Hartley - Consultant Microbiologist, Infection Control Doctor and DIPC
- Dr Garth Dixon - Consultant Microbiologist, Lead Clinician for the Department of Microbiology, Virology and Infection Control: 1PA for IPC
- Dr James Soothill - Consultant Microbiologist: 2 PAs for IPC
- Professor Judy Breuer – Consultant Virologist (part time)

Working with:

- Dr Vas Novelli - Consultant in Infectious Diseases

- Professor Nigel Klein – Professor of Infectious Diseases and Microbiology
- Dr Delane Shingadia – Consultant in Infectious Diseases
- Dr Karen Moshal – Consultant in Infectious Diseases – Temporary cover due to leave

Antibiotic pharmacist

Part time post

Administrative support and Data Management

Administator and data analyst IPC Team – post vacant due to maternity leave until October 2013, then due to career break from Dec 2011. Fixed term post replacement started May 2014.

Transformation Team Support

Transformation provide central support for audit and surveillance data display.

Executive lead for IPC

The Chief Nurse, Liz Morgan, is the Executive lead for IPC; supported for medical issues by the Deputy medical director.

Divisional Responsibility

Under the terms of the Trust IPC Strategy set out previously each Division developed a local Divisional group to drive local planning and implementation of IPC actions.

Units have chosen to structure this in different ways with an active IPC Board now formed and meeting regularly for the Surgical, Cardiorespiratory, International and Private Patients, Infection Cancer and Immunity and Neurosciences divisions, and as part of the Quality and Risk group for MDTS.

2:3 The Infection Control Committee (ICC) meets every two months.

Committee continues to meet bi-monthly.

Establishment:-

Chair Director of Infection Prevention and Control, Infection Control Doctor.	Dr John Hartley
Executive lead for IPC	Liz Morgan
Deputy Medical Director	
Consultant Microbiologists	
Lead Nurse in IP&C Deputy Lead Nurse and Scientists in Infection Control	
Consultant in Infectious Disease	
Academic Representative from ICH Infection Unit	
HPU Representative - Consultant for Communicable Disease	

Control (or delegate)	
Estates , Assistant Director Estates	
Corporate Facilities , Assistant Director Corporate Services	
Occupational Health Representative , Consultant in Occupational Health/ or Nurse Manager	
Head of Nursing Representative	
Pharmacy Representative	
Consultant Surgeon	
Clinical Governance and Patient Safety representative	
Theatre Representative	
Divisional Representatives (may be delegated from above)	
ICI - LM	Lead Nurse
Surgery	Head of Nursing
IPP	Consultant Physician or Head of Nursing
Medicine / DTS	Head of Nursing
Cardio-respiratory	Consultant Lead for IPC
Neurosciences	Head of Nursing

Administrative support: provided by IPC Administrator
Minutes: placed on the Trust minutes library.
The committee meet as planned.

2:4 Reporting lines

The DIPC is accountable to the CEO. In 2013/14, regular monthly meetings had ceased, but have resumed with the new interim CEO.
The DIPC and Lead nurse for IPC meet weekly with Executive lead.
A highlight report of all significant IPC issues is presented weekly to the Safety Team.

The IPCT provide a report of all incidents dealt with by the IPCT to the ICC every two months. The IPCC previously reported to the Quality and Safety Committee, and now to the Senior Management Team, Quality and Safety session.

During management of incidents the IPC team or clinical area complete clinical incident forms returns via Datix. The QST Team (now Clinical Governance and Safety Team) compile a monthly report for wards/Heads of Nursing/Risk Action Groups for feedback on individual incidents and a quarterly reports for the Quality and Safety Committee, which feeds to the Clinical Governance Committee.

The DIPC continued to report directly to the Trust Board.

2:5 Links to Drugs and Therapeutics Committee

A Consultant Microbiologist and Infectious Disease Physician are members of the Drugs and Therapeutics Committee. The consultant microbiologist leads the antibiotic working party which is a sub-group of the D&T Committee, supported by a part time pharmacist. An annual plan was followed.
An Antimicrobial Stewardship group has been formed and meet regularly.

2:6 Links to Trust Business Plans

Incidents are notified by the IPCT or the Divisions via the incident reporting system.
Information is supplied to the Divisions when requested and there is open access when assistance is needed.
Specialties and Divisions are advised to put IPC issues on their risk registers for review in RAG/Divisional meetings to support business plans.
IPC Team bids are made through the Department of Microbiology, Virology and IPC within the Department of Paediatric Laboratory Medicine, ICI-LM Division.

2:7 IPC advice and *On call service.*

The 2 wte IPC nurses and 0.4 wte clinical scientist provide a reactive service for IPC from 8 am to 6 pm, Monday to Friday, covered by the continuous consultant microbiologist service. The Consultant Microbiologists and Infectious Disease Consultants provide a continuous out of hours on call service. The ICT cover Occupational Health needs related to infection control, such as inoculation injuries, which are also covered by consultant microbiologist/ID consultant during out of working hours.

3 DIPC Reports

3:1 Board Reports
April 2013 – Regular DIPC report to Board
July 2013 – Report and presentation of Annual Report
Nov 2013 - Regular DIPC report to Board
Mar 2014 - Regular DIPC report to Board

3:2 Annual IPC Team Action Plan
An annual plan is written and included in each annual report.

3:3 Outbreak Reports

The DIPC ensures contemporaneous outbreak reports are written by the IPCT and fed back to clinicians and managers and disseminated through the IPC Committee.

4 Budget allocation to IP&C activities

4:1 Staff

Medical: There are 6 specific consultant programme activities funded to consultant medical microbiologists for IPC (3 allocated to Dr John Hartley, 2 and 1 to the others)

Nursing: 2 WTE infection control nurses (ICNs) funded (Band 8b and Band 7).
(1 new additional wte band 7 IPC nurse has been funded from June 14)

Scientific: 0.4wte band 6 clinical scientist.
The laboratory is a fully staffed and accredited NHS Laboratory.

Administrative: 1 wte equivalent post; staff member on maternity leave much of year. Fixed term replacement started may 2014.

SSIS Team : Surveillance has been devolved to the Divisions in 2013 and is undertaken and funded differently. Surgery – one full time surveillance officer, supported by practice educator and Lead Nurse; CCCR – one surveillance officer supported by practice educator; Neurosciences – no dedicated team, surveillance through regular audit.

4:2 Support

IT Support and hardware: is supplied within the departmental budget.
Emergency outbreak funding: is provided by the Trust if and when needed.

4:3 Training of IPC team members

Resources for continual professional development (CPD) of the IPC Team are currently funded by the Trust or department.
Medical staff have an allocated study leave allowance from the Trust which may be used towards infection control training.
Nursing staff obtain funds from the nurse training budget, external sponsorship and the departmental special purpose fund.

5 HCAI Statistics

A MANDATORY SURVEILLANCE

5:1 Methicillin Resistant Staphylococcus aureus (MRSA) bacteraemia

Surveillance of methicillin resistant *Staphylococcus aureus* (MRSA) bacteraemia is undertaken in line with National reporting requirements. Trust attributed cases are shown below:

Annual GOSH MRSA Bacteraemia Rates (PHE Data) Trust Apportioned Cases

Year	***MRSA Bacteraemia numbers (attributed)***	***Estimated MRSA Bacteraemia rates per 100,000 bed days***
April 01 – Mar 02	7	9.1
April 02 – Mar 03	13	17.3
April 03- Mar 04	4	5.1
April 04 – Mar 05	7	9.6
April 05 – Mar 06	6	7.7
April 06 – Mar 07	5	6.3
April 07 – Mar 08	2	2.5
April 08 – Mar 09	8	11
April 09 – Mar 10	1	1.0
April 10 – Mar 11	1	1.1
April 11 – Mar 12	4	4.3
April 12 – Mar 13	3	2.9
April 13 – Mar 14	1	0.9

Detailed investigation of the 1 case this year revealed it was most likely a contaminant.

5:2 Methicillin sensitive *Stapylococcus aureus* (MSSA) bacteraemia

While MRSA has been the principle *S. aureus* of concern nationally, GOSH has recognised that methicillin sensitive *S. aureus* (MSSA) is a more significant issue to children. This has now been recognised nationally as all *S. aureus* bacteraemia is now reported, although there are no national targets for MSSA.

Continuous surveillance is undertaken of all S. aureus bacteraemia and root cause analysis is undertaken to investigate all episodes where there may have been an opportunity for trust to influence onset. Overall numbers (32 episodes), shown in the graphs below, demonstrate *S. aureus* bacteraemia episodes with onset after 48 hours (21 episodes) have been reducing slightly year on year but have not been eliminated.

Bar chart showing number of S. aureus bacteraemia episodes in patients with onset before or after 48 hours of admission:

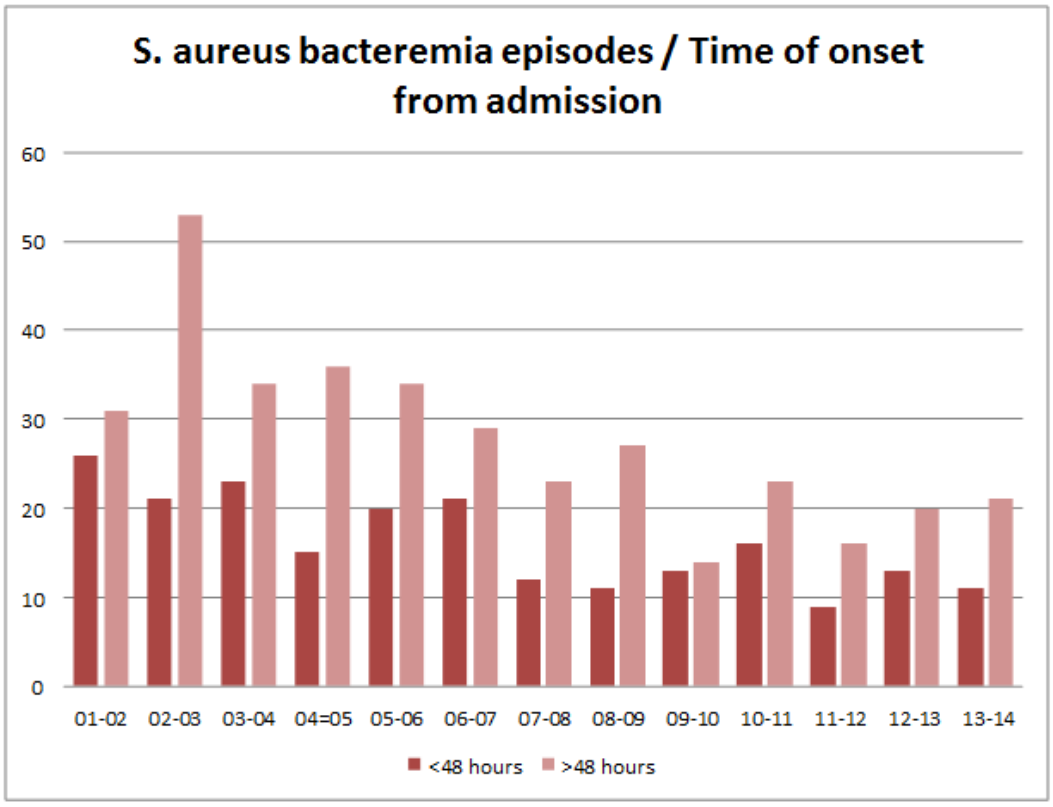
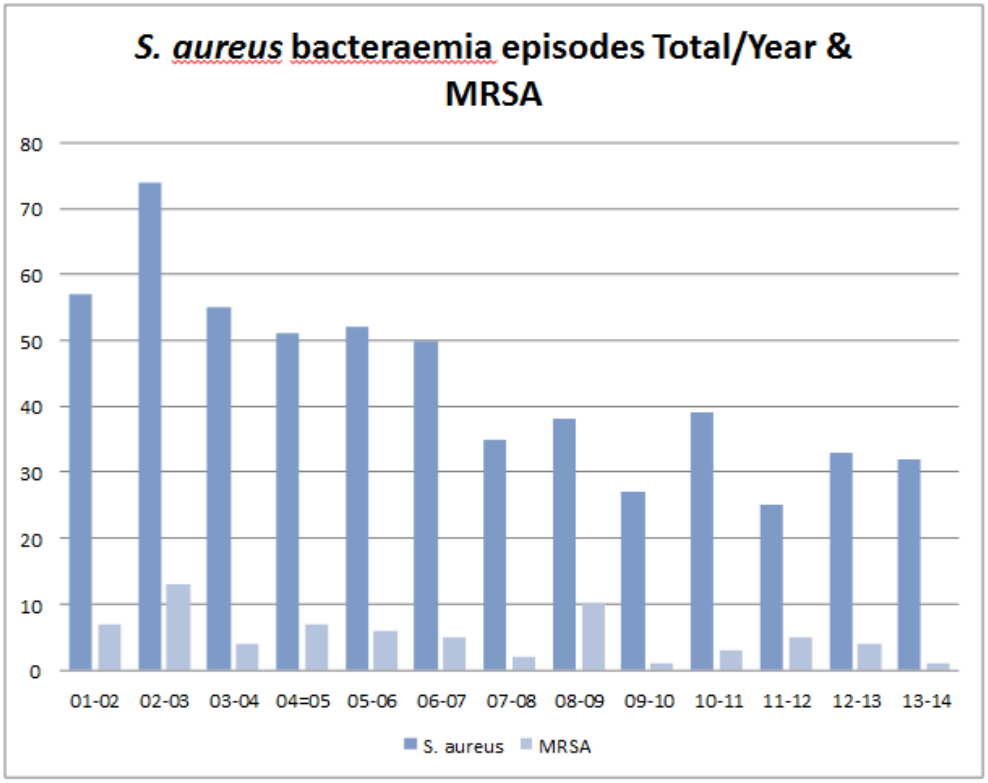
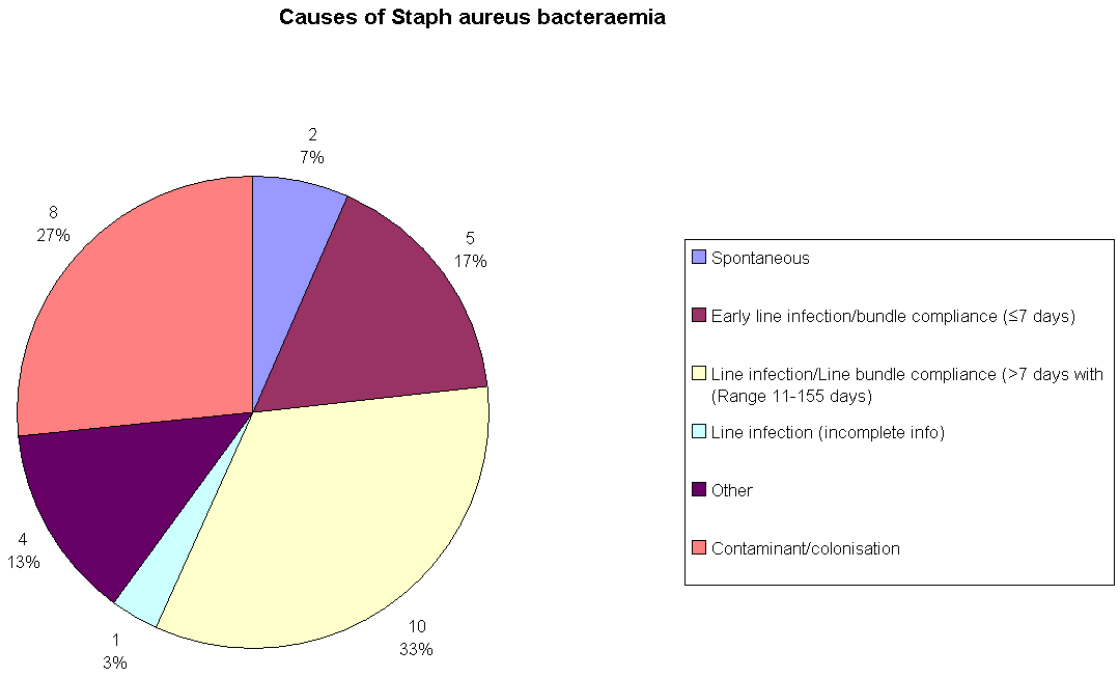


Table showing total number of S. aureus bacteraemias and MRSA bacteraemias



Root cause analysis of S. aureus bacteraemias

RCAs have been completed for all S. aureus bacteraemias (developing after 48 hours of admission and not incubating before admission). Audit of the RCA process and conclusions was undertaken on episodes form Oct 2012 to Nov 2013 and a draft report presented to the IPC committee in June 2014 and the audit return will be completed. The draft report highlighted that RCAs were being completed but assurance of action plan completion was not gained.
The source of the bacteraemia in 30 episodes is shown below, confirming the need to continue efforts to reduce line infections, but also to ensure cultures are not contaminated.



5.3 E. coli bacteraemias

E. coli bacteraemias are reported nationally, although currently there is not national target.

There were 19 episodes in the financial year 12/13

There were 23 episodes in the financial year 13/14

5:4 Surveillance of Glycopeptide Resistant Enterococcal bacteraemia (GRE)

Year	Number of GRE bacteraemias
2008/09	0
2009/10	0

2010/11	1
2011/12	5
2012/13	5
2013/14	0

5:5 Surveillance of Clostridium difficile associated disease.

The role of toxigenic *Clostridium difficile* as a pathogen in children is not well understood, although it rarely causes severe disease. With a higher carriage rate than that found in adults and frequent multiple causes of diarrhoea in children, especially hospitalised children receiving intensive therapy, it is often impossible to determine clinical significance of toxin when detected.

The potential for disease has always been acknowledged at GOSH and we have performed extensive testing and surveillance for many years, allowing instigation of additional infection prevention and control actions with hand washing with soap and water and cleaning with chlorine releasing agents.

While there has been some variation in number of children with positive tests year on year, we did not experience the dramatic increase seen in adult hospitals during the 2000s and almost no cases due to the virulent endemic strain, ribotype 027, seen in adults.

National mandatory surveillance was introduced for children aged 2 year and over in April 2007 and a nationally determined target, based on the initial year, was set for those first tested on or after third day of admission (after day of admission and next two days). We report positive children with (or with a history of) diarrhoea and no other cause present or, if another possible cause is present, clinical opinion led to treatment as a possible case

There has been national guidance on testing, advocating that Trusts move from the standard EIA toxin tests to a two stage test with antigen detection (GDH) and EIA, due to the poor sensitivity and specificity of the EIAs. We have reviewed this advice and currently continue to use the neutralised cell cytotoxicity assay for toxin detection as this is the acknowledged reference toxin detection test. We follow up toxin detection with culture and ribotyping to ensure detailed surveillance is maintained.

Almost all positive stools represent co-incidental detection and are sporadic ribotypes. Overall surveillance for CDT in stool showed a decrease on previous year. Most infection detected still represents co-incidental detection or infection under 2, but the number with possible disease aged 2 or above was increased.

	07/08	08/09	09/10	10/11	11/12	12/13	13/14
C. difficile 1st detections ALL ages and any duration of admission	78	54	55	71	96	104	92

Number 'trust apportioned cases' (aged above 1 year and in for > 2 days when tested and reported as possible CDI on HCAI site)	11	11	12	11	9	7	13
Objective		11	10	9	9	8	7

Analysis of every case is undertaken to assess the likelihood of true disease, and any avoidable risk factors or lapses in control measures. Details were presented to the NHS England, London lead for Infection Prevention and Control and the Clinical Commissioning group. It was agreed that the majority of cases reported and assigned to the Trust did not represent a failing in C. difficile infection prevention and control and the potential fine for exceeding the objective was not implemented.

However, very rarely disease does occur and there is a continuing risk of cross transmission so we will continue to test stool to detect these rare cases and assist in control measures.

5:6 Mandatory Surgical Site Surveillance (SSI)

National mandatory surveillance only requests information on hip and knee implants and open reduction and fixation of long bones. This Trust is not performing such procedures as yet.

Trust level surveillance of a number of surgical specialties was performed and is reported in the local surveillance section below.

Additional Local Surveillance

5:7 GOSACVCRB – GOS acquired Central Venous Catheter related bacteraemia

Surveillance mechanisms were introduced in Feb 2006 to identify GOSH inpatient associated central venous catheter related blood stream infection (GOSACVCRB). This surveillance system is co-ordinated by Dr James Soothill (Microbiologist), Mr Paul Lock (Biomedical scientist) and displayed by Transformation team on the dashboard. Surveillance requires daily recording of presence of patient lines by ward staff on an online form (audit of compliance shown in Audit section) and classification of all positive blood cultures by Dr Soothill (or other microbiologists in his absence).
Outcomes measured include compliance with data entry and GOSH acquired infection rate per 1000 line days.

The data is displayed on the dashboard for clinical teams to review. Monthly data is broken down to 'ward where child was when blood culture taken' and each unit receives specific case data so further analysis, eg root cause analysis, can be performed by clinical teams.

Interventions: The principle control is through implementation of the care bundle for CVC access and maintenance. Implementation is audited (see audit) and local areas are taking responsibility for this.

Comparison with other hospitals is not straightforward as definitions vary. The GOSACVCRB definition was designed to have low specificity and alert units to potential cases for review. Implementation of CDC criteria (which requires two blood cultures for common skin organisms and line and peripheral growth, would reduce the apparent number.
Outcome data:

Overall Trust rate (GOSACVCRBs per 1000 line days) was 2.1. This is in line with the CQUIN target of baseline 2.0 +/- 10%, and was the same as last year.

	Rate per 1000 line days
Financial year 13/14	2.1
Financial year 12/13	2.1
Financial year 11/12	2
Financial year 10/11	2.6
Financial year 9/10	3.3
Financial year 8/9	3.7
Financial year 7/8	4.3

While this is a low rate, it still represents 114 infection episodes a year. As shown in the graph below, there was a sustained higher rate during first half of 2013 which led to further effort will be made to implement full compliance with care bundles. The rate has subsequently reduced and we aim to achieve a lower rate for 14/15.

The chart of Trust wide infection rate is shown immediately below

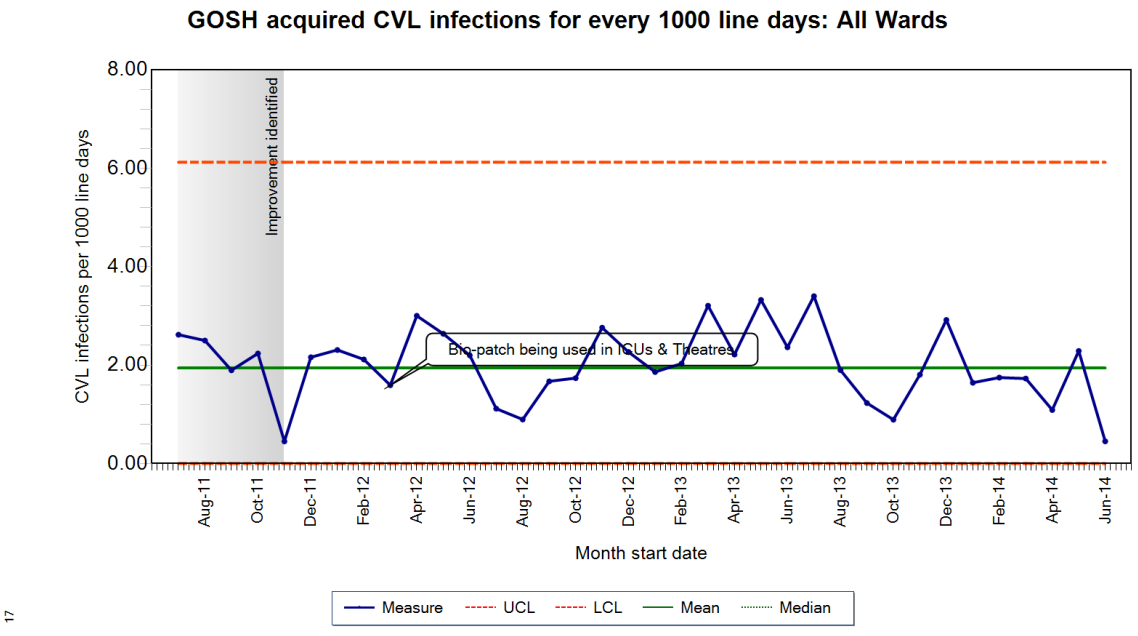


Table showing rate of GOS acquired CVC related bacteraemias detected by routine surveillance system per 1000 line days in 2013/14. The episode is allocated to the ward the child is on when blood culture is taken.

	Financial year 2013-14 After 12 month **ward**	**line days**	**New episodes of CVCB**	**CVCB infections per 1000 line days**
Cardiorespiratory	BADGER	1827	0	0.0
	BEAR	3503	6	1.7
	MIFFY	103	0	0.0
Critical Care	FLAMINGO	6375	17	2.7
	NICU	1450	4	2.8
	PICU	3042	9	3.0
Critical care and Cardiorespiratory		16300	36	2.2
	BUMBLEBEE	3388	7	2.1
	BUTTERFLY	5604	13	2.3
IPP		8992	20	2.2
	ELEPHANT	7875	9	1.1
	LION	3975	15	3.8
	FOX	3319	6	1.8
	ROBIN	2550	7	2.7
	PENGUIN	861	3	3.5
ICI		18580	40	2.2
	KINGFISHER	357	1	2.8
	RAINFOREST	3700	4	1.1
	EAGLE	2107	1	0.5
MDTS		6164	6	1.0
	PETERPAN	335	0	0.0
	SKY	766	4	5.2
	SQUIRREL	3012	6	2.0
Surgery		4113	10	2.4
	KOALA	1272	2	1.6
Neurosciences		1272	2	1.6
	GOS_ALL	55421	114	2.1

Unit rate compared to last year rates and outcome of CQUIN target:

5:8 Ventilator associated pneumonia

The PICU Ventilator Associated Pneumonia (VAP) study

VAP is the second most common health care associated infection (HCAI) reported in critical care units. Paediatric specific data on VAP is limited but suggest that VAP contributes to significant morbidity (mainly increase length of ventilation and duration of stay) but not mortality. A prospective, nurse-led surveillance study on Ventilator Associated Pneumonia (VAP) was undertaken on PICU at Great Ormond Street Hospital. The principle investigator of this study was a senior charge nurse) with full support of consultant intensivists and IPC.

The pilot study was completed and the rate of VAP of the 4 month study at GOSH PICU was estimated at 5.6/1000 ventilator days. This is on the lower end of previously published rates of paediatric VAP. After delay (due to the lead investigator leaving the PICU) the saving lives care bundle was adapted for implementation on PICU and surveillance demonstrated reduction in VAP by the criteria used.

This work was published:

Reducing VAP by instituting a care bundle using improvement methodology in a UK paediatric intensive care unit. Brierley J, Highe L, Hines S, Dixon G. Eur J Pediatr. 2012 Feb;171(2):323-30. Epub 2011 Aug 11.

Reducing VAP by instituting a care bundle using improvement methodology in a UK paediatric intensive care unit. Brierley J, Highe L, Hines S, Dixon G. Eur J Pediatr. 2012 Feb;171(2):323-30. Epub 2011 Aug 11.

Surveillance was continued in 2010/11 and demonstrated a low rate (absolute number 2) of VAP by this definition. Central surveillance is currently not performed.

5:9 Surgical Site Infection Surveillance

From 2011 to 2013 there was a SSIS team based in the IPC team, however, subsequent surveillance during 2013/14 has been performed by the individual specialty or Divisional teams. This has been under development, with the main target for 2013/14 being to establish a surveillance programme.

Surgical division have provided a detailed report of the activity for the year and it is shown in full below. The annual data shows a higher than expected rate of parent reported infections in spinal surgery that requires additional investigation.

Additional specialty surveillance was ongoing for urology, shown below.

CCCR continued an active SSI prevention group and were able to perform a 4 month surveillance period, data reported below.

Neurosciences continued detailed surveillance ventricular shunt insertion through regular audit meetings and data is shown.

5:9.1 Surgical Division (Report from Nathan Askew, Lead Nurse)

Clinical Division of Surgery
Surgical Site Surveillance

Surgical Site Surveillance Programme

Introduction

The Surgical Division at Great Ormond Street Hospital for Children NHS Foundation Trust comprises 9 clinical Specialities, providing care to around 22,000 children a year. The trust has a long history of Surgical Site Surveillance which was conducted centrally as part of the Infection Prevention and Control Team until April 2013 when the responsibility transferred to the relevant individual clinical divisions.

Within the Surgical Division a SSIS officer was appointed to work within the education team under the direction of the Lead Nurse. This paper sets out a review of the service to date and details the plans and objectives for the SSIS programme in the financial year 2014-15.

2013 -14 Aims

- All surgical specialities will have independent surgical site surveillance of at least one procedure meeting the HPA guidelines and suitable procedures by April 2014
- The SSIS team will develop systems for accurately monitoring and recording data and develop methods for reporting this back to the Surgery Division Infection Control Committee by October 2013
- The SSIS team will develop systems for investigating any surgical site infection and for the sharing of learning from this process by October 2013

Speciality Surveillance procedures

Speciality leads were involved in discussions regarding which procedures were suitable and useful to carry out surveillance. Procedures that are undertaken by laparoscopy, are a diagnostic theatre based test (such as biopsy) and where the primary wound closure does not occur in theatre were excluded in line with the HPA guidance. It is important to note that no surgical category falls in the mandatory group, but spinal surgery at GOSH is reported to the HPA.

The procedures and surveillance protocols for each speciality are listed below:

Speciality	Procedure	Surveillance
Spines	All (excluding plaster jackets)	SO Post op D1, D2, D3 30 day phone call + 1 year follow up

Orthopaedics	Insertion of 8 plates	SO post op D1 30 day phone call
ENT	Cochlear Implant	SO post op D1 30 day phone call + 1 year follow up
Urology	Open Pyleoplasty	SO post op D1 30 day phone call
Cleft	Cleft lip repair (+/- palate)	SO post op D1 30 day phone call
General Surgery	Neonatal Laparotomy	SO post op D1, weekly until 30 days (telephone if transferred out)
Plastic Surgery	Non-buried K wires	SO post op D1 30 day phone call extend to 6/52 if required
Dental & MaxFax	ABG	SO post op D1 & 30 day phone call
Ophthalmology	No data required	[redacted]

Ophthalmology were excluded as no procedure was able to be identified which met the inclusion criteria and could be easily surveyed.

Where appropriate an information sheet about SSIS is given to children and their families undergoing appropriate procedure at the pre-operative appointment. The SSIS team identify children from the daily theatre list and then ensure the following data collection protocol:

- Base line data collected on all patients on day 1 post op
- All children have a 30 day post discharge follow up telephone call
- Spinal patients are seen on post op day 1, 2 and 3 until the post-operative wound check. Once the IVABx have stopped the surveillance is discontinued and the patients then receive the 30 day phone call and follow up at one year.
- Any child with an implant, such as spinal and cochlear, will receive a 1 year follow up in addition to the 30 day phone call.

Data Collection

For the 2013-14 financial year all specialities have at least one full quarter of data for their identified procedure. Unfortunately the SSIS officer in post left the trust at the end of Q2, once surveillance was active in all specialities. The new SSIS officer quickly returned the programme to its former position but there was an inevitable gap in monitoring due to the changeover of staff.

Monitoring and recording data

The SSIS team have utilised the S4 database to enter all data including follow up and have a robust system in place for ensuring that all children are followed up as per the protocol outlined above.

The data collected for the financial year 2013-14 is detailed below:

Speciality	Procedure	Parent Reported Infections	Infections During Admission	Lost to Follow up	RCA's			Annual Total	% parent reported	% RCA's	% Lots to follow up
					IVABx	Delayed discharge	Organ Space				
Cleft	Cleft lip repair (+/- palate)	0	0	3	0	0	0	20	0	0	15
MaxFax	Alveolar bone graft – donor site	0	0	1	0	0	0	19	0	0	5
ENT	Cochlear Implant	1	2	1	0	0	0	48	2	0	2
Orthopaedics	Insertion of 8 plates	2	0	1	0	0	0	12	16	0	8
Plastics	Non-buried K wires	0	0	0	0	0	0	7	0	0	0
General Surgery	Neonatal Laparotomy	0	0	0	0	0	0	3	0	0	0
Urology	Open Pyleoplasty	0	0	0	0	0	0	4	0	0	0
Spines	Posterior Spinal Fusion	14	2	1	1	0	1	61	23	3	2
	Insertion of Growth rods	1	0	1	0	0	0	24	4	0	4
	Combined spinal fusion	0	0	0	0	0	0	1	0	0	0
	Growth rod lengthening	1	0	3	0	0	0	29	3	0	10

Discussion on speciality data

Cleft Service
Data collected since December 2013 and 20 children underwent clip lip repair (+/- palate). No identified or parent reported infections in these patients and the speciality has a 15% lost to follow up (LTF) from the SSIS service.

Maxi facial / Dental
Data collected since January 2014. 19 children formed the surveillance on graft site for alveolar bone graft. No identified or parent reported infections and 5% LTF by the SSIS service.

ENT
Data collected since December 2013. 48 children formed the surveillance on insertion of cochlear implant. 1 parent reported infection and 2 children readmitted with implant infection (infection rate of 6%). 1 child LTF from SSIS (2%).

Orthopaedics
Data collected from November 2013. 12 children formed the surveillance of insertion of 8 plates. 2 parent reported infection and no identified infections (16%). 1 child LTF from SSIS (8%).

Plastic Surgery
Data collected from February 2014. 7 children formed the surveillance of non-buried K wires. No detected or parent reported infections and no children lost to follow up.

General Surgery
Data collected from February 2014. 3 children formed the surveillance of neonatal laparotomy (elective or emergency). No infection detected and no parent reported and no children lot to follow up.

Urology
Data collected from February 2014. 4 children formed the surveillance of open pyleoplasty. No detected or parent reported infections and no children lost to follow up.

Spinal Surgery
Data collected from June 2013. Data is laid out in the table above. 2 RCA's were conducted in this financial year for the two patients readmitted with wound infections. One patient required admission for long term IVABx the second patient developed an organ space infection which required removal of metal work. The results of these were shared with the infection control committee.

In addition the team have commenced a real time dashboard looking at the four main areas of the care bundle for theatres which the DoH recognise as having the highest impact on surgical site infections. The areas and the current compliance are detailed below:

Speciality	**Temperature in range %**	**MRSA screening compliance %**	**Antibiotics protocol adherence %**	**Pre-operative Wash %**
Cleft	100	100	100	100
Dental	50	100	100	100
ENT	50	100	100	100
Orthopaedics	100	100	100	100
Spinal	25	75	100	100
General Surgery	50	50	100	50
Plastics	0	100	100	100
Urology	100	100	100	100
Divisional Total	**36**	**90**	**100**	**100**

The Divisional run chart is included as Appendix A

Investigating infections and sharing of learning

The on-going monitoring of both infection rates and compliance with the care bundle are discussed at the division infection control meeting monthly. In addition the division carry out an RCA for any child who meets the following criteria:

- Readmitted to GOSH or a local service for wound management (including administration of IVAB)
- Has an organ space infection (including return to theatre for management)
- Prolonged stay at GOSH for wound management

Indications for an RCA are monitored through the 30 day phone call by the Surveillance officer. When called an RCA is led by the child's consultant or the speciality lead. Findings are presented to the infection control committee with a summary of key learning and should feed into local M & M meetings.

Moving forward

The SSIS team were able to meet their three objectives for the 2013-14 financial year which now has a robust system in place for data collection. The service wishes to continue to expand and develop, making the data collected as useful and meaningful as possible to the consultant body and to positively affect outcomes for the patients and families.

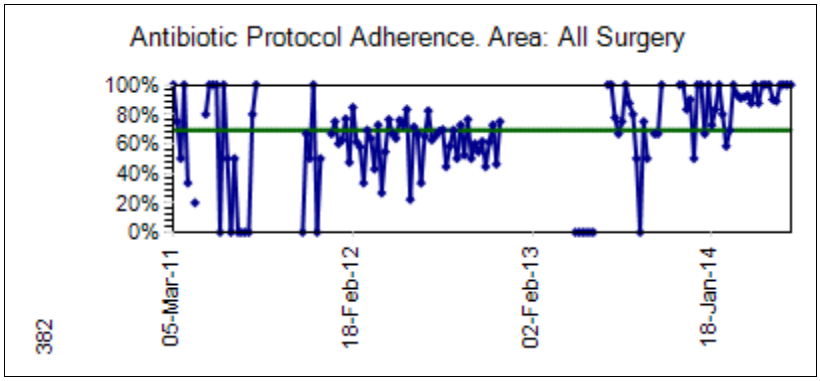
The SSIS team propose the following aims for the 2014-15 financial year:

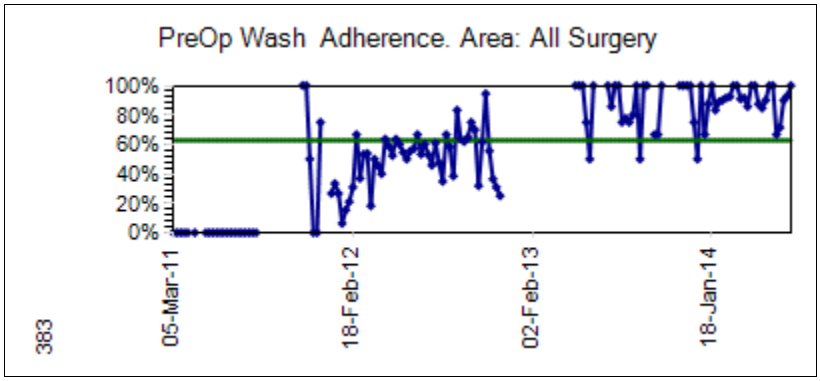
- To increase the surveillance in each speciality to two procedures by December 2014 (where appropriate)
- To generate a speciality level report giving infection rate per procedure by consultant and also an overview of that speciality compliance with the perioperative care bundle by September 2014
- To develop an exception report which will highlight deviations from the care bundle and give some explanatory narrative on this by September 2014
- To develop a process for monitoring children who are found to be MRSA positive and to co-ordinate their on-going screening within the community, actively seeking to remove their alerts where possible by April 2015

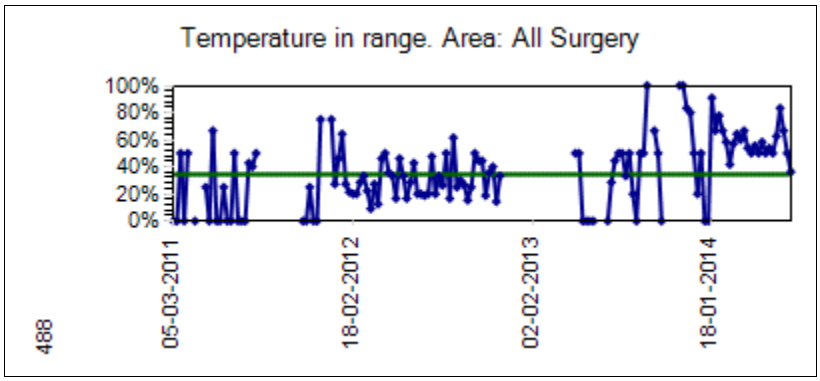
Conclusion

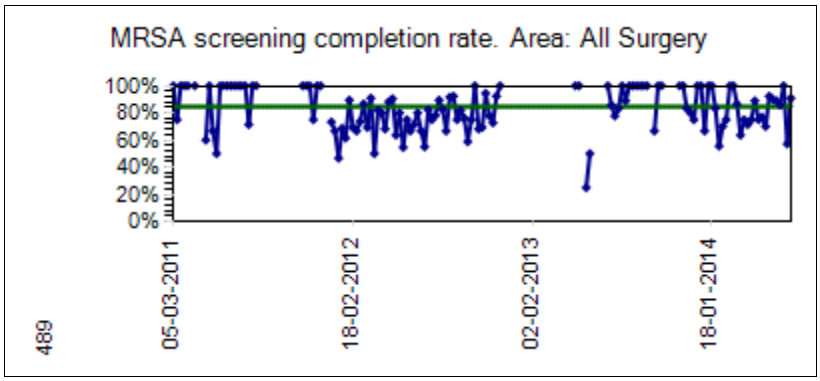
The SSIS team have achieved their objectives form year one and will now move to ensure that in the current financial year the data recorded in as useful as possible to the speciality teams when delivering their service. More of an emphasis will now be on reviewing exceptions to the care bundle and patient pathway to improve the patient outcomes.

SSI Dashboard









5:9.2 **Report for Cardiorespiratory Surgical site infection surveillance**

Surveillance was established as part of the CCCR Surgical site infection prevention group with limited staffing, trained and managed by Ashley Hurford (Practice Edcator Bear Ward, CCCR). Activity instigated by the group in the year included introduction of a new dressing, and investigation and resolution of non-infection related wound healing issues.

Overall surveillance for months Dec 13 to Apr 14 covered 362 cardiac procedures and demonstrated a total % surgical infection rate of : 6.62%

Total Surgeries: 362 , with 20 infections, 9 detected as out patients, giving rates of:
Organ Space: 0%
Deep: 0.55%
Superficial: 6.07%
(Delayed Healing: 1.93%)
Total % surgical infection: 6.62%

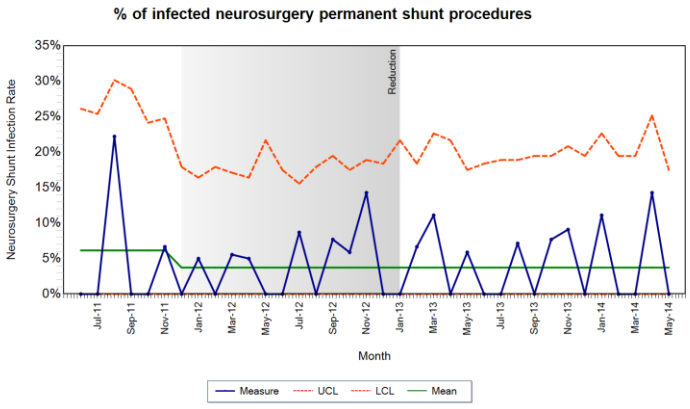
Specialty team based surveillance

5:9:3 Urology Speciality based surveillance The Urology team established their own data base for internal audit (established and curated by Mr Araham Cherian). Continuous data entry takes place a regular team meetings and case review, although there are not formal definitions or post discharge surveillance. Data is displayed on the Surgery safety dashboard. Surveillance for 2013/14

– final analysis by Team detected 2 infections, in a 1117 procedures, This is similar to the low number reported last year (4 infections detected).

5:9:4 Neurosurgery shunt infection surveillance

The Neurosurgical team maintain a dedicated audit data base with accurate recording of shunt related infections. Since 2010 this will be used to provide monthly data for inclusion on the Neurosciences Safety dashboard.



RCAs are performed for each infection and a separate audit is performed of compliance with the shunt insertion protocol.

5:10 Viral infections detected while at hospital

5:10:1 Surveillance of Respiratory Syncitial Virus (RSV)

This is a predominantly seasonal disease (usually between October - March) causing acute bronchiolitis in young babies and infants. Frequently a large number of children are admitted already infected, although numbers were small this year.

Number of patients identified and tested positive with RSV year on year is shown below:

Oct 02 - Mar 03	35 cases of whom 23 were hospital acquired = 66%
Oct 03 - Mar 04	21 cases of whom 5 were hospital acquired = 24%
Oct 04 - June 05	43 cases of whom 18 were hospital acquired = 42%
Oct 05 – June 06	62 cases of whom 15 were hospital acquired = 24%
Oct 06 – Mar 07	53 cases of whom 11 were hospital acquired = 20%
Oct 07 – Mar 08	46 cases of whom 5 were hospital acquired = 11%
Sept 09 – Apr 09	41 cases of whom 6 were hospital acquired = 15%
Oct 09 – May 10	34 cases of whom 5 were hospital acquired = 18%
Sept 10 – Apr 11	72 cases of whom 14 were hospital acquired = 19%
Sept 11 – Apr 12	104 cases of whom 15 were hospital acquired = 14%
Sept 12 – April 13	95 cases of whom 16 were hospital acquired = 15%
April 13 – Mar 14	23 cases of whom 6 were hospital acquired =

5:10:2 Non-RSV respiratory viruses

Other respiratory virus predominated. There is a high risk of acquiring a respiratory virus because of both the susceptibility of children and the frequent admission of currently infected children, for other investigations or treatment along with visiting siblings, carers and staff. This is reflected in the number of hospital acquired infections (HAI) (80 detected). Wards are advised to restrict visiting siblings with symptoms during the season.

Implementation of standard precautions are designed to mitigate the risk of transmission but it has not been eliminated.

Respiratory viral infections detected in 2013/14:			
	Total	Community onset	Hospital onset
Influenza	21	15	6

RSV	23	17	6
Parainfluenza	83	56	27
Adenovirus	92	57	35
HMPV	29	23	6
Rhinovirus	4	4	0
Total	252	172	80

Over all there has been an increase in detection of respiratory viruses in children admitted to the trust, with 123 non-RSV in 2012 and 79 RSV in the 12/13 RSV season, and 76 apparent acquisitions (60 and 16) in the combined group.

5:10:3 Surveillance of Viral Gastro-enteritis

GOSH Trust outbreak and prevention policy includes isolation of children with suspected viral gastro-enteritis with emphasis on recognition and early intervention.

As in respiratory infections, children, parents and staff frequently enter the Trust incubating these common infections and act as sources for localised outbreaks. Control of these explosive outbreaks frequently requires closure or restriction of admission to units, along with deep environmental cleaning, as attack rates are high and secondary cases occur.

Detailed investigation of these outbreaks and numbers of reported patients, staff or visitors affected are kept by the IPC team and the decision to close wards is based on risk assessment and epidemiological data.

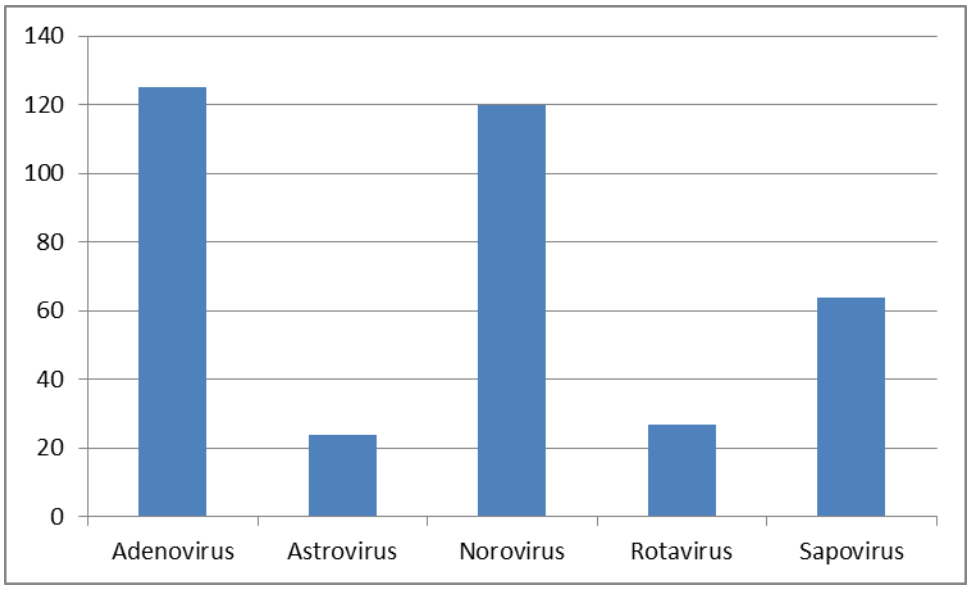
Change in methods: During the year 2011/12 we continued to use electron microscopy as the primary testing method for viral gastroenteritis, but used additional PCR in some EM negative cases and BMT children. From May 2012 we have introduced routine PCR for enteric viruses. This is more sensitive and accounts for some of the increase in detection in 12/13 compared to 11/12, and 13/14 compared to 12/13.

There were 317 cases of viral gastroenteritis confirmed in 2012/13, of which 184 were admitted with or detected on admission samples, with particular pressure in January, February and March. (This compares to a total of 151 cases in 2011/12)

There were 360 cases of enteric viruses detected in 2013/14 (patient episodes are a little less as some had dual infections):

Enteric viral infections detected in 2013/4			
	Total	Community onset	Hospital onset
Adenovirus	125	71	54
Astrovirus	24	14	10
Norovirus	120	79	41
Rotavirus	27	24	3
Sapovirus	64	41	23
Total	360	229	131

Bar chart showing numbers of different enteric viruses detected in children at GOSH in financial year 2013/14.



Despite this large number of cases admitted or with onset in the hospital, disruption to clinical services were minimised and no wards shut. This was achieved through the implementation of standard infection prevention and control procedures with prompt recognition of cases,, isolation of affected patients, and ensuring that domestic staff were cleaning the clinical areas with the correct concentration of chlorine.

Number of Ward closures Year on Year due to confirmed or presumed viral gastroenteritis

Year	***Predominant organism***	***Ward Closures or admissions restricted to emergency***
April 04 – Mar 05	Rotavirus	17 wards (range from 3-9 days)
April 05 – Mar 06	Rotavirus / Norovirus	11 wards (range from 3-7 days)
April 06- -Mar 07	Norovirus	9 wards (range from 3-10 days)
April 07 – Mar 08	Norovirus	5 wards (range from 2-26 days)
April 08 – Mar 09	Norovirus	8 wards (range from 2-10 days)

April 09 – Mar 10	D and V (no organism detected)	3 wards (range from 3 – 4 days)
April 10 – Mar 11	Rotavirus, Norovirus and Astrovirus	3 wards on restricted admission (6 – 19 days)
April 11 – Mar 12	Norovirus, Rotavirus, Adenovirus, or D&V cause not found Mixed viruses	10 wards on restricted admission* admissions (4 – 14 days) 1 ward was closed for 1 week**
April 12 – March 13	Norovirus, staff and patients affected	One ward was closed for three days
April 13 – March 14		No ward was closed.

Surveillance for antimicrobial resistant organisms

5:11 MRSA Admission Screening and acquisition, carriage rates and ward location

The Trust MRSA Screening Statement is located in the Admission Screening Policy located on the GOSH Web.
We monitor compliance by

- review of screening rate of those who stay in for at least 48 hours and are screened within 48 hours of admission (Target 95%)
- and screening rate of all inpatient admissions; all wards are provided with an online update of patients not screen within 24 hours of admission, and we fed back numbers not screened by 24 hours. We aim for 100% on ICUs, but there are always a few cases where this is not appropriate due to clinical condition.
-

Individual ward screening rates are displayed on the Infection Control web page and discussed at the Divisional IPC meetings (although this was not available all year due to data management issues).

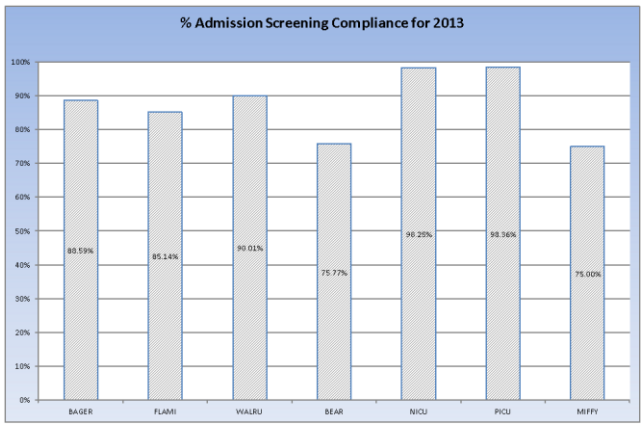
GOSH Annual % Compliance to Infection Control Admission Screening Policy
Screening rate at 48 hours for inpatient admissions remaining in for > 48 hours – target 95%

Date	**MRSA (nose and throat) screen compliance %**
2002 Jan - Dec	91%
2003 Jan - Dec	86 %
2004 Jan - Dec	89 %
2005 Jan – Dec	92%
2006 Jan – Dec	95%
2007 Jan - Dec	95%
2008 Jan - Dec	95%
2009 Jan - Dec	96%

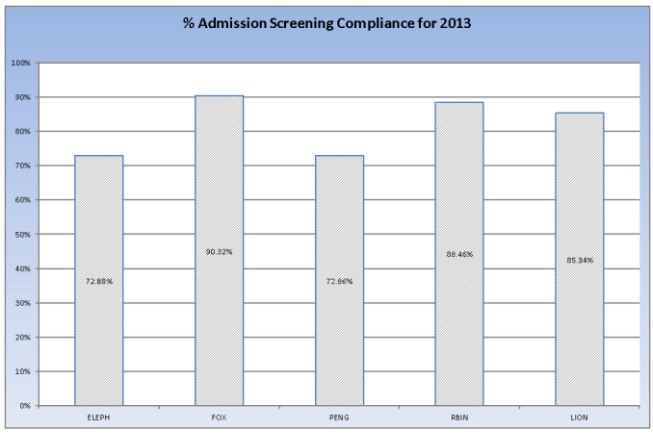
2010 Jan - Dec	95%
2011 Jan - Dec	96%
2012 Jan - Dec	97%
2013 Jan - Dec	95%

Admission screening compliance for admissions (30 day prior or within 24 hr) in 2013

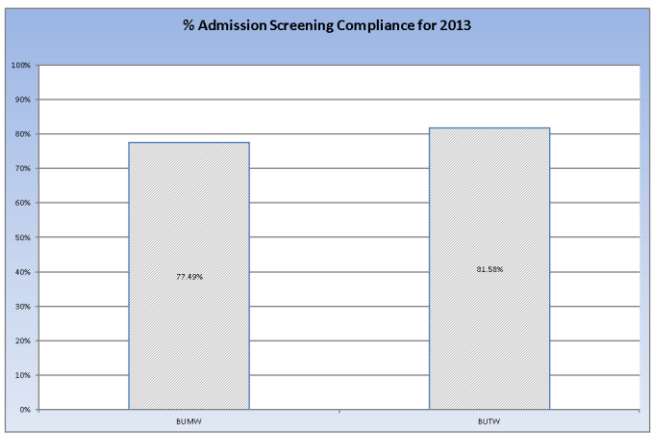
Critical care and cardiorespiratory



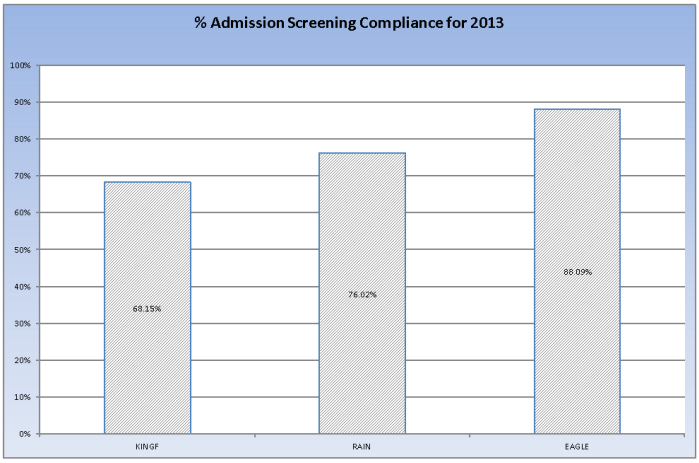
ICI-LM



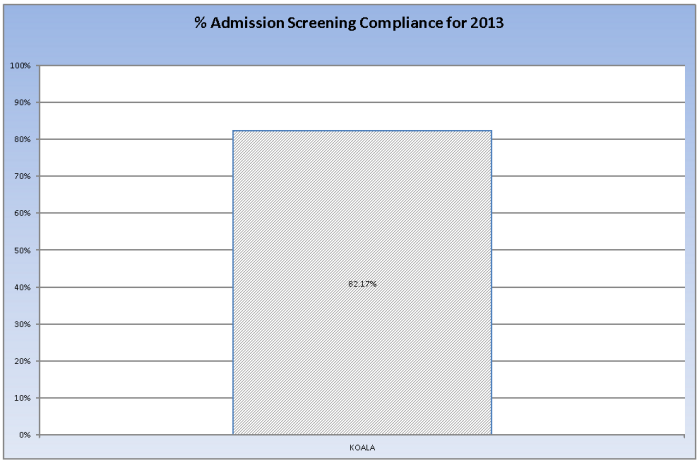
IPP



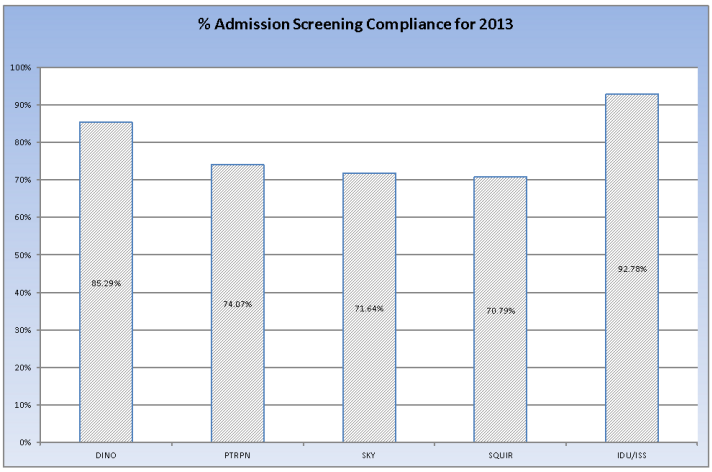
MDTS



Neurosciences



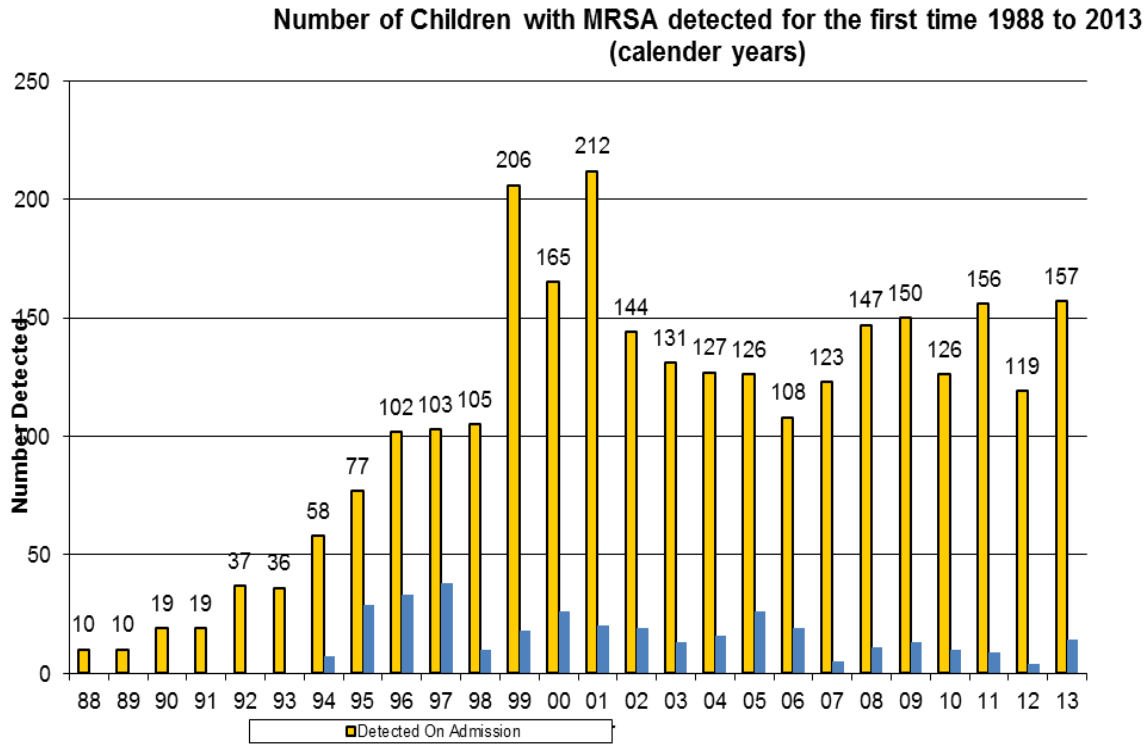
Surgery



MRSA cases of colonisation/carriage and infection at GOSH

Details of newly detected MRSA carriage is shown in the chart below by calendar year; in 2013 there were 171 new detections, with 14 probably or possibly acquired in the hospital.

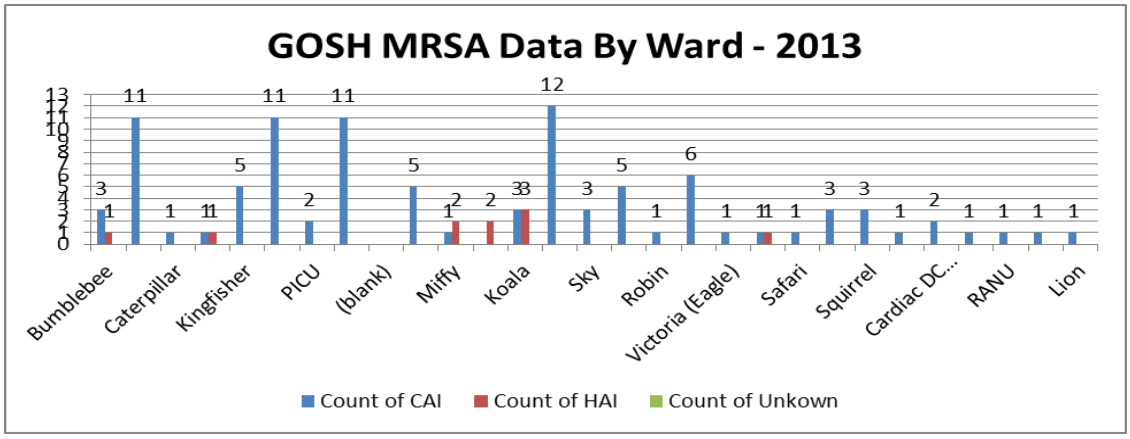
Every apparent GOSH acquired case is investigated. The source is rarely found and cases are not usually linked. There were no outbreaks.



GOSH Hospital acquired colonisation by financial year:

	Number acquired colonisations
April 04 - March 05	19
April 05 – March 06	29
April 06 – March 07	9
April 07 – March 08	4
April 08 – March 09	16
April 09 – March 10	9
April 10 – March 11	10
April 11 – March 12	7
April 12 – March 13	6
April 13 – March 14	12

Distribution of MRSA 1st detections acquired in hospital in 2013



5:12 Multiple resistant 'gram negative' organisms (including CPE)
Routine admission surveillance is performed to allow instigation of isolation procedures in patients who are colonised with multiple antibiotic resistant organisms; knowledge of the presence of Gram negative organisms carrying linked resistance mechanisms between an aminoglycoside and other first line antibiotics is used to guide antibiotic choice for empirical treatment of serious sepsis. We aim to achieve 75% in stool screens (see table below).

GOSH Annual % Compliance to Infection Control Admission Screening Policy
For inpatient admissions remaining in for > 48 hours; target >75%

Date	Faeces screen compliance %
2002 Jan - Dec	72%
2003 Jan - Dec	74 %
2004 Jan - Dec	77 %
2005 Jan – Dec	75%
2006 Jan – Dec	81%
2007 Jan - Dec	83%
2008 Jan - Dec	80%
2009 Jan - Dec	82%
2010 Jan – Dec	82%
2011 Jan – Dec	86%
2012 Jan - Dec	87%
2013 Jan - Dec	86%

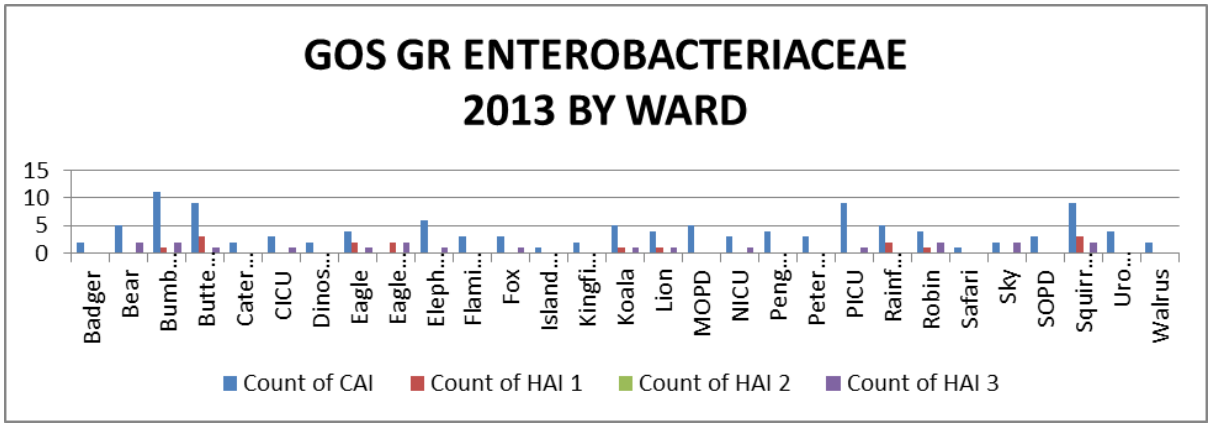
We detect similarly colonised or infected children during procession of clinical samples and weekly faecal screening of inpatients in high risk areas (haematology, oncology, immunology and bone marrow transplant) and instigate additional isolation procedures at considerable organisational, financial and individual cost.

Screening/testing in 2013 revealed 158 first detections (slightly down from 183 in 2012), of which 119 definitely came in colonised and 39 were either cross infection or detected as result of antibiotic selection with previous negative or unknown (as not screened on admission). This is similar to last year (180 detections in 2011, up from 124 first detections in 2010) and is likely to reflect the continuing national and international increase in antimicrobial resistant organisms. Children are located in most wards (see bar chart below), with predominance in the International and Private Patients unit.

All possible cross infections are investigated and no outbreaks were detected.

The organisation is at its limit in ability to apply controls mechanisms without adverse impact on other aspects of care provision; however we feel it is essential to continue to do so.

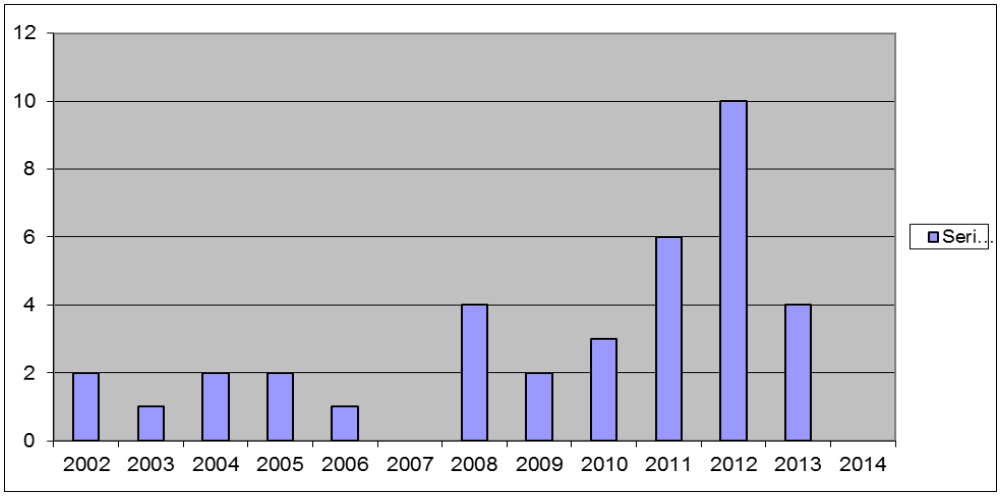
Bar chart showing location of children colonised on admission or subsequently found to be colonised with multiple resistant gram negative bacteria in 2013



Carbapenemase resistant gram negatives

This antibiotic resistance mechanism represents the most serious threat to treatment yet. Organisms carrying this mechanism may be truly untreatable. They are becoming more prevalent in various countries and regions within UK and have been responsible for major outbreaks. We screen for carriage and implement severe control mechanisms when found. There had been an increase in detection of children colonised with carbapenemase over the last 10 years, peaking for us in 2012 see bar chart.

Bar chart showing the number of children newly detected as colonised with significant carbapenemase carrying organisms (Enterobacteriaceae, Acinetobacter spps, Pseudomonas aeruginosa) , by year (2014 data to end June)

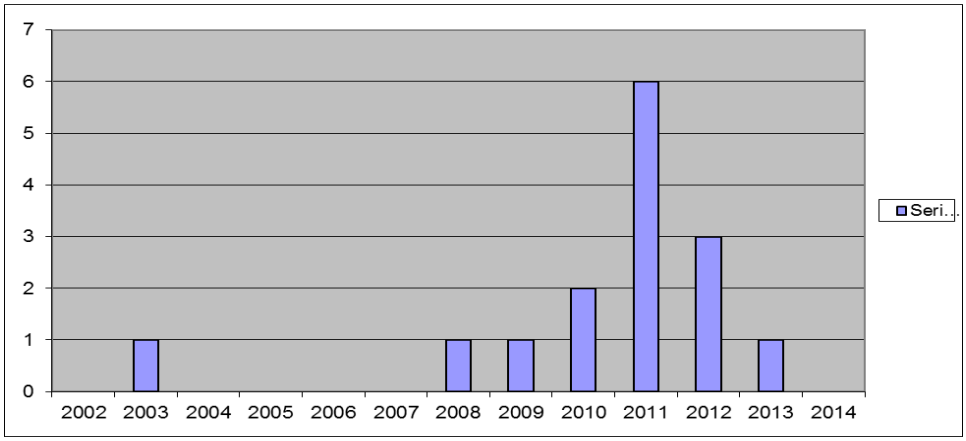


To date we have controlled this and prevented spread, at considerable cost.

CPEs or carbapenemase producing enterobacteriaceae

There has been an increased national awareness of the risk posed to health care by the growing number of gram negative organisms carrying transmissible genes conferring resistance to the carbapenem antibiotics. This was reflected in the publication of a Tool kit by Public Health England designed to assist control of one particular group of these organisms (Enterobacteriacea – hence called CPEs or carbapenemase producing enterobacteriaceae). Although nationally there is an increase, we have not seen this in 2013/14.

Bar chart showing the number of children newly detected as colonised with significant carbapenemase carrying organisms Enterobacteriaceae (CPEs) by year (2014 data to end June)



The Tool kit guidance was reviewed and debated in the Trust IPC committee. We have elected to continue with the current universal stool admission screen request (not introducing rectal swabs) and aim to improve compliance with the admission risk assessment and screening rate through education of staff. Future developments of the Trust admission documentation will need to include specific questions in the risk assessment.

Extended spectrum betalactamase (ESBL) carrying organisms.

The organisms we multiple resistant organisms, and represent only a limited range of the gram negative organisms present. Expanding the classification to include extended spectrum betalactamase (ESBL) carrying organisms, as suggested by some guidelines, was debated in the Trust IPC Committee but not implemented as the increase in ‘alerted’ children would overload the isolation facilities.

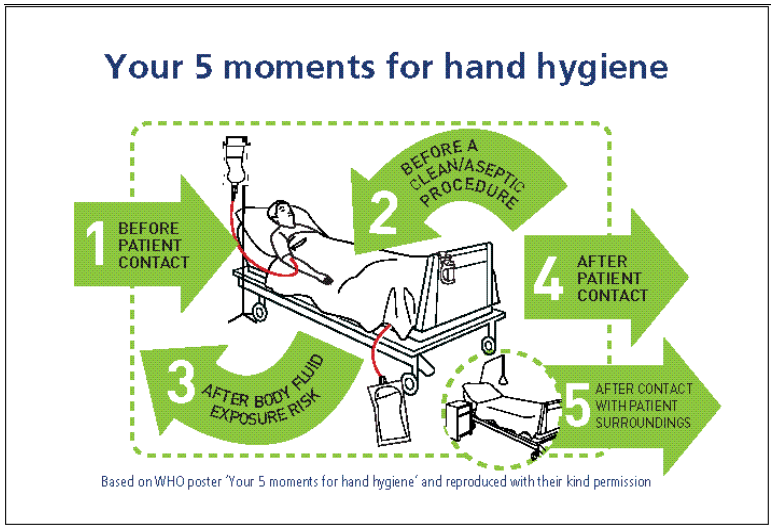
5:13 Serious Untoward incidents involving Infection and major outbreaks

In the 2013/14 financial year there was one SIs involving IPC and no major outbreaks. The SI related to the admission screening for risk of developing chickenpox.

6 Hand Hygiene and Aseptic Protocols

6:1 Hand Hygiene

The emphasis on carrying out hand hygiene at the 'point of care' through the '5 moments' campaign has been adopted across the organisation.



6:1:1 Hand Hygiene and CVC on going care guidelines

The Trust clinical practice guidelines are available on the GOSH Web within the Infection Control link. Alcohol gel hand hygiene products are placed inside all ward areas to encourage staff, visitors and patients to decontaminate their hands within the clinical area. Compliance with the CVL ongoing care bundle is essential for the prevention of line infections.

Regular audit is undertaken (see section 9).

6:1:2 National Staff Survey

As last year, the national staff survey reports lower than desired satisfaction of availability of facilities for all staff at all times for hand hygiene.
The facilities team have placed stickers on soap & alcohol hand gel dispensers in clinical and non-clinical areas, alerting people who to contact, should they find an empty dispenser.

Staff who are experiencing problems with water (too hot or too cold) need to report this to the works department.

6:2 Other Saving Lives High Impact Interventions

In addition to auditing hand hygiene compliance and compliance with the CVL care bundle the following areas are audited monthly and they results are on the Trust intranet dashboard against the relevant ward / department as part of the 'Saving Lives' programme:
- Peripheral line care bundle (insertion and maintenance)
- Urinary catheter care bundle (insertion and maintenance)
- Renal dialysis care bundle audited
- Isolation precautions audited annually

7) Facilities Annual Report Summary – 2014

(Report from Ms Margaret Hollis, Head of Decontamination)

Estates and Facilities became on Directorate from April 2014. The joining of services has allowed the skill mix of staff to be utilised more efficiently. End users across the Trust have noted a more responsive service is being provided since the transition

PLACE

PLACE 2014 assessment for GOSH, early indication is the scores have shown significant improvement from 2013. This is attributable to the increased involvement of the young person in the assessment process, and the Estates and Facilities team who coordinated preparation for the 2014 assessment. This approach ensured the parents and Members Council representatives involved with the PLACE assessment could observe the good work achieved by GOSH to maintain a safe clean environment

Catering

Over the past year Catering have put in place a Catering Improvement Plan in response to the 2013 PLACE assessment. The plan has achieved the following:

- Phased procurement of new food trolleys to ensure food temperatures are achieved and maintained
- New patient menus introduced. This work has been achieved by working closely with the Trust's Dietetic team
- New restaurant menu in response to customer survey feedback
- GOSH food group established. The group aim is to achieve continual improvement in provision of food to patients and visitors to GOSH
- New taster sessions involving parents in food choice
- Closure of old shop and opening of the pop up shop in the Lagoon with new products
- Staff training achieved: Food Hygiene for Catering staff, Housekeepers and Floor Managers. Customer services and retail training

Environment

Additional measures have been put in place to monitor the cleanliness of the environment. The Floor Managers have become involved in validating the MITIE daily audit score process against the National Cleaning Standards 2010. This process has seen a noted improvement in the standard achieved

MITIE have supported the Trust to work towards 'green' ways of working and sustainability. There is a waste project that has seen significant improvement in the management for recycling of waste and segregation of other waste streams. This has idebtified a quality and cost benefit to the Trust

Decontamination

The Sterile Services provision of service for GOSH transferred to Guys and ST Thomas Hospitals NHS Foundation Trust September 2013. The quality of service delivered has been monitored as deemed acceptable by the Clinical staff at GOSH

GOSH have maintained accreditation status to BS ISO 13485:2003 for Endoscopy and Medical Equipment decontamination. Accreditation status demonstrates that service provision meets all external mandatory standards and Department of Health guidance documents

8. Estates annual report summary for IPC

(Report from Mr Brain Needham, Senior Operations Manager)

- The Estate team continue to work closely with the IPC team in improving the practices of maintenance and monitoring on the both the ventilation and water systems.

The appointment of both an Authorised engineer in both disciplines now bring a more positive approach to the experience in both developing the safe working practices and the few issues when then have arisen.

The appointment of an Authorised Person for ventilation has too added strength to the team which is allowing the combined team in moving forward with continued improvements' under the scrutiny of compliance in both these critical and least understood disciplines by the end users.

- There is a programme now in place and circulated for all critical ventilation systems and acknowledged by signature from all clinical leads responsible for these areas. This will allow without surprise the annual verification and plating to take place. Several positive meetings have now been undertaken I liaising and educating the end users on both the requirement and their responsibility alike for the verification too take place.

- Water systems continue to be tested, monitored and reported on in liaison with the IPC. The remedial works have been acted on quickly from notification, with excellent communication and cooperation with the end users that now understand more clearly the work that goes into the maintenance of the safe deliverability of water to their areas.

MSCB continues to be closely monitored as being operated outside of the guideline under derogation, at the lower temperature of 43^0C without any problems. A lot of work in rebalancing the water system throughout the building has been undertaken since the last report and concern which has provided excellent results and removed the concerns from continued poor readings from several areas.

A paper is being undertaken between the Estates team, Nominated Authorised Engineer for water and the IPC to underwrite the on-going success and in support of the derogation for the use of lowered temperatures in cooperation with the Copper Silver Ionisation water treatment.

Pseudomonas Aeruginosa continues to be tested for but presently does not present itself as a risk under the on-going control measures be undertaken by he Estates team.

- The education to all leads of the importance of having the ventilation system verification take place is in there interest as much as the Estate team form providing a safe operation environment for both Staff and patient alike.

  The ward user manuals have been written and distributed and mainly acknowledged by all, with only two areas, being more complicated, asking for further simplification of the write up.

9 Audit

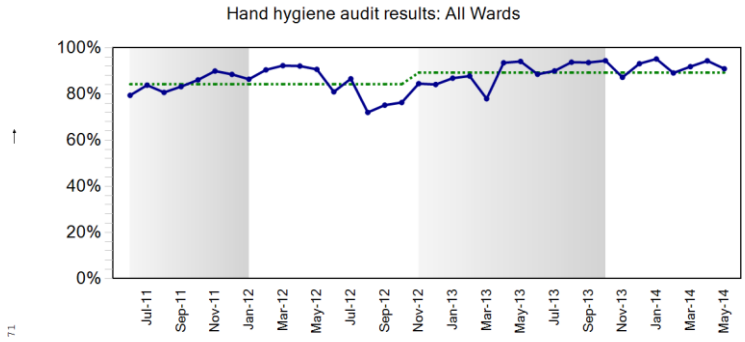
The infection control Trust-wide audit plan is now well embedded in the Trust's overall audit programme and registered with audit department. This plan is based on the internal and external infection control strategy which includes elements of High Impact Interventions from the "Saving Lives" programme. The infection control link network personnel in the Trust take responsibility, with guidance from the IP&CT, for performing planned audits. Additional audits are often carried out by interested personnel.

Antibiotic prescribing – the Trust has continued to fund a part time antibiotic pharmacist who is working one day per week, with the Antibiotic Subcommittee of Drugs and Therapeutics Committee (Chaired by Dr Soothill), on antibiotic policy. The Trust participated in a European Antibiotic Use and Healthcare Associated Infection point prevalence Survey this year. The Antimicrobial Stewardship group now meets regularly and has commenced an audit programme of three key indicators.

9:1 Hand Hygiene Results

Individual ward/department and All Trust Hand Hygiene compliance is published monthly on the Transformation dashboards and reviewed by Divisional Boards and Nursing.

Hand Hygiene All Trust compliance (with zero score for non-returns) is shown in the graphs below.



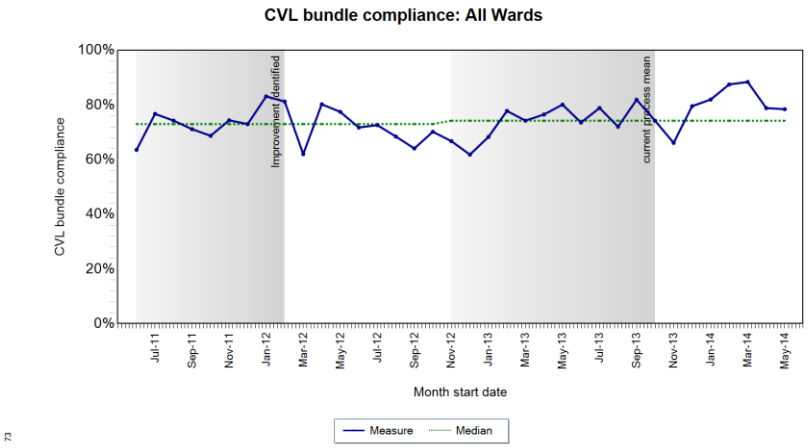
The time point for March 2014 represents 876 satisfactory observations out of 910 performed, giving a rate of 96%.

Due to staff restrictions independent IPC team audit and monitoring of practice has not been carried out as planned.

9:2 Central Venous Line Ongoing Care

Audit of the Saving Lives HII CVL care bundle is performed monthly from all areas with frequent CVLs. It is reported as All Trust and individual ward data on the Transformation Dashboard. Compliance seen as % of audit observations done is shown on graph.

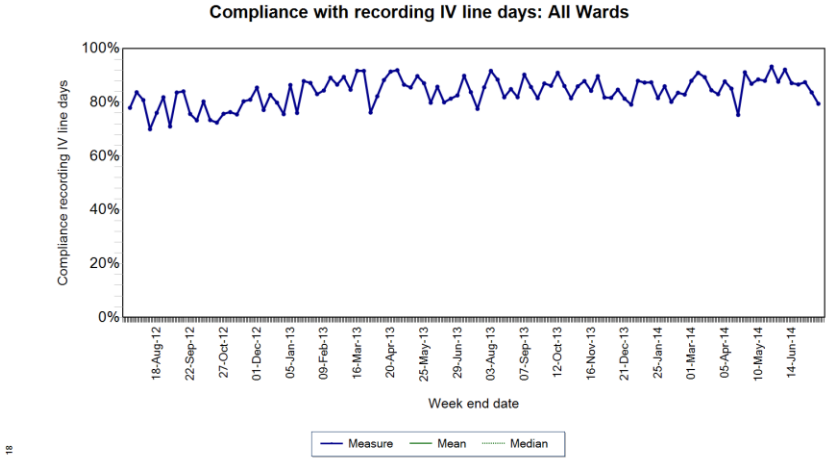
CVL ongoing care bundle audit – compliance of observations expected (areas not providing a return are scored as zero and bring down the overall Trust audit.)



A concerted effort was made during 2013/14 to elevate rate above 90%, and this was achieved, the figure for March 2014 representing 251 satisfactory observation out of 273 (rate 91%). However it has since fallen and we need to re-address this.

9:3 Compliance with data entry for CVL surveillance

To enable the continuous surveillance of GOS acquired SVS related bacteraemia, denominator data is entered on a daily basis by wards. Compliance with data entry is audited.



Individual wards are provided with specific data and encouraged to maintain high data entry.

All dashboard data is discussed at each divisions infection control board. The divisions must develop a plan to ensure compliance against these audits.

9:4 Antibiotic prescribing and audit

One microbiologist has dedicated time (1PA) for specific work on antibiotic policy. This microbiologist sits on the drugs and therapeutics committee and chairs the antibiotic sub-committee. An antibiotic policy, devised to increase the likelihood of adequate antibiotic cover during empirical treatment of infection, limit the development of antibiotic-resistant bacteria at GOSH and reduce costs, continues to be observed.

The Trust now has an antibiotic pharmacist who spends one day per week working in the organisation.

A new Antimicrobial Stewardship group was formed and met for the first time in July 2012, to implement the DH guidance and antimicrobial stewardship was included as a CQUIN target for 13/14.

Report from AMS committee (chair James Soothill)

This CQUIN was derived from 3 Antimicrobial Stewardship Key Performance Indicators:

- The percentage of antimicrobial prescriptions for which an indication is recorded on EP or the drug
- the percentage of antimicrobial prescriptions for which an indication is recorded in the notes and
- the percentage of IV antimicrobial prescriptions for which a 48 hour review has been done.

Our CQUIN target was to improve the stewardship KPI percentage from a baseline of 45% by 20% i.e. to 54% in the March audit. We achieved 66%, so the CQUIN was achieved. A component of the CQUIN was the recording of indication in the notes which rose from its 71% baseline in 2013 to an average in the first quarter of 2014 of 94%.

AMS has been included as a CQUIN target again for 2014/15.

9.5 Cleaner Hospitals

The previous PEAT inspection has been replaced by PLACE. See Facilities report.

10 Occupational Health

10:1 Occupational Health

The service is run in house. All ‘new entrants’ are screened in OH within the first week of commencement of employment. Employees in patient contact who require serology and/or vaccination are asked to attend OH on the first day of employment. The OH Manager has worked had to ensure to improve attendance.

There was no OH annual report written for 13/14.

10:2 Exposure Prone procedures clearance

New employees undertaking “Exposure Prone Procedures” (EPP) are cleared prior to employment. OH can assure us all GOSH employees have been appropriately screened who perform EPP, but a small number of staff with joint appointments requires confirmation from main employer to complete our records.

10:3 Staff Immunisations

Staff immunisation is described in the Immunisation and Screening of Healthcare and Laboratory staff policy stored on the Document Library (revised but not uploaded).

The need for continued screening and immunisation for measles has been highlighted by a number of outbreaks in the general population and amongst healthcare staff nationally. Employees who are unable to provide evidence of MMR vaccination and have no clear history of disease are vaccinated. This includes administrative and clerical staff and other staff if they work in clinical areas.

Immunisation for varicella zoster virus (chicken pox) is equally important as adult immunity is not guaranteed and staff are frequently exposed to infectious cases.

This programme is monitored by the Occupational Health Department and any incidents reported to the IPCT.

10:4 Influenza Vaccine

Health care worker influenza uptake is not high, although GOSH has done well compared to national figures. The Flu Immunisation group co-ordinated an active vaccination programme again for all staff.

The active programme will include a static station available for all staff and ward based stations provided by both local staff and OH. The local staff would form an essential part of the campaign and this is the approach we want (which worked well in the initial swine flu campaign).

Final flu uptake figures for 2013/14 were 40%, an 8% increase on 2012/13.

10:5 Exposure to blood borne viruses

In 2013/14 OH saw 84 attendees following sharps injuries

11 Targets and Outcomes

See section 5 A for full details on mandatory and internal surveillance targets

11:1 MRSA bacteraemia

GOSH had 1 MRSA Bacteraemias in 2013/14, with an objective of 0. This one episode was considered a contaminant. Objective remains at zero.

11.2 *Clostridium difficile* infection

GOSH reported 13 cases in 2013/14, against objective of 7. The target remains at less than 8.

11.3 MRSA Screening

National MRSA screening targets were initially set for 100% of appropriate elective admissions and extended to emergency admissions from end 2010. However, paediatric patients, except high risk (not defined), were excluded from this requirement.

GOSH has maintained a high level of MRSA screening of inpatients for many years and has set internal targets which are met for those who stay in longer than 48 hours. 100% ICU admission screening was nearly met in PICU and NICU but a few children could not be screened. The target needs to be changed to acknowledge this. CICU was lower and needs to improve.

Apparent acquisition of MRSA is an uncommon occurrence in the Trust (14 cases in financial year 2013/14).

11.4 Reduction in GOS acquired CVL related bacteraemia

Initial Target was a 50% reduction from base line of 4.4/1000 line days in 2007/8. This was achieved. Thereafter, smaller reductions have been achieved year on year.

Target for 2013/14 proposed as a CQUIN was to maintain, within 10%, the base line from 11/12 (2.0 / 1000 line days). This was achieved, although the overall rate was 2.1 . The same target has been set for 14/15, although we will aim to improve.

11.5 Reduction in VAP

Currently not under surveillance, see section 5.6

11.6 Surgical site infection

The Trust goal is elimination of all avoidable infection through implementation of a GOSH paediatric model of care (incorporating HII, NICE and WHO guidelines) and active surveillance with establishment of baseline rates and setting of targets. Baseline rates were established during the 2011 -13 period, partially through the action of a central SSSIS team which was then disbanded.

The target was for Divisions to establish own surveillance mechanisms, which has been done.

In 14/15 the Divisions need to continue surveillance, estsablish good feed back and report rates with aim to improve.

11.7 Root cause analysis for S, aureus bacteraemias

For S. aureus bacteraemias with onset in GOSH. aim to achieve RCA in 100% with onset after 48 hours and not incubating before admission.This was achieved. Aim to continue performance but improve completion of action plan points.

12. Training activities

12:1 Infection Prevention and Control Training for all hospital staff

Infection prevention and control teaching is given to all groups of staff, including medical consultants and junior medical staff, on induction. All staff are required to complete the Infection Prevention and Control Level 1 Training which includes the completion of the level 1 e-learning programme, the reading of supporting materials and the answering of the assessment questions. Clinical staff receive the Infection Prevention and Control Level 2 face-to-face session as part of their induction programme. This teaching session is delivered by a member of the IPC team.

As part of the mandatory updates, all staff are required to complete the Infection Prevention and Control Level 1 e-learning programme, including the assessment questions annually. In addition, all clinical staff are required to complete the Infection Prevention and Control Level 2 e-learning programme, including the assessment questions every two years.

Attendance is monitored and records are maintained by the Training Department. The level 1 and level 2 e-learning programmes were designed by the IP&CT at GOSH and are based on the Skills for Health Core Skills Framework.

Hand hygiene training (initial training and yearly update training) for clinical staff and non-clinical staff working on the wards (e.g. house keepers and ward administrators) is delivered locally on each ward/department by the either the practice educators or IPC link practitioners. Hand hygiene training for non-clinical staff not affiliated to a specific ward/department (e.g. porters, linen room staff) is delivered by a member of the IP&CT. All episodes of training and update should be recorded by the training department.

12:2 Infection Prevention and Control Training Days

From October 2013, in addition to the mandatory induction and update training, the IP&CT team run quarterly Infection Prevention and Control Training Days. These days are open to all clinical staff, including medical staff. They provide staff with an overview of infection prevention and control specific to the paediatric setting, including an introduction to basic microbiology and virology. In addition, emerging infection control issues such as the increasing threat of antimicrobial resistance and the role of the environment, especially in relation to water- and air management are also discussed.

12:3 IV training, including aseptic non-touch technique (ANTT)

All nursing staff are trained and assessed in the administration of intravenous (IV) therapy and ANTT by either a practice educator or a member of the IV team. The mandatory yearly update assessment of the administration of IV therapy is undertaken locally on the wards by either a practice educator or a member of the IV team. Currently there is no assurance that training for medical staff happens or is recorded (especially for peripheral cannula insertion and ANTT)

12.4 Intravascular catheter insertion

Vascular access devices are significant source of risk, including infection, in the health care environment. All staff inserting devices should be trained and competent and all Divisions should be working towards implementing a standard policy. Progress has been made in all Divisions but is not completed.

Part B - Infection control Action Plan for the year 2013/14

Infection Prevention & Control (IPC) Team Annual work plan 2013/14

Shown here are the 10 essential from the Code of Practice. Work programmes are like to these codes.

Code of practice criteria	
1	Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider how susceptible service users are and any risks that their environment and other users may pose to them.
2	Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.
3	Provide suitable accurate information on infections to service users and their visitors.
4	Provide suitable accurate information on infections to any person concerned with providing further support or nursing/ medical care in a timely fashion.
5	Ensure that people who have or develop an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing on the infection to other people.
6	Ensure that all staff and those employed to provide care in all settings are fully involved in the process of preventing and controlling infection.
7	Provide or secure adequate isolation facilities
8	Secure adequate access to laboratory support as appropriate.
9	Have and adhere to policies, designed for the individual's care and provider organisations, that will help to prevent and control infections.
10	Ensure, so far as is reasonably practicable, that care workers are free of and are protected from exposure to infections that can be caught at work and that all staff are suitably educated in the prevention and control of infection associated with the provision of health and social care.

Programme of Work	Lead	Time frame	Progress to date	Action required	Hygiene code
Audits- develop (using the Infection Prevention Society tool) and then conduct environmental audits across inpatient, outpatient and therapies areas during 2014/15.	IPC Team	Develop tool to trial and implement by Sep 2014			1, 2
Audits- ensure that wards/departments complete and submit hand hygiene audits on a monthly basis as appropriate. These results and any improvement processes which are put in place will be discussed at divisional infection control meetings.	IPC Team	On-going			1, 6, 9,10
Audits- High impact and CVL infections are monitored on a monthly basis. . These results and any improvement processes which are put in place will be discussed at divisional infection control meetings.	IPC Team	On-going			1, 6, 9, 10
Audits- infection control team should participate in audits with the cleaning provider and the trust to ensure standards of cleanliness are maintained and are such the risk of HCAI is reduced.	Helen Dunn	On-going			2
Audit- the team will audit compliance against policies in place across the trust should be monitored	Barbara Brekle	To be carried out at least bi-annually. Sep 2014			1, 7

through audit. Examples of this include the isolation audit.					
Work closely with the local commissioners around the interpretation of Clostridium difficile figures within the paediatric population at GOSH	DIPC	On-going			1, 5
Information dissemination- the infection control team will co-ordinate or provide representation at various meetings where information is collected or disseminated across the trust regarding issues relating to infection prevention and control. Examples of these groups include IPCC, Water Management Group, Trust Nursing Board and LIMB.	IPC Team	On-going			4, 6
Information dissemination- The infection control team will provide annual training both mandatory and update to staff at GOSH either by face to face learning or e-learning. The team will also host a quarterly infection control study day which all clinical staff can attend.	IPC Team	On-going			6
Information dissemination- The team will update/create patient infection leaflets on infections which patients	Helen Saraqi	On-going			3

suffer from in the hospital.					
Information dissemination- the team will develop patient letters for those patients who have an antibiotic resistant organism identified after they have left GOSH.					3, 5
Information dissemination- the team will organise and host a hand hygiene awareness event to coincide with hand hygiene week in December.	Helen Dunn	December 2014			6
Surveillance- The team will continue to report and collect information on mandatory surveillance categories required by PHE. Where the infections are healthcare associated a root cause analysis +/- RCA review meeting will take place.	IPC Team	On-going			1, 5, 9
Admission screening- to ensure that the 90% target for admission screening for MRSA is achieved.	IPC Team	On-going			1
Policies and guidelines- the team will ensure policies and guidelines relating to infection control are up to date and new policies and guidelines are created as required.	Barbara Brekle	On-going			9
Procurement- the team will actively be involved with the procurement of	IPC Team	On-going			6

new supplies and provide representation at MESG.					
Surveillance- To be involved with RCA into deep/organ space wound infections which will be led by the divisions and reported back through the divisional infection control meetings.	IPC Team	On-going			1, 6
Water management- the team will co-ordinate the testing and management of appropriate water outlets for pseudomonas aeruginosa and legionella in close collaboration with the estates department.	Helen Saraqi	On-going			1, 8, 9
Ventilation- the team will work closely with the estates department to ensure rooms with specialist ventilation are managed and maintained in an appropriate manner.	Elaine Cloutman-Green	On-going			1, 9
Cleaning- the team will work with clinical areas to develop specifications around cleaning for the upcoming tender.	Helen Dunn & Elaine Cloutman-Green	November 2014			2,
Re-development- the team will actively be involved with the redevelopment works carried out within the trust as well as any refurbishment that takes place ensuring infection control standards are adhered to.	IPC Team	On-going			7, 2
Divisional IPC support- the team will provide infection	IPC Team	Allocate divisions by			1

control support to the divisions at divisional infection control meeting and on a day to day basis. In order to facilitate this the team will each lead on certain divisions.		Aug 2014 & support on-going.			
Adopt the CPE toolkit within the organisation. Ensuring that compliance with admission screening for resistant organisms is monitored and increases through divisional IPC structure.	IPC Team	On-going			1, 7,