The Royal Orthopaedic Hospital NHS
NHS Foundation Trust

Date of Trust Board: 25th September 2013 **ENCLOSURE NUMBER: 10**

SUMMARY OF REPORT TO TRUST BOARD

NAME OF DIRECTOR:	**Lindsey Webb - Director of Nursing and Governance**
AUTHOR:	**Sarah Mimmack – Senior Nurse, Infection Prevention and Control**
TITLE:	**Infection Prevention and Control Annual Report 2012-13**

SUMMARY

As part of the requirement of the Health Act 2008 (The Hygiene Code), the Board is required to receive and approve an infection prevention and control annual report.

In addition to this mandatory requirement the Integrated Governance Committee also receive six monthly progress reports from the Infection Control Committee.

Key achievements in year include:

- Achievement of all local and national HCAI targets
- Implementation of the Bone Infection Unit
- Identification of 4 year 30 day surgical site infection (SSI) rates for arthroplasty

RISK

Areas of risk that will be priorities within the 2013/14 annual plan include standardisation of best practice, on-going improvements to the theatre environment, addressing outliers of 30 day SSI rates, improved compliance with Saving Lives care bundle and the expansion of SSI surveillance.

RECOMMENDATIONS

The Board is asked to **approve** the Infection Prevention and Control Annual Report for 2012/13.

The Royal Orthopaedic Hospital NHS
NHS Foundation Trust

Infection Prevention and Control Annual Report

2012-2013

Infection Prevention and Control Annual Report
April 2012 to March 2013

Executive Summary

This report summarises the work of the Infection Prevention and Control (IPC) Team during 2012 to 2013, the progress made and the challenges faced by the Trust.

1.0 The annual IPC programme, set in April 2012 was completed with the exception of the full implementation of Saving Lives High Impact Interventions and the expansion of surgical site surveillance to Spinal and foot/ ankle surgery.

2.0 There were 0 cases of MRSA bacteraemia this year, the last attributable case was in May 2008.

3.0 The DH began surveillance of Clostridium *difficile* infection (CDI) infection in January 2004. Acute NHS Trusts in England are required to report all cases of CDI from patients aged two years and over. The total number of CDI attributable to ROHFT for 2011 to 2012 was 6. This was within the trajectory of 7 set locally and is the lowest number of cases since mandatory surveillance was introduced.

4.0 The DH requires all hospitals performing orthopaedic surgical operations to monitor surgical site infections (SSI) for at least a 3 month period every year. As part of this scheme the Trust participated in all 4 quarters and continued to report both inpatient and 30 day SSI data to the Health Protection Agency. At present no other specialist orthopaedic trust undertakes 30 day surveillance so it is not possible to benchmark our data.

5.0 IPC amalgamated with Tissue Viability part way through the year and now provides a joint service. The team comprises of:
1.0 Band 8B - Senior Nurse
0.8 Band 7 – IPC Specialist Nurse
0.5 Band 7 – TV Specialist Nurse
1.0 Band 4 – Administrator
2 PA's - IPC doctor (SLA with UHB)

6.0 The key challenges for 2013 to 2014 are detailed in Appendix 2 on page 26.These will be delivered through the IPC Annual plan for 2013 to 2014.

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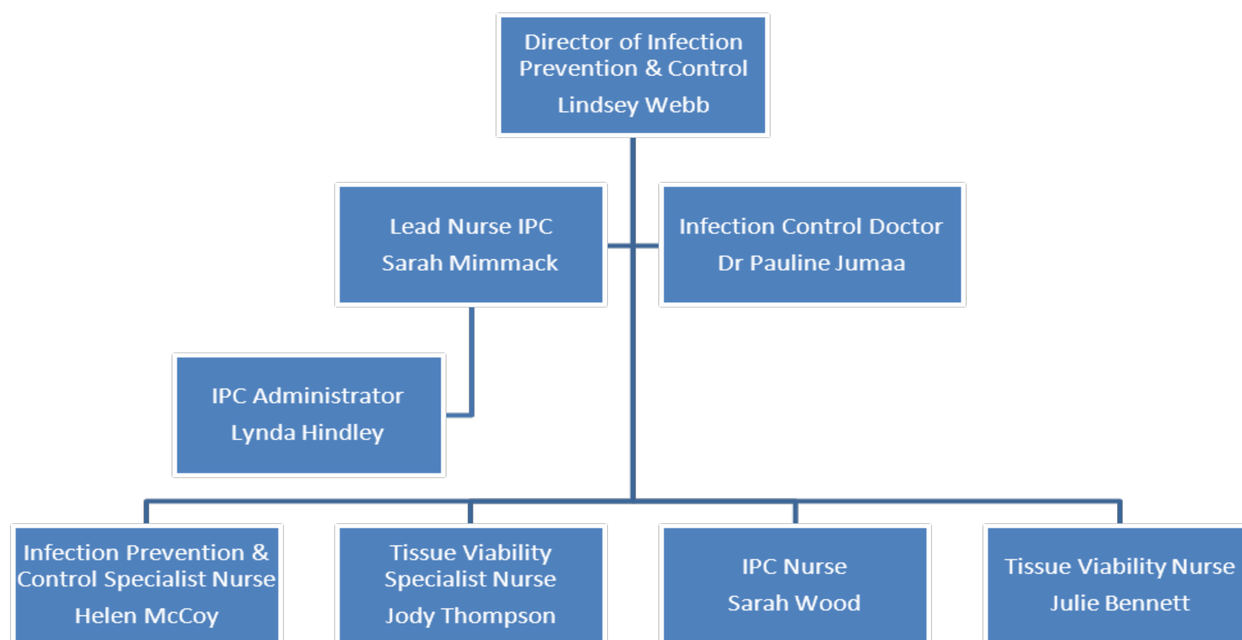
1.0 Introduction

This report provides a summary on Infection Prevention and Control Service provision, activities and issues during the period of April 2012 to March 2013.

2.0 Description of Infection Prevention and Control arrangements

2.1 IPC Team structure



2.2 Board support for IPC

Director of Infection Prevention and Control (DIPC)
The Director of Infection Prevention and Control leads the team. The DIPC reports directly to the Chief Executive and is an executive member of the Trust Board.

Non-executive Lead
The DIPC is supported at the board by the Chairman in the role as non-executive lead for IPC.

The Infection Control Committee (ICC) meets every two months and
Members in 2012-13 were:

- Director of Infection Prevention and Control – Lindsey Webb (Chair)
- Clinical Microbiologist – Dr Pauline Jumaa
- Operational Lead / Senior Nurse – Sarah Mimmack
- Consultant Orthopaedic Surgeon – David Dunlop
- Consultant Orthopaedic Surgeon – Seggy Abudu
- Central Midlands CSU, Infection Prevention Practitioner – Jackie Clarke
- Health Protection Agency representative
- Estates Manager
- Facilities Manager
- Clinical Service Manager

The Infection Control Committee reports to the Integrated Governance Committee, a sub-committee of the Board.

2.3 The Operational group is chaired either by Sarah Mimmack the Operational lead or Helen McCoy, the IPC Specialist Nurse and consists of a multidisciplinary link team. The group includes representation from facilities, physiotherapy, imaging and occupational therapy along with a strong nursing contingent. This group report to ICC and meet monthly. They are very active and undertake monthly audits of their areas. Attendance from most areas is very good, and is monitored by the Matrons.

2.4 Links to Drugs and Therapeutics Committee

The DIPC attends this meeting and maintains links; reporting and advising as necessary. The antimicrobial guidelines have been in place since June 2008. They were updated in July 2011 and while cefuroxime is no longer recommended for use as prophylaxis, it is considered appropriate for some spinal operations as it perfuses the cerebral spinal fluid more effectively than other agents.

2.5 Links to Clinical Governance / Risk Management / Patient Safety

The DIPC role is held by the Director of Nursing and Governance who chairs the Infection Control Committee and also the Quality Committee. The DIPC also attends the Integrated Governance Committee.
MRSA bacteraemia and cases of *Clostridium difficile* are reported to the Executive Management Team and the Board of Directors via a monthly report. A more detailed analysis regarding additional aspects of IPC is included in the quarterly clinical governance report which reports to the Integrated Governance Committee. In addition the Infection Control Committee report every 6 months to the Integrated Governance Committee via the DIPC who delivers a full report on the work of the committee.

2.6 On call service

Access to a 24 hour on call Microbiologist is available under the service level agreement held with University Hospitals Birmingham NHS Foundation Trust.

2.7 IT systems

Since the end of October 2007 ROH have received daily (Mon – Fri) lab data reports. This provides the IPCT with a complete picture of any positive specimens received in the UHB lab. Unfortunately the system is not live and requires considerable manual input as there is no interfaced database at present. Money was granted during the business planning process for the implementation of ICNet during 2009-10. Work regarding IT infrastructure was required both at UHB where the laboratory is based and at ROHFT, this work was completed in November 2011. The system went live in March 2012. The full implementation of ICNet will take place during 2012-13.

3.0 Budget Allocation to Infection Prevention and Control.

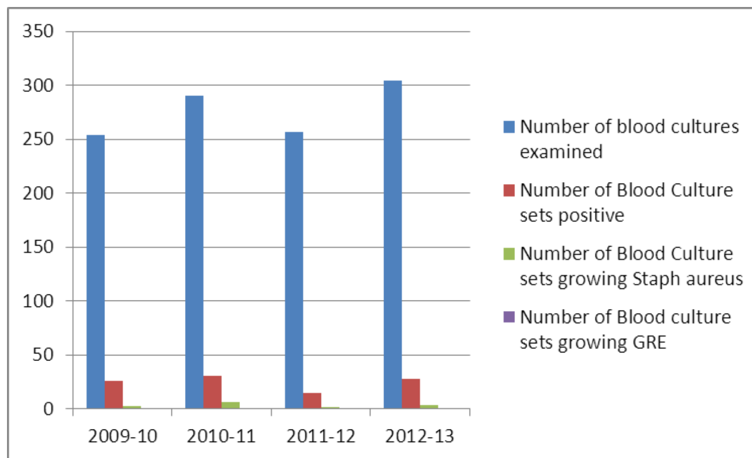
The total budget for Infection Prevention and Control was £334,352. This includes the monies associated with Tissue Viability and the Bone Infection Unit (pay = £264,408 and non-pay = £69,944).

4.0 Mandatory Surveillance

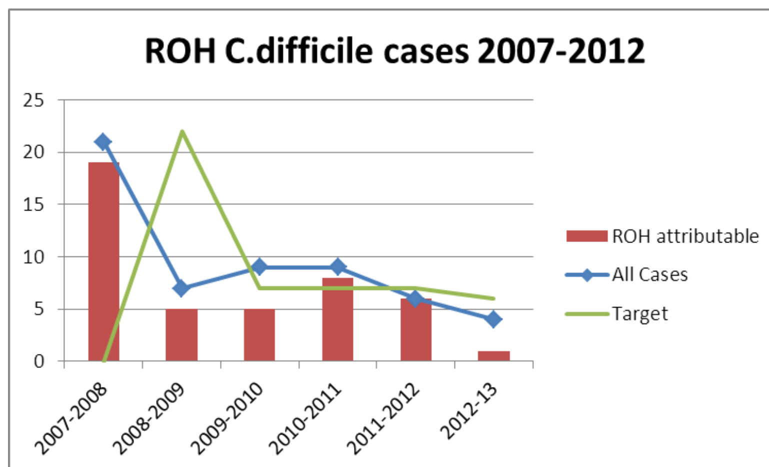
4.1 Rates of Meticillin Resistant Staphylococcus Aureus bacteraemia have been subject to mandatory reporting since 2001. There have been no cases of MRSA bacteraemia at ROH this year. Since 2001 there have been 4 cases, 2 during the summer of 2006 and 2 in 2008 (May and Oct). It is 5 years since an MRSA bacteraemia was attributed to ROHFT.

4.2 Rates of Glycopeptide Resistant Enterococcal bacteraemia (GRE) have been subject to Mandatory reporting since early 2004. There have been no cases at ROH this year.

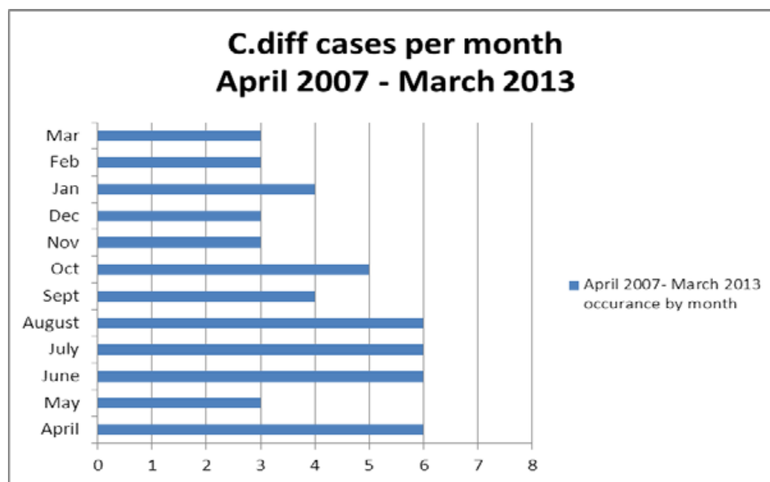
The graph below details the number of blood cultures sent for analysis each year since 2009 - 10 until the end of 2012-13. Contamination rates are monitored and specific training is provided to all those staff taking blood cultures to ensure competency.



4.3 Surveillance of Clostridium difficile – prior to April 2007 mandatory recording related only to cases in patients over 65years. Since April 2007 all cases of Clostridium difficile in patients over 2 years of age are reportable. There was 1 Trust attributable case at ROH this year. This is the lowest figure since mandatory reporting was introduced. The Trust is at an irreducible minimum with no evidence of cross infection since mandatory reporting began.

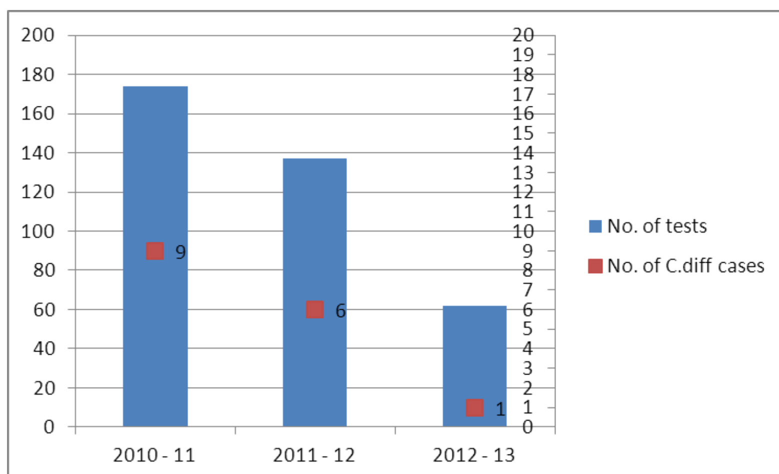


The months in which cases fall are monitored in order to try and identify trends. The numbers of cases at ROHFT are very small and therefore identifying trends is especially difficult. The graph below details in which month each case occurred since the introduction of mandatory surveillance in 2007. From this it identifies April, June, July and August as being the months which have seen the highest number of cases, with October and August following. Interestingly the norovirus season (winter) does not seem to indicate a rise in cases.



A root cause analysis is undertaken into every case and the Consultant in charge asked for his comments. The case identified , 5 were oncology patients (1 paediatric included) and 1 was an orthopaedic patient. There were no breaches of the antimicrobial guidelines identified and there is no evidence of any case being caused by or related to cross infection during 2011 /12.

Below is a graph detailing the number of stool specimens sent for analysis and the number of *C.difficile* toxin positive being requested. This data is part of the mandatory surveillance required by the Health protection agency. Testing is discussed with all clinical staff as part of mandatory training and all cases of diarrhoea are reported to IPC for their specialist input and to ensure close monitoring of the management of such patients. The number of tests has reduced significantly; this is very likely due to the increased level of knowledge amongst nursing staff and the increased input of IPCT on the wards each day.



4.4 <u>Methicillin Sensitive Staphylococcus aureas (MSSA)</u>

There were 2 post 48 hour cases of MSSA identified during the year. Both cases were thoroughly investigated and related to deep joint infections – neither patient had undergone surgery at ROHFT prior to developing the infection, but were referred here for remedial treatment.

2012/13	**MRSA**	**MSSA**	**E.coli**	**C.diff**
Target	0	none	none	6
End of Year position	0	2	1	1

4.5 <u>E.coli bacteraemia</u>

There was 1 post 48 hour case of E.coli bacteraemia in a complex oncology patient, no clear source of sepsis was identified.

4.6 Surgical Site Infection - Reportable to the Health Protection Agency

The infection Prevention and Control team currently monitor arthroplasty although there is a strong desire to add spinal to this work by the end of 2013-14.Mandatory surveillance of Surgical Site Infection (SSI) announced by the Chief Medical Officer in June 2003 commenced 1st April 2004. Every NHS Trust where orthopaedic surgery is performed is expected to carry out a minimum of 3 months (1 quarter) surveillance in at least one of four orthopaedic categories each year:

- Hip replacements
- Knee replacements
- Repair of neck of Femur
- Reduction in long bone fracture

The ROHFT took an early decision to participate for all quarters and collect data continuously rather than the 1 mandatory quarter each year that is required.
The latest data published by Public Health England (formerly the Health Protection Agency) collates infection rates from all hospitals undertaking surveillance and reports the national figures from April 2007 – March 2012:

Operation:	No. of Ops	LOS	SSI %	Time to infection:
Hip prosthesis:	161,482	5	0.7	14
Knee prosthesis:	175,605	5	0.6	15

Of note is the information that shows inpatient length of stay and then the time at which infection was noted; some 9 - 10 days after discharge from hospital.

The following table details the inpatient and readmission SSI rates at 6 specialist orthopaedic hospitals including Sussex Orthopaedic NHS Treatment Centre which is run by a private provider and shows data from 2011-12, this is the most recent data available publically at present. 2 of the hospitals monitor for 1 quarter while the other 4 undertake continuous monitoring. There is no publically available 30 day data to enable comparison.

Inpatient and readmission data 2011-12

Trust	NOC	RNOH	RJAH	ROHFT	Sussex TC*	Wrightington
No of Hip ops	217	308	1495	**1284**	593	1228
% SSI	0.0	0.65	0.67	**0.08**	0.0	0.81
No of Knee ops	No data	304	1386	**981**	524	887
% SSI	No data	0.0	0.43	**0.10**	0.0	0.45
No of Quarters reported	1	3	4	**4**	4	4

* operated by Care UK

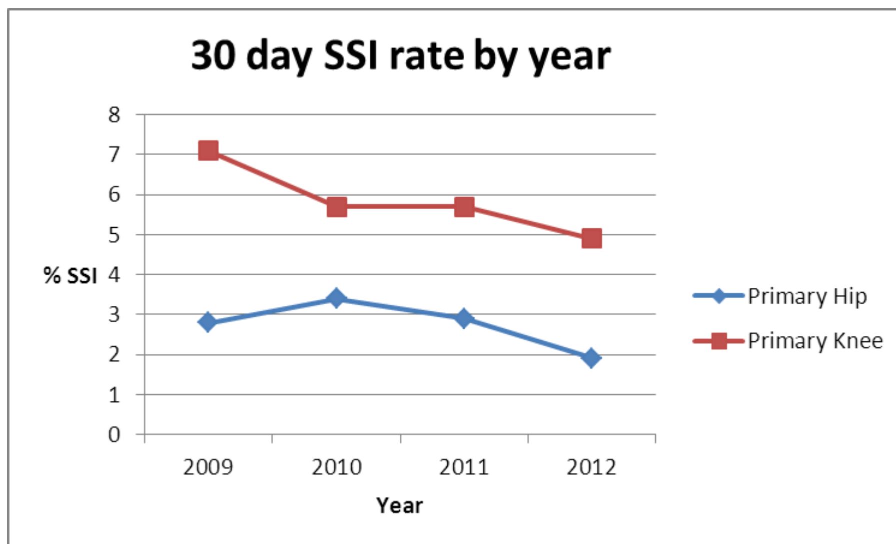
Currently there is no requirement for Trusts to monitor patients following discharge. However length of stay has considerably shortened throughout the NHS since the introduction of mandatory surveillance in 2004. In July 2008 the HPA introduced an optional surveillance method which provided a questionnaire for patients to complete on the 30th day post op.

In January 2009 ROHFT commenced 30 day monitoring of all arthroplasty patients utilising the HPA post discharge surveillance questionnaire.

There are many facets to SSI and its cause; this makes it difficult to interpret the data from the other specialist trusts. Length of stay is a significant factor as it is well documented (as identified above) that a very short length of stay is unlikely to elicit any valuable SSI data as the bacteria are most likely to show themselves at between 5 and 15 days post operatively in superficial infections. It is hoped that several of the other specialist orthopaedic Trusts will submit 30 day data in order for us to benchmark with data that measures SSI over a finite period. The PHE and CDC recommend that patients with a prosthesis should be monitored for 1 year post operatively for infection – this is something ROHFT is working towards.

SSI data by consultant undertaking primary hip and knee surgery is analysed and shared with the surgeons. Revision surgery is monitored but excluded from the report to the surgeons although it is reported to the HPA. The reason for this is the complexity of the revision surgery undertaken at ROHFT; this complexity makes it difficult to use revision surgery as an accurate indicator for infection. Many of the revisions undertaken at ROHFT are referrals from other centres and are patients who are too complex to undergo surgery at their local hospital.

Results:



Monitoring continues and IPC are keen to implement a more robust surveillance system than the current HPA criteria. This will improve the quality of the data currently collected. It is impossible to accurately benchmark with other trusts if the Trust moves away from the HPA / PHE surveillance at 30 days although augmenting this data collection with additional information as requested by the CDC will enhance the information currently available. This forms a significant part of our annual plan for 2013-14.
Telephone follow up for all those patients who fail to return their questionnaire was introduced mid-way through 2012-13 and so far has not shown any improvement in the data collection as those who fail to report very rarely have an issue with their wound. However, the wound infection helpline has ensured access straight back to the Trust for any patient with a concern about their wound post operatively. This ensures a small team of specialist orthopaedic practitioners review the wounds rather than GP's and district nurses who may not be as ofay with the post-operative complications associated with arthroplasty surgery.

The last 4 years has seen the spotlight on SSI at the Trust. The introduction of the wound care helpline has reduced some of the erroneous data that was previously reported by patients who had seen their GP with post-operative concern regarding their wounds; many of whom were being given 'precautionary' antibiotics. By ensuring they are seen by an orthopaedic specialist much of this unnecessary use of antibiotics has been eliminated and a truer picture of SSI is now known.

4.7 MRSA Screening

From March 2009 all Trusts are required to report their MRSA screening figures. 100% of elective admissions, whether day case or inpatients were screened prior to admission. From March 2010 all emergency admissions have also been included in this target. The Trust has met this target throughout the year.

	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13
Number of patients screened	956	1145	882	840	699	696	859	871	657		792	735
Emergencies	24	42	39	36	44	29	35	32	30	26	32	29
daycase			541	560	445	530	466	569	487	440	540	506
Elective Inpatient	908	1090	462	628	486	464	533	527	409	537	553	614
Total excluding day cases			580	664	530	493	568	559	439	563	585	643
Total	932	1132	1042	1224	975	1023	1034	1128	926	1003	1125	1149
% screened	102.5	105	152	126	131.8	141.1	151%	151.2	149.6	138.7	135.5	114.3
No of Positives	6	3	3	2	1	2	3	5	1	5	6	0

The cost of MRSA screening all patients at ROH during 2011/12 at £6.75 per swab (with most patients requiring 2 swabs – nose and groin) was £183,600.

An assessment tool based on data collected in the preceding 2 years was introduced in June 2012. This is a risk based screening method to try and eliminate unnecessary screening while maintaining the DH requirements. It was anticipated that savings of approximately £100,000 per year could be made. The tool errs on the side of caution and any patient staying overnight is automatically screened, along with those having any metal work inserted. It considers their social circumstances and all other risk factors. This resulted in a reduction in the number of patients being screened by around 4,500 which equates to a saving of £60,318 in the 9 months following its introduction which if extrapolated equates to annual savings of £80,424. The number of patients being screened remains slightly higher than expected at present although IPC would prefer the staff take a cautious approach and screen if there is any uncertainty.

There has been no evidence of acquisition of MRSA or MRSA bacteraemia's being an issue since the introduction of the screening tool and these markers are closely monitored by IPCT.

4.8 Outbreak Surveillance

There were no outbreaks during 2012-13.

5.0 Influenza – H1N1

There were no confirmed cases of H1N1influenza among patients and a low incidence of staff sickness relating to influenza.

Last year's new approach to the Trust's vaccination programme was repeated this year utilising the IPC team who undertook the necessary training and visited each area of the hospital on several occasions and had 'open access' for all staff wishing to have the vaccination in the IPC office. This year's program elicited a slightly poorer response which may be partly due to the absence of any national campaign. 40.9% of staff were vaccinated (compared to only 18.4% 2010/11). Nationally 45% of healthcare workers were vaccinated although within West Midlands SHA 42% of frontline staff were vaccinated. The table below shows comparison with other local Trusts.

Hospital	**% Uptake 2011/12**	**% Uptake 2012/13**
RNOH	28.3	33.5
RJAH	50.1	57.7
ROH	**46.7**	**40.9**

WMAS	17.2	27.8
Worcs Acute	51.8	32.6
Sandwell & w B'ham (City)	41.7	49
UHB	23.4	23.4

6.0 Hygiene Code

There have been no hygiene code inspections during 2012-13. Although Birmingham Cross City CCG undertook an unannounced inspection on 7th March 2013 - an excerpt from their report is included here (different font):

Identified good practice

2.7.4 The environment was found to be clean, tidy and well organised.

2.7.5 A good standard of infection prevention and control was observed.

4 inpatient wards were visited along with the High Dependency Unit, Theatres, recovery, outpatients department and Physiotherapy.

The team did not highlight any specific IPC issues in their recommendations.

The Conclusions from the report are included below:

3. CONCLUSIONS

3.1 Overall the visiting team felt that this visit provided significant assurance around the quality of services at Royal Orthopaedic Hospital. Patient experience was consistently found to be good or excellent.

3.2 A number of specific issues were identified during the visit and these are detailed above. These were fed back to the provider on the day, and the senior management team agreed to review this report in detail when received.

3.3 The visiting team would like to thank the staff at all levels of Royal Orthopaedic for their openness and welcoming approach.

3.4 Birmingham Cross City CCG would also like to thank those from other organisations for the time, effort and expertise they contributed to this visit.

7.0 Saving Lives High Impact Interventions

Saving Lives was introduced by the Department of health in June 2005. The High Impact Intervention tools are based upon a 'care bundle' concept, integrating the latest evidence based guidelines and providing a means for staff to measure compliance in key clinical procedures. Every clinician has the potential to significantly reduce the risk of infection by ensuring they consistently comply with evidence-based practice. All elements are equally endorsed and none is regarded as optional. The HII that apply to the Royal Orthopaedic Hospital are;

- **HII1:** Central Venous Catheter Care Bundle
- **HII2:** Peripheral Intravenous Care Bundle
- **HII4:** Care Bundle to Prevent Surgical Site Infection
- **HII6:** Urinary Catheter Care Bundle
- **HII7:** Care Bundle to Reduce the Risk from *Clostridium difficile*

Advice is available from IPC although actions and enforcement of the Saving Lives High Impact Interventions lies in the clinical areas with the Matrons and Ward Managers. Scores are reported to the Quality Committee and monitored during performance reviews each month. Uptake throughout the year has improved and all areas have now implemented Saving Lives.

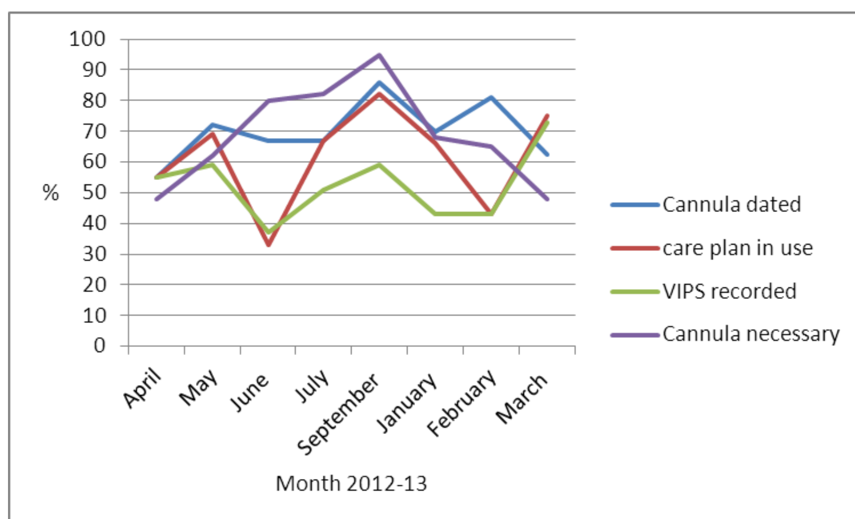
Below is an example of the reports sent to ICC:

Compliance Score for Saving Lives			0-70	71-94	95-100			
HII No	1	1	2	2	6	6	7	8
	CVC Insertion	CVC On-going care	PVC Insertion	PCV on-going care	Urinary Catheter Care Insertion	Urinary Catheter Care on-going	Reducing the risk from Clostridium difficile	Cleaning & Decontamination
Compliance		100% - 34 observations	100% - 32 observations	100% - 140 observations	100% - 17 observations	100% - 60 observations	None recorded	
Barriers		All elements were fully compliant	All elements were fully compliant	All elements were fully compliant	All elements were fully compliant	All elements were fully compliant	Is this a true reflection of clinical activity across the trust	

No Data from ward 1

The efficacy of Saving Lives audit results in improving practice has been variable. The results are 'cross-checked' by independent cannula audits undertaken by the IPCT and the clinical nurse tutor. The results of these audits rarely correspond with the saving lives results. This is likely to be due to the way in which the audits are performed and the methods used.

While saving Lives audits outline best practice, the actual data collection is undertaken by the ward or clinical area themselves and is less robust that the data collected independently by IPCT. Saving Lives was introduced in 2007 however our internal monitoring mechanisms are much improved from 2007 and the usefulness of the audit results is debateable.



8.0 Antimicrobial Stewardship

Antimicrobial stewardship is now a well embedded part of the trust's governance. A pharmacist attends the weekly Bone Infection MDT and participates on the ward round. The prescribing of antimicrobials has been more stringently regulated to ensure rational prescribing of antibiotics. There is now a list of antibiotics that a microbiologist must approve before doctors at ward level

can prescribe. Some antibiotics may only be prescribed by the Bone Infection Unit – this control is monitored closely by the pharmacy department.
Audits that have been carried out this year include:

- Antibiotic Prophylaxis – Adherence to Guidelines
- Point Prevalence Study on general prescribing
- Linezolid
- And general usage of specific antibiotics eg cefuroxime

9.0 Education and Training

Infection Prevention and Control Training continues to be a key role for the team. Specialist training is included in the Trust Induction, clinical and non-clinical mandatory training, Consultant training and junior doctor induction. A comprehensive teaching programme has been developed to rationalize training across the Trust.

The Training programme is attached in Appendix 1

10.0 Audit

Assurance is an integral part of healthcare and is taken very seriously at the Royal Orthopaedic Hospital NHS Foundation Trust. Audit takes place using various tools, including credits for cleaning which monitors the environment; Lewisham Hand Hygiene audit tool which is utilised in conjunction with the World Health organisation's 5 Moments. Specific tools relating to clinical practice are also utilised monthly; this is a combination of saving Lives High Impact Interventions (HII) and Infection Prevention Society (ICNA) audit tools.

Audit is an intrinsic part of the Infection Prevention and Control Team's function at the Royal Orthopaedic Hospital NHS Function. It serves several purposes, firstly to provide assurance and evidence of our capacity to set and maintain high standards across all areas. Secondly to drive improvement as required. Clear expectations are set and the adherence to these standards is then monitored and reported via the Ward Managers key performance indicators and the monthly IPC reports, both internally and externally.

The inpatient areas have sustained the levels expected for environmental standards and hand hygiene throughout the year, theatres is making excellent progress and via the audit process this improvement has been sustained and the completion rate of audits has vastly improved.

The link team are expected to complete 3 specific audits each month along with a continuous programme of Saving Lives audits. Completion of these audits, along with their scores is reported to the Department Managers and Directorate Managers monthly. Action plans are produced by the link nurses in response to the audits they undertake. These are given to the Ward managers in order for them to ensure the changes required are implemented. The scores and compliance are monitored through ICC and the Ward Managers Key Performance Indicators.

Shared audits are also undertaken, a joint inspection of all inpatient areas is undertaken monthly by IPC and Facilities utilising the Credits for Cleaning tool, this ensures any issues are accurately placed with the responsible staff group - facilities, estates or nursing. It also ensures speedy resolution of any difficulties along with an appreciation of each other's responsibilities and pressures. A written report is then sent to the department manager within a week of the audit taking place.

10.1 ICNA Audits

Below is an example of the information provided to the Ward Managers each month:

2012- 13		Area											
Measure	Target	Ward 1	Ward 2	Ward 3	Ward 7	Ward 10	Ward 11	SSW	HDU	Recovery	DU	POAC	OPD
C.diff pre 48hr		0	0	0	0	0	0	0	0	0	0	0	0
C.diff post 48hr	6	0	0	0	0	0	0	0	0	0	0	0	0
MRSA Bacteraemia	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Bacteraemia	0	0	0	0	0	0	0	0	0	0	0	0	0
Pressure Ulcers	Target	Ward 1	Ward 2	Ward 3	Ward 7	Ward 10	Ward 11	SSW	HDU	Recovery	DU	POAC	OPD
Avoidable		0	0	G 2	0	0	G 2	G 2	0	0	0	0	0
Unavoidable		G 2	0	0	0	0	G 2 x2	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0

Narrative:

Ward 11 grade 2 patient came back from Theatre with two Grade 2 sores due to 6 hours on the table reported by Ward 11 - unavoidable
Ward 11 grade 2 outer aspect of foot from pushing up on the bed - avoidable
Ward 3 grade 2 to buttocks once precautions put in place the sores healed - avoidable
Short Stay grade 2 to heel may have been stocking - avoidable
Patient from theatres- arrived on ward 1 with a grade 2 - all measures in place - unavoidable

Audit	Target	Ward 1	Ward 2	Ward 3	Ward 7	Ward 10	Ward 11	SSW	HDU	Recovery	DU	POAC	OPD
Hand Hygiene	> 85%	96%	95%	95%	94%	100%	76%	82%	87%	89%	83%	99%	100%
Environment	> 85%	95%	97%	98%	89%	93%	89%	81%	94%	96%	85%	96%	100%
C4C		92%	96%	92%	0%	96%	96%	95%	94%	95%	98%	93%	0%
Commode	100%	100%	100%	100%	100%	100%	100%	100%	100%		100%		
Action plan received		100%	100%		100%	100%	0%	100%	0%		100%	100%	
IPC Attendance													
Saving Lives PVC	compliance - 95%	100%	100%	0%	0%	100%	78%	0%	100%	0%			
No. of Obs	20 per ward	14	19	0	0	19	11	0	85	0			

Theatres		Th1	Th2	Th3	Th4	Th5	Th6	Th7	Th8	Th9	Th10
Environment	> 85%	95%	83%	100%	83%	84%	86%	90%	82%	95%	100%
Hand Hygiene	>85%	100%	98%	97%	98%	100%	100%	99%	98%	100%	100%
Action plan			100%		100%	100%	100%	100%	100%	100%	100%
C4C		95	95	95	95	94	94	94	94	95	95
Compliance:	Green	≥85%	Amber	76-84%	Red	≤75%	No audit	0			

New hand hygiene signage was implemented throughout the Trust following the staff survey results which highlighted an apparent lack of hand washing facilities. A questionnaire was sent to all staff asking for more detailed responses in order to enable us to understand exactly where the issues lay. Following analysis of the responses, new signage was ordered and facilities agreed to increase the number of times stocks of paper towels and soap were checked each day. The overall view was that there were plenty of facilities although they were not always stocked – this has now been rectified.

10.2 Snapshot audits

In addition to the audits reported earlier in this document, snapshot audits are undertaken within the Trust. Occasionally these take place in response to a Root Cause Analysis or Incident Report; sometimes they are planned in order to monitor compliance with documentation or policy. Snapshot audits were undertaken within ROH on the following topics during 2012-13:

- Adherence to Antibiotic Prescribing guidelines.
- Care of Central Venous Access Devices
- Care of cannulae (including Visual Inflammation and Phlebitis scores - VIPS)
- Mattress integrity
- Catheter associated UTI prevalance
- Commode condition and cleanliness

The results of these audits are reported to ICC and actions implemented as necessary. The results of the cannulae audits have led to the introduction of monthly audits undertaken by IPC in conjunction with the Clinical Nurse Tutor.

10.3 Theatre audits

Every theatre is expected to complete a hand hygiene audit in addition to an environmental audit and report these back to ICC along with an action plan to address any issues identified during the audit. Compliance and scores are reported by IPC and challenged by the Theatre Manager and ICC.

In addition a monthly unannounced inspection of the theatre complex is undertaken by IPC with a member of the Theatre management team with concerns being addressed as they arise.

Work is required to ensure adequate close down periods are instigated in order to facilitate estates and facilities management of the area.

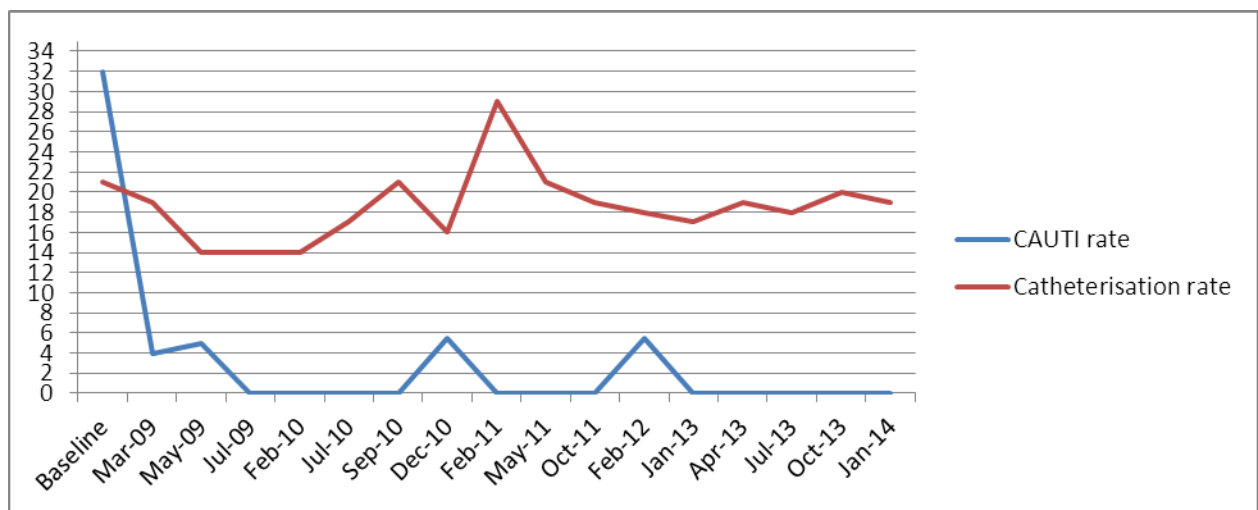
10.4 CAUTI Rate

The Bardex silver alloy urinary catheter was introduced to ROHFT in March 2009 following a trial. This level 1 endorsed device was combined with a Trust-wide Aseptic Non Touch Technique (ANTT) training programme.

CAUTI rates are monitored via the safety thermometer and also monitored during the daily walk round of all inpatient areas that is undertaken by IPC. Snapshot audits are also undertaken every 3 months.

All CAUTI reports are investigated by IPC and any cases reported via the safety thermometer are verified by IPC. The rate remains very low since the introduction of the Bardex silver alloy catheters in 2009.

The graph below shows the success of the implementation of the Bardex IC and the on-going maintenance of a very low CAUTI rate, something the Trust is proud of and is very keen to maintain.



11.0 Environmental improvements

11.1 Estates Projects
The Trust has continued to invest through the capital programme in its Estate which has covered both backlog maintenance and strategic developments. The main areas of focus for 2012/13 being:

- The development of the Admissions and Day Case Unit, which includes a decontamination suite and the refurbishment of medical records and central stores

The Trust has also committed to the following developments which will be completed in future years:

- New paediatric facilities
- Replacement operating theatres and extension to the theatre department.

The Estates Department has undertaken minor estates works which has included the replacement of flooring coverings, fixtures and fittings, suspended ceilings and decoration to a number of areas of the site including our main theatre complex.

12.0 Annual plan review 2012-13

The annual plan for 2012-13 is included in appendix 2 of this report and each element has been graded red, amber or green according to the degree of completion during the year. Most of the

plan is green and has been completed or targets met. However, the plans below are either not yet implemented or fell below target.

2.Limited surveillance reporting reduces drive for change and improvement – extend to include SSI for all specialities
Status end 2012-13:
Business case submitted December 2012 in order to expand surveillance – awaiting decision end of year – due to go through business planning in June 2013.
30 day SSI surveillance for arthroplasty well embedded throughout the organisation.

5.Avoidable exposure to influenza due to low levels of vaccination
Status end 2012-13:
Mass vaccination programme undertaken – unfortunately uptake not as high as plan due to lack of media profile. Staff were reluctant to have vaccination as the perceived risk was low. 40.9% of staff were vaccinated; this was comparable with other Trusts within the region. It is difficult to see how this could have been improved.

13.0 Appendices

13.1 Appendix 1: Education and Training Plan 2012-13

Name of Course	Training Audience	Content	Rationale	Attendance Required	How Often Run	Review Date
Clinical Skills Registered Practitioners	Staff nurses Ward managers Senior Nurses	Aseptic Non-Touch Technique Visual Inflammation and Phlebitis Score NPSA Clean Your Hands	DOH NINSS EPIC2 Saving Lives NICE Guidance WHO	Annual	Bi-Monthly	**July 2013**
Clinical Skills Healthcare Assistants	Healthcare Assistants B Grades	Aseptic Non-Touch Technique Visual Inflammation and Phlebitis Score NPSA Clean Your Hands	DOH NINSS EPIC2 Saving Lives NICE Guidance WHO	Annual	Bi-Monthly	**July 2013**
Clinical Mandatory	Staff nurses Ward managers A + B grades X-ray MRI Physiotherapy Theatre practitioners	Infection Rates ROH Waste Management Hand Hygiene NPSA Bacteria Isolation precautions VIPS Pandemic Influenza Communication with IPC Transfer	DOH EPIC2 Saving Lives NICE Guidance WHO	Annual	Monthly	**July 2014**
Medics/SHOs	Senior House Officers Medics	Infection Rates ROH VIPS ANTT Pandemic Influenza Clinical Dress Code Isolation Precautions Communication with IPC Pandemic flu	DOH NINSS EPIC2 Saving Lives NICE WHO HPA: SSI	Induction	Bi-Annually	**February 2014**
Non-Clinical Mandatory	Housekeepers Secretaries Ancillary staff Porters Laundry Kitchens Estates	Infection Rates ROH Waste Management Hand hygiene NPSA Bacteria Pandemic Influenza Environmental Cleaning Isolation Precautions Communication with IPC	DOH EPIC2 WHO	Annual	Monthly	**July 2014**

Name of Course	Training Audience	Content	Rationale	Attendance Required	How Often Run	Review Date
Non-Clinical Training	Members Volunteers	Hand cleansing Isolation Precautions Infection Rates ROH Communication with IPC Pandemic Influenza	DOH EPIC2 WHO	Annual	Six Monthly	**May 2014**
Students	Nursing	Infection Rates ROH Waste Management Hand Hygiene NPSA Bacteria Isolation precautions VIPS Pandemic Influenza Communication with IPC Inter-departmental Transfer	DOH EPIC2 Saving Lives WHO NICE	According to Practice Placement Manager	6 weekly	**July 2014**
Central Venous Access Devices	Registered Practitioners Ward Nurses Theatre Staff High Dependency Clinical Staff	Aseptic Non-touch Technique Theoretical Framework Hand Hygiene NPSA	DOH EPIC2 Saving Lives WHO NICE	Annual	Bi-Monthly	**May 2013**

13.2 Appendix 2:

Primary Objective:
Minimise harm to patients and to protect staff by eradication of all avoidable healthcare associated infections within the Royal Orthopaedic Hospital NHS Foundation Trust.

Trust Objective:
Ensure safety and deliver outstanding performance for patients.
Deliver all CQC existing and national targets including reducing the incidence of avoidable infections

Principal risks	Intended outcome	Controls (In addition to IPC policies)	Local assurance	Board assurance	Action Plan	Lead	Due date	Initial RAG status
1.Variation in clinical practice leads to variable quality service – saving lives results static	To achieve green status on saving lives audits (over 90%)	1.Saving Lives programme 2.IPC training at induction 3.Actions implemented from RCA's	Saving lives results reported at Ward managers' performance / KPI meetings with exception reports to ICC for close scrutiny.	Bi monthly ICC report to Quality Committee and Trust Board.	Each Ward to develop a plan to ensure completion of audits and improvement in practice to an acceptable level (>95%) Contract requirement by end Q4 2012-13.	CSM's / Senior Nurses	End March 2013	
Status end 2012-13: Saving Lives now being undertaken by all wards and compliance is improving. Reported monthly internally and externally – target for compliance agreed at 90%								End of Q4.
2.Limited surveillance reporting reduces drive for change and improvement – extend to include SSI for all specialities	To establish baseline rates in areas not currently observed.	1.ICNet implemented 2. Baseline data collated for Spinal and foot surgery initially – then rolled out further. 3.Continued surveillance of arthroplasty – 100% of SSI forms submitted correctly	Results reported at ICC and to Consultants at audit every 6 months.	Quarterly reports to ICC regarding 30 day data and baseline data as it become available	Embed SSI surveillance for arthroplasty within theatres.	Theatre Manager		
					Extend SSI surveillance to include spinal surgery and foot surgery.	Lead IPC Nurse		
					Establish accurate links with NJR data to ensure arthroplasty activity data is correct	Lead IPC Nurse		
					Review and expand current HPA questionnaire – tailor questions to ROH	Lead IPC Nurse / Surgical IPC lead		
Status end 2012-13: Business case submitted December 2012 in order to expand surveillance – awaiting decision end of year – due to go through business planning in June 2013. SSI surveillance for arthroplasty well embedded throughout the organisation.								End of Q4

3.Risk of missing target of 6 post 48hr cases of Clostridium *difficile* 2012/13	To have no avoidable cases	1.Training of all staff regarding use of Bristol Stool Chart and CD saving lives HII 2. Review of all RCA's at ICC to establish cause and further work. 3. All cases reported as complications at audit. 4. SIRI's for outbreaks or linked cases.	Daily Lab report RCA's reviewed at ICC	RCA's reported at ICC – presented by Consultant and Ward Manager	RCA's to be completed by Consultant and Ward Manager – advice available from IPC.	WM's/ Consultants	on-going	
					Implement *C.difficile* High Impact Intervention	IPCT/ WM's	On-going-each case	
					Education for nursing and junior medical staff regarding stool sampling to be provided – update mandatory training.	IPCT	On-going	
Status end 2012-13: 1 case reported in June 2012. Vigilant monitoring of patients with diarrhoea introduced by IPCT. Education included for all staff on mandatory training								End of Q4
4.Risk of missing target of 0 MRSA bacteraemias 2012/13	To have no avoidable MRSA bacteraemias	1. MRSA screening – adherence to policy. 2.RCA / SIRI investigations 3.ANTT training and competencies	Daily Lab report. RCA reports reviewed at ICC.	RCA's reported at ICC – presented by Consultant and Ward Manager	RCA's to be completed by Consultant and Ward Manager – advice available from IPC.	WM's/ Consultants	Ongoing	
Status end 2012-13: 0 cases reported. Last Trust apportioned MRSA bacteraemia reported in May 2008								End of Q4
5.Avoidable exposure to influenza due to low levels of vaccination	To implement a robust vaccination programme and increase uptake to 50% of all staff.	1.annual flu vaccination campaign	Progress reported to and monitored by Emergency Planning Committee	Uptake reported to Integrated Governance Committee	Set up specific vaccination programme for ROH	SN/SM	Commence Oct 2012	
					Mobile vaccination clinic to visit all clinical areas to ease access for all staff.			
					IPC to report uptake to Immform or other database as directed by the PCT			
Status end 2012-13: Mass vaccination programme undertaken – unfortunately uptake not as high as plan due to lack of media profile. Staff reluctant to have vaccination as perceived risk was low. 40.9% of staff vaccinated – comparable with other Trusts within the region. Difficult to see how this could have been improved.								End Q4

6. Poor compliance with hand hygiene policy	Improve hand hygiene across all staff groups to >85%	1.Bi-monthly reporting of results to ICC 2.Monthly reporting to PCT via minimum dataset	Monthly link nurse audits. Monthly reports to WM's Bi monthly reports to ICC.	Monthly performance reports on WM's KPI's – to Director of Nursing	Monthly Link Nurse audits – reported to ICC / WM's Monthly results displayed on ward 'Bug board'. Improve signage across all areas Specific staff targeted if compliance falls below 85%.	IPCT/ WM's IPCT/ WM's SM/ IPCT Senior Nurses	On-going	
Status end 2012-13: Hand hygiene compliance reported internally and externally monthly. Weekly audits undertaken by area and staff group utilising WHO 5 moments. Compliance maintained above 90% all year. Significant improvements made. New signage introduced – well received.								End of Q4
7.Failure to maintain standards ready for next CQC inspection	To maintain compliance with Hygiene Code	1. Policy update monitored by IPCT and ICC 2. audit results and IPC reports monitored and action plans in place	ICC bi-monthly meetings	Bi monthly ICC report to Quality Committee and Trust Board.	Audit calendars in place for all clinical areas – results reported monthly to WM's and bi – monthly to ICC. Non-compliance managed formally by Senior Nurses and CSM's	Lead IPC Nurse/ SN's and CSM's	On-going	
Status end 2012-13: Standards maintained – regular audits undertaken by facilities, IPCT and Ward Managers / Matrons.								End of Q4.
8. Maintain compliance with antimicrobial guidelines	Improve compliance	1.Antimicrobial audits undertaken by pharmacy 2.Policy available on Intranet 3.Pocket guides provided to all prescribers 4. Effective and compliant prescribing included in Dr's induction training. 5. All prescribers including Non-Medical	Antimicrobial audits reported to ICC	Bi monthly ICC report to Quality Committee and Trust Board.	Pocket guide for all prescribers Relaunch guidelines with letter from DIPC Re audit every 4 months Mandatory training is attended by all staff including pharmacists, non-medical prescribers etc. Presentation includes specific prescribing information and discussion around Trust guidelines. Doctor's induction also includes these topics.	SM SM/ LW MM SM	On-going from May 2011	

		Prescribers and pharmacists to be provided with written information regarding Abx prescribing.						
Status end 2012-13: Audits undertaken by pharmacy. Compliance adhered to, training provided to all doctors at induction.								End of Q4
9. Surgical site Infection rates – aim to reduce rates in primary arthroplasty	Reduce SSI rate in primary arthroplasty by rate agreed at ICC	1. Enhanced surveillance to be introduced by IPCT. 2. Reported quarterly to ICC.	Results reported to ICC / clinical outcomes every year.	Quarterly reports to ICC.	All patients failing to return questionnaire or those reporting a problem to be followed up by IPC/ ROCS. Criteria for SSI to be investigated Agree internal measure for greater scrutiny within ROHFT Continue to report external measure (HPA Questionnaire) to allow benchmarking.	SM / IPC SM / DD SM/ DD / LW SM	On-going from July 2012	
Status end 2012-13: SSI closely monitored and reported to ICC and Medical Director for action where necessary. Rate has improved since 30 day surveillance commenced in 2009. Rate now:								End of Q4

30 day SSI rate by Year

	2009	2010	2011	2012
Primary Hip	2.8	3.4	2.9	1.9
Primary Knee	7.1	5.7	5.7	4.9

10. Elicit baseline outcome data from Bone Infection Unit – new service therefore outcomes not previously known.	To set up a database and elicit 1st year outcome data.	1. Outcomes to be discussed at clinical audit.	Results reported to ICC and audit.	1st report due after the service has been in place for 12 months (October 2012)	Set up database according to criteria set by lead clinicians Report to consultant body at the end of the first year and then review the service.	SM/PJ/AP SM/PJ/AP	End March 2013	
Status end 2012-13: BIU successful new service – now considered 'normal business' for ROHFT. Over-performed during 2012-13 and provided assistance to 179 patients. Outcomes collected but too early to collate – will be available end March 2014.								End of Q4

13.3 Appendix 3:

The Royal Orthopaedic Hospital NHS Trust Infection and Prevention and Control Annual Plan 2013/14

Primary Objective:
Minimise harm to patients and to protect staff by eradication of all avoidable healthcare associated infections within the Royal Orthopaedic Hospital NHS Foundation Trust.

Trust Strategy:
By 2016 our ability to provide the best care, by the best people, in the best hospital will ensure our future as an independent organisation.
Ensure safety and deliver outstanding performance for patients.
Deliver all CQC existing and national targets including reducing the incidence of avoidable infections

Principal risks	Intended outcome	Controls (In addition to IPC policies)	Local assurance	Board assurance	Action Plan	Lead	Due date	Risk Status April 13
1.Limited surveillance reporting reduces drive for change and improvement – extend to include SSI for all specialities	To establish baseline rates in areas not currently observed.	1.ICNet implemented 2. Baseline data collated for Spinal and foot surgery initially – then rolled out further. 3.Continued surveillance of arthroplasty – 100% of SSI forms submitted correctly	Results reported at ICC and to Consultants at audit every 6 months.	Quarterly reports to ICC regarding 30 day data and baseline data as it becomes available	Submit business case in order to expand surveillance across all specialities.	Lead IPC Nurse	July 2013	
					If business case is agreed: Extend SSI surveillance to include spinal surgery and foot surgery.	Lead IPC Nurse	Within 3 months of case being agreed.	
					Contact all non-returns by telephone in order to increase accuracy of arthroplasty surveillance.	Lead IPC Nurse	Commence July 2013	
					Review and expand current HPA questionnaire – tailor questions to ROH	Lead IPC Nurse / Surgical IPC lead	September 2013	
Status Update - end Q1 2013-14:								
2.Risk of missing target of 2 post 48hr cases of Clostridium *difficile* 2013/14	To have no avoidable cases	1.Training of all staff regarding use of Bristol Stool Chart and CD saving lives HII 2. Review of all RCA's at ICC to establish cause and further work. 3. All cases reported as complications at audit. 4. SIRI's for outbreaks or linked cases.	Daily Lab report RCA's reviewed at ICC	RCA's reported at ICC – presented by Consultant and Ward Manager	RCA's to be completed by Consultant and Ward Manager – advice available from IPC.	WM's/ Consultants	on-going	
					Education for nursing and junior medical staff regarding stool sampling to be provided – mandatory training.	IPCT/	On-going- each case	

Status Update - end Q1 2013-14:								
3.Risk of missing target of 0 MRSA bacteraemias 2013/14	To have no avoidable MRSA bacteraemias	1. MRSA screening – adherence to policy. 2.RCA / SIRI investigations 3.ANTT training and competencies	Daily Lab report. RCA reports reviewed at ICC.	RCA's reported at ICC – presented by Consultant and Ward Manager	RCA's to be completed by Consultant and Ward Manager – advice available from IPC.	WM's/ Consultants	Ongoing	
Status Update - end Q1 2013-14:								
4.Avoidable exposure to influenza due to low levels of vaccination	To implement a robust vaccination programme and increase uptake to 50% of all staff.	1.annual flu vaccination campaign	Progress reported to and monitored by Emergency Planning Committee	Uptake reported to Integrated Governance Committee	Set up specific vaccination programme for ROH Mobile vaccination clinic to visit all clinical areas to ease access for all staff. IPC to report uptake to Immform or other database as directed by the PCT	SN/SM	Commence Sept 2013	
Status Update - end Q1 2013-14:								
5. Implement AFPP standards throughout theatres	To assist the theatre management team to introduce and embed the AFPP standards.	1.Theatre management action plan	Progress to be reported to ICC for monitoring and assistance with enforcement if necessary.	CQC workshops and ICC scrutiny	Theatre management to ensure reports to ICC are submitted in a timely manner Theatre management team to source advice and support from AFPP, IPC and outside sources if required Discussions to be held with theatre team and Consultant staff to raise awareness Set up an 'Infection' study day within ROH to increase knowledge base regarding SSI and BIU	MP/LP/SM/PJ/ AP	Ongoing	
Status Update - end Q1 2013-14:								

6.Failure to maintain standards ready for next CQC inspection	To maintain compliance with Hygiene Code	1. Policy update monitored by IPCT and ICC 2. audit results and IPC reports monitored and action plans in place	ICC bi-monthly meetings	Bi monthly ICC report to Quality Committee and Trust Board.	Audit calendars in place for all clinical areas – results reported monthly to WM's and bi – monthly to ICC. Non-compliance managed formally by Senior Nurses and CSM's	Lead IPC Nurse/ SN's and CSM's	On-going	
Status Update - end Q1 2013-14:								
7. Surgical site Infection rates – aim to reduce rates in primary arthroplasty	Reduce SSI rate in primary arthroplasty by rate agreed at ICC	1. Enhanced surveillance to be introduced by IPCT. 2. Reported quarterly to ICC.	Results reported to ICC / clinical outcomes every year.	Quarterly reports to ICC.	All patients failing to return questionnaire or those reporting a problem to be followed up by IPC/ ROCS.	SM / IPC	On-going	
					Criteria for SSI to be investigated	SM / DD		
					Agree internal measure for greater scrutiny within ROHFT	SM/ DD / LW		
					Continue to report external measure (HPA Questionnaire) to allow benchmarking.	SM		
Status Update - end Q1 2013-14:								
8. Bone Infection Unit outcome monitoring	To set up a database and elicit outcome data.	1. Outcomes to be discussed at clinical audit.	Results reported to ICC and audit.	Report due annually – March	Set up database according to criteria set by lead clinicians	SM/PJ/AP	March 2014	
					Report to consultant body annually	SM/PJ/AP		
Status Update - end Q1 2013-14:								