West Hertfordshire Hospitals NHS
NHS Trust

Trust Board – 28 November 2013

Title of the Paper:	Infection Control – Performance Report
Agenda item:	TB 83/13
Lead Executive **Author:**	Jackie Ardley, Interim Chief Nurse & Director of Infection, Prevention and Control Maxine Mcvey
Trust Objective:	Achieving continuous improvement in the quality of patient care that we provide and the delivery of service performance across all areas.

Purpose
To report on

- Current rates of infection In September 2013
- Practice and performance issues

Provide evidence and assurance about current performance in relation to infection prevention and control.

Previously Discussed And Date For Further Review (list relevant committees)
Infection Control Committee, Patient Safety Quality Risk Committee, Trust Board

Benefits To Patients And Patient Safety Implications
Clean Safe Services.

Risk Implications for the Trust (*including any clinical and financial consequences):*	**Mitigating Actions** *(Controls):*
Failure to achieve compliance with agreed infection targets will affect the rating for the Trust and CQC Outcome 8: Cleanliness and Infection Control.	A framework exists within the Trust to manage the infection control agenda via the Infection Control Committee and the weekly Infection Control Review Meeting

Links to Board Assurance Framework, CQC Outcomes, Statutory Requirements
CQC outcome 8 (regulation 12) Cleanliness and Infection Control.

Legal Implications: (if applicable)
The Trust must so far as reasonably practicable ensure that it meets the Care Quality Commission requirements of Outcome 8 (regulation 12) Cleanliness and Infection Control, the requirement of this outcome is that the Trust complies with The Health and Social Care Act 2008 (2010): Code of Practice for health and adult social care on the prevention and control of infections and related guidance.

Financial Implications :**(if applicable)**

Communications Plan (if applicable)

Recommendations
The Committee is asked to note the performance against trajectory for MRSA bloodstream infections and *Clostridium difficile*, Trust compliance with the Hygiene Code and action plans in place to address the issues identified.

Agenda item 83/13

Trust Board

Infection Prevention and Control – Performance Report

Presented by: Jackie Ardley Chief Nurse DIPC

1. Purpose

This report provides the Board with assurance that all actions required to reduce and prevent opportunities for infection becoming a threat to patient safety are being taken. It reports on

- Current rates of infection up to September 2013
- Practice and performance issues

2. Mandatory Surveillance Reporting

2.1. Methicillin Resistant *Staphylococcus aureus* (MRSA) Bloodstream Infection (BSI)

There has been zero Trust acquired MRSA BSIs reported in September, bringing the total for the year 2013/2014 to one against the annual ceiling of zero. This one MRSA bacteriamia was reported in April 2013. A post infection review (PIR) was undertaken in April and the learning outcomes included the collection of surveillance data for MRSA colonization / infection with regular inspection for possible transmission incidents. There is a system in place where 'new' HCAI MRSA isolates are identified and a root cause analysis (RCA) is completed. This is then presented and discussed at the weekly local HCAI meeting.

2.2. Methicillin Sensitive *Staphylococcus aureus* (MSSA) Bloodstream Infection (BSI)

There were two Trust attributable cases reported in September. The total for the year 2013/2014 is 5. No trajectory has been set for MSSA BSI. A RCA investigation was undertaken by members of the infection prevention and control team (IPCT), with the likely cause documented as unknown for one, whilst the other was uncertain though likely to be wound related.

2.3. *Escherichia coli (*E.coli) Bloodstream Infection (BSI)

There was 7 Trust attributable (detected post 48hrs) *E.coli* bacteraemia reported in September, bringing the total for the year 2013/2014 to 20. No trajectory has been set for *E.coli* bacteraemias. Likely primary source for Trust attributable *E-coli* infections are shown in Figure 1, with the majority of cases considered to be urinary tract related in patients admitted from the community.

Appendix 1 tables 1 to 3 contains mandatory reporting data in table format for September and August as well as accumulative Data from April – 30th September 2013.

2.4. Clostridium difficile

The Trust has a trajectory of 24 *C.difficile* toxin positive cases for the year 2013/2014.
In September there were three Trust-attributable *C.difficile* cases, resulting in a total of 15 against the annual ceiling of 24. The Trust is currently in breach of the trajectory required to meet this performance target. Figure 2 in appendix 1 identifies the number of Trust attributed *C.difficile* cases each month for comparison. This shows a decrease from last year.

Of the fifteen cases, eleven were identified in medicine, three in surgery and one in Women's and Children's. The RCAs and related action plans are reviewed and monitored by the local HCAI group. Themes and actions are in table 4.

Deaths with *C.difficile* documented on certificate: In September **t**here were zero deaths reported in patients being treated for *C.difficile* where *C.difficile* was recorded in part l, or part ll of the death certificate. The total for the year remains as 3.

3. Practice and Performance issues

3.1 The Trust Infection Control Work Action Plan 2013-2014

This document was introduced in its 'new' format in July and changed over to Trust Standard action plan format in September. This action plan is presented to the Infection Control Committee (ICC) at the end of each month and then presented to the Trust Leadership Executive Committee (TLEC). This plan is being progressed and was formally updated at the Trusts Infection Control Committee on 28 October. The updated plan was included in the Infection Control TLEC Report presented on 7 November and is attached to this paper. The next formal monthly review will occur at the ICC on 25 November. Utilising the RAG rating system completed actions will be turned green and transferred to the completed action log. 'Outcome expected' has been inserted in to the Action Plan.

3.2 Code of Practice for the Prevention and Control of HCAI (Health and Social Care Act 2010)

i) Systems to manage and monitor the prevention and control of infection

The Trust now has an infection control dashboard. This is manually populated each month by the ICPT following receipt of key performance indicators and audit results e.g hand hygiene, from individual departments. The dashboard is presented at the ICC on the third Monday of every month and then sent to TLEC. The September dashboard was presented to the ICC on 28 October and to TLEC on 7 November and is attached to this report. The October Dashboard will be presented to the ICC on 25 November. "Red exception reports" are expected to be produced by the division/departments where areas of non compliance are identified.

The Trust is not currently achieving compliance in the following areas:

ii) Isolation of patients with infectious disease:

In September 160 patients had stool specimens taken which were laboratory tested for *C.difficile*. 39 (24%) of these patients were not isolated within the recommended 2 hour period. In comparison to the previous month of August compliance with isolation has fallen by 12%. The reasons provided for non compliance is identified below.

Table 1 Reasons for not isolating patients with diarrhoea

No side rooms available	9
Medically unsafe to Isolate	3
Sideroom not requested	13
Reason unknown	9
Isolation not required as inappropriate specimen	5

A further piece of work will be undertaken in December to develop guidelines to support staff in managing this group of patients.

iii) Cleaning Standards: Some aspects of the 2009 National Cleaning Standards based on the 2007 have not been implemented across the Trust. The Trust has a project team in place to address this. The cleaning frequencies/cleaning responsibilities was reviewed on 20 September and monitoring regimes discussed. The PAS 5748 standards which are referred to in the new contract are based on the National Specification for Cleanliness 2009.The implementation date is the 2 December 2013. The Trust needs effective monitoring systems in place once the standards are implemented. Currently there is only one monitoring officer employed by the Trust. The expectation is that from January 2014 the standard of cleaning will be monitored in all clinical areas though this is dependent upon an increase in the availability of monitoring resource.

iv) Staffing: Interviews for the Assistant Director of Infection Prevention and Control (ADIPC) took place week commencing 16 September and a successful appointment has been made, commencement date expected to be 8 January 2014. Unfortunately, appointment to the vacant band 7 has been unsuccessful following interviews. The temporary arrangement put in place in August continues and the risk to both the achievement of the infection control action plan but also to the Surgical Site Surveillance continues. The Trust is currently in the process of recruiting a trainee band 5 infection prevention and control nurse as well as a band 7 nurse to have a focus on intravenous therapy.

4). MRSA Screening

In September elective admissions screening was reported as 99.1%. In accident and emergency 95.4% of emergency admissions were screened for MRSA in compliance with the requirements of Public Health England . Three MRSA hospital acquired were identified in the Trust during the month of September in comparison to zero in August. Two in ITU and one in AAU.

The two ITU patients, with no known previous history of MRSA, were identified as MRSA positive as part of the twice weekly routine MRSA screening of all patients in ITU. These were considered ITU acquired. All staff were screened and strict attention to hand hygiene, principles of isolation, apron & glove usage, dress code were reinforced with a focus on scrupulous environmental cleaning and monitoring to provide assurance. Four staff members were identified as MRSA positive. Work restrictions/treatment protocol/repeat screening advised and is being co-ordinated by the Occupational Health department. There was no identified connection between the patients and staff.

<u>ICN HCAI MRSA monthly surveillance data - ITU</u>

April - June 2013 '0' ITU acquired MRSA isolates,
July 2013 '1' ITU MRSA acquired identified
August 2013 '0' ITU acquired MRSA isolates
1st – 7th September '2' ITU acquired MRSA (2 patients above)

5). Hand Hygiene and High Impact Intervention Compliance

The data for Jan- September 2013 is shown in figure 3. The overall hand hygiene compliance score for September was 94%, which is an improvement of 3% in comparison to the previous month. The ideal compliance target for hand hygiene is 100%. In order to improve the reliability of the data, a system for peer audit was introduced in the last week of June. Peer audit for the High Impacts have been introduced in September 2013.

6). Outbreaks and Incidents

Panton Valentine Leukocidin (PVL) *Staphylococcus aureus* has been identified in the maternity unit. Panton-Valentine Leukocidin is a toxic substance produced by some strains of *Staphylococcus aureus* which is associated with an increased ability to cause disease. The incidence of PVL related disease in the UK is low at present but it is important that healthcare professionals and the public are aware of the infections it can cause and the precautions which should be taken. Panton Valentine Leukocidin can be produced by both meticillin sensitive and meticillin resistant strains of *Staphylococcus. aureus.* Most of the PVL positive *Staphylococcus*. aureus strains identified in the UK are sensitive to many antibiotics.

Of the cases identified in the maternity unit four individuals were involved. Aa mother with a superficial wound infection and her baby and one baby from another mother identified on their readmission screen. These cases were reported to the Health Protection Agency.

The MRSA PVL typing would indicate a connection at the hospital. However, it has not been possible to identify the source or to prove definitively that these were hospital acquired. Public Health England reported that there has been no link from the community identified.

Screening of all the maternity staff has taken place including throat swabs. One member of staff has been identified as MRSA positive. Work restrictions/treatment protocol/repeat screening advised and is being co-ordinated by the Occupational Health department. Increased focus on hand hygiene audits in maternity and environmental decontamination. It been agreed that the Trust will take part in the Department of Health Prevalence Survey on PVL. Increased vigilance in relation to positive MRSA isolate relating to community/hospital where recent contact with maternity unit is in place.

7). Water Safety

The Water Safety Group (WSG) action plan was presented to TLEC on 3 October 2013. Following the WSG Meeting on 9 October 2013, and a briefing provided by Mike Kuomi from Hydrop (The Trust's Independent Specialist), an action log has been produced to carry forward the work required from the Legionella Audit Report and Draft Pseudomonas Risk Assessment. The works undertaken in ITU at Watford have reduced the level of Legionella risk to a level where filters are not required and have been removed. Education is being arranged for the staff.

8).External Performance Monitoring and Reviews

Herts Valleys Clinical Commissioning Group and the Head of Infection Prevention and Control at the Trust Development Authority Midlands and East continue to scrutinise the actions being taken by the Trust in relation to infection prevention and control. Their recommendations and actions continue to be addressed by the Local HCAI Group and Trusts Infection Control Committee.

9). Mandatory and induction training in infection control

In September 78% of Trust staff had undergone mandatory infection control training. Compliance rates across Divisions are shown in Table 5. The IPC Nurses have provided extra sessions which have been requested though attendance is dependent upon departments releasing staff to attend. This has been discussed at the ICC meeting. Divisional leads agreed that they will continue to follow up individual non-compliant staff.

10).Surgical Site Infection Surveillance (SSI)

For total hip replacements (THR), the overall incidence of surgical site infection(SSI) for the Trust was 1.7% (8/464) for April 2012 to March13. The preliminary results indicate that the Trust was a borderline high outlier i.e. just below the 95th control limit. This is being investigated to ensure all actions are in place to prevent infections. The SSI incidence at Watford for THR surgery in 2012/13 was 6.0% (4/67) but one year data still yields a very small volume. So it is difficult to draw firm conclusions as this could be due to a statistical fluke.

- Total period from Jan 2012 to March 2013 (five quarters): Estimate was 4.2% (4/96). Relatively a more robust estimate due to larger sample. A simple binomial probability test showed that WGH'S estimate was found to be significantly higher than expected for this surgery (p= 0.005806)
- Total period from Oct 2011 to March 2013 (six quarters): Estimate was 4.3% (5/115). A bigger sample with a robust estimate. A simple binomial probability test showed that WGH'S estimate was found to be significantly higher than expected for this surgery (p= 0.001737

It is a possibility that this result may reflect the fact that WGH received more complex higher risk cases.

For Total Knee Replacements (TKR), the overall incidence at your Trust was 1.0% (5/488) in 2012/13. The preliminary results indicate that you were well within the expected variation in this year.

The SSI team are reviewing and will examine clinical and methodological processes in relation to the hip cohorts at Watford to ensure compliance with recommended guidelines and will address any short falls, via the SSIC and agreed surveillance programme.

11. Summary

The RCAs of all Trust attributable *C.diff* infections and related action plans are reviewed and monitored by the local HCAI group.

The Trusts Infection Prevention and Control key performance indicators for the in-patient clinical areas are identified in the Infection control dashboard which is populated manually by the IPCT each month and presented to the ICC prior to TLEC.

The Trust's Infection Prevention and Control Programme/Action Plan is reviewed and updated monthly at the ICC. Each of the division have produced their own IPC action plans which are presented to and progress monitored by the ICC .

The challenge of isolating patients with diarrhoea of 'unknown cause/considered to be of an infectious nature' is relentless as is the difficulty in maintaining a 'ring fenced' bed in the isolation suite when beds are at a premium.

The PAS 5748 standards which are referred to in the new contract are based on the National Specification for Cleanliness 2009 and implementation commencing 2nd December 2013.

The Trust is currently recruiting a trainee band 5 infection prevention &control nurse and a band 7 nurse to have a focus on intravenous therapy and the new Assistant Director of Infection Prevention and Control will be starting on 8 January 2014. The existing vacant posts present a risk to the Trust and the progress of the IPC action plan.

Following the advice of TDA and to improve the reliability of the data, systems for peer audit for the High Impacts were introduced in September 2013.

With regard to PVL MRSA in maternity, there has been increased focus on hand hygiene in maternity and environmental decontamination as well as MRSA screening of emergency patients. The Trust also increased vigilance in regard positive MRSA isolate relating to community/hospital where recent contact with maternity unit is in place.

The works undertaken in ITU at WGH have reduced the level of Legionella risk to a level where filters are not required and have been removed. Education and training is being arranged for the staff and the water management group members will continue to meet monthly and monitor progress.

The overall mandatory training compliance until September is, 78% against a target of 100%. Divisional leads are chasing-up individual staff who are non-compliant with their infection control trainings.

The SSI team are reviewing and will examine clinical and methodological processes in relation to the hip cohorts at Watford to ensure compliance with recommended guidelines and will address any short falls via the SSIC and ongoing surveillance.

12. Recommendation

12.1 The Board is asked to note

- The mandatory surveillance data reporting for September
- That isolation of infective diarrhoea patients has reduced by 12% and the actions being taken
- The infection control dashboard for September 2013 and the requirement for IT support a move from the current manual system to “clikview”.
- Summary of the Surgical Site Infection Data and actions by the SSI team in Surgery.
- The introduction of PIppa system to help re-enforce hand hygiene practices.
- The Implementation of peer assessments for high impacts.
- The Progress on the cleaning but the need for the Trust to have effective monitoring in place to check standards.

Appendix 1

Mandatory Infection Prevention and Control Key Performance Targets

Table 1. September 2013

Trust acquired cases	September 13			Divisions			
	Target	Trust		Medicine	Surgery	Womens & Children	Other
MRSA BSI (>48 Hrs)	0	0					
MSSA BSI (>48 Hrs)	n/a	2		1	1		
E-Coli BSI (>48 Hrs)	n/a	7		6	1		
C.difficile (>72Hrs)	2	3		2		1	

Table 2 August 2013

Trust acquired cases	August 13			Divisions			
	Target	Trust		Medicine	Surgery	Womens & Children	Other
MRSA BSI (>48 Hrs)	0	0					
MSSA BSI (>48 Hrs)	n/a	0					
E-Coli BSI (>48 Hrs)	n/a	4		3	1		
C.difficile (>72Hrs)	2	2		2			

Table 3. Cumulative Data 2013 (April – 30th September 2013)

Cumulative April-September 13	Year to date				Divisions			
	Target		Cases		Medicine	Surgery	Womens & Children	Other (Non-Trust)
	Year	YTD	Trust					
MRSA BSI (>48 Hrs)	0	1	1		1			
MSSA BSI (>48 Hrs)	n/a		5		3	2		
E-Coli BSI (>48 Hrs)	n/a		20		12	7		1
C.difficile(>72 Hrs)	24	12	15		11	3	1	

Table 4: Summary of recommendations and actions from *C. difficile* RCAs

Lessons Learned	Actions
Patients not isolated within 2 hours of diagnosis of possible infection	Review of admission pathway and use of side rooms. In September achieving 76% isolated in 2hrs. The ring fence side room needs to be priority.
Unnecessary prescribing of broad-spectrum antimicrobial agents and compliance with *C.difficile* treatment guidelines.	Antibiotic guidance to be reviewed, communication supported with mobile App; results of audit to be communicated to medical staff. Project work to develop Antibiotic App in progress Six weekly meetings the Microbiologists and the Medical Director Medical Champions identified in Medicine who are now part of the Antibiotic committee.
Nursing staff completing stool charts	Re enforcement by the matrons and ward

To remind all staff to ensure that stool charts are completed every shift and that 72hr Nursing documentation charts clearly reflect any actions taken where necessary.	sisters/charge nurses. Mandatory training for clinical staff now yearly. A question in the test your care pilot being added to meet the standard of documenting twice daily on stool charts.
Inappropriate antibiotic use in the community	To be explored by Local HCAI group The Lead Microbiology and ADIPC are part of the Health Economy task group for *C Diff*

Figure 1 likely source for Trust associated *E-coli* infections

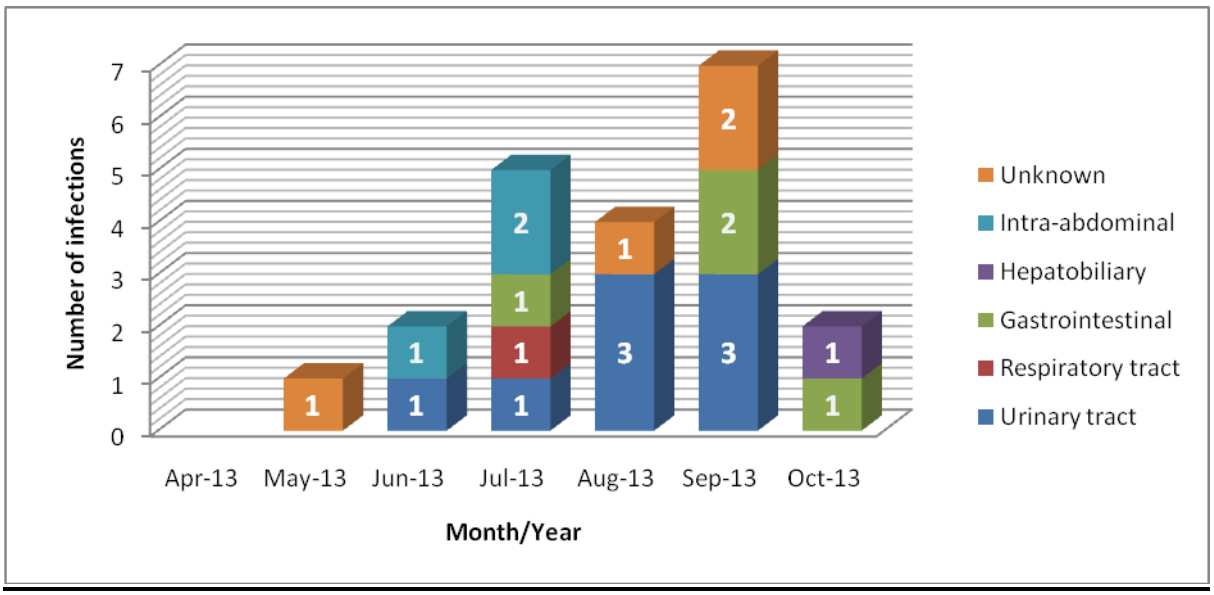

Figure 2 WHHT attributed C.diff cases

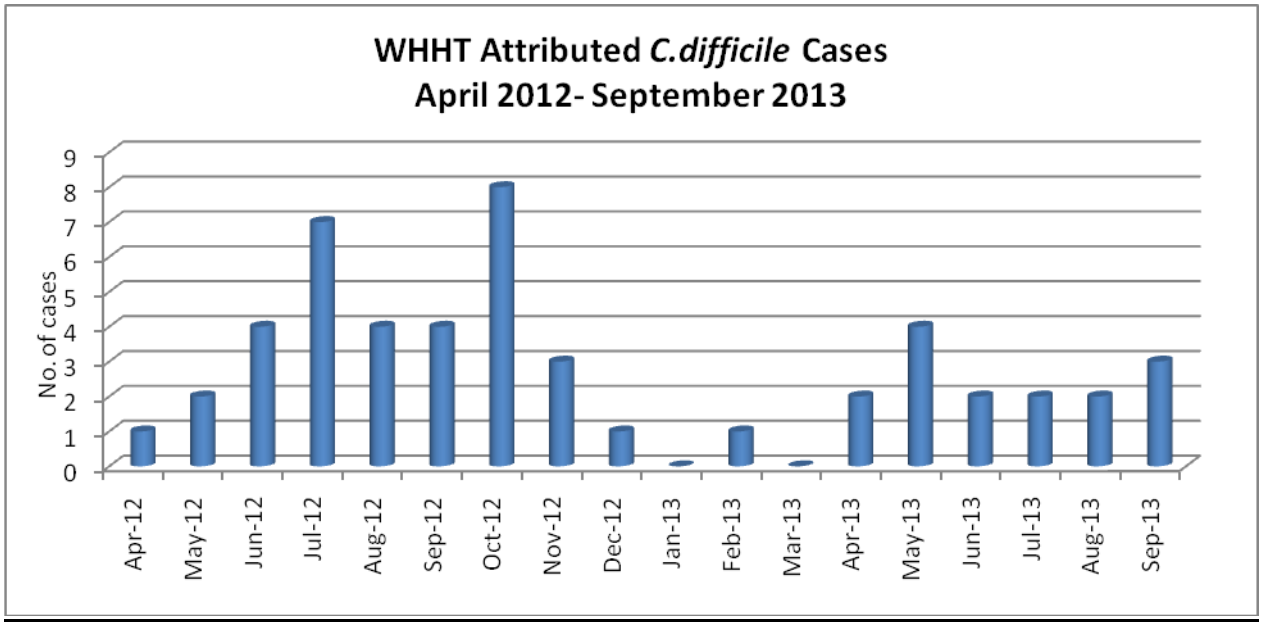

Figure 3 – Hand Hygiene compliance audits by Division

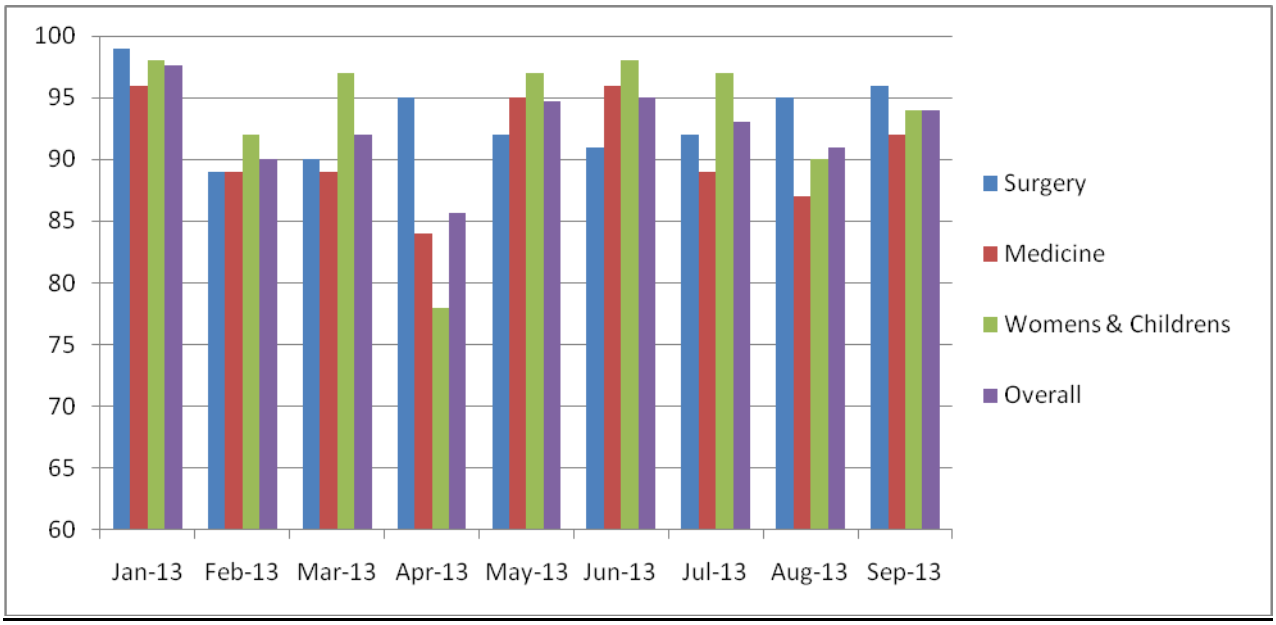

Table 5: Number of staff requiring mandatory infection control training and % compliance by Division. Target is 100%.

Divisions/Training Session	Compliance Requirement	Overall Compliance	Compliance Shortfall	% overall Compliance

Clinical Support Services Division				
Infection Control	281	255	26	**91%**
Hand Hygiene	603	564	39	**94%**
Corporate Services Division				
Infection Control	37	33	4	**89%**
Hand Hygiene	451	425	26	**94%**
Estates & Capital Planning Division				
Infection Control	1		1	**0%**
Hand Hygiene	70	56	14	**80%**
Medicine CMU Division				
Infection Control	987	802	185	**81%**
Hand Hygiene	1340	1101	239	**82%**
Surgery & Anaesthetics Division				
Infection Control	745	592	153	**79%**
Hand Hygiene	878	727	151	**83%**
Womens Services Division				
Infection Control	444	374	70	**84%**
Hand Hygiene	532	436	96	**82%**
Total Compliance%				**78%**