Healthcare Associated Infection Report
January 2017 data

Section 1 – Board Wide Issues

Section 1 of the HAIRT covers Board wide infection prevention and control activity and actions. For reports on individual departments, please refer to the 'Healthcare Associated Infection Report Cards' in Section 2.

Key Healthcare Associated Infection Headlines

- ***Staphylococcus aureus* Bacteraemia**- One to report in January.
  To date- April 2016 - January 2017, 5 SAB have been noted
  In comparison- April 2015 - January 2016, 9 SAB were noted

- ***Clostridium difficile* infection**- Nil to report, last case reported March 2014

- **Hand Hygiene**- The bimonthly report from January demonstrates 98% compliance with Hand Hygiene. Medical Staff compliance has increased to 97 %. Next audit due April 17.

- **Cleaning and the Healthcare Environment- Facilities Management Tool**
  Housekeeping Compliance –99% **Estates Compliance** –99%.

- **Surgical Site Infection**- CABG and Ortho SSI rates are within control limits.

  The PCIT have noted an increase in Cardiac SSI rates above control limits (n=3). Local leads are aware. No commonalities between theatre /organism or new practices have been reported / noted. The team will continue to monitor.

Other HAI Related Activity

Problem Assessment Groups (PAG) - Locally convened group to further investigate an HAI issue (not outbreak) which may require additional multidisciplinary controls.

PAGs	Update	Progress
Mycobacterium chimaera	Heath Protection Scotland are leading Scotland's response to the international investigation of Mycobacterium infections associated the use of cardiopulmonary bypass heater cooler machines, and have initiated a subgroup with representatives nominated by the Medical Director from each Board to agree how to progress the Patient Notification Exercise(PNE). This is expected to commence in late March 2017. We are continuing to work with HPS to manage the very low risk associated with colonised machines. Scottish Government HAI Policy Unit are also informed of our current position.	

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Susan Robertson – Senior Prevention and Control of Infection Nurse
Date 13/02/17

Staphylococcus aureus (including MRSA)

Staphylococcus aureus is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. The most common form of this is Meticillin Sensitive *Staphylococcus aureus* (MSSA), but the more well known is MRSA (Meticillin Resistant *Staphylococcus aureus*), which is a specific type of the organism which is resistant to certain antibiotics and is therefore more difficult to treat. More information on these organisms can be found at: http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA: http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252

NHS Boards carry out surveillance of *Staphylococcus aureus* blood stream infections, known as bacteraemias. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemias for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Staphylococcus aureus* bacteraemias can be found at:

http://www.hps.scot.nhs.uk/haiic/sshaip/publicationsdetail.aspx?id=30248

GJNH approach to SAB prevention and reduction

It is accepted within HPS that care must be taken in making comparisons with other Boards data because of the specialist patient population within GJNH. All SAB isolates identified within the laboratory are subject to case investigation to determine future learning and quality improvement.

Small numbers of cases can quickly change our targeted approach to SAB reduction. The SAB Improvement Group is responsible for reviewing trends in SAB acquisition and associated improvement actions.

Broad HAI initiatives which influence our SAB rate include-

- Hand Hygiene monitoring
- MRSA screening at pre-assessment clinics and admission
- Compliance with National Cleaning Specifications
- Audit of the environment and practices via Prevention and Control of Infection Annual Reviews & monthly SCN lead Standard Infection Control Precautions and Peer Review monitoring
- Participation in National Enhanced SAB surveillance- gaining further intelligence on the epidemiology of SAB locally and nationally.

SSI Related SAB

- Introduction of MSSA screening for cardiac and subsequent treatment pre and Post op as a risk reduction approach.
- Surgical Site Infection Surveillance in collaboration with Health Protection Scotland and compared with Health Protection Agency data to allow rapid identification of increasing and decreasing trends of SSI.
- Standardisation of post op cardiac wound care.
- Development and implementation of a wound swabbing protocol and competency.

Device Related SAB

- SPSP work streams continue to aim to sustain compliance with PVC CVC, PICC and IABP bundles, assessment of compliance locally aids targeting of interventions accordingly.

- Ongoing testing of new combined PVC insertion and maintenance bundle
- Development and testing of Arterial line maintenance bundle in Critical Care.

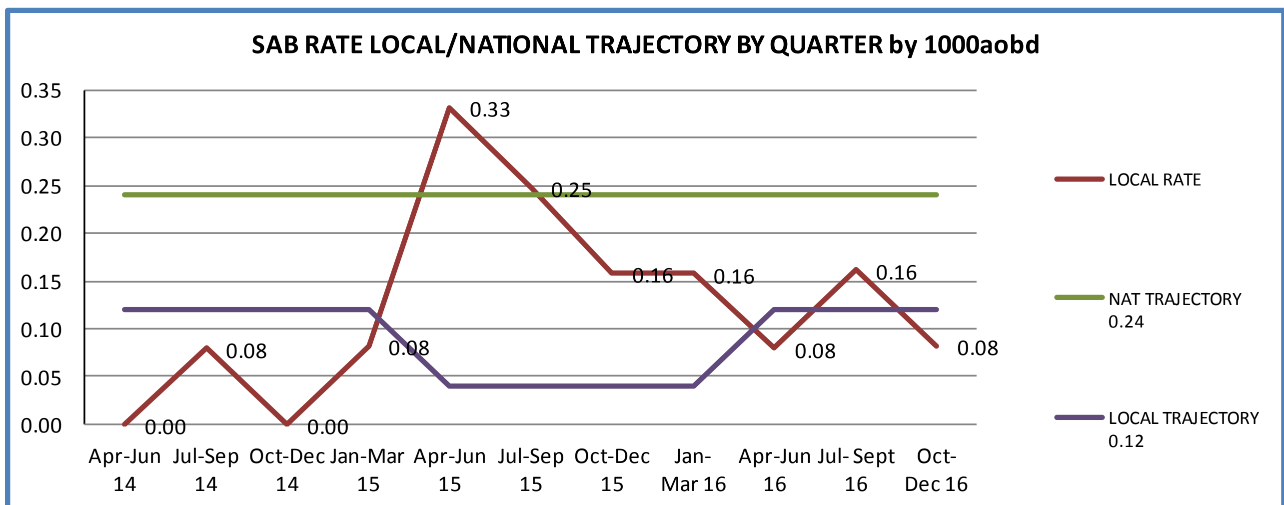
Contaminated samples

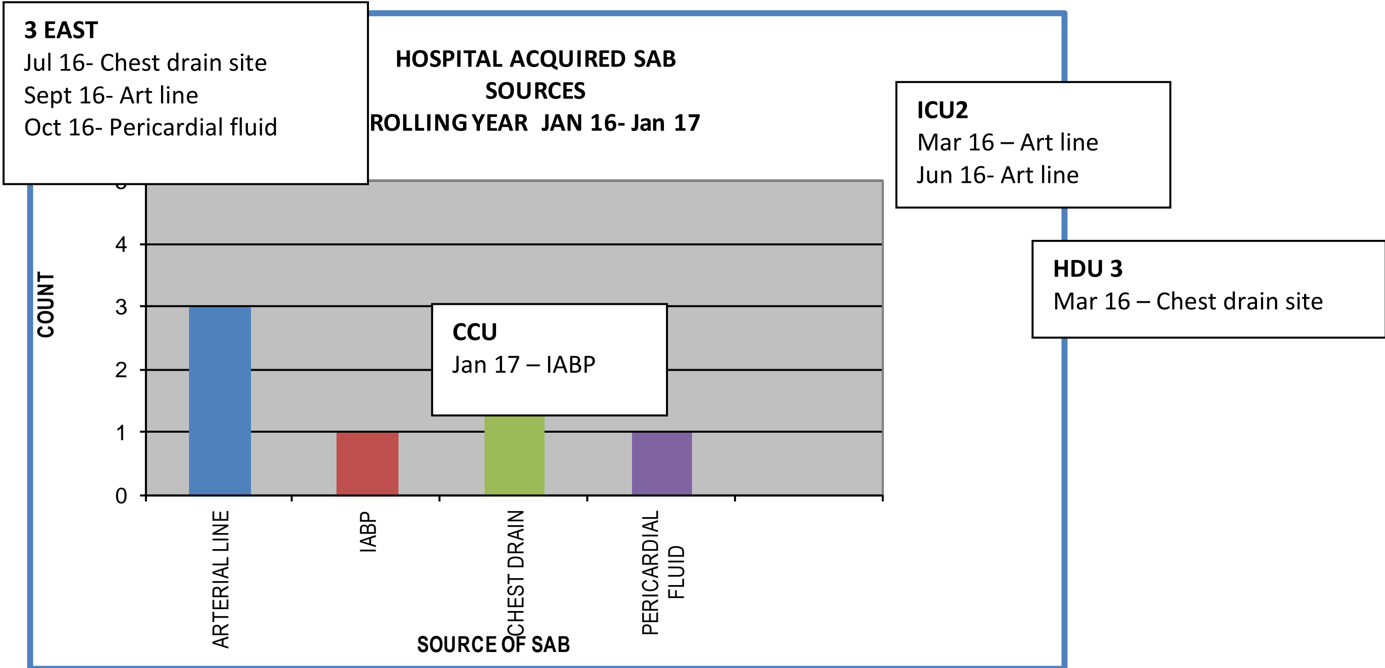
- Blood Culture collection system to reduce risk of contaminants.

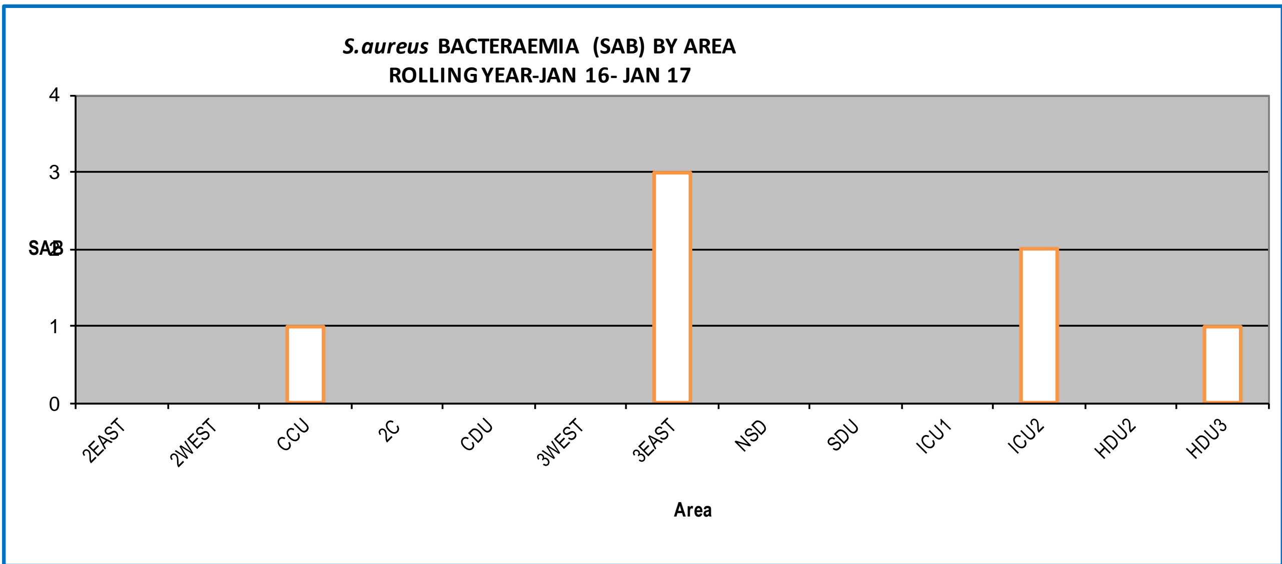
SAB Local Delivery Plan (LDP) Heat Delivery Trajectories
Boards are expected to achieve a rolling target of 0.24 cases per 1,000 acute occupied bed days or lower by year ending March 2017

Boards currently with a rate of less than 0.24 are again expected to at least maintain this, as reflected in their trajectories. **Our local rate Oct- Dec 16 is 0.08 per 1000 occupied bed days.**

The Prevention and Control of Infection Team continue to work closely with the clinical teams and clinical educators to gain insight into the sources of SAB acquisition and associated learning.







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Clostridium difficile

Clostridium difficile is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. More information can be found at:

http://www.nhs.uk/conditions/Clostridium-difficile/Pages/Introduction.aspx

NHS Boards carry out surveillance of *Clostridium difficile* infections (CDI), and there is a national target to reduce these. The number of patients with CDI for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Clostridium difficile* infections can be found at:

http://www.hps.scot.nhs.uk/haiic/sshaip/ssdetail.aspx?id=277

GJNH approach to CDI prevention and reduction

Our numbers of CDI cases are low in comparison with other Boards, which is likely to relate to our specialist patient population. We have had no identified cases since March 2014

Actions to reduce CDI-

- Ongoing alert organism surveillance and close monitoring of the severity of cases by the PCIT.
- Unit specific reporting and triggers.
- Implementation of HPS Trigger Tool if trigger is breached.
- Implementation of HPS Severe Case Investigation Tool if the case definition is met
- Typing of isolates when two or more cases occur within 30 days in one unit.

CDI LDP Heat Delivery Trajectories

Boards are again expected to achieve a rolling trajectory of 0.32 cases CDI per 1,000 occupied bed days by year ending March 2017. This relates to people aged 15 and over. Boards currently with a rate of less than 0.32 will be expected to at least maintain this, as reflected in their trajectories. **Our local rate Oct- Dec 16 is 0 per 1000 occupied bed days.**

Hand Hygiene

Good hand hygiene by staff, patients and visitors is a key way to prevent the spread of infections. More information on the importance of good hand hygiene can be found at:

http://www.washyourhandsofthem.com/

NHS Boards monitor hand hygiene and ensure a zero tolerance approach to non compliance. The hand hygiene compliance score for the Board can be found at the end of section 1 and for each hospital in section 2. Information on national hand hygiene monitoring can be found at:

http://www.hps.scot.nhs.uk/haiic/ic/nationalhandhygienecampaign.aspx

GJNH approach to Hand Hygiene

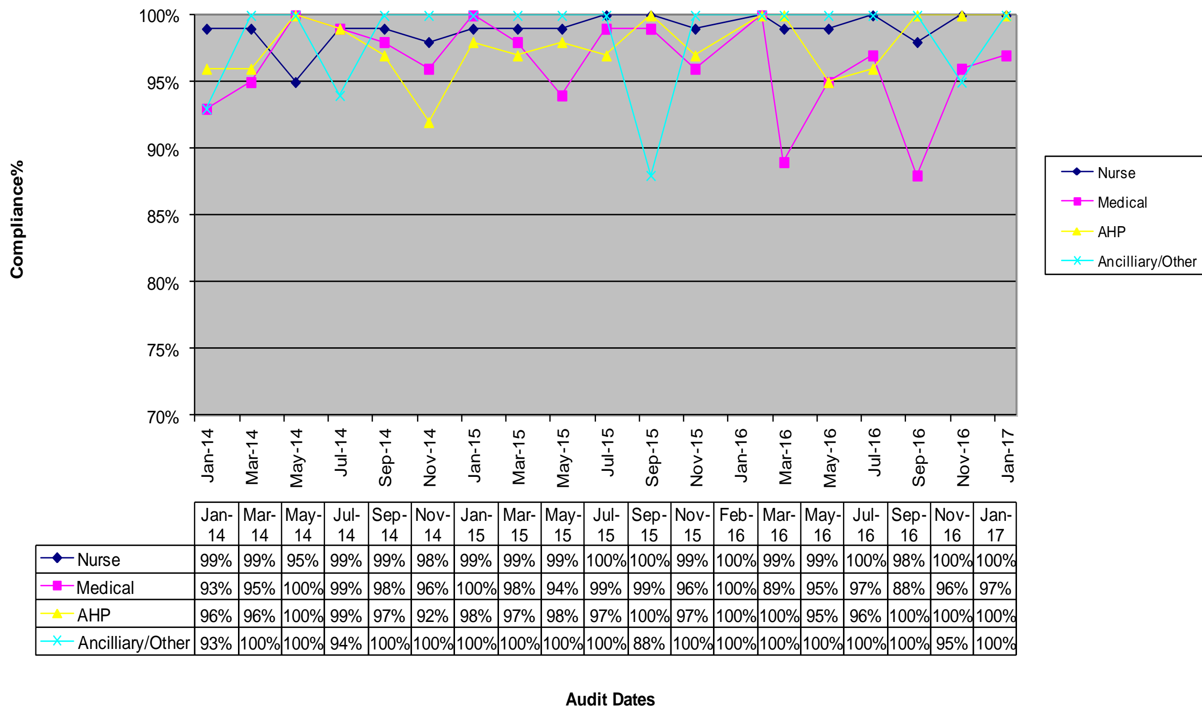
The **bimonthly** report from January is demonstrating a compliance rate of 98%.

Key Moments	
1	Before patient contact
2	Before aseptic task
3	After body fluid exposure risk
4	After patient contact
5	After contact with patient surroundings

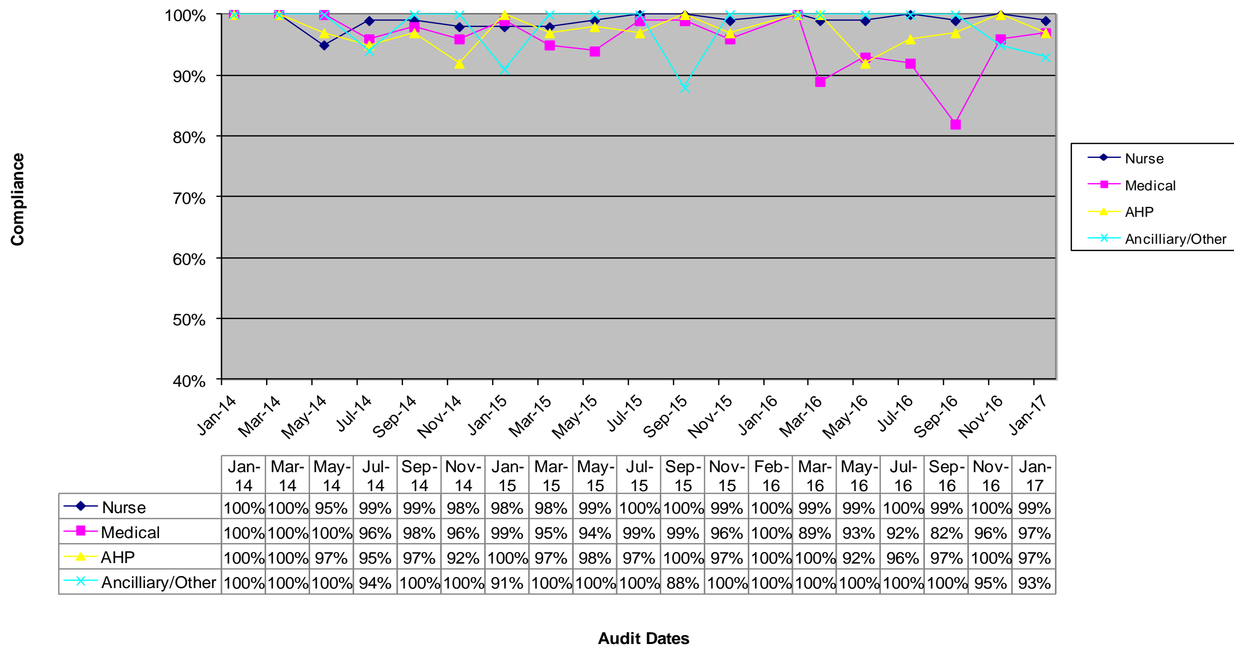
January 2017 Bi Monthly Hand Hygiene Audit
All non compliant staff were spoken to at the time of audit and reminded of the importance of adhering to Standard Infection Control Precautions

AREA AUDITED	COMPLIANCE
2C	100%
CDU	90%
ICU 1	100%
ENDOSCOPY	100%
TH 7	100%
TH 8	100%
TH 11	100%
TH 12	95%
TH 14	95%
TH 16	100%
HDU 3	95%
3 EAST	100%
2D	100%
NSD	100%
2 EAST	100%
95% Compliance or above	
80% - 94% Compliance	
Below 70% Compliance	

AREA	STAFF GROUP	KEY MOMENT	OPPORTUNITY TAKEN	CORRECT TECHNIQUE
CDU	DOCTOR	5	NO	NA
CDU	NURSE	3	YES	NO
TH 12	ANCILLARY	1	YES	NO
TH 14	OTHER	4	YES	NO
HDU 3	DOCTOR	1	NO	NA



	Jan-14	Mar-14	May-14	Jul-14	Sep-14	Nov-14	Jan-15	Mar-15	May-15	Jul-15	Sep-15	Nov-15	Feb-16	Mar-16	May-16	Jul-16	Sep-16	Nov-16	Jan-17
Nurse	99%	99%	95%	99%	99%	98%	99%	99%	99%	100%	100%	99%	100%	99%	99%	100%	98%	100%	100%
Medical	93%	95%	100%	99%	98%	96%	100%	98%	94%	99%	99%	96%	100%	89%	95%	97%	88%	96%	97%
AHP	96%	96%	100%	99%	97%	92%	98%	97%	98%	97%	100%	97%	100%	100%	95%	96%	100%	100%	100%
Ancilliary/Other	93%	100%	100%	94%	100%	100%	100%	100%	100%	100%	88%	100%	100%	100%	100%	100%	100%	95%	100%



	Jan-14	Mar-14	May-14	Jul-14	Sep-14	Nov-14	Jan-15	Mar-15	May-15	Jul-15	Sep-15	Nov-15	Feb-16	Mar-16	May-16	Jul-16	Sep-16	Nov-16	Jan-17
Nurse	100%	100%	95%	99%	99%	98%	98%	98%	99%	100%	100%	99%	100%	99%	99%	100%	99%	100%	99%
Medical	100%	100%	100%	96%	98%	96%	99%	95%	94%	99%	99%	96%	100%	89%	93%	92%	82%	96%	97%
AHP	100%	100%	97%	95%	97%	92%	100%	97%	98%	97%	100%	97%	100%	100%	92%	96%	97%	100%	97%
Ancilliary/Other	100%	100%	100%	94%	100%	100%	91%	100%	100%	100%	88%	100%	100%	100%	100%	100%	100%	95%	93%

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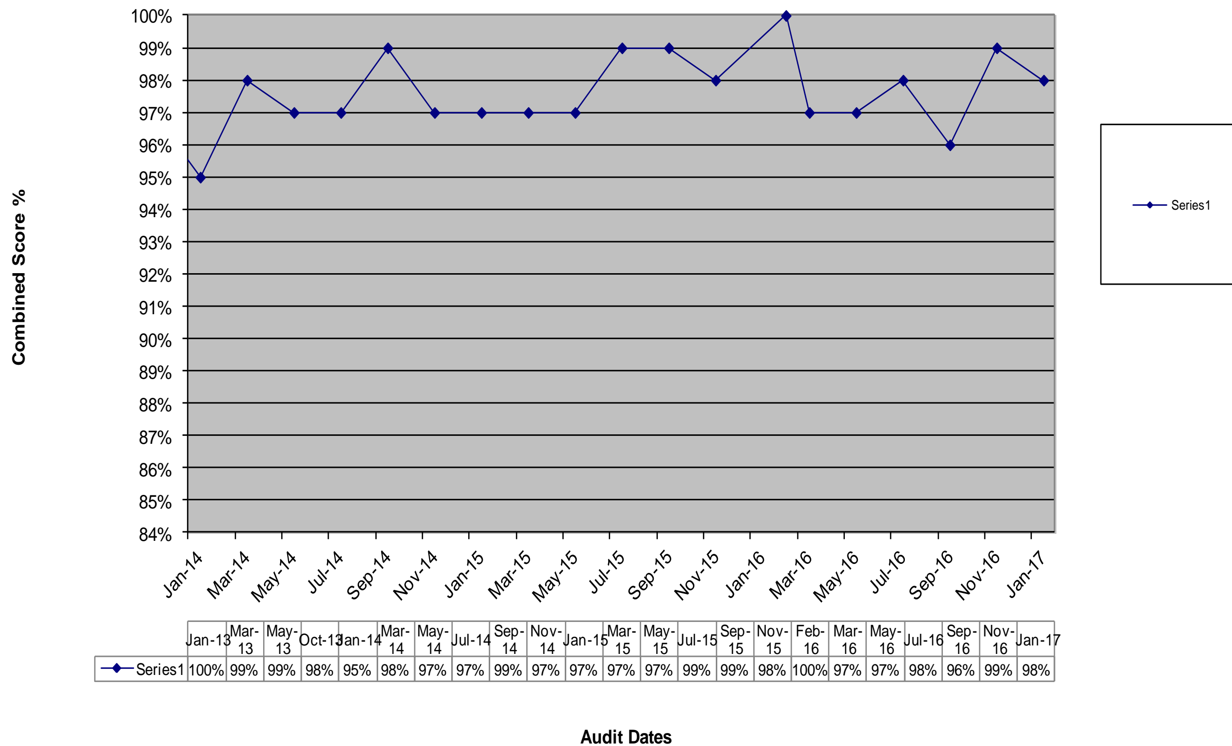
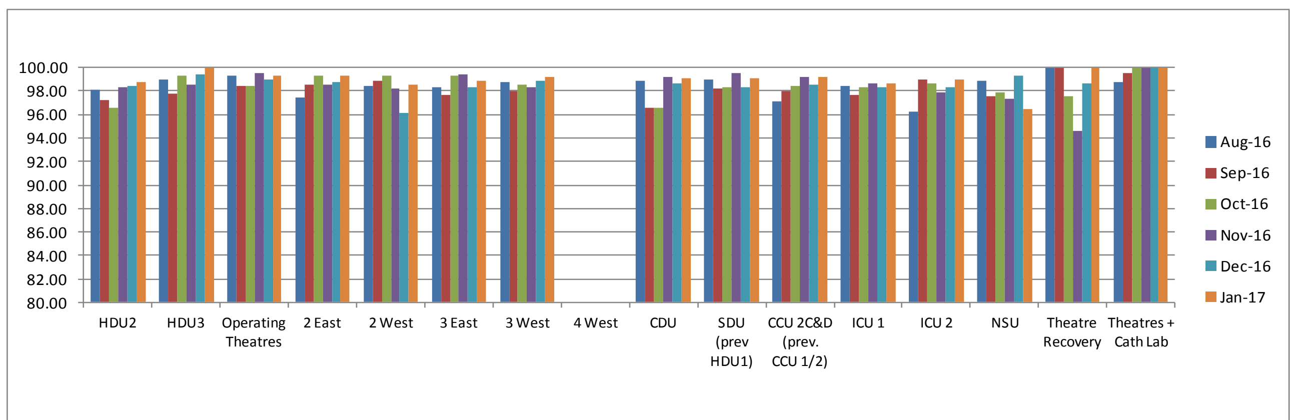


Cleaning and Maintaining the Healthcare Environment

Housekeeping FMT Audit Results

HOUSEKEEPING FMT AUDIT RESULTS

	HDU2	HDU3	Operating Theatres	2 East	2 West	3 East	3 West	4 West	CDU	SDU (prev HDU1)	CCU 2C&D (prev. CCU 1/2)	ICU 1	ICU 2	NSU	Theatre Recovery	Theatres + Cath Lab
Jan-16	98.96	98.80	100.00	98.87	98.12	98.60	99.27		99.12	99.79	98.61	98.99	99.15	98.98	100.00	96.19
Feb-16	98.94	99.14	98.96	98.08	98.32	99.33	99.64		99.11	99.50	98.09	97.76	98.74	98.26	100.00	99.56
Mar-16	99.02	99.80	99.48	98.05	96.49	98.53	98.06		99.72	99.80	99.14	99.02	98.65	98.31	98.92	99.19
Apr-16	99.23	99.47	100.00	96.56	96.55	98.81	99.57		98.42	99.77	99.43	99.40	98.20	98.96	98.75	99.05
May-16	100.00	99.76	99.48	98.24	96.49	99.71	99.71		99.16	99.48	99.13	97.69	100.00	98.82	98.88	98.81
Jun-16	99.54	99.48	96.35	98.42	99.12	99.18	99.35		99.15	99.54	97.92	98.15	98.05	98.43	98.66	100.00
Jul-16	98.52	99.39	99.48	97.97	98.94	99.68	99.08		99.45	99.25	97.55	99.29	98.98	100.00	97.99	100.00
Aug-16	98.14	98.96	99.36	97.42	98.41	98.35	98.80		98.84	98.94	97.08	98.41	96.27	98.92	100.00	98.76
Sep-16	97.24	97.82	98.44	98.55	98.87	97.62	97.95		96.56	98.24	97.99	97.63	98.93	97.60	100.00	99.52
Oct-16	96.56	99.28	98.44	99.29	99.31	99.31	98.59		96.61	98.38	98.41	98.32	98.67	97.92	97.51	100.00
Nov-16	98.33	98.51	99.48	98.56	98.27	99.41	98.32		99.16	99.57	99.15	98.67	97.85	97.30	94.64	100.00
Dec-16	98.42	99.46	98.96	98.79	96.15	98.29	98.83		98.65	98.31	98.52	98.31	98.36	99.29	98.69	100.00
Jan-17	98.75	100.00	99.31	99.26	98.53	98.87	99.20		99.11	99.10	99.21	98.70	98.97	96.49	100.00	100.00



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Other HAI Related Activity

MRSA Screening Compliance

Jan-17	3WEST	3EAST	2C	2D	CCU	NSD	ICU2	ICU1	HDU2	HDU3	2EAST	2WEST
SAMPLE SIZE	18	27	6	6	6	8	3	3	6	4	28	29
ADMIT COMPLIANCE	100%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
		1 PT NOT SCREENED										
SAMPLE SIZE	3	6	0	0	0	1	1	0	0	0	1	1
10 DAY COMPLIANCE	66%	50%	NA	NA	NA	100%	100%	NA	NA	NA	100%	100%
	1 PT NOT SCREENED	3 PT NOT SCREENED										
SAMPLE SIZE	3	5	0	0	0	1	1	0	0	0	0	1
7 DAY COMPLIANCE	66%	60%	NA	NA	NA	100%	100%	NA	NA	NA	NA	100%
	1 PT NOT SCREENED	2 PT NOT SCREENED										

January data

Factors influencing compliance with long term screening-

- Ward closure / merger of wards during the Festive period.
- Ward view has been updated to calculate 10 day screen from admission date and thereafter each 7 day screen however this is reliant on staff accurately admitting patients to Trakcare, and updating MRSA screen status when a screen is obtained.

The team will continue to meet with SCNs to ensure this change in process leads to improvement.

Long Term Patient Screening

- All patients should be rescreened on Day 10 and weekly thereafter.
- Day 10 screen was identified as the initial screen date as it captures patient stay beyond routine pathways
- Compliance is monitored via reviewing a sample of eligible patients against submitted MRSA screens.
- SCNs are informed of results at the time of audit and action plan required to improve compliance

Healthcare Associated Infection Reporting Template (HAIRT)

Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of 'Report Cards' that provide information, for each acute hospital and key community hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections (also broken down into MSSA and MRSA) and *Clostridium difficile* infections, as well as hand hygiene and cleaning compliance. In addition, there is a single report card which covers all community hospitals [which do not have individual cards], and a report which covers infections identified as having been contracted from outwith hospital. The information in the report cards is provisional local data, and may differ from the national surveillance reports carried out by Health Protection Scotland and Health Facilities Scotland. The national reports are official statistics which undergo rigorous validation, which means final national figures may differ from those reported here. However, these reports aim to provide more detailed and up to date information on HAI activities at local level than is possible to provide through the national statistics.

Understanding the Report Cards – Infection Case Numbers
Clostridium difficile infections (CDI) and *Staphylococcus aureus* bacteraemia (SAB) cases are presented for each hospital, broken down by month. *Staphylococcus aureus* bacteraemia (SAB) cases are further broken down into Meticillin Sensitive *Staphylococcus aureus* (MSSA) and Meticillin Resistant *Staphylococcus aureus* (MRSA). More information on these organisms can be found on the NHS24 website:

Clostridium difficile :
http://www.nhs24.com/content/default.asp?page=s5_4&articleID=2139§ionID=1

Staphylococcus aureus : http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA: http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252§ionID=1

For each hospital the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken more than 48 hours after admission. For the purposes of these reports, positive samples taken from patients within 48 hours of admission will be considered to be confirmation that the infection was contracted prior to hospital admission and will be shown in the "out of hospital" report card.

Targets
There are national targets associated with reductions in *C. difficile* and SABs. More information on these can be found on the Scotland Performs website:

http://www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance

Understanding the Report Cards – Hand Hygiene Compliance
Hospitals carry out regular audits of how well their staff are complying with hand hygiene. Each hospital report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

Understanding the Report Cards – Cleaning Compliance
Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits. More information on how hospitals carry out these audits can be found on the Health Facilities Scotland website:
http://www.hfs.scot.nhs.uk/online-services/publications/hai/

Understanding the Report Cards – *'Out of Hospital Infections'*
Clostridium difficile infections and *Staphylococcus aureus* (including MRSA) bacteraemia cases are all associated with being treated in hospitals. However, this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. The final Report Card report in this section covers '*Out of Hospital Infections*' and reports on SAB and CDI cases reported to a Health Board which are not attributable to a hospital.

NHS BOARD REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Feb 16	Mar 16	Apr 16	May 16	June 16	July 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	2	0	0	1	1	0	1	1	0	0	1
Total SABS	0	2	0	0	1	1	0	1	1	0	0	1

Clostridium difficile infection monthly case numbers

	Feb 16	Mar 16	Apr 16	May 16	June 16	July 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17
Ages15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65+	0	0	0	0	0	0	0	0	0	0	0	0
Ages 15 +	0	0	0	0	0	0	0	0	0	0	0	0

Hand Hygiene Monitoring Compliance (%)

	Feb 16	Mar 16	Apr 16	May 16	June 16	July 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17
AHP	100	100		92		96		97		100%		97%
Ancillary	100	100		100		100		100		95%		93%
Medical	100	89		93		92		86		96%		97%
Nurse	100	99		99		100		99		100%		99%
Board Total	100	97		97		98		96		99		98

Cleaning Compliance (%)

	Feb 16	Mar 16	Apr 16	May 16	June 16	July 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17
Board Total	98.89	98.34	98.79	99.05	97.94	99.04	98.46	98.16	98.27	98.48	98.5	99.05

Estates Monitoring Compliance (%)

	Feb 16	Mar 16	Apr 16	May 16	June 16	July 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17
Board Total	98.98	99.49	98.95	98.97	99.6	99.36	98.55	98.62	99.44	98.77	98.77	99.5

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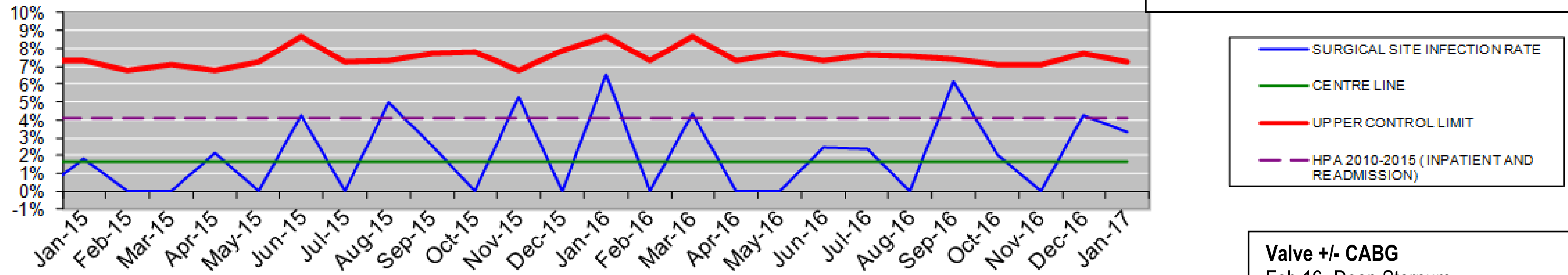
Surgical Site Surveillance

CABG and CABG +/- Valve SSI Local Data

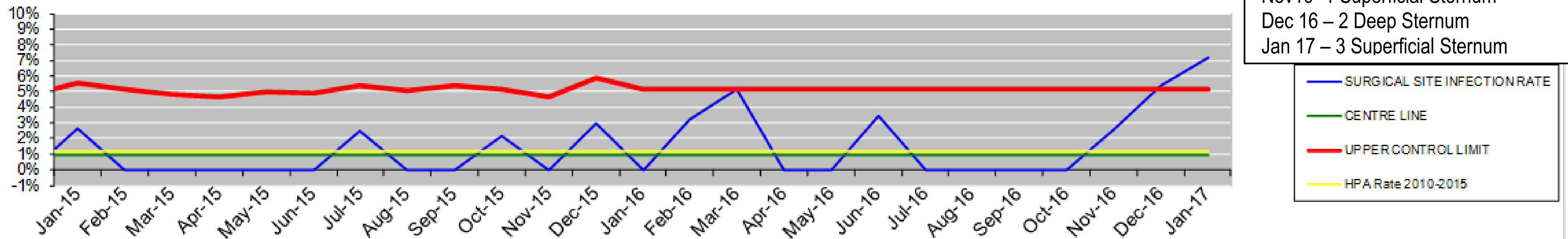
CABG
Jan 16- Superficial Sternum x 3
Mar 16- 2 Superficial Sternum
Jun 16- 1 Deep Sternum
Jul 16- I Sup Sternum
Sept 16- 3 Sup Sternum
Oct 16- 1 Organ Space
Dec 16 – 2 Superficial Sternum
Jan 17 – 2 Superficial Sternum

CABG-Monthly Surgical Site Infection Rates



Valve +/- CABG
Feb 16- Deep Sternum
Superficial Sternum
Mar 16- 1 Superficial Sternum
Jun 16- 1 Deep Sternum
1 Superficial Sternum
Nov16- 1 Superficial Sternum
Dec 16 – 2 Deep Sternum
Jan 17 – 3 Superficial Sternum

Valve Replacement +/- CABG Surgery- Monthly Surgical Site Infection Rates



*A surgical site infection is defined a superficial, deep or organ space infection occurring within 30 days of operation. Definitions of superficial, deep and organ space are defined in Health Protection Scotland Surgical Site Infection Surveillance Protocol.

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Increase in Cardiac SSI rates
A review meeting was held with engagement from key stakeholders and all aspects of pre/peri and post op care were considered.

Each SSI was reviewed and no commonalities between theatre/organism or new practices have been reported / noted.

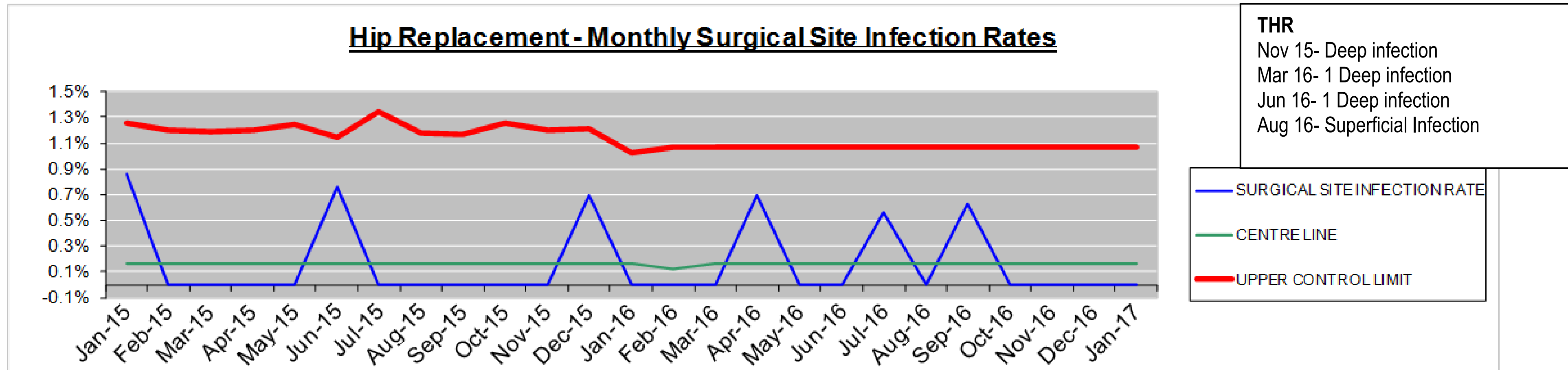
The following key areas for action were noted:

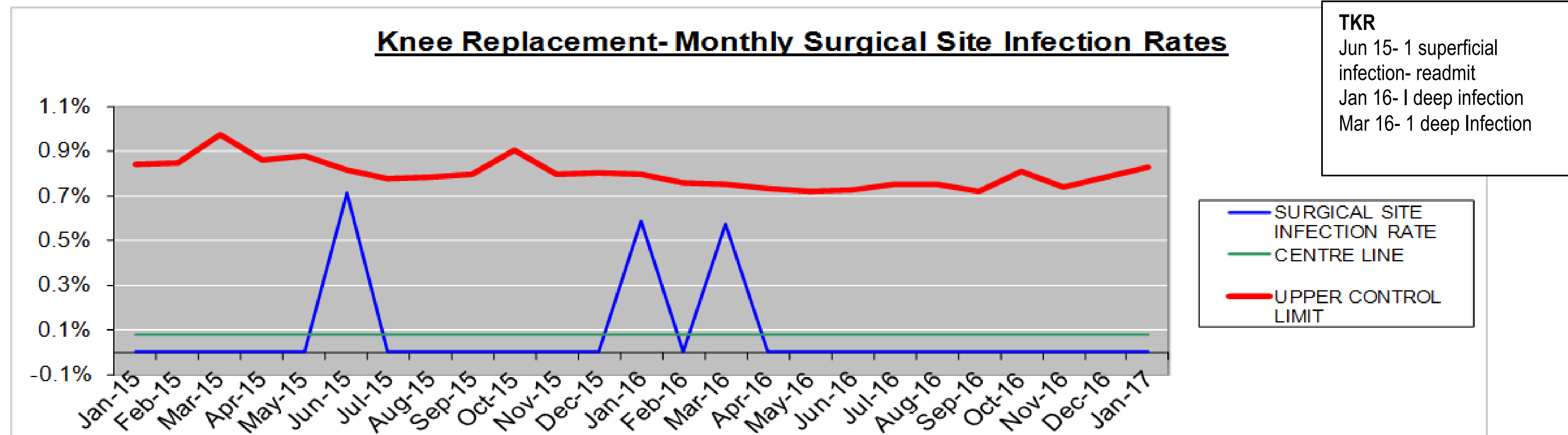
- Rationale for prescribing antimicrobials not clear
- Inconsistency in documentation regarding wound status/ management
- Integrity of dressing poor following removal of drains / pacing wires
- Patient education relating to wound care required

An action plan has been developed with key areas and progress will be reported via Surgical Services Clinical Governance Group.

The Prevention and Control of Infection team will continue to perform surgical site surveillance and review each new identified SSI for any emerging trends/ commonalities.

Orthopaedic SSI Local data
Infection rates remain below the upper control limit





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HAIRT Table of Abbreviations

CABG	Coronary Artery Bypass Graft
CDI/C.*difficile*	Clostridium Difficile Infection
CVC	Central Venous Catheter
DMT	Domestic Monitoring Tool
E.coli	Escherichia coli
FMT	Facilities Monitoring Tool
HAI	Healthcare Associated Infection
HA MRSA	Hospital Acquired Meticillin Resistant Staphylococcus Aureus
HEI	Healthcare Environment Inspection
HIS	Healthcare Improvement Scotland
HH	Hand Hygiene
HPS	Health Protection Scotland
IABP	Intra aortic balloon pump
IC	Infection Control
ICAR	Infection Control Audit Review
Lan Qip	Lanarkshire Quality Improvement Programme
LDP	Local Delivery Plan
MRSA	Meticillin Resistant Staphylococcus Aureus
MSSA	Meticillin Sensitive Staphylococcus Aureus
PCINs	Prevention & Control of Infection Nurses
PCIT	Prevention & Control of Infection Team
PICC Line	Peripherally inserted central catheter line
PVC	Peripheral Venous Cannula
SAB	Staphylococcus *aureus* bacteraemia
SCN	Senior Charge Nurse
SICP s	Standard Infection Control Precautions
SPSP	Scottish Patient Safety Programme
SSI	Surgical Site Infection
TBPs	Transmission Based Precautions
VAP	Ventilator Associated Pneumonia