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NHS
Lanarkshire

SUBJECT: Healthcare Associated Infection (HCAI) Reporting Template

1.   PURPOSE

This paper is coming to the NHS Lanarkshire (NHSL) Board:

For approval	☐	For assurance	☒	To note	☐

The purpose of this paper is to update NHSL Board Members on the current position against the Healthcare Association Infection (HAI) Standards 2015 with particular reference to NHSL Board performance against the Annual Operating Plan (AOP) Targets.

2.   ROUTE TO THE BOARD

This paper has been:

Prepared	☒	Reviewed	☐	Endorsed	☒

By the Head of Infection Prevention and Control (IPC) and approved by the Lanarkshire Infection Control Committee (LICC).

3.   SUMMARY OF KEY ISSUES

The key performance headlines and improvement activity are noted on pages 5-8.

4.   STRATEGIC CONTEXT

This paper links to the following:

Corporate Objectives	☒	Annual Operating Plan	☒	Government Policy	☐
Government Directive	☒	Statutory Requirement	☒	AHF/Local Policy	☐
Urgent Operational Issue	☐	Other	☐		

There is a national mandatory requirement for a report relating to IPC to be presented to the NHS Board using the Scottish Government Reporting Template (in Appendix 1).

5.   CONTRIBUTION TO QUALITY

This paper aligns to the following elements of safety and quality improvement:

Three Quality Ambitions:

Safe	☒	Effective	☒	Person Centred	☒

Six Quality Outcomes:

Everyone has the best start in life and is able to live longer healthier lives; (Effective)	☐
People are able to live well at home or in the community; (Person Centred)	☒
Everyone has a positive experience of healthcare; (Person Centred)	☒
Staff feel supported and engaged; (Effective)	☒
Healthcare is safe for every person, every time; (Safe)	☒
Best use is made of available resources. (Effective)	☒

6.   MEASURES FOR IMPROVEMENT

- Annual Operating Plan (AOP) target for *Staphylococcus aureus* bacteraemias (SABs)
- AOP target for *Clostridium difficile* Infections (CDIs)
- Key Performance Indicators (KPI) for Methicillin Resistant *Staphylococcus Aureus* (MRSA) Screening, Carbapenamase Producing Enterobacteriaceae (CPE) Screening Programmes and Hand Hygiene Compliance.
- The Safety Measuring & Monitoring Framework will be applied throughout this report. Narrative will be included within text boxes colour coded to the relevant section of the framework as noted in Appendix 2 (Page 21).

7.   FINANCIAL IMPLICATIONS

The outcomes of healthcare associated infections (HCAIs) include extended length of patient stay and extended length of treatment. There is currently a lack of robust information in relation to the financial cost of HCAIs within NHS Scotland.

In a bid to establish a cost specific to NHSL, the IPCT in collaboration with colleagues from Finance have calculated the financial cost for HCAI cases specifically SABs and CDIs to the NHSL.

NHS Board members should note that the length of the patient stay may or may not be extended due to infection and may vary due to other contributing factors e.g. some patients with CDI may require more than one course of treatment. Also the actual cost of antibiotic treatment has not been factored into the data as there is a variance in cost depending on types of antibiotics used.

NHS Board members are asked to note the financial costs with caution as these are purely based on the average of an inpatient stay and number of days required to treat a patient with a SAB or CDI.

Using data from Finance to cost an <u>average</u> inpatient stay for 24 hours (£567.00) against the <u>average</u> number of days required to treat a SAB (14 days of antibiotic treatment) and CDI (approximately 10 days of treatment), the IPCT have produced a table demonstrating costs for 2017/18 together with 2018/19 costs cumulatively following validation of cases from Health Protection Scotland (HPS).

	Average Cost for 24 Hour Patient Stay	Expected Course of Treatment (=days)	Number of HCAI Cases	Total cost for HCAI Cases
SAB Cases 2018/2019	£567	14 days	46	£365,148
CDI Cases 2018/2019	£567	10 days	26	£147,420
TOTAL COSTS 2018/2019 (April to September 2018 Cumulative Cost)				**£512,568**
SAB Cases 2017/2018	£567	14 days	113	£896,994
CDI Cases 2017/2018	£567	10 days	54	£306,180
TOTAL COSTS 2017/2018 (Yearly Total)				**£1,203,174**

(Calculation = average cost for 24 hour patient stay x course of treatment x number of HCAI cases)

8. RISK ASSESSMENT/MANAGEMENT IMPLICATIONS

- NHSL is working to achieve the AOP for SABs and CDIs.
- There has been no change to the SAB and CDI AOP Targets 2017/2018 and therefore the organisation will continue to work to achieve the current targets in place.

9. FIT WITH BEST VALUE CRITERIA

This paper aligns to the following best value criteria:

Vision & leadership	☐	Effective partnerships	☐	Governance & accountability	☒
Use of resources	☒	Performance management	☐	Equality	
Sustainability	☐				

10. EQUALITY AND DIVERSITY IMPACT ASSESSMENT

An Equality and Diversity Impact Assessment (EDIA) has been completed

Yes ☐ *Please say where a copy can be obtained* No ☒ *Please say why not*

There has been no requirement to date to complete an EDIA.

11. CONSULTATION AND ENGAGEMENT

Consultation and contributions have been devised from the following departments/personnel across acute and partnership services:

- Infection Prevention and Control Team (IPCT)
- Property and Support Services Division (PSSD)
- Antimicrobial Management Team (AMT)
- Healthcare Quality Assurance Improvement Committee (HQAIC)
- Lanarkshire Infection Control Committee (LICC) and Sub-groups

12. ACTIONS FOR THE BOARD

The NHS Board is asked to:

Approval	☐	Endorsement	☐	Identify further actions	☐
Note	☒	Accept the risk identified	☐		

The NHS Board is asked to note this report and highlight any areas where further clarification or assurance is required.

The NHS Board is also asked to confirm whether the report provides sufficient assurance about the organisational performance on HCAI, and the arrangements in place for managing and monitoring HCAI.

13. FURTHER INFORMATION

For further more detailed information or clarification of any issues in this paper please contact:

- Irene Barkby, Executive Director of Nursing, Midwifery and Allied Health Professionals (NMAHPs) (Telephone number: 01698 858089)
- Emer Shepherd, Head of Infection Prevention and Control (Telephone number: 01698 366309)

Presented by Irene Barkby, Executive Director of NMAHPs
Prepared by Emer Shepherd, Head of Infection Prevention and Control
8 January 2019

NHS LANARKSHIRE PERFORMANCE – JULY TO SEPTEMBER 2018

Health Protection Scotland (HPS) Validated Data

Please note national validated data is provided 3 months in arrears from HPS which results in delays in the reporting timescales due to the alignment of reporting schedules.

Staphylococcus aureus Bacteraemia (SABs)

AOP Target:
- No more than 24 SAB cases or less per 100,000 AOBD by 31 March 2019.
- AOP target trajectory equates to no more than 104 cases per annum/26 cases per quarter

NHSL Performance (Jul-Sept 18):
- 34 SAB cases, compared to 35 cases last quarter
- Total of 69 cases against annual target of 104
- For this reporting period the SAB AOP has **not** been met this quarter against the local trajectory set.

Clostridium difficile infection (CDI)

AOP Target:
- No more than 32 CDI cases or less per 100,000 AOCB in the aged 15 and over age group by 31 March 2019.
- AOP target trajectory equates to no more than 159 cases per annum

NHSL Performance (Jul-Sept 18):
- 28 CDI cases, compared to 34 last quarter
- Total of 62 cases against annual target of 159
- For this reporting period the CDI AOP has been met against the local trajectory set

MRSA & CPE Screening

Key Performance Indicator (KPI): To achieve 90% or above for both screening programmes.

NHSL Performance (Jul-Sept 18):
- 80% compliance for MRSA acute inpatient admission screening.
- 65% compliance for CPE acute inpatient admission screening.
- For this reporting period, both KPIs have **not** been met.

Hand Hygiene

Key Performance Indicator (KPI): To achieve 95% or above for taking the appropriate opportunity to decontaminate hands against the 5 Hand Hygiene Key Moments.

NHSL Performance (Jul-Sept 18):
- 85% achieved. This is a decline on performance from last quarter.
- For this reporting period the KPI has **not** been met.

Outbreak Incidence

NHSL Performance (Jul-Sept 18):
- There were no ward closures or ward restrictions.

Escherichia coli Bacteraemia (ECB)

NHSL Performance (Jul-Sept 18):
- 162 cases.
- This is an increase of 49 ECB cases from last quarter.

Surgical Site Infection

NHSL Performance (Jul-Sept 18):
- 19 C-Section SSIs from 390 procedures (infection rate of 5%). This is an increase from last quarter of 6 C-Section SSIs (infection rate of 3.81% previous quarter).
- 0 Hip Arthroplasty SSIs from 105 procedures (infection rate of 0%). This is a reduction from last quarter of 1 SSI (infection rate of 0.93% previous quarter).
- 8 Colorectal SSIs from 62 procedures (infection rate of 7.41%). This is an increase of 2 SSIs from last quarter (infection rate of 6.38% previous quarter).
- 3 Vascular SSIs from 68 procedures (infection rate of 4.41%). This is a reduction from last quarter of 2 SSIs (infection rate of 8.62% previous quarter).

Performance against the Annual Operating Plan (AOP)

Staphylococcus auerus bacteraemias (SABs)

- During July to September 2018, there were 34 SAB cases with the organisation sitting above the trajectory level for this period. Whilst the performance does not meet the quarterly trajectory, there has been a reduction of 9 SAB cases (down 21%) against the same time period in 2017/2018 (Chart 1).
- The Infection Prevention and Control Team (IPCT) are focusing on the number of SAB cases assessed as HCAIs which are reviewed as part of IPCT improvement programmes. Of the 34 SAB cases, 21 cases were HCAIs (a reduction of 6 HCAI cases against the same time period in 2017/2018 – Chart 2).
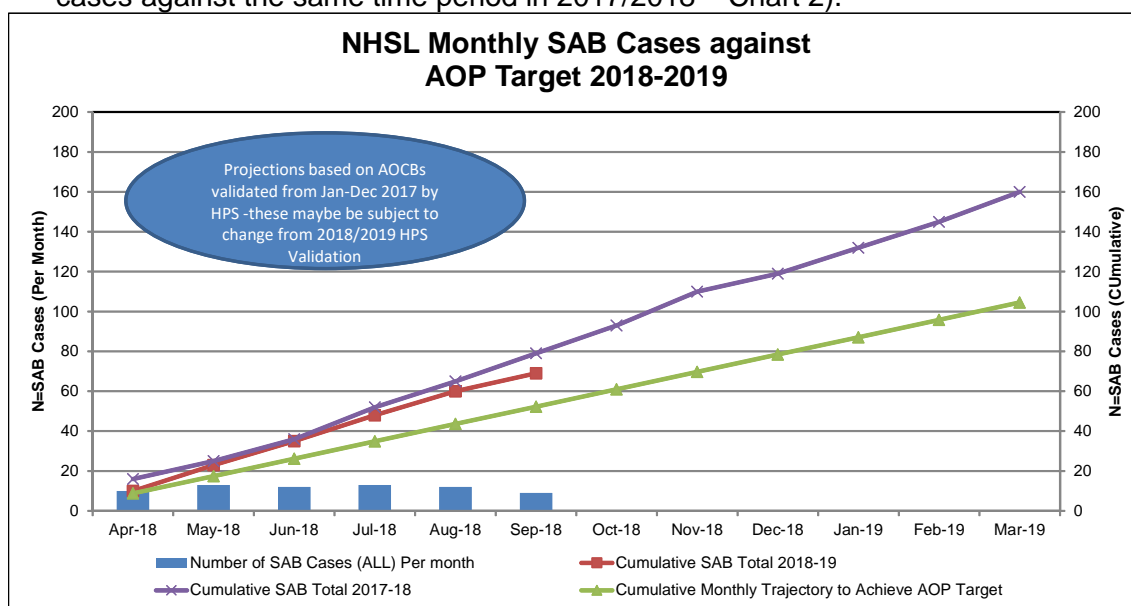
Chart 1 – AOP SAB Peformance (July to September 2018)
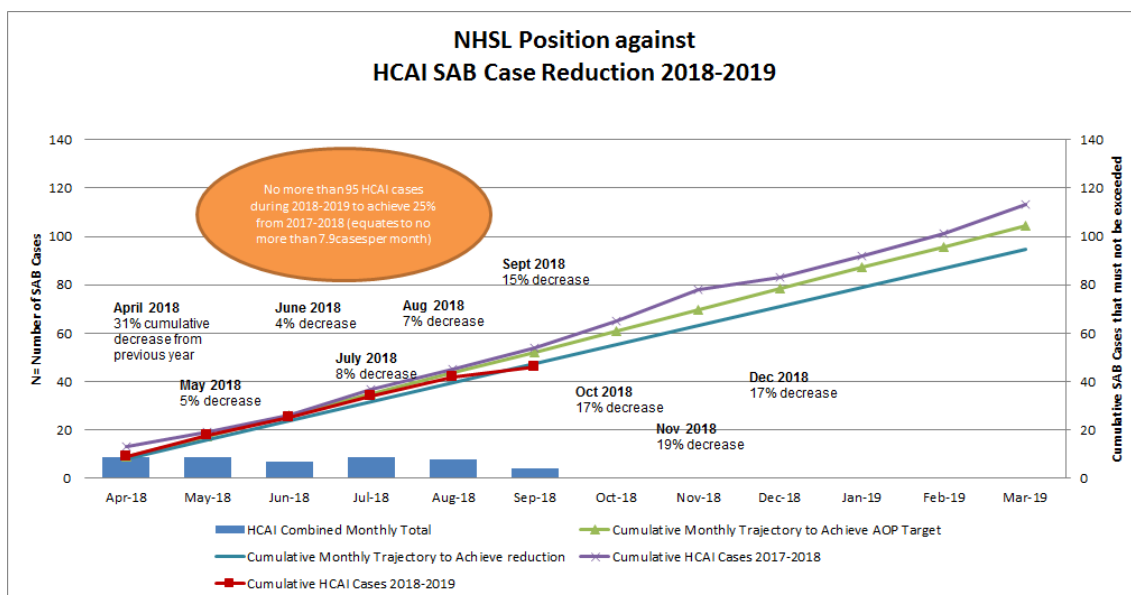
Chart 2 – AOP SAB HCAI Peformance (July to September 2018)

***Clostridium difficile* infections (CDIs)**

- During July to September 2018, there were 28 CDI cases within the organisation compared to 34 last quarter.

**NHSL Monthly CDI Cases against
ODP Target 2018-2019**

Projections based on AOCBs validated for Jan-Dec 2017 by HPS - these maybe be subject to change from 2018/2019 HPS Validation

N= CDI Cases (Per Month)

Apr-18 May-18 Jun-18 Jul-18 Aug-18 Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19

Number of CDI Cases (ALL) Per month — Cumulative Monthly Trajectory to Achieve ODP Target
Cumulative CDI Total 2018-2019 — Cumulative CDI Total 2017-2018

Chart 3 – AOP CDI Performance (July to September 2018)

Methicillin resistant staphylococcus auerus (MRSA) National Inpatient Admission Screening

- There is a national requirement for NHS Boards to ensure that all acute inpatient admissions have a clinical risk assessment (CRA) completed.
- NHSL are required to review a minimum of 80 patient records to ascertain whether a CRA has been completed on admission or as part of the pre-operative assessment route.
- The national target is to achieve 90% or above. During July to September 2018, the NHSL reached 80% compliance. Compliance has been between 80-89% over the last 4 activity quarters (Chart 5).

NHSL MRSA Clinical Risk Assessment National Compliance October 2017 to September 2018

	Oct-Dec 2017	Jan-Mar 2018	Apr-Jun 2018	Jul - Sep 2018
NHSL CRA Compliance	86%	89%	83%	80%
National Target	90%	90%	90%	90%
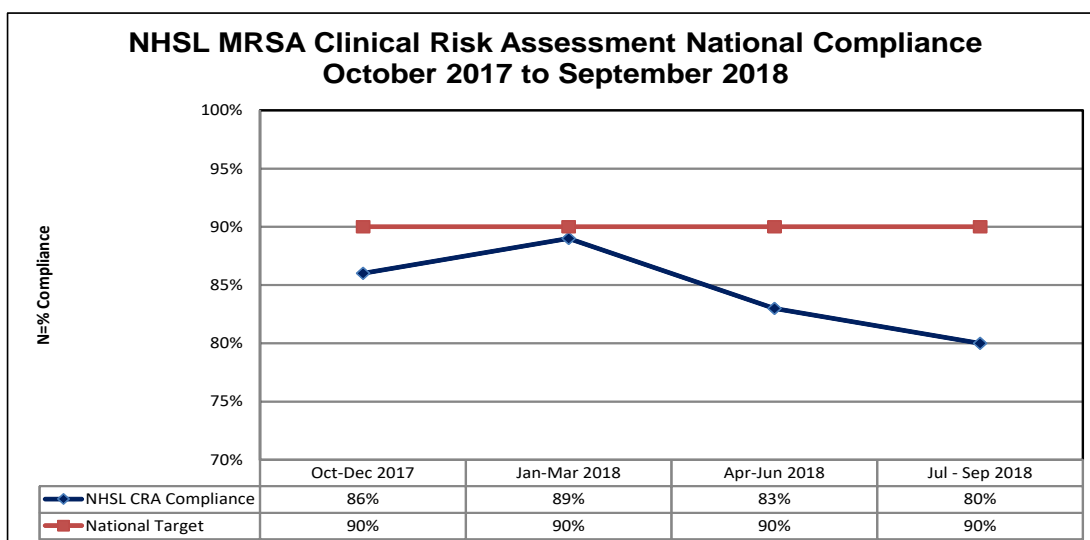
Chart 5 - MRSA Screening (October 2017 to September 2018)

Hand Hygiene

- There is a national requirement for NHS Boards to ensure that the completion of hand hygiene audits aim to achieve a compliance level of 95% or above.
- The IPCT have a rolling audit programme that is carried out on a monthly basis in areas across both the acute and health and social care partnership locations.

**Infection Prevention and Control Team
Hand Hygiene Quality Assurance Audits Reliability rates
for NHSL
June 2016 - September 2018**

Chart 6 – Hand Hygiene Reliability Rate June 2016 to September 2018

Staphylococcus aureus bacteraemia (SAB)

When Staphylococcus aureus (S. Aureus) breaches the body's defence mechanisms, it can cause a wide range of illness from minor skin infections to serious infections such as bacteraemia or bloodstream infection.

Performance against Annual Operating Plan (AOP) Target:

- Of the HCAI SABs, device related SABs has been the highest source identified since reporting began in 2017. This trends of device related SABs continues in the quarterly data.
- The quarterly epidemiological data released by HPS on 8 January 2019 confirms that NHSL were above the 95% confidence interval upper limit in the funnel plot analysis and above normal variation over the past three years for both HCAI and CAI cases.
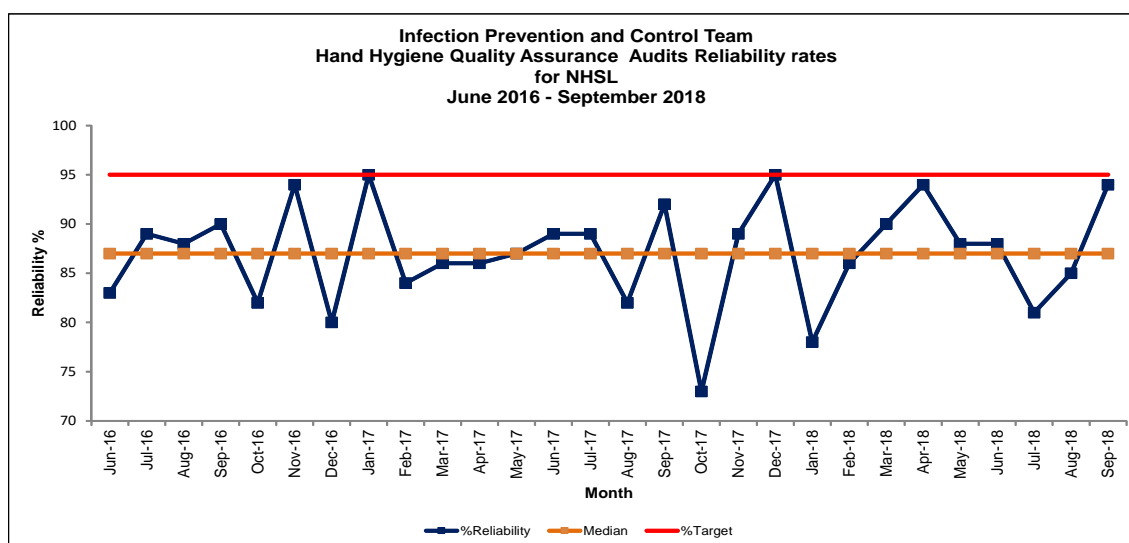
Quality improvement and interventions in place to reduce SABs:
- The NHSL Safety Manual for Invasive Devices continues to progress with consultation and testing scheduled to take place in the next activity quarter.
- Renal SAB meetings are held on a monthly basis at University Hospital Monklands (UHM). These are multidisciplinary meetings with a view to improve practice and reduce the likelihood of recurring SABs.
- There were 2 SAB cases (July and August 2018) related to positive blood cultures taken by the Hospital at Home Team in a patients' home and processed at University Hospital Hairmyres (UHH). The IPCNs carried out a review of the cases alongside the Hospital at Home Team where lessons have been identified and are being taken forward.

Risk Management:

- There were no case reviews required to be undertaken during this activity quarter.
- SAB case reviews are carried out by multi-disciplinary teams to support improvement in assessment and detection for early intervention and patient management.

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Clostridium difficile Infection (CDI)

CDI is an important HCAI, which usually causes diarrhoea and contributes to a significant burden of morbidity and mortality. Prevention of CDI is therefore essential and an important patient safety issue.

Performance against Annual Operating Plan (AOP) Target:

- There were a total of 28 CDI cases during July to September 2018. Of these CDI cases, 13 were HCAIs and 15 were CAIs.
- The quarterly epidemiological data released by HPS on 8 January 2019 confirms that NHSL were above the 95% confidence interval upper limit in the funnel plot analysis and above normal variation over the past three years for both HCAI and CAI cases.

Quality improvement and interventions in place to reduce CDIs:
- Frontline staff are proactively isolating patients with symptoms of CDI whilst awaiting results from the Laboratory. This is improving patient management through improvements in assessment and early intervention.
- Antimicrobial stewardship continues to be a priority in the management of CDI patients.

Risk Management:
- There were no case reviews carried out in this quarter.
- CDI severe case reviews are carried out by multi-disciplinary teams to support improvement in assessment and detection for early intervention and patient management.

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Surgical Site Infection (SSI)

SSI is one of the most common HCAIs and can cause increased morbidity and mortality. It is estimated on average to double the cost of treatment, mainly due to the resultant increase in length of stay. SSI can have a serious consequence for patients affected as they can result in increased pain, suffering and in some cases require additional surgical intervention. The data below illustrates activity between July to September 2018.

Caesarean Section
390 Procedures carried out
19 SSIs following procedure
5% Infection Rate

Hip Arthroplasty
105 Procedures carried out
0 SSIs following procedure
0% Infection Rate

Vascular
62 Procedures carried out
8 SSIs following procedure
7.41% Infection Rate

Please note that national mandatory data collection began in April 2017.

Colorectal
68 Procedures carried out
3 SSIs following procedure
4.41% Infection Rate

Please note that national mandatory data collection began in April 2017.

Performance against Annual Operating Plan (AOP) Target:
- The quarterly epidemiological data released by HPS on 8 January 2019 confirms that NHSL were above the 95% confidence interval upper limit in the funnel plot analysis and above normal variation over the past three years for both HCAI and CAI cases.

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Chart 7 – C-Section Surgical Site Infection (January 2016 to September 2018)
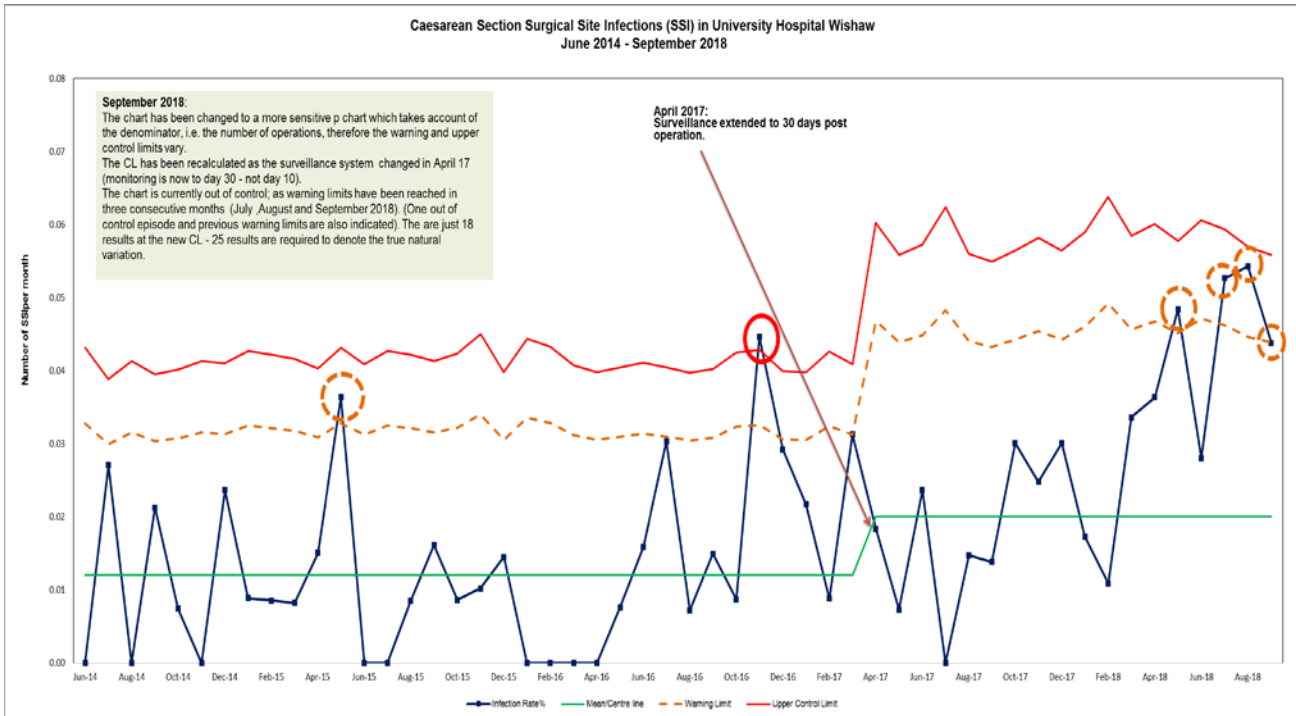
This chart is out of statistical control. There were 19 SSIs in this quarter (July-September 2018) compared to 13 in the last quarter. A look back exercise has been undertaken by the IPCSNs and no microbiological link was found.

Chart 8 – Hip Arthroplasty SSI (April 2016 to September 2018)
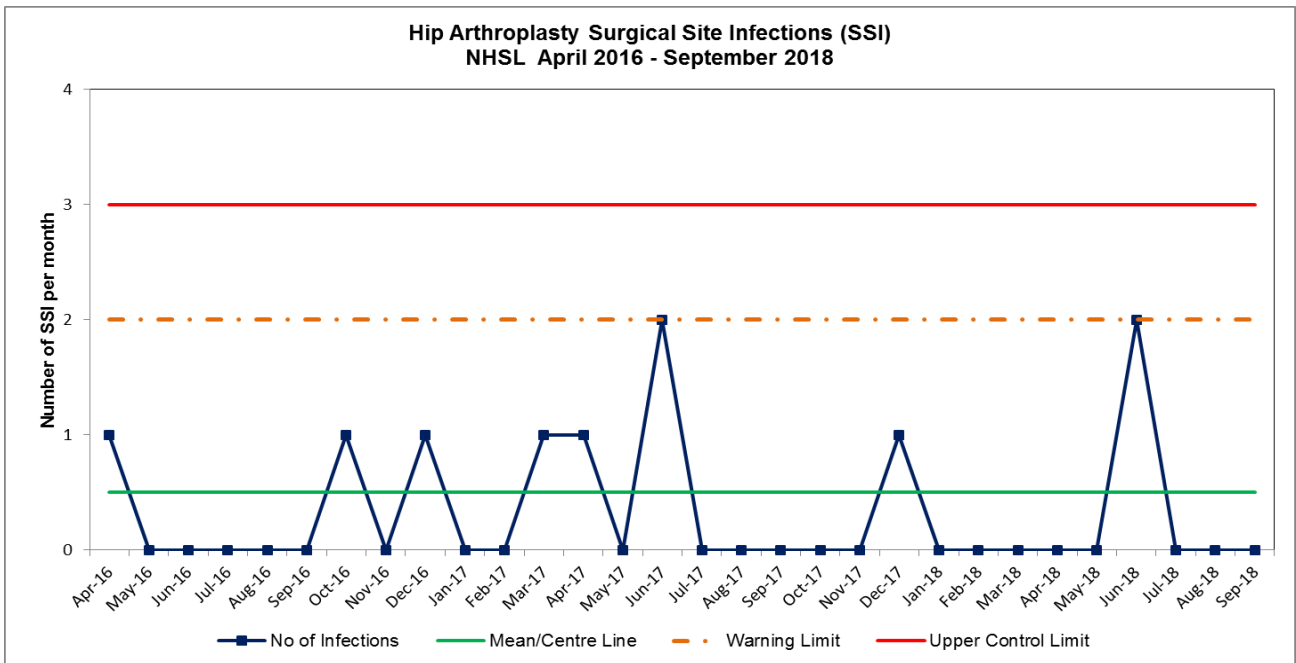
This chart is stable and in statistical control.
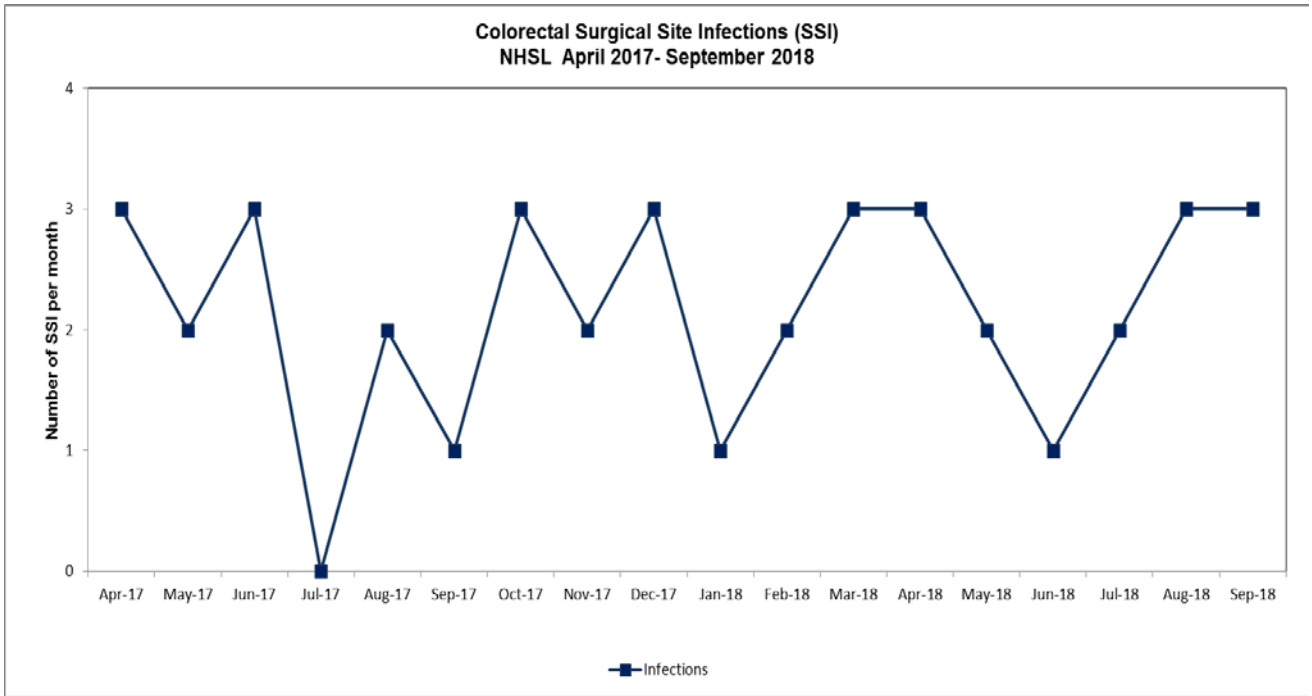
Chart 9 – Colorectal SSI (April 2017 to September 2018)

This is the eighteenth month of collating mandatory national data. Currently there are still too few data points to assess against the statistical control methodology. There was 3 SSIs in September 2018 showing no change from August 2018.
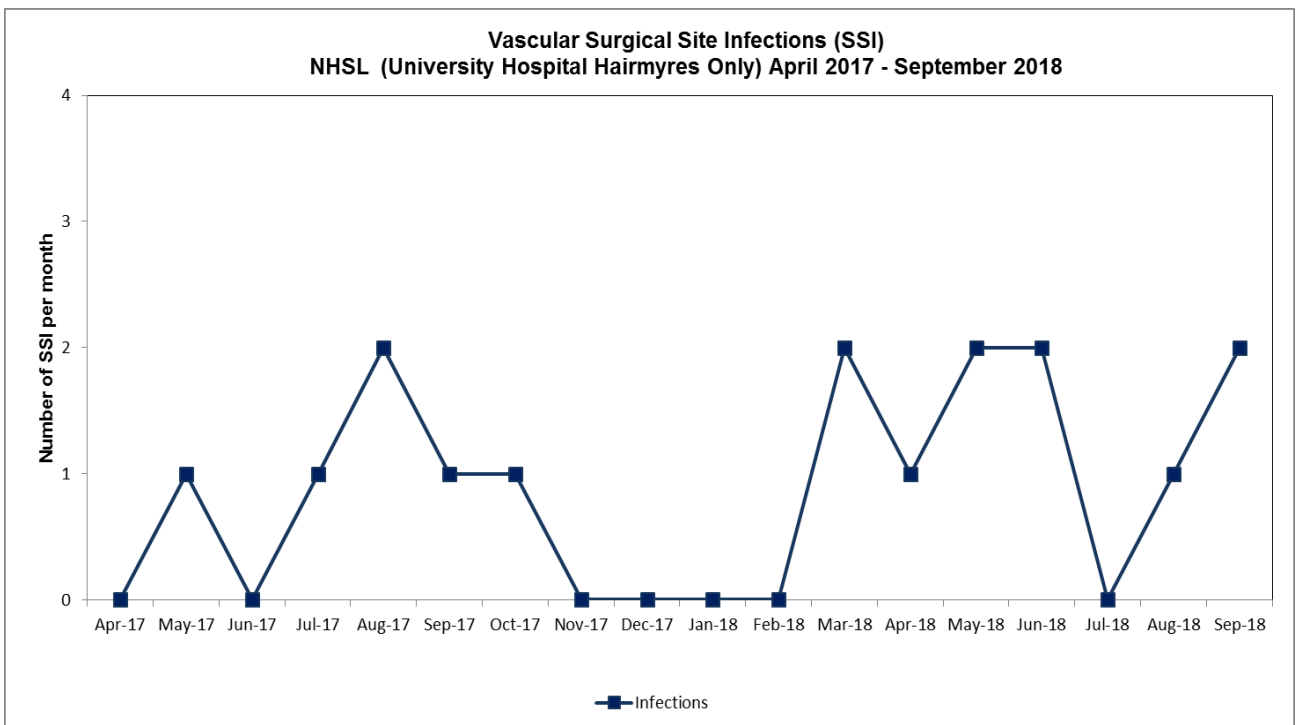
Chart 10 – Vascular SSI (April 2017 to September 2018)

This is the eighteenth month of collating national mandatory data. Currently there are still too few data points to assess against the statistical control methodology. There were 2 SSIs in September 2018 compared to 1 in August 2018.
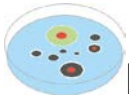
MRSA Acute Inpatient Admission Screening

A clinical risk assessment (CRA) is required to be completed for all acute inpatient admissions. This method of screening allows high risk patients to be pre-emptively isolated whilst the results of the test are awaited, this reduces the number of patients who require to be laboratory tested for MRSA.

**Key Performance Indicator:**
- Overall compliance was 80% against a national requirement of 90% or above.
- The organisation did not meet the ODP target for the activity quarter.
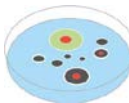
Carbapenemase-producing enterobacteriaceae (CPE) Inpatient Admission Screening

Enterobacteriaceae are a family of gram negative bacteria (sometime called coliforms) which are part of the normal bacterial gut and are a type of antibiotic resistant bacteria. These organisms are some of the most common causes of many infections such as UTIs, intra-abdominal infections and bloodstream infections. A CRA is required to be completed for all acute inpatient admissions.

Key Performance Indicator:
- NHSL did not meet the compliance of 90% or above.
- The organisation reached 65% compliance level during this activity quarter.
- This is the second quarter of collating data on this KPI. There are too few data points available to provide in a chart at present.

	Performance against Target of 90%	KPI MET
University Hospital Hairmyres	43%	No
University Hospital Monklands	72%	No
University Hospital Wishaw	79%	No
NHSL Overall Compliance	**65%**	

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Hand Hygiene

Hand Hygiene is a term used to describe the decontamination of hands by various methods including routine hand washing and/or hand disinfection which includes the use of alcohol gels and rubs.

Hand Hygiene is recognised as being the single most important indicator of safety and quality of care in healthcare settings.

Key Performance Indicator:
- Overall compliance was 85% against a national requirement of 95% or above.
- For this quarter, NHSL has not met the KPI.

Staff Group Compliance:
A breakdown of the staff group compliance levels are as follows from IPCT audits completed during this activity period:

- **Nursing**: 294 of 345 compliant (85%)

- **Doctors**: 35 of 46 compliant (76%)

- **Ancillary/Other**: 28 of 28 compliant (100%)

- **Allied Health Professionals**: 34 of 37 compliant (92%)

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Outbreak Management

0 University Hospital Monklands

0 University Hospital Wishaw

0 University Hospital Hairmyres

0 North H&SCPs

0 South H&SCPs

0 bed days lost

0 patients affected

0 staff affected

0   Ward Closures

0 Room Restrictions
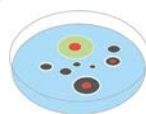
Reasons for Closures

- Nil to note

NHS Board Members to note: The Safety Measuring & Monitoring Framework has been applied to pages 8-15. Please refer to Appendix 2 (page 21) with regard to the colour coding used in each section.

Appendix 1 - National Mandatory Reporting Requirement

It is a national mandatory requirement to include this HAI reporting template in NHS Board reports by the Scottish Government.

NHS Lanarkshire Board Report

This report includes all CDI episodes including GP samples with no other exclusions and SAB episodes with no exclusions.

SAB monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	1	0	0	1	0	1	0	0	0
MSSA	14	17	9	12	13	15	9	13	11	13	12	9
TOTAL	14	17	9	13	13	15	10	13	12	13	12	9

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	1	4	1	5	0	5	2	3	7	2	1	3
Ages 65+	12	10	6	9	4	6	6	8	8	9	6	7
Ages 15+	13	14	7	14	4	11	8	11	15	11	7	10

Hand Hygiene Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
AHP	94	93	96	84	100	100	100	100	100	86	100	100
Ancillary	83	86	88	75	100	85	100	79	100	100	100	36
Medical	86	87	89	74	100	90	78	86	80	67	78	63
Nurse	95	94	95	80	76	86	89	91	86	80	84	93

Cleaning compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	96	96	96	96	95	96	96	96	96	97	97	97

Estates Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	98	98	98	99	98	99	99	99	99	99	99	99

University Hospital Hairmyres Report Card

This report identifies all healthcare associated and unknown CDI episodes for University Hospital Hairmyres and all hospital associated SAB episodes

SABs monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	1	0	0	0	0	0	0	0	0
MSSA	4	2	2	1	4	4	1	1	2	3	2	1
TOTAL	4	2	2	2	4	4	1	1	2	3	2	1

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	0	0	0	0	0	0	0	1	0	0	0	1
Ages 65+	5	1	3	2	0	1	3	1	1	2	0	2
Ages 15+	5	1	3	2	0	1	3	2	1	2	0	3

Hand Hygiene Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
AHP	91	94	96	90	100	100	-	100	-	100	100	100
Ancillary	79	72	89	100	100	86	100	60	100	78	100	88
Medical	89	89	90	100	100	87	100	-	82	100	60	100
Nurse	95	95	95	97	78	88	94	88	80	84	88	93

Cleaning compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	94	95	95	95	95	95	95	96	96	96	96	95

Estates Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	97	99	99	99	99	99	99	99	99	99	99	99

University Hospital Monklands Report Card

This report identifies all healthcare associated and unknown CDI episodes for University Hospital Monklands and all hospital associated SAB episodes

SABs monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	0	0	0	1	0	1	0	0	0
MSSA	8	8	3	3	2	5	3	5	2	4	4	3
TOTAL	8	8	3	3	2	5	4	5	3	4	4	3

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	0	1	0	0	0	0	0	0	1	0	0	0
Ages 65+	0	0	0	1	1	0	0	0	0	0	0	0
Ages 15+	0	1	0	1	1	0	0	0	1	0	0	0

Hand Hygiene Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
AHP	97	93	100	-		-	-	-	100	92	90	100
Ancillary	93	89	82	100		67	-	80	100	100	100	50
Medical	86	87	88	100		100	50	80	100	60	100	60
Nurse	93	95	96	90		78	100	90	96	81	100	94

Cleaning compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	96	95	95	95	94	95	95	96	95	96	96	96

Estates Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	96	97	96	96	96	97	97	96	97	98	98	98

University Hospital Wishaw Report Card

This report identifies all healthcare associated and unknown CDI episodes for University Hospital Wishaw and all hospital associated SAB episodes

SABs monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	1	7	3	4	3	3	5	3	2	1	1	0
TOTAL	1	7	3	4	3	3	5	3	2	1	1	0

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	1	1	1	0	0	1	0	2	1	0	1	1
Ages 65+	7	1	3	3	1	0	1	0	3	3	5	2
Ages 15+	8	2	4	3	1	1	1	2	4	3	6	3

Hand Hygiene Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
AHP	96	92	98	78	100	100	100	100	100	100	-	-
Ancillary	79	90	92	33	-	100	100	100	100	100	-	100
Medical	83	84	89	58	100	89	100	100	50	50	67	100
Nurse	93	91	94	93	91	96	95	96	79	78	88	100

Cleaning compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	96	96	97	96	96	96	96	97	97	97	97	97

Estates Monitoring Compliance (n= %)

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Board	99	99	99	99	99	99	99	99	99	99	99	99

Out of Hospital Report Card

This report identifies all community associated CDI episodes including GP samples and all SAB episodes associated with the community such as nursing homes and community sources such as GP surgeries.

SAB monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	4	4	3	4	4	3	0	4	5	4	4	5
TOTAL	4	4	3	4	4	3	0	4	5	4	4	5

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	0	0	0	3	0	0	2	1	5	2	0	1
Ages 65+	4	0	2	1	1	2	2	6	4	4	1	3
Ages 15+	4	0	2	4	1	2	4	7	9	6	1	4

Community Hospital Report Card

This report identifies all healthcare associated CDI episodes and all SAB episodes associated to the community hospitals listed below:

- Cleland
- Coathill
- Kello
- Kilsyth
- Kirklands
- Lockhart
- Udston
- Wester Moffat

SAB monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0

CDI monthly case numbers

	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sept 18
Age 15-64	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

Safety Measurement & Monitoring Framework for Infection Prevention and Control

Integration & Learning – Board to Ward	Past Harm	Reliability	Sensitivity to Operations	Anticipation & Preparedness
CDI Severe Case Reviews Enhanced Surveillance of SAB cases	HCAI – infection caused following contact with hospital or healthcare services.	Use of national audit tools and care bundles where applicable	Safety Monitoring – daily SPUD is informed by acute site safety huddles	CDI & SAB Death Reviews and Analysis
Cost of HCAI	Categorisations as per National Mandatory Surveillance Programme	IPC Scrutiny & Assurance Programme	Pink Star Prevalence Report	Cost of HCAI to NHS Board and Partnerships to be quantified and used across variety of reports.
Patient Stories	National Mandatory Surgical Site Surveillance Programme	IPC led Senior Management Inspection Programme	Weekly IPC Virtual Ward Round	Themes identified from Patient Stories to inform activity and raise awareness
Analysis of HCAI DATIX	Mandatory Screening Programmes for MRSA & CPE. AOP Targets for SAB and CDI.	External Scrutiny – Unannounced and Announced inspections by Healthcare Environment Inspectorate.	Infection Related Surveillance System – surveillance of alert organisms and conditions	Themes identified from analysis of DATIX relating to HCAI to inform activity and raise awareness

Professor Vincent and colleagues from the Health Foundation developed a key set of questions into a framework, which is underpinned by a rigorous review of relevant literature and survey of current practice. This framework highlights five dimensions, which the authors believe should be included in any safety and monitoring approach in order to give a comprehensive and rounded picture of a healthcare organisations safety. The Infection Prevention and Control Team have aligned the content of the NHS Board paper topics/sections to align to the five dimensions which are:

Past harm – this encompasses both psychological and physical measures. There are various types of harm categorised into 6 elements which includes:

- Treatment specific harm, such as adverse drug reactions or complications of treatment.
- Harm due to overtreatment such as falls resulting from excessive use of sedatives.
- General harm from healthcare such as hospital acquired infection.
- Harm due to failure to provide appropriate treatment such as failure to provide prophylactic antibiotics before surgery.
- Harm resulting from delayed or inadequate diagnosis, such as a slow diagnosis or misdiagnosis of cancer symptoms.
- Psychological harm and feeling unsafe such as clinical depression following mastectomy.

Reliability – this is defined as 'failure free operation over time' and applies to measures of behaviour, processes and systems. The concept of reliability can be applied most meaningfully to those aspects of healthcare systems that have a higher degree of agreement and standardisation for example:

- **Reliability of clinical systems:** Where staff accept poor reliability, they do not report or challenge problems. The report findings suggest that improving common system factors in organisation could have a bigger impact on patient safety than current approaches focusing on individual areas of risk. Perhaps more important is the need to develop a culture of challenge, so that staff no longer accept poor reliability and the associated potential for patient harm as a normal part of everyday work.
- **Reliability of human behaviours:** For essential standardised procedures, safety is maintained by the conscientious, disciplined adherence to rules. Three such areas that require a protocol approach are hand washing, medication errors and intravenous drug administration.

Sensitivity to operations – this is the information and capacity to monitor safety on an hourly or daily basis. Specific mechanisms that support sensitivity to operations in healthcare include the following:

- **Safety walkrounds –** An important source of safety intelligence where senior managers discuss safety concerns with the workforce.
- **Using designated patient safety officers –** Clinicians and others with a specific role to actively seek out, identify and resolve patient safety issues in their clinical units.
- **Meetings, handovers and ward rounds –** Opportunities for cascading patient safety information within and across staff teams and between staff, patients and or carers.
- **Day-to-day conversations –** Informal dialogue between healthcare teams and managers, used to identify attitudes and behaviours that could indicate poor team safety culture.
- **Patient interviews to identify threats to safety –** Highlighting practical difficulties and harms experienced by patients that might not be immediately obvious to staff, such as assumptions by staff that a patient has understood the information provided at discharge.

Anticipation and preparedness – the ability to anticipate and be prepared for problems. The following approaches have been used to anticipate and prepare for risk.

- **Risk registers.** These are commonly used across healthcare settings to capture and grade levels of risk and put in place action plans to mitigate the risks identified. Disadvantages include an unresponsive quarterly timeframe, the retrospective nature of identified risks gleaned from lessons learned and the risk of being seen as a tick-box exercise.
- **Human reliability analysis.** These techniques take a process of care and systematically examine it to identify and anticipate possible failure points. They provide a structured way to anticipate factors such as workload, patient familiarity, communication across interfaces and levels of decision making expertise in the system design phase.
- **Safety cases.** These comprise processes to build an argument and present the evidence base to demonstrate that a system is designed safely. They are typically used in safety-critical industries but have recently been proposed for use in healthcare to overcome the assumptions and dependencies that can result from a health regulation system that focuses on certification and audit.
- **Safety culture analysis.** Research has found that safety culture is associated with accident rates and a variety of indices of safety, but a few studies have attempted to forecast future accidents from current measures of culture. Similarly, safety climate among nurses has been strongly associated with patient outcomes and staff injury.
- **Staff indicators.** Safety indicators relating to staff can be used to anticipate whether care will be safe in the future. These include sickness absence rates, the number of staff who have attended training on medication safety, and the frequency of sharps injuries per month.

Integration and learning – the ability to respond to and improve from safety information. Ways of integrating the difference data sources include the following.

- **Integration at clinical unit level.** For example, through an automated information management system highlighting details such as medication errors and hand hygiene compliance rates.
- **Integration and learning at board level.** For example, using dashboards and reports with indicators, set alongside financial and access targets, with priorities colour coded red amber or green.
- **Integration across a whole system of care.** For example, developing an online reporting portal for quality and patient safety with web-enabled reporting and statistical process control (SPC) charts on demand.
- **Using multiple information systems at population level.** For example, bringing together one dashboard relating to safety and quality from a wide variety of data sources across an entire population.

Reference: Drawing together academic evidence and practical experience to produce a framework for safety measurement and monitoring. Professor Charles Vincent, Susan Burnett, Jane Carthey. April 2013. https://www.health.org.uk/publication/measurement-and-monitoring-safety