Meeting of Lanarkshire
NHS Board: 28 November 2018

Lanarkshire NHS Board
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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 endorsement	☒	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 Local Delivery plan (LDP) 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 4 – 5.

4. STRATEGIC CONTEXT

This paper links to the following:

Corporate Objectives	☒	LDP	☒	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 2).

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

- LDP Targets for *Staphylococcus aureus* bacteraemias (SABs)
- LDP Targets for *Clostridium difficile* Infections (CDIs)
- Key Performance Indicators for Meticillin Resistant *Staphylococcus Aureus* (MRSA) Screening
- Surveillance, Education, Engagement and Device (SEED) Monitoring Programme
- LICC Sub-Group updates on progress.

7.   FINANCIAL IMPLICATIONS

The outcomes of healthcare associated infection (HCAI) 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 healthcare associated infections 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 cases of healthcare associated infection specifically SABs and CDIs to the NHS Lanarkshire Board.

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.

	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	30	£238,140
CDI Cases 2018/2019	£567	10 days	13	£73,710
TOTAL COSTS 2018/2019 (April to June 2018 Cumulative Cost)				**£311,850**
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 LDP for SABs and CDIs.
- There has been no change to the SAB and CDI HEAT 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 and leadership	☐	Effective partnerships	☐	Governance and accountability	☒
Use of resources	☒	Performance management	☐	Equality	
Sustainability	☐				

10.   EQUALITY AND DIVERSITY IMPACT ASSESSMENT

An Equality and Diversity Impact Assessment 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 Equality and Diversity Impact Assessment.

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 361100)

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

23 August 2018

Key Achievements – April to June 2018

- Carbapenemase-producing enterobacteriaceae (CPE) National Screening Programme is fully implemented across all acute sites. NHS Lanarkshire (NHSL) will report on local compliance with the national policy requirements via the Health Protection Scotland portal.

- Planning is underway for the delivery of the 'Sepsis/Hand Hygiene Promotional Week' scheduled for week beginning 24 September 2018.

- Progress continues with the design of an NHSL Safety Manual for Invasive Devices.

- Emer Shepherd, Head of Infection Prevention and Control has been awarded the Vale of Leven Scholarship from the NMAHP Directorate at Stirling University. The scholarship will part fund completion of a research study exploring early recognition and optimal care of patients who pose an infection risk to others and will be completed by late Spring 2019.

- Preparations for the NHS Lanarkshire Hand Hygiene 'Rap Video' are underway. Auditions have been completed and filming at various locations began. It is intended that the final video will be launched at the 'Afternoon Tea' Event being held on 28 September 2018.

- The IPCT have reviewed the suite of governance reports that are used across NHS Lanarkshire to provide assurance regarding delivery of safe care. Based on the Vincent Framework (see Appendix 3 for further background information), an IPC Safety Measurement and Monitoring Framework has been designed and approved by the Corporate Management Team (CMT). There are 5 dimensions of safety associated with the work of the IPCT which provides a greater clarity on measuring and monitoring of safety within the service and wider organisation from an IPC perspective. This board report is the first to introduce the areas of the framework against the performance and progress of work by the IPCT. The headings are shown in page 5 along with examples of IPCT data for assurance that is aligned to all sections of the report.

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.	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
	Local Delivery Plan Targets for SAB and CDI.			

NHS LANARKSHIRE PERFORMANCE – APRIL TO JUNE 2018

Health Protection Scotland (HPS) Validated Data

Please note national validated data is provided 3 months in arrears from HPS which can result in delays in the IPCT reporting to the NHS Board due to the alignment of reporting schedules.

Staphylococcus aureus Bacteraemia (SABs)

Staphylococcus aureus (S. Aureus) is a gram positive bacterium which colonises the nasal cavity of about a quarter of the healthy population. An infection can occur if S. Aureus breaches the body's defence system and can cause a range of illnesses from minor skin infections to serious systematic infections such as bacteraemia.

LDP Standard: To achieve 24 SAB cases or less per 100,000 AOBD by 31 March 2019.

NHSL Performance (Apr-Jun18):

- 35 SAB cases
- LDP standard trajectory equates to no more than 104 cases per annum.
- Refer to Appendix 1 to see NHSL performance. charts.

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.

LDP Standard: To achieve 32 CDI cases or less per 100,000 AOCB in the aged 15 and over age group by 31 March 2019.

NHSL Performance (Apr-Jun18):

- 34 CDI cases
- LDP standard equates to no more than 159 cases per annum.
- Refer to Appendix 1 to see NHSL performance charts.

MRSA Screening

A clinical risk assessment (CRA) is completed for all acute inpatient admissions and against the screening policy identifies a subset of patients at high risk of MRSA colonisation or infection on admission to hospital who are then tested for MRSA.

NHSL Performance (Apr-Jun18):

- 83% against a national requirement of 90%.

Hand Hygiene

Hand Hygiene is recognised as being the single most important indicator of safety and quality of care in healthcare settings because there is substantial evidence to demonstrate the correlation between good hand hygiene practices and low healthcare associated infection rates confirmed by the World Health Organisation (WHO).

NHSL Performance (Apr-Jun18):

- 90% against a national requirement of 95%.

Outbreak Incidence

The role of the IPC Team in healthcare is to prevent, prepare for, detect and manage outbreaks of infection.

NHSL Performance (Apr-Jun18):

- 3 ward closures (2 UHH; 1 UHM)
- 5 restrictions (3 UHW; 1 UHH; 1 H&SCP)
- 6 Diarrhoea & Vomiting; 1 Vomiting; 1 Norovirus
- 52 patients; 30 staff affected

Surgical Site Infection

SSI is one of the most common HCAI and can cause increased morbidity and mortality and 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 results in increased pain, suffering and in some cases require additional surgical intervention.

NHSL Performance (Apr-Jun18):

- 13 C-Section SSIs from 341 procedures (3.81% infection rate). Warning limit reached in April and June 2018. Investigations carried out and no links identified between the cases.
- 1 Hip Arthroplasty SSIs from 107 procedures (0.93% infection rate).
- 6 Colorectal SSIs from 94 procedures (6.38% infection rate).
- 5 Vascular SSIs from 58 procedures (8.62% infection rate).

Escherichia coli Bacteraemia (ECB)

Gram negative bacteria are now an emerging threat to health worldwide. Bacteraemia develops usually as a complication of other infections, including urinary tract infection (UTI), surgery and use of medical devices including urinary catheters and vascular access devices (VAD). Mandatory ECB enhanced surveillance was implemented April 2016. A number of initiatives are currently being explored at national level with a view to reducing incidence rates including introduction of a Scottish Government performance target.

NHSL Performance (Apr-Jun18):

- 113 ECB cases

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.

Local Delivery Plan (LDP) Standard:
- All Scottish NHS Boards are required to achieve the SAB LDP Standard of 24 cases or less per 100,000 acute occupied bed days (AOBD) by 31 March 2019.
- There were a total of 35 SAB cases during April to June 2018 (down 6 cases from last quarter).
- The projected LDP Standard equates to no more than 104 cases per annum.
- NHSL performance against the target is shown in Appendix 1.

NHSL Performance (Apr-Jun18):
- 35 SAB cases
- 2 MRSA cases
- 33 MSSA cases

25 HCAI Cases

10 CAI Cases

Integration & Learning

Quality improvement and interventions in place to reduce SABs:
- Progress continues with the design of an NHSL Safety Manual for Invasive Devices.
- Renal SAB meetings have been reintroduced as a result of increased SAB rate. These are multidisciplinary meetings with a view to improve practice and reduce the likelihood of recurring SABs.
- Scrub the Hub training was identified as an area for improvement during the PVC week. Buzz session training was undertaken throughout UHM to raise awareness of the importance this practice is in the reduction of infections.

Risk Management:
- The IPCT have completed 2 SAB multi-disciplinary reviews for patients with SAB noted on the death certificate this quarter linking in with clinical teams involved and reporting the outcomes via the respective hygiene meetings and LICC. For this period, there were 2 patients who died within 30 days of blood culture aspiration where *Staphylococcus aureus* was recorded on the death certificate.
- Of the two patients, 1 case review had no learning points identified and the patient was managed in line with the local policy. The second case, there was no case review held as the patient was a Community Associated Infection (CAI) and the source was unknown. There was also the complication of the patient having returned from holiday and it was unknown if they had been hospitalised in Tenerife where they had been on holiday. This was discussed with the Senior Nurse IPC who had discussed patient with Consultant Microbiologist and based on a risk assessment of this individual case the decision was made that a SAB death review meeting was not required. This was due to the fact that the infection most likely manifested in Tenerife and no clear source could be identified.

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.

Local Delivery Plan (LDP) Standard:
- All Scottish NHS Boards are required to achieve the CDI LDP Standard of 32 cases or less per 100,000 AOBD in the aged 15 and over age group by 31 March 2019.
- There were 34 CDI cases during April to June 2018.
- The projected LDP standard equates to no more than 159 cases per annum.
- LDP age groups reported is set by the Scottish Government as being 15 years and above.
- NHSL performance against the target is shown in Appendix 1.

NHSL Performance (Apr-Jun18):

Patients 15 years and above (total against the LDP target)
34 CDI cases

Patients aged 65 years and above
22 of the 34 CDI Cases

13 HCAI Cases

20 CAI Cases

1 of Unknown Source

Integration & Learning

Quality improvement and interventions in place to reduce CDIs:
- Improvements noted from the reviews included stopping of Proton Pump Inhibitors (PPIs), involvement of GP input where appropriate in the care/management of CDI patients, increased compliance with the antimicrobial policy. All improvement also support the focus of medical and nursing staff on ways to reduce CDI.

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.

Surgical Site Infection (SSI)

SSI is one of the most common HCAI 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.

Caesarean Section
341 Procedures carried out
13 SSIs following procedure
3.81% Infection Rate

Hip Arthroplasty
107 Procedures carried out
1 SSIs following procedure
0.93% Infection Rate

Vascular
58 Procedures carried out
5 SSIs following procedure
8.62% Infection Rate

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

Colorectal
94 Procedures carried out
6 SSIs following procedure
6.38% Infection Rate

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

Integration & Learning

### Quality Improvement and interventions to reduce SSIs:

- IPCSNs carried out 2 SSI educational sessions within the maternity unit.
- A review was undertaken to determine any common links to the caesarean section patients who had developed an SSI following SSI levels reaching the warning limit. There were no microbiological link was identified. A number of patients had a BMI equal to or greater than 30 (SSI risk increases when the patient is obese).
- IPCSNs attended theatre to observe a large bowel procedure being performed, the patient was subsequently followed up as part of the surveillance programme
- The IPC Surveillance Nurses (IPCSN) attend the Hairmyres Theatre Patient Safety Meeting and Maternity Clinical Effectiveness Group Meeting to present SSI data to establish any areas of improvement with clinicians and nursing staff.
- IPCSN presented to the Enhanced Recovery After Surgery (ERAS) Midwives to highlight prevention of C-Section SSIs providing datasets of performance locally.

Monitoring Programme

- Between April to June 2018, the SEED (Surveillance, Education, Engagement, Devices) monitoring programme continued. This was a continuation of the previous quarter on the Stay Safe – Stay Connected Campaign providing key information/messages in the safe maintenance and disconnection of an invasive device.
- The themes covered during these months included:

| April 2018 | PVC audit |
| May 2018 | PVC audit |
| June 2018 | Commode Audit Review |
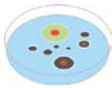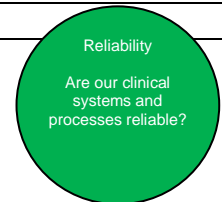
MRSA Acute Inpatient Admission Screening

A national MRSA acute inpatient admission screening policy has been in place throughout Scotland since March 2012. A clinical risk assessment (CRA) is completed for all acute inpatient admissions and against the screening policy identifies a subset of patients at high risk of MRSA colonisation or infection on admission to hospital who are then tested for MRSA. This method of screening reduces the number of patients who require to be laboratory tested for MRSA and allows high risk patients to be pre-emptively isolated whilst the results of the test are awaited.

Local Delivery Plan (LDP) Standard:
- Overall compliance was 83% against a national requirement of 90% or above.
- NHSL Performance against the target is shown in Appendix 1.
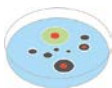
Carbapenemase-producing enterobacteriaceae (CPE) National Screening Programme

CPE are a type of extremely antibiotic resistant bacteria. The Enterobacteriaceae are a family of Gram negative bacteria (sometimes called coliforms) which are part of the normal bacterial gut flora. They include common pathogens such as *E. coli*, *Klebsiella sp*, *Proteus sp* and *Enterobacter spp*. These organisms are some of the most common causes of many infections such as UTIs, intra-abdominal infections and bloodstream infections.

Progress with Screening Implementation:
- Implementation is now complete across all 3 acute sites effective from May 2018.
- National reporting of compliance levels is mandatory by NHS Boards and NHSL have begun to feed performance results into the national portal.

Reliability

Are our clinical systems and processes reliable?

Hand Hygiene

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

Local Delivery Plan (LDP) Standard:
- Overall compliance was 84% against a national requirement of 95% or above.
- The NHSL compliance level achieved is from observations per staff group assessing policy to practice as part of the IPCT audits carried out monthly.
- NHSL Performance against the target is shown in Appendix 1.

Staff Group Compliance:
- **Nursing**: 195 of 240 compliant (81%)
- **Doctors**: 63 of 71 compliant (89%)
- **Ancillary/Other**: 31 of 37 compliant (84%)
- **Allied Health Professionals**: 29 of 32 compliant (91%)
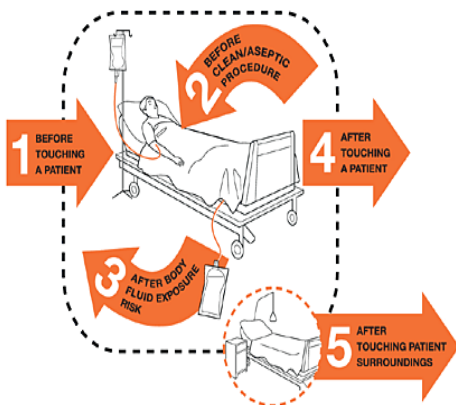
Hand Hygiene is a term used to describe the decontamination of hands by various methods including routine hand washing and/or hand disinfection which includes the use of alcohol gels and rubs.

The 5 Moments for Hand Hygiene (as shown in the diagram) approach defines the key opportunities when health-care workers should perform hand hygiene.

Integration & Learning

Training and Education

Throughout April to June 2018, the IPCT completed 26 separate training and educational sessions across NHS Lanarkshire which included:
- 13 x Golden Hour/Nugget various training sessions
- 6 x Corporate Induction
- 4 x Hand Hygiene Drop-in sessions throughout 4 locations in the Health and Social Care Partnerships
- 2 x CPE screening training at ward level (University Hospital Monklands)
- 1 x CAAS Interactive Learning Session (University Hospital Hairmyres)

Outbreak Management

1 University Hospital Monklands

0 University Hospital Wishaw

2 University Hospital Hairmyres

0 North H&SCPs

0 South H&SCPs

39 bed days lost

52 patients affected

30 staff affected

3 Ward Closures

5 Room Restrictions

Reasons for Closures
- 6 Diarrhoea and Vomiting
- 1 Vomiting
- 1 Norovirus

Quality Improvement and interventions to support outbreak management:
- IPCT have begun to prepare a Winter Plan for approval by LICC in early autumn 2018. This plan will provide detail on proposals to allow for additional cover by the IPCT over the winter period when there are large numbers of patients with suspected Influenza across NHSL sites.
- Planning for Winter Awareness Roadshows to include information on influenza vaccination and safe visiting is underway for delivery in autumn 2018.

Sensitivity to
Operations

Is care safe today?

Infection Related Intelligence Service (IRIS)

- There were 734 separate alert organisms reported via the laboratory for IPCT to monitor and manage throughout April to June 2018.
- There have been 117 visits to the high risk areas on all acute sites by the IPC nurses.

LICC and Sub-Group Progress

LICC
- The LICC met in April 2018.
- The workplan continues to progress with updates provided at each LICC meetings.
- The SEED (Surveillance, Engagement, Education and Devices) Monitoring Programme continues to be delivered across NHSL and reported via the appropriate governance routes.

University Hospital Hairmyres (UHH) Hygiene Group
- UHH has been working to improve governance around actions required following inspections and informal monitoring. Testing of a spread sheet is well underway to monitor progress and to evidence improvement. This enables action plans to be monitored effectively through the site Hygiene group.
- A Short Life Working Group has been established to identify ways of improving compliance with and embedding equipment cleaning into the daily ward routine and identify ways of ensuring sustainability. The clinical team are planning to set up a 'Model Ward' to establish a best practice approach.
- There has been a great deal of work undertaken to improve the functionality, the governance and the operational aspects of the site Hospital Hygiene Meeting over the last several months – this has included review of the agenda, work to improve the reports presented and developing a system to ensure action plans are monitored and signed off appropriately (referred to in first bullet point). These improvements also include the opportunity to add a more practical / operational element to the meeting.

University Hospital Monklands (UHM) Hygiene Group
- Review undertaken across the site in relation to cleaning schedules, Central Venous Catheter (CVC) and Peripheral Venous Catheter (PVC) bundles.
- Short life working group set up to review process for mattress checking.
- PVC awareness week carried out which included on site presence from Beckton Dickinson, drop in cafe sessions, buzz sessions, focus on "scrub the hub".
- There is an outbreak folder developed by Senior Nurse and IPCT in conjunction with Microbiology Consultants.

University Hospital Wishaw (UHW) Hygiene Group
- A number of key actions have been progressed on the site action log. Catheter improvement work underway, new bundle being testing in Ward 10 and catheter equipment being reviewed across the site.
- Focussed piece of work on roles and responsibilities now complete, poster developed to be displayed at ward level outlining the domestic roles.

North Health & Social Care Partnerships (NH&SCP) Hygiene Group
- IPCU, UHW had an unannounced inspection carried out by the IPCT. The inspection team provided very positive feedback and made no recommendations for improvement. First time aware of this in primary care.
- Sustained improvement in Hand hygiene most areas scoring 80-100%, also marked improvement over all in integrated addiction service.
- Encouraging sharing good practice at NH&SCP) Hygiene meetings e.g. many wards now adopting daily walk rounds introduced by Iona Ward, Beckford lodge. This not only keeps hygiene high on the daily agenda of the ward but involves the entire clinical team which enables this to be embedded into practice.

LICC and Sub-Group Progress

South Health & Social Care Partnerships (SH&SCP) Hygiene Group
- Salus Nurse Advisor attended SH&SCP Hygiene Meeting to provide an update regarding Blood Borne Virus Policy. Response packs for managing incidents were distributed and advice regarding Risk Assessment shared.
- Capture of data regarding numbers of patients in community and community Hospitals who have an indwelling catheter, has now been extended to encompass prevalence of patients reported with a Catheter Associated Urinary Tract Infection (CAUTI) incident, thus improving information regarding trends.
- Membership of the SH&SCP Hygiene Group is growing to incorporate some hosted services and other professional disciplines previously not involved, therefore increasing information sharing and improving overall accountability across more stakeholders within our Organisation.

Antimicrobial Management Committee
- Input to Multi-disciplinary CDI and SAB severe case reviews.
- New IVOST policy signposted during PVC awareness week to UHM staff.
- Nurse (Ward 2 UHM and HECT team) staff training/mentorship programme presented at multiple national forums to shape future antimicrobial stewardship strategy in Scotland.
- Antimicrobial Pharmacist (UHH/UHM) successful application onto the Scottish Quality & Safety Fellowship (cohort 11).
- Local based practice research abstract submitted to national infection control conference – Targeted teaching improves confidence in antimicrobial prescribing in Advanced Nurse Prescribers.
- NHSL clinical staff participation in national antimicrobial research - An exploratory study of Barriers & Enablers to Anti-Microbial Stewardship in Hospitals (BEAMS).
- Antimicrobial stewardship training delivered to new Prescribing Management Team staff.
- Feedback of Antibiotic Prescribing to Primary Care (FAPPC) initiative launched across all NHSL GP practices to drive further improvement in prescribing.

Decontamination Expert Advisory Group
- A-Z of decontamination now being used across the acute sites and Health and Social Care Partnerships.
- Continuing to progress the NHS Lanarkshire position in relation to Health Facilities Scotland Validation of Automated Washer Disinfectors and Sterilisers.
- Continuing to progress work in relation to improving the storage of sterile theatre equipment.
- Process for the decontamination of Flexible Nasendoscopes at UHW is now fully compliant with guidance.
- SBAR approved by DEMG to carry out a procurement exercise in a bid to improve the decontamination of Invasive Probes used by purchasing Automated sterilising units.
- Decontamination of non-invasive probes now compliant with the use of Cleanisept wipes.
- Decontamination policy now endorsed by the DEMG and available to staff on First Port.
- Revised governance arrangements with Steris are now in place and any issues are reported to the DEMG.

Appendix 1 – NHSL National and Local Performance Charts (April to June 2018)
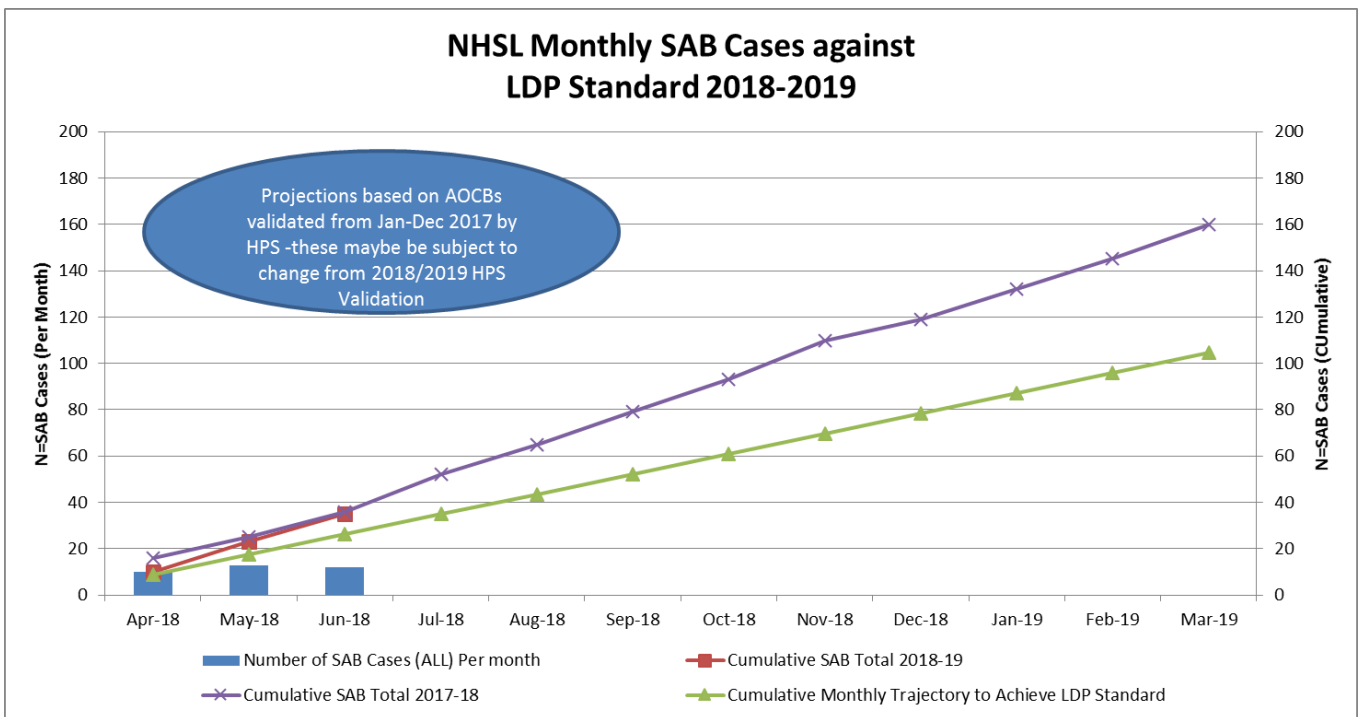
Chart 1 – LDP SAB Peformance (April to June 2018)
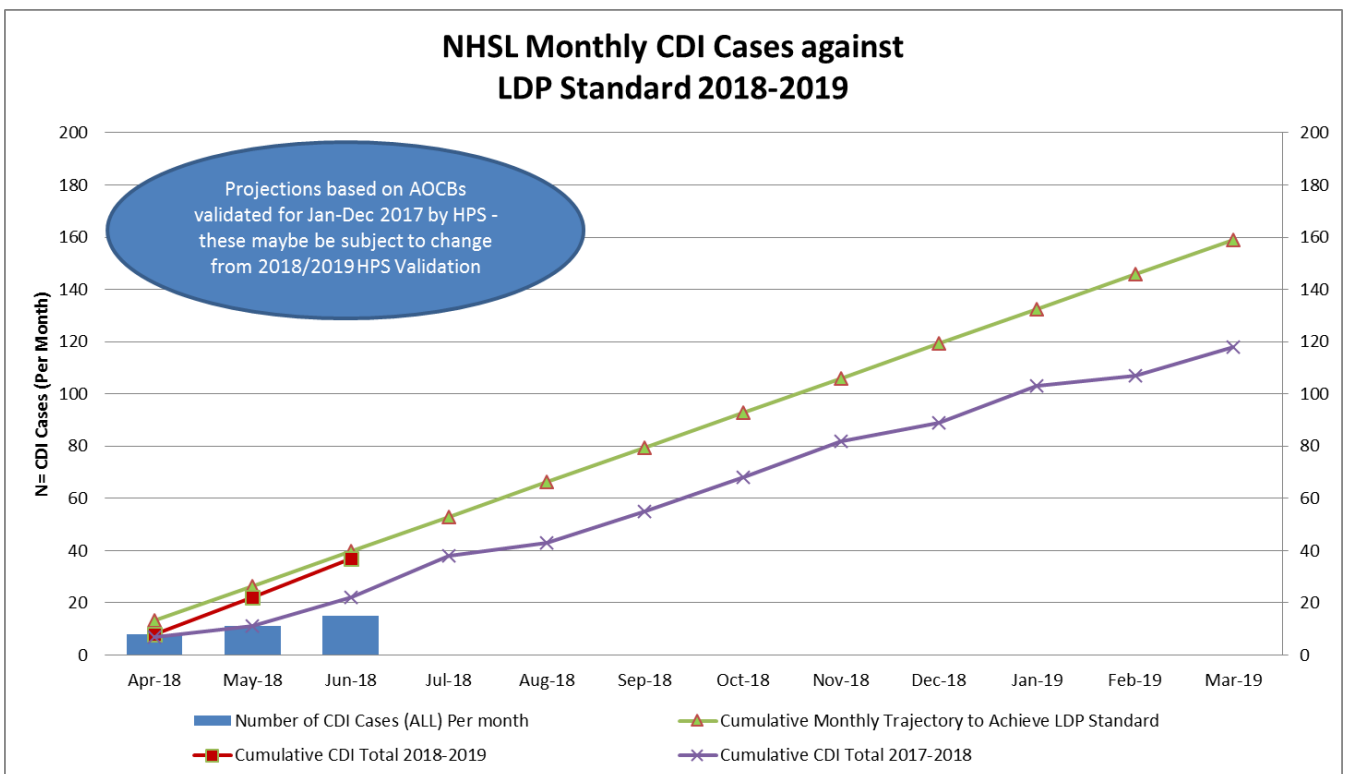
Chart 2 – LDP CDI Performance (April to June 2018)
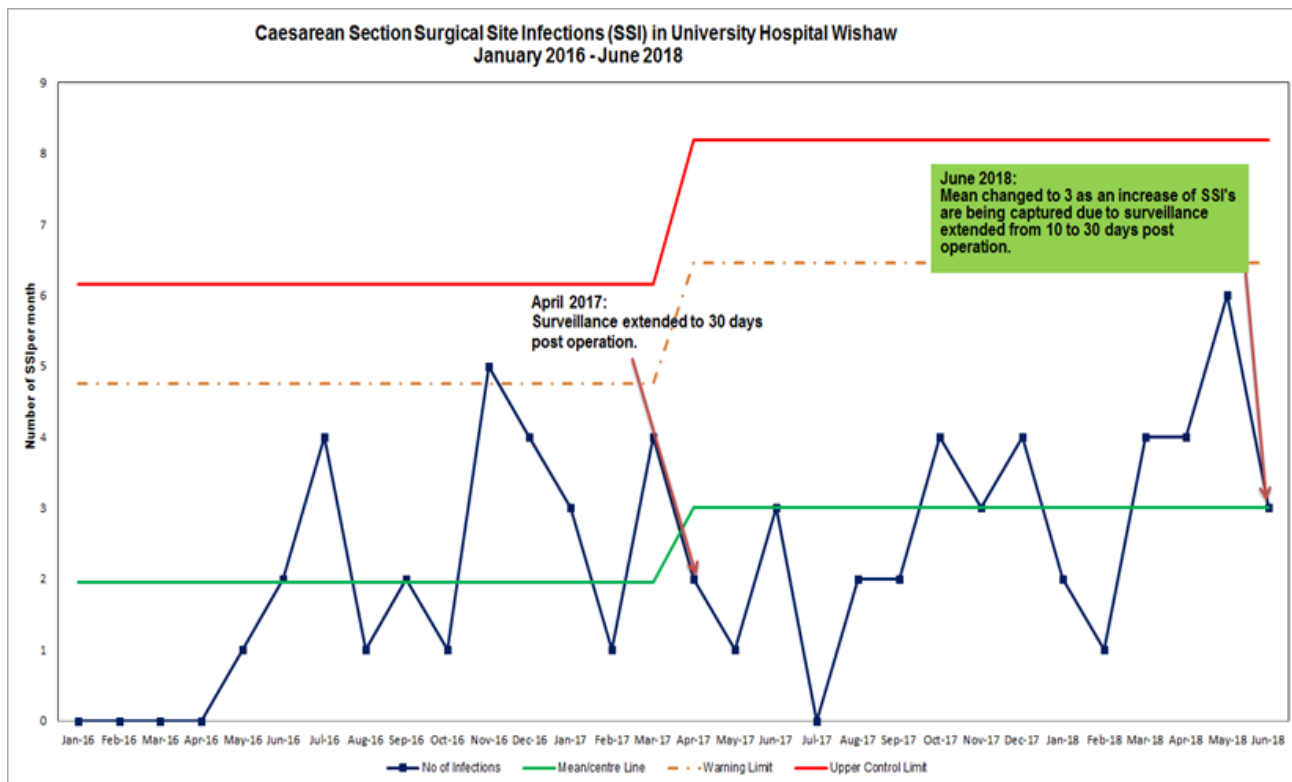
Chart 3 – C-Section Surgical Site Infection (January 2016 to June 2018)
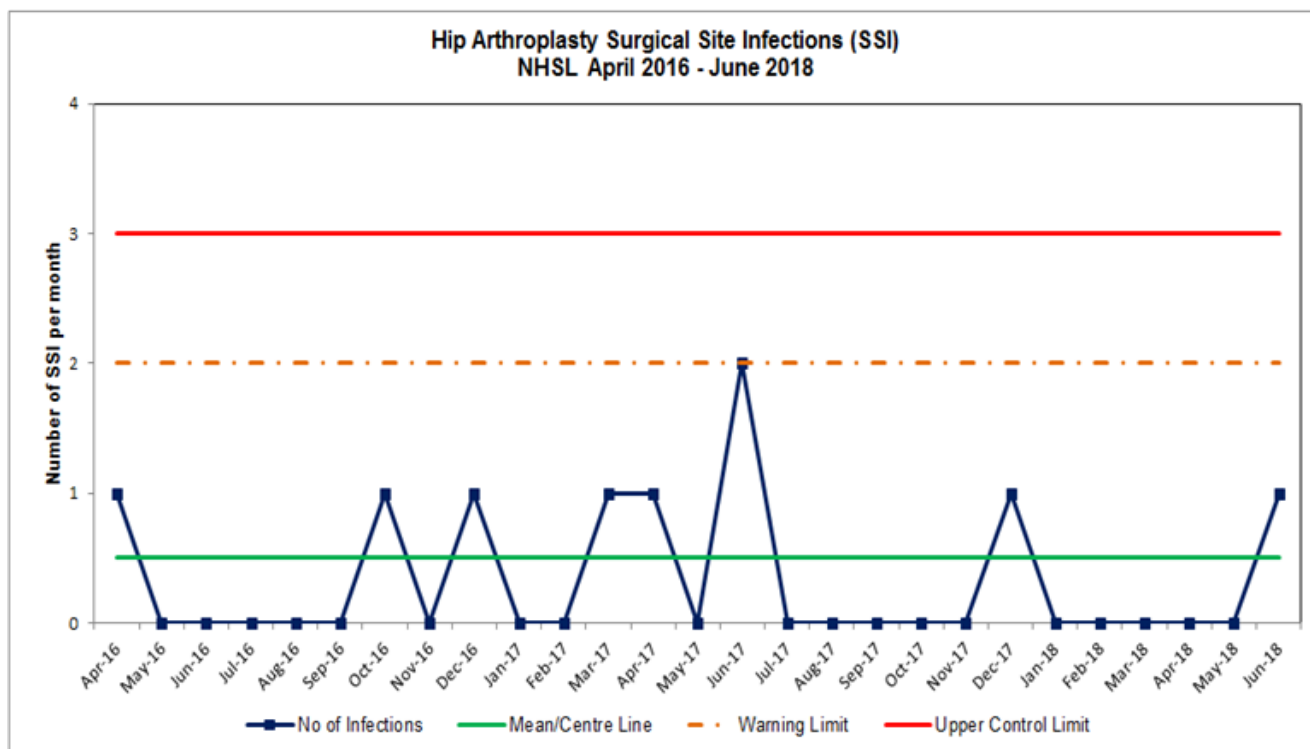
Chart 4 – Hip Arthroplasty SSI (April 2016 to June 2018)
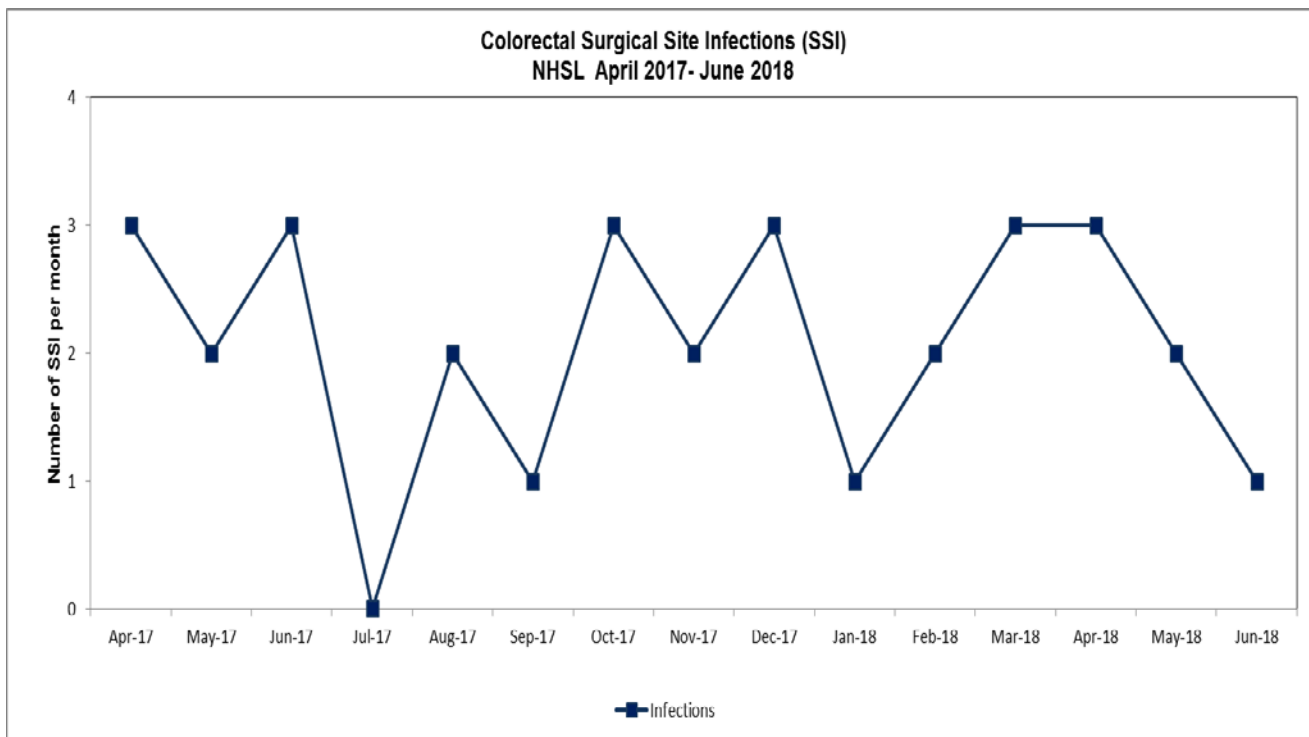
Chart 5 – Colorectal SSI (April 2017 to June 2018)
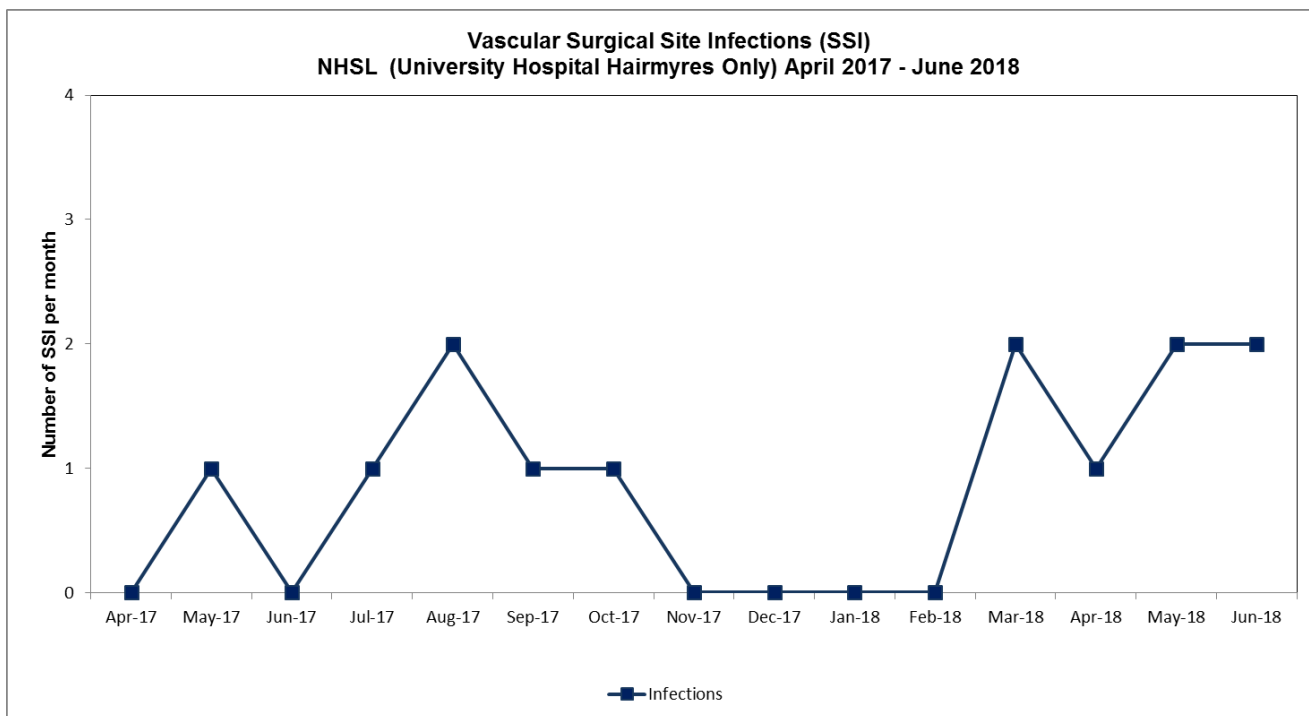
Chart 6 – Vascular SSI (April 2017 to June 2018)

NHSL MRSA Clinical Risk Assessment National Compliance July 2017 to June 2018

N=% Compliance

	Jul-Sept 2017	Oct-Dec 2017	Jan-Mar 2018	Apr-Jun 2018
CRA	96%	86%	89%	83%
Target 90%	90%	90%	90%	90%
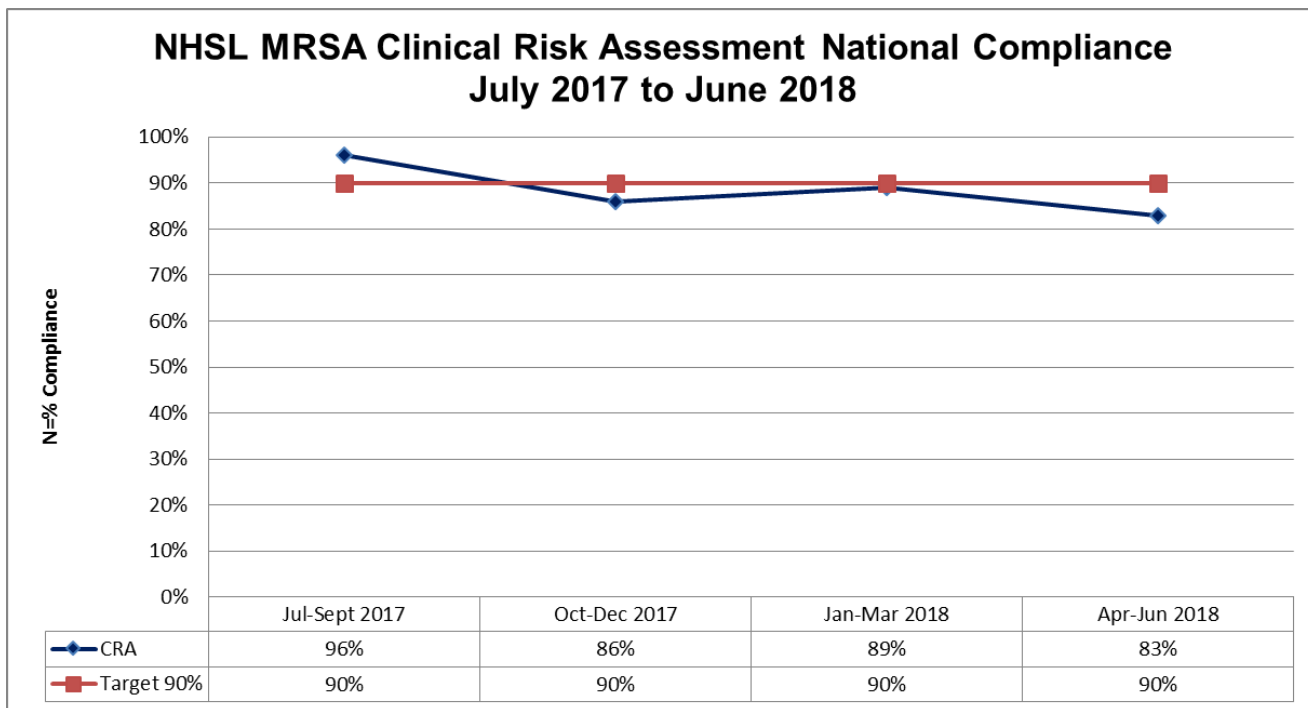
Chart 7 – MRSA Screening (July 2017 to June 2018)

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

Reliability %

Month

Reliability% Median Target 95%
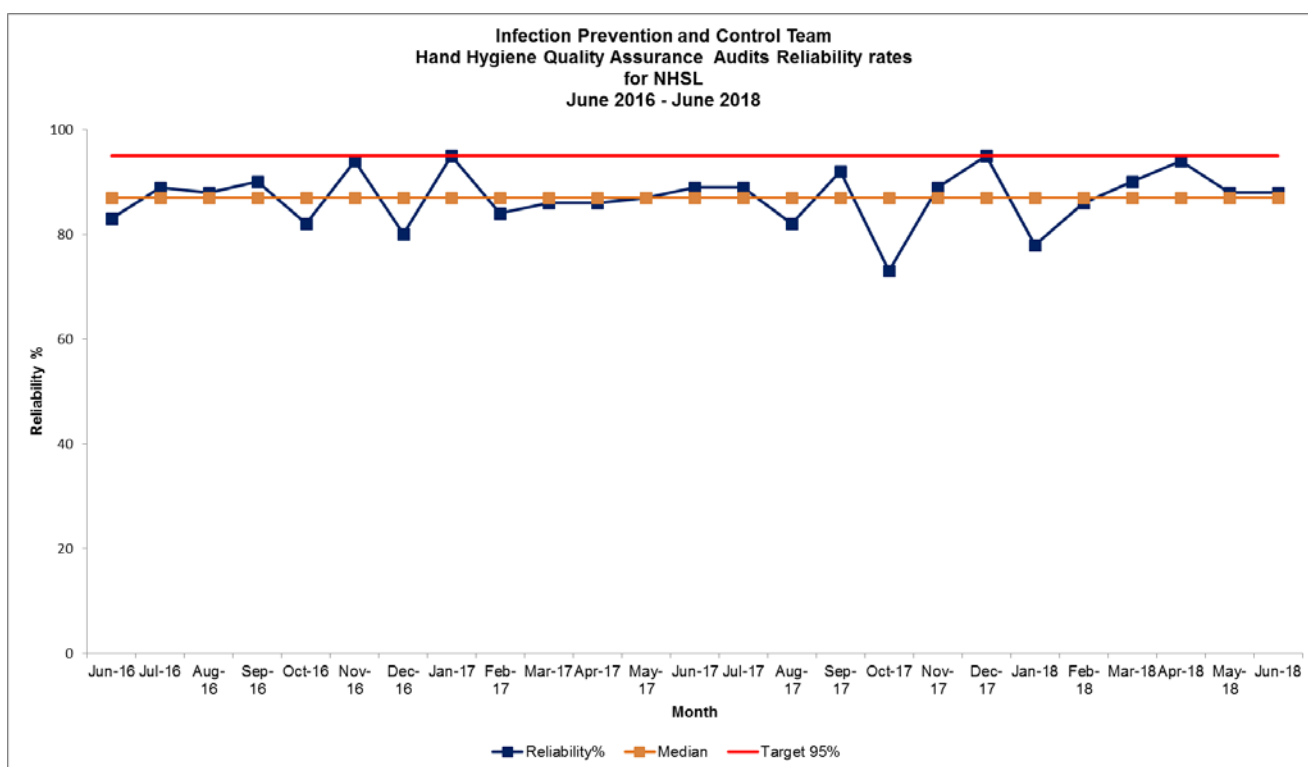
Chart 8 – Hand Hygiene (June 2016 to June 2018)

Appendix 2 - 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**

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
MRSA	0	1	1	0	0	0	1	0	0	1	0	1
MSSA	16	12	13	14	17	9	12	13	15	9	13	11
TOTAL	16	13	14	14	17	9	13	13	15	10	13	12

CDI monthly case numbers

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
Age 15-64	9	3	2	1	4	1	5	0	5	2	3	7
Ages 65+	7	2	10	12	10	6	9	4	6	6	8	8
Ages 15+	16	5	12	13	14	7	14	4	11	8	11	15

Hand Hygiene Monitoring Compliance (n= %)

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
AHP	88	92	93	94	93	96	84	100	100	100	100	100
Ancillary	91	88	88	83	86	88	75	100	85	100	79	100
Medical	87	89	88	86	87	89	74	100	90	78	86	80
Nurse	95	95	95	95	94	95	80	76	86	89	91	86

Cleaning compliance (n= %)

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

Estates Monitoring Compliance (n= %)

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

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
MRSA	0	0	0	0	0	0	1	0	0	0	0	0
MSSA	6	1	3	4	2	2	1	4	4	1	1	2
TOTAL	6	1	3	4	2	2	2	4	4	1	1	2

CDI monthly case numbers

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

Hand Hygiene Monitoring Compliance (n= %)

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
AHP	83	94	84	91	94	96	90	100	100	-	100	-
Ancillary	83	62	69	79	72	89	100	100	86	100	60	100
Medical	91	93	87	89	89	90	100	100	87	100	-	82
Nurse	97	93	96	95	95	95	97	78	88	94	88	80

Cleaning compliance (n= %)

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

Estates Monitoring Compliance (n= %)

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

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
MRSA	0	0	0	0	0	0	0	0	0	1	0	1
MSSA	3	6	3	8	8	3	3	2	5	3	5	2
TOTAL	3	6	3	8	8	3	3	2	5	4	5	3

CDI monthly case numbers

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

Hand Hygiene Monitoring Compliance (n= %)

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
AHP	88	88	93	97	93	100	-		-	-	-	100
Ancillary	95	79	88	93	89	82	100		67	-	80	100
Medical	91	88	86	86	87	88	100		100	50	80	100
Nurse	95	98	96	93	95	96	90		78	100	90	96

Cleaning compliance (n= %)

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

Estates Monitoring Compliance (n= %)

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

<u>University Hospital Wishaw</u> 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

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

CDI monthly case numbers

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

Hand Hygiene Monitoring Compliance (n= %)

	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
AHP	89	97	100	96	92	98	78	100	100	100	100	100
Ancillary	96	93	94	79	90	92	33	-	100	100	100	100
Medical	80	86	92	83	84	89	58	100	89	100	100	50
Nurse	93	94	94	93	91	94	93	91	96	95	96	79

Cleaning compliance (n= %)

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

Estates Monitoring Compliance (n= %)

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

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

CDI monthly case numbers

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

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

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

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

Appendix 3 – The Vincent Framework for the measurement and monitoring of safety

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