

Meeting of Lanarkshire
NHS Board: 24 February 2021

Lanarkshire NHS Board
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SUBJECT: Healthcare Associated Infection (HCAI) Reporting Template

1. PURPOSE

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

For approval	<input type="checkbox"/>	For assurance	<input checked="" type="checkbox"/>	To note	<input type="checkbox"/>
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The purpose of this paper is to update NHSL Board Members on the current position against;

- *CNO (2019) October 2019: Standards on Healthcare Associated Infection and Indicators for Antibiotic Use.*

2. ROUTE TO THE BOARD

This paper has been:

Prepared	<input checked="" type="checkbox"/>	Reviewed	<input type="checkbox"/>	Endorsed	<input checked="" type="checkbox"/>
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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 in the Executive Summary on pages 4 – 5. Please note that performance data contained within the report has been validated nationally by Health Protection Scotland (HPS).

The new *Standards on Healthcare Associated Infections and Indicators on Antibiotic Use for Scotland* were released on 10 October 2019. NHS Lanarkshire has developed local AOP standards which took effect retrospectively from April 2019.

4. STRATEGIC CONTEXT

This paper links to the following:

Corporate Objectives	<input checked="" type="checkbox"/>	Annual Operating Plan	<input checked="" type="checkbox"/>	Government Policy	<input type="checkbox"/>
Government Directive	<input checked="" type="checkbox"/>	Statutory Requirement	<input checked="" type="checkbox"/>	AHF/Local Policy	<input type="checkbox"/>
Urgent Operational Issue	<input type="checkbox"/>	Other	<input type="checkbox"/>		

There is a national mandatory requirement for a report relating to Infection Prevention and Control (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	<input checked="" type="checkbox"/>	Effective	<input checked="" type="checkbox"/>	Person Centred	<input checked="" type="checkbox"/>
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Six Quality Outcomes:

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

6. MEASURES FOR IMPROVEMENT

- Annual Operating Plan (AOP) targets for *Staphylococcus aureus* bacteraemia (SAB) and *Clostridioides difficile* Infection (CDI) standards for 2019 to 2022 and *Escherichia coli* bacteraemia (ECB) standard for 2019 to 2024.
- Key Performance Indicators (KPI) for Meticillin Resistant *Staphylococcus aureus* (MRSA) Clinical Risk Assessment (CRA) and Carbapenemase-producing *Enterobacteriaceae* (CPE) CRA compliance.
- Local Performance Indicator for Hand Hygiene.

7. FINANCIAL IMPLICATIONS

The organisation carries financial pressures as a direct result of HCAI. The severity of these pressures are dependent on a number of variables including length of stay, associated treatment required etc.

8. RISK ASSESSMENT/MANAGEMENT IMPLICATIONS

- MRSA CRA Compliance: To achieve 90% or above.
- CPE CRA Compliance: To achieve 90% or above.
- Hand hygiene: To achieve 95% or above.

9. FIT WITH BEST VALUE CRITERIA

This paper aligns to the following best value criteria:

Vision & leadership	<input type="checkbox"/>	Effective partnerships	<input type="checkbox"/>	Governance & accountability	<input checked="" type="checkbox"/>
Use of resources	<input checked="" type="checkbox"/>	Performance management	<input type="checkbox"/>	Equality	
Sustainability	<input type="checkbox"/>				

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)
- Lanarkshire Infection Control Committee (ICC) and Sub-groups

12. ACTIONS FOR THE BOARD

The NHS Board is asked to:

Approval	<input type="checkbox"/>	Accept assurance	<input checked="" type="checkbox"/>	Identify further actions	<input type="checkbox"/>
Note	<input type="checkbox"/>	Accept the risk identified	<input type="checkbox"/>		

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

The impact of Covid has meant that across a wide range of areas the prevalence of infection has increased, performance has deteriorated, and this is a national as well as a local issue. Through local Hygiene Groups, feeding into the Infection Control Committee, all areas have been asked to refocus and adopt a whole system 'back to basics' approach, and to have in place improvement plans to see a return to at least previous levels of performance in the short term. Regular updates are being provided to the Executive Director of Nursing, Midwifery and Allied Health Professionals to ensure that improvement plans are robust and being followed through appropriately.

The NHS Board is also asked to confirm whether the report provides sufficient assurance around NHSL 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:

- Eddie Docherty, Executive Director of Nursing, Midwifery and Allied Health Professionals (NMAHPs) (Telephone number: 01698 858089)
- Christina Coulombe, Head of Infection Prevention and Control (Telephone number: 01698 366309)

***Presented by Eddie Docherty, Executive Director of NMAHPs
Prepared by Infection Prevention and Control Team***

Infection Prevention and Control (IPC) key successes and challenges
Executive Summary
December 2020 to January 2021

Key Successes

Monklands Replacement Project

The IPCT continue to support the Monklands Replacement Project as key members of the Infection Prevention and Control Sub-Group and the MRP Key Decisions Group. Funding has been agreed by the Oversight Board to finance the recruitment of a Band 8a Senior IPCN to support the project.

Project and Building Support

The IPC supported the commissioning, installation and introduction of the Surgicube and the Cardiac Catheter Laboratory ventilation work at University Hospital Hairmyres. Work on the commissioning of Safe Clinic Isolation Pods in the Acute Critical Care Unit at University Hospital Wishaw and at the Intensive Care Unit at University Hospital Hairmyres continues. These pods will increase the number of isolation spaces in our intensive care units/critical care units.

Key Challenges

AOP Standards

- NHSL is **above** the national comparator for Q3 CDI rates;
- NHSL is **above** the local AOP Standard rate for Q3 CDI rates;
- NHSL is **above** the national comparator for Q3 ECB rates;
- NHSL is **above** the local AOP Standard rate for Q3 ECB rates;
- MRSA KPI has **not** been met;
- CPE KPI has **not** been met;
- Hand Hygiene Local Performance Indicator has **not** been met;

Pandemic Response

The IPC continue to fully support the pandemic response across acute, HSCPs and beyond. Staff continue to be responsive and resilient while experiencing a high demand for IPC technical support across all Lanarkshire.

NHSL Performance

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 bloodstream infections.

Staphylococcus aureus Bacteraemia (SAB) Standard

NHSL Performance (Q3 Jul-Sept 2020): HCAI

- NHSL SAB HCAI rate of 19.6 per 100,000 TOBDs; 24 HCAI cases;
- National SAB HCAI rate of 17.3 per 100,000 TOBDs;
- NHSL is above the national comparator for Q3 SAB rates;
- NHSL is above the local AOP Standard rate for Q3 SAB rates.

Staphylococcus aureus bacteraemia (SAB)

- The new AOP target is for HCAI cases only;
- During July to September 2020, there were 40 SAB cases; 24 HCAI cases and 16 community associated infection (CAI) cases;
- This is an increase of 8 HCAI SAB cases in total from the previous quarter;
- NHSL will be expected to achieve a target of <=91 HCAI SAB cases (a rate of 16.1 per 100,000 TOBDs by end of March 2022);
- NHSL will also be expected to achieve a target of <=68 HCAI SAB cases by Q4 Oct-Dec 2020, NHSL currently have 40 cases, 28 cases below the target.

Chart 1 – HCAI SAB cases (Apr 2018 – Sept 2020)

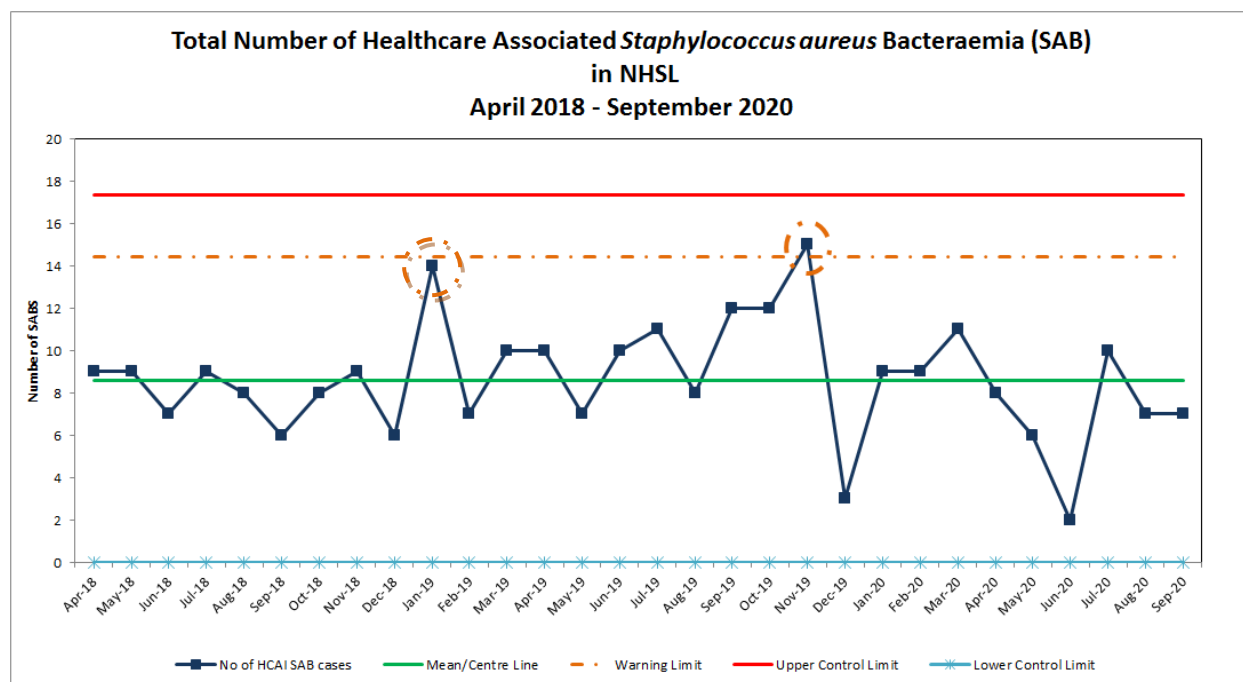


Chart 1 show that NHS Lanarkshire has witnessed an increase in the number of cases of SAB from July to September 2020. Over this quarter there has been nine device related infections; one dialysis line infections, one PICC, four PVC, one Central line infection, and two Hickman line infections.

Figure 1: Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in (Q3) Jul- Sept 2020.

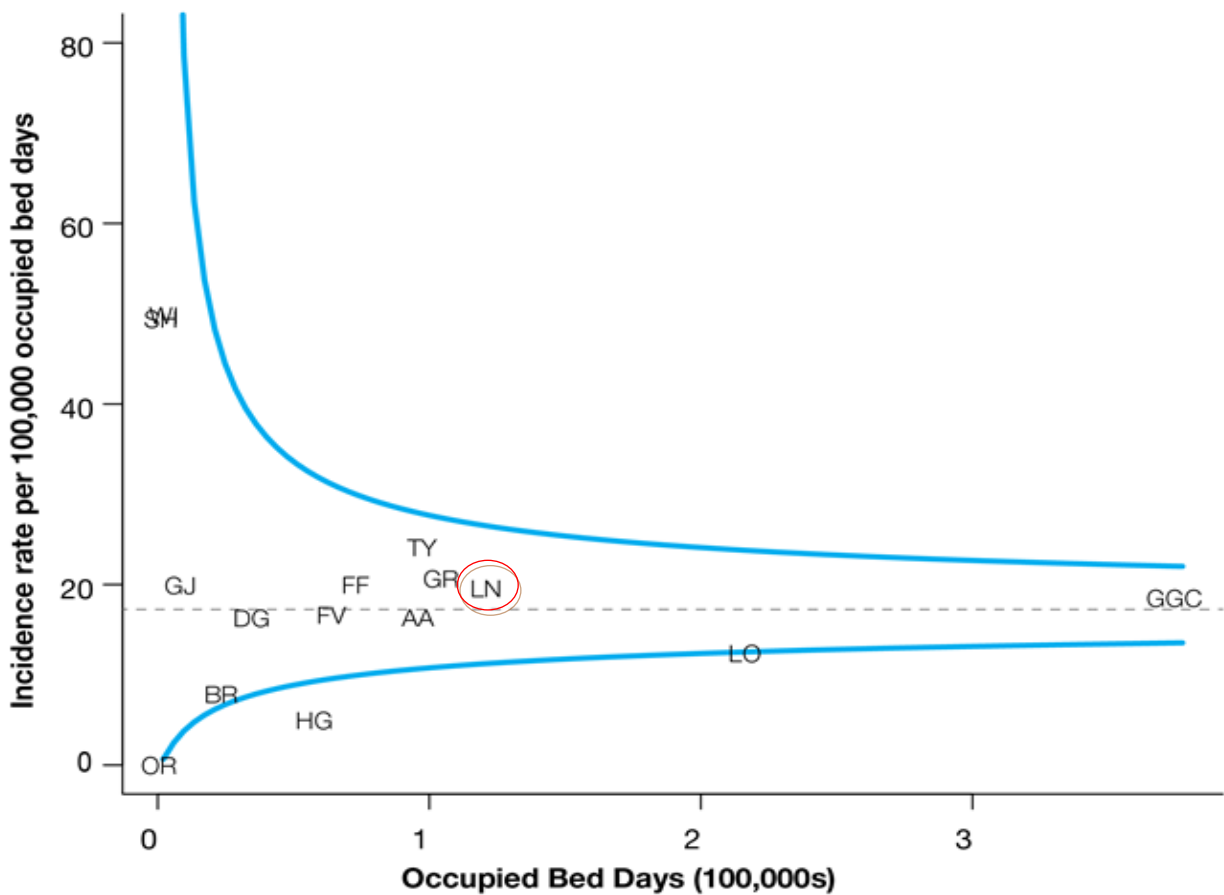
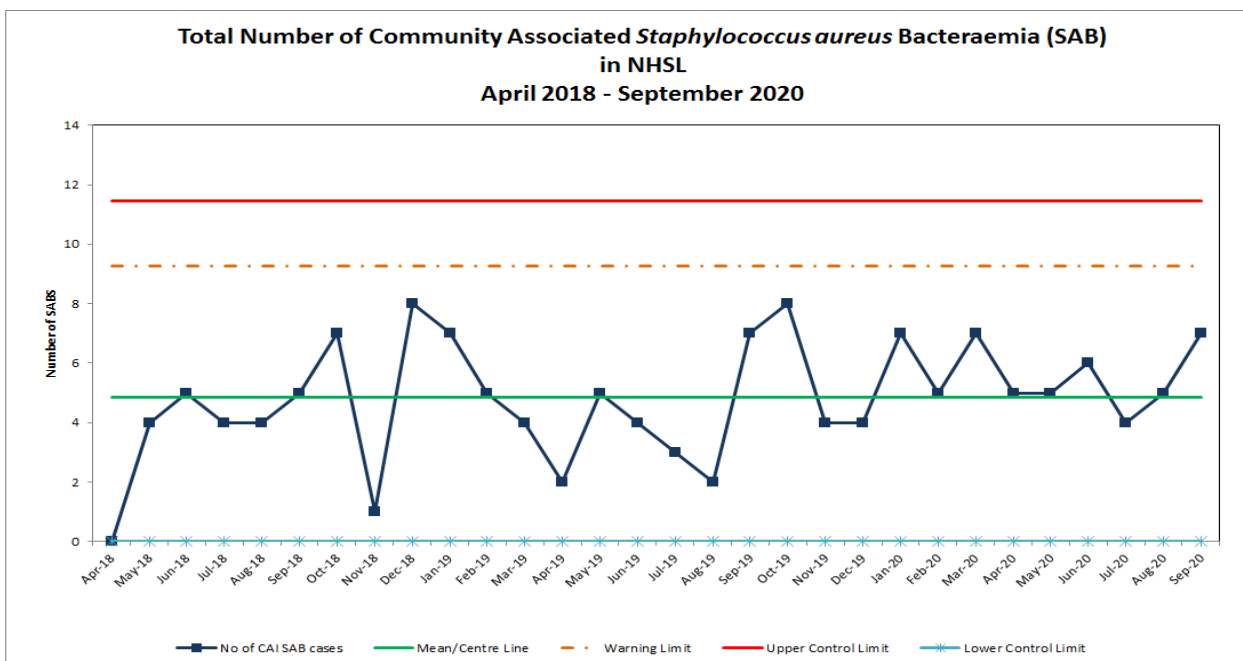


Figure 1 demonstrates that NHSL remains within the 95% confidence interval for incidence rates for Q3.

Chart 2 – CAI SAB cases (Apr 2018 – September 2020)



This chart is in statistical control.

Quality improvement and interventions in place to reduce SAB:

- On 7 September 2020, the Invasive Devices Expert Advisory Group successfully launched the Standard Operating Procedure (SOP) Manual for Invasive Devices Chapter 1 – Peripheral Venous Cannula (PVC) and associated practices. A Manual such as this has never been available in NHS Lanarkshire until now and chapter 1 contains research based guidance on the insertion, care and maintenance of Peripheral Vascular Cannulae (PVC);
- SAB rates and sources are discussed at Hygiene and Clinical Governance meetings with clinical staff; and
- A Breakthrough Series Collaborative to support improvement against the AOP Standards is currently being developed. This work will be undertaken over a 12-18 month period and led by the clinical teams. Progress will be reported via the ICC.

Risk Management:

There were < 5 related SAB deaths between July and September 2021. No Datix resulted in a SAER.

Clostridioides difficile Infection (CDI)

CDI can be a severe and life-threatening infection which causes diarrhoea. Prevention of CDI is therefore essential and an important patient safety issue.

Clostridioides difficile Infection (CDI) Standard

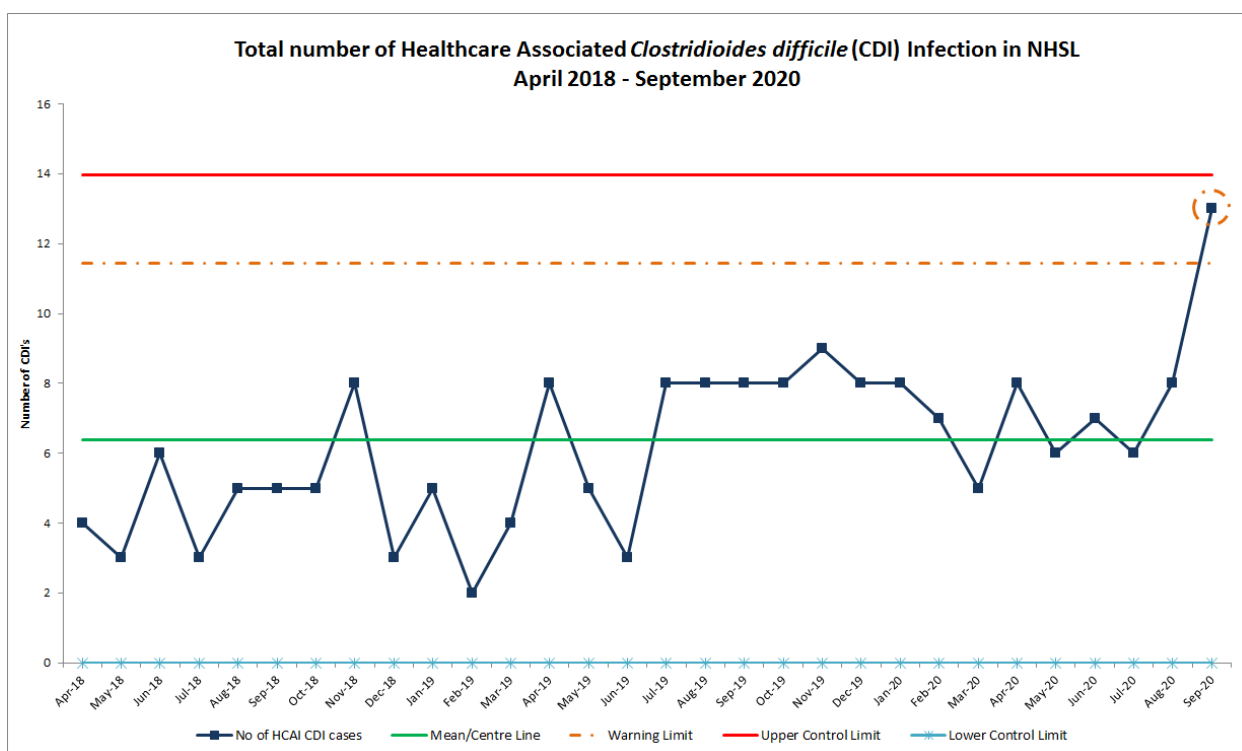
NHSL Performance (Q3 Jul-Sept 2020): HCAI

- NHSL CDI HCAI rate of 22.0 per 100,000 TOBDs; 27 HCAI cases;
- National CDI HCAI rate of 17.4 per 100,000 TOBDs;
- NHSL is above the national comparator for Q3 CDI rates;
- NHSL is above the local AOP Standard rate for Q3 CDI rates.

Clostridioides difficile Infection (CDI)

- During Jul – Sept 2020, there were 35 CDI cases; 27 HCAI cases and 8 CAI cases;
- NHSL will be expected to achieve a target of <=84 HCAI CDI cases (a rate of 14.8 per 100,000 TOBDs by end of March 2022);
- NHSL will be expected to achieve a target of <=76 HCAI CDI cases by Q4 Oct-Dec 2020, NHSL currently have 48 cases, 28 cases below the target.

Chart 4 – HCAI CDI cases (Apr 2018 – Sept 2020)



This chart is in statistical control. The Infection Control Committee commissioned a deep dive of the CDI data for HAI and CAI cases at the October 2020 meeting. Key stakeholders have met to discuss and a paper will be presented at the April 2021 ICC.

Figure 2: Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in (Q3) Jul- Sept 2020.

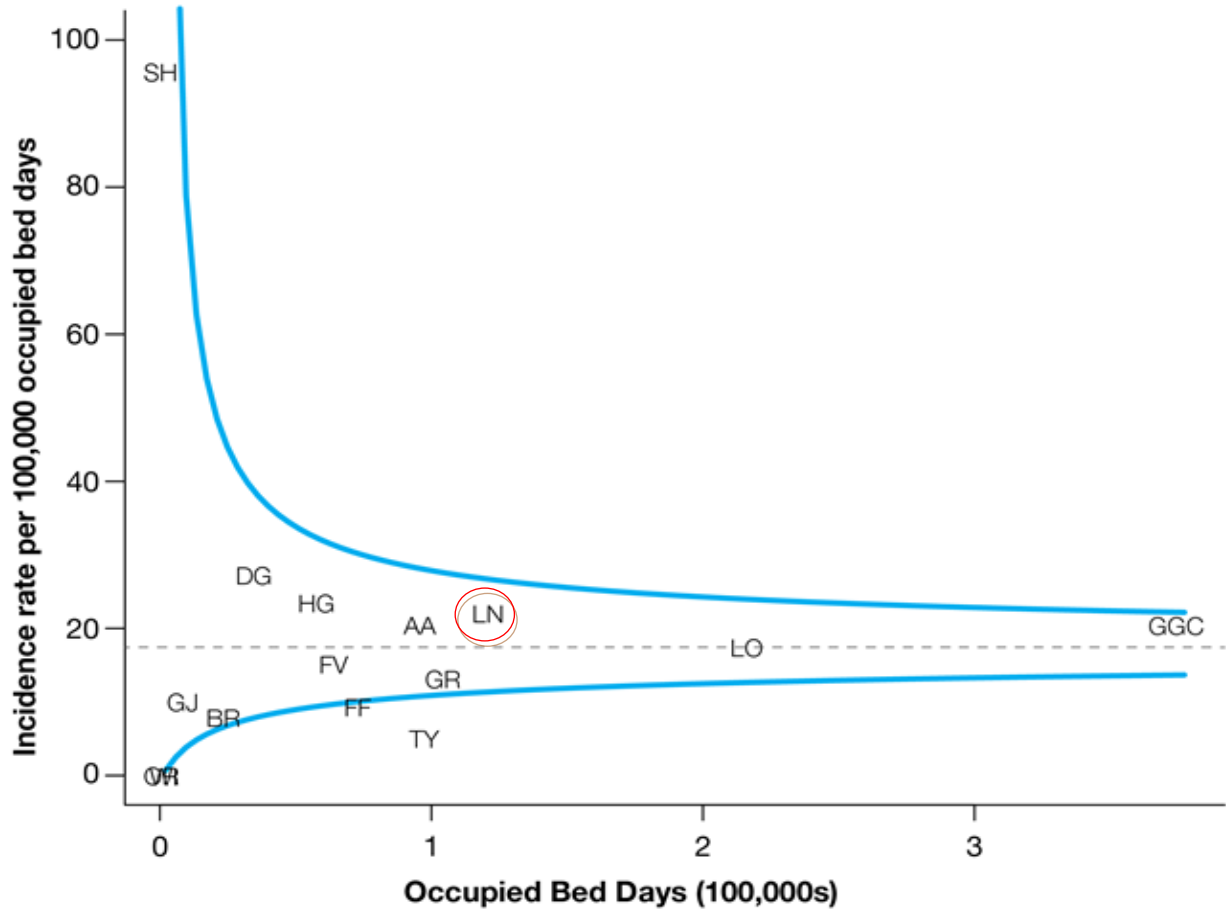
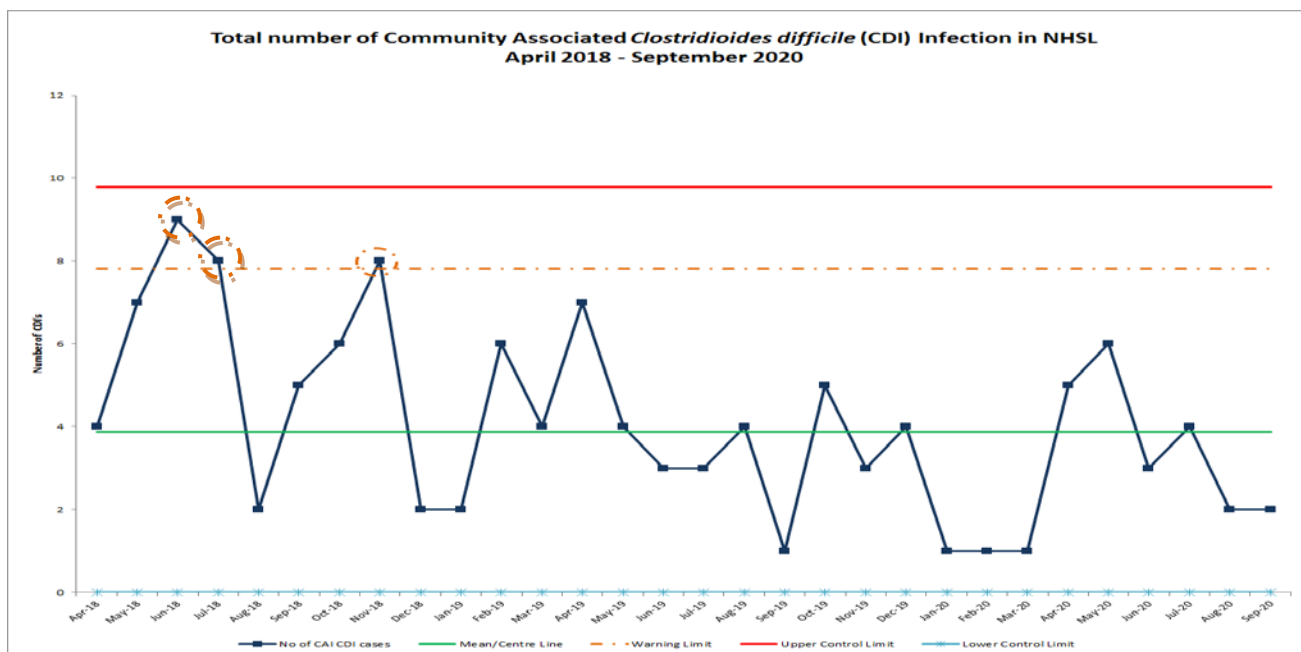


Figure 2 indicates that NHSL remains within the 95% confidence interval for incidence rates for Q3.

Chart 5 – CAI CDI cases (Apr 2018 – Sept 2020)



This chart is in statistical control.

Quality improvement and interventions in place to reduce CDI:

- Antimicrobial stewardship continues to be a priority in the management of CDI patients. IPCT and the antimicrobial team work closely during severe CDI multidisciplinary case reviews; and
- Information is given to wards to advise of the requirement for prompt and clear identification of patients with loose stools and appropriate action to be taken.

Risk Management:

There were < 5 related CDI deaths between July and September 2020. No Datix resulted in a SAER.

Escherichia coli Bacteraemia (ECB)

Escherichia coli (*E. coli*) is a bacterium that forms part of the normal gut flora that helps human digestion. Although most types of *E. coli* live harmlessly in your gut, some types can make you unwell.

When it gets into your blood stream, *E. coli* can cause a bacteraemia. This can be as a result of an infection such as:

- urinary tract;
- surgery; and
- inappropriate use of medical devices.

Escherichia coli Bacteraemia (ECB) Standard

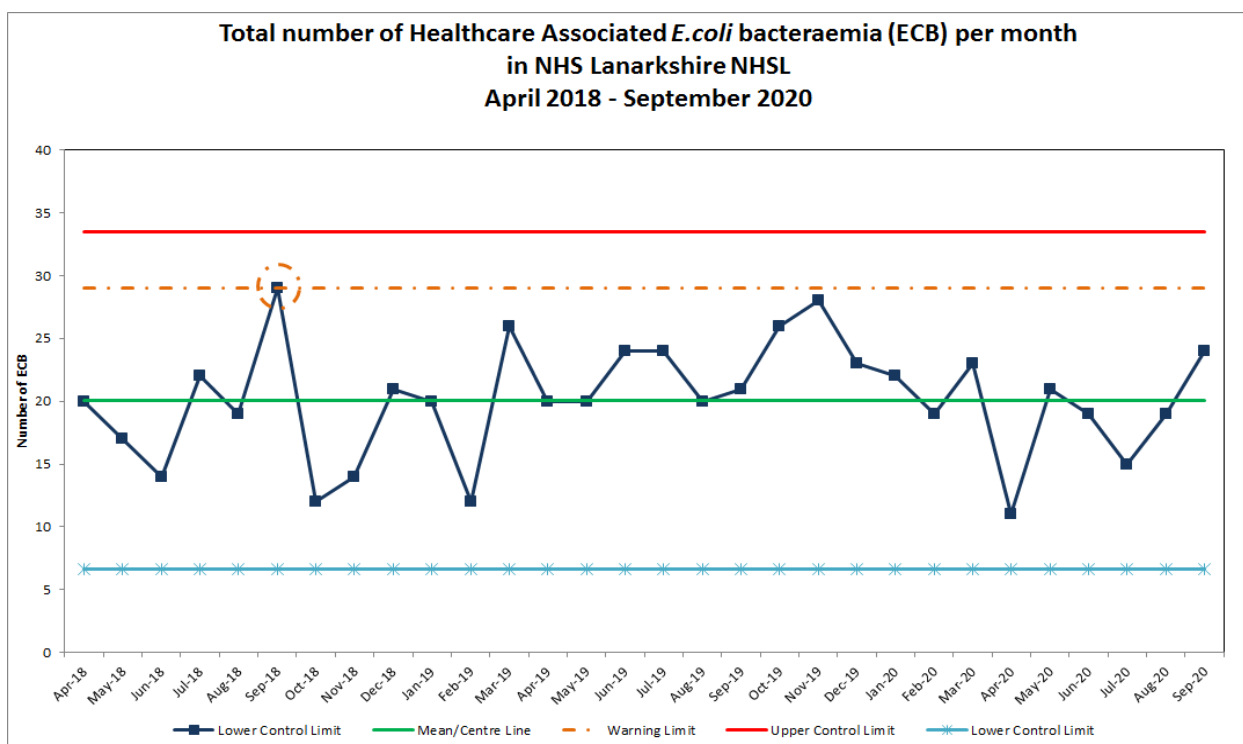
NHSL Performance (Q3 Jul-Sept 2020): HCAI

- NHSL ECB HCAI rate of 47.3 per 100,000 BDs; 58 HCAI cases;
- National ECB HCAI rate of 42.0 per 100,000 TOBDs;
- NHSL is above the national comparator for Q3 ECB rates;
- NHSL is above the local AOP Standard rate for Q3 ECB rates.

Escherichia coli Bacteraemia (ECB)

- During Jul – Sept 2020, there were 170 cases; 58 HCAI cases and 112 CAI cases.
- NHSL will be expected to achieve a target of <=189 HCAI ECB cases (a rate of 33.5 per 100,000 TOBDs by end of March 2022).
- NHSL will be expected to achieve a target of <=189 HCAI ECB cases by Q4 Oct-Dec 2020, NHSL currently have 109 cases, 80 cases below the target.

Chart 6 – HCAI ECB cases (Apr 2018 – Sept 2020)



This chart is in statistical control.

Figure 3: Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in (Q3) Jul- Sept 2020.

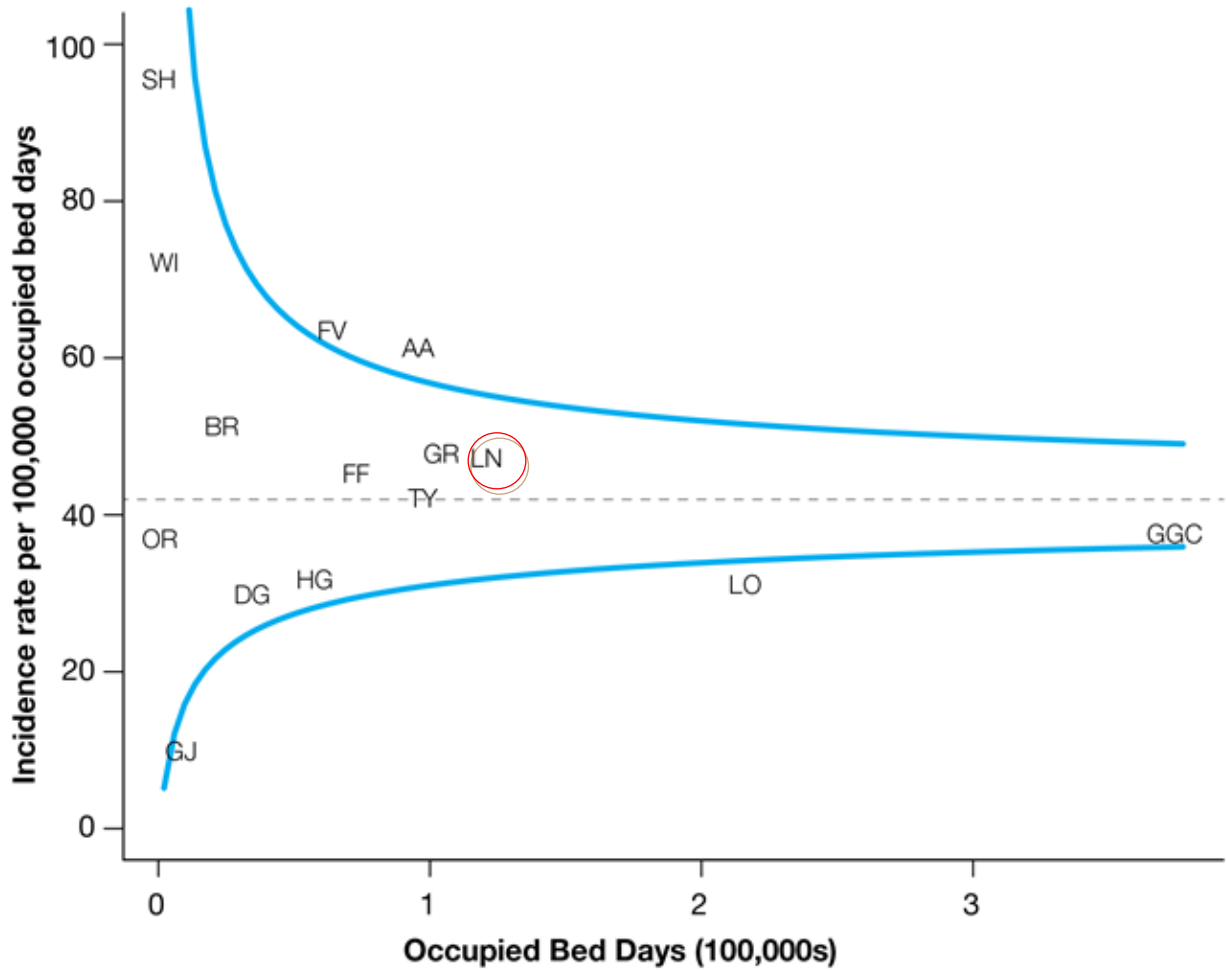


Figure 3 demonstrates that NHSL remains within the 95% confidence interval for incidence rates for Q3. NHS Lanarkshire did receive a Exception report from ARHAI Scotland for community associated ECB. An SBAR has been prepared and will be submitted to ARHAI by 9 February 2021 and thereafter shared with the ICC in April 2021.

Surgical Site Infection Surveillance

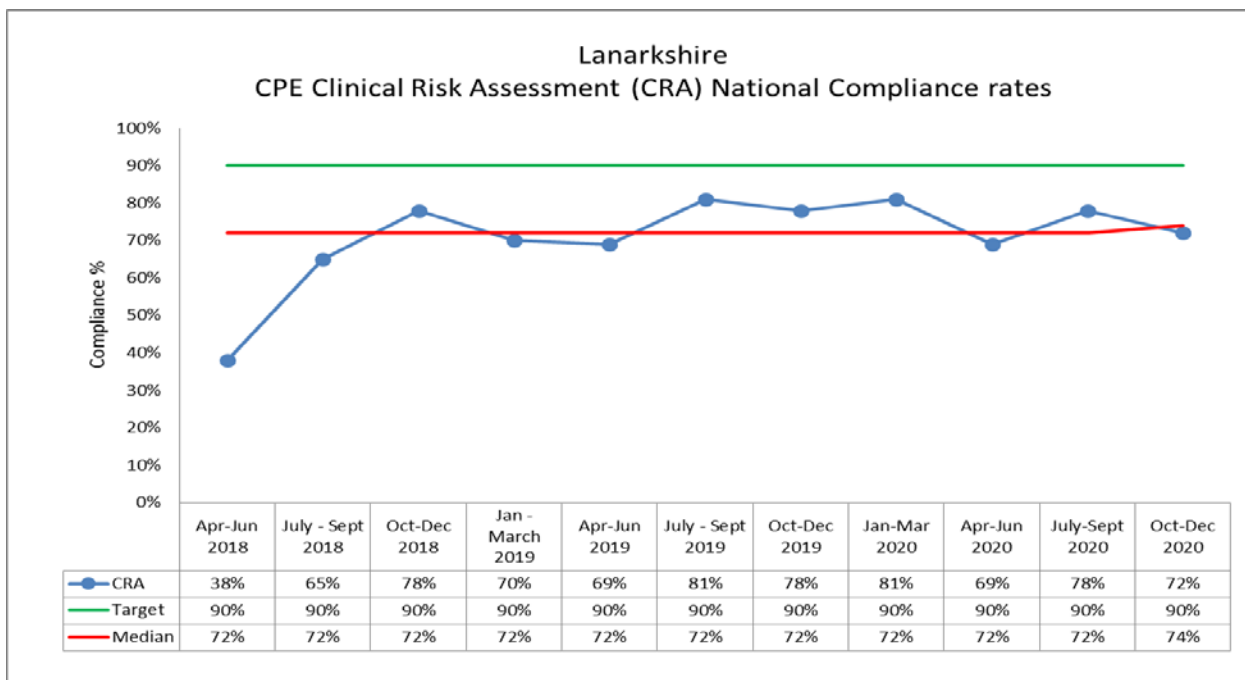
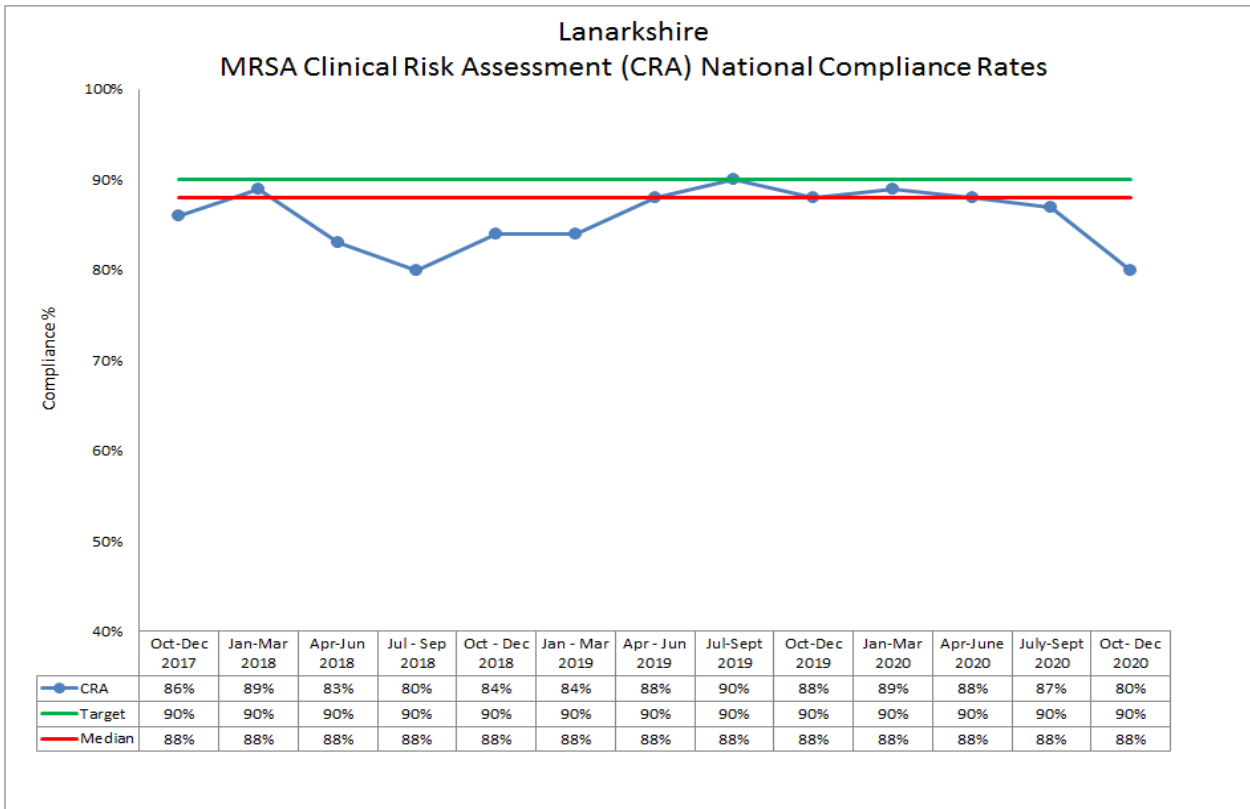
Epidemiological data for SSI are not included for this quarter due to the pausing of surveillance to support the COVID-19 response.

MRSA & CPE CRA Compliance

Key Performance Indicator (KPI): To achieve 90% compliance or above. Quarterly reports submitted to HPS.

NHSL Performance (Oct - Dec 2020):

- 80% compliance for MRSA acute inpatient admission CRA completion (7% decrease in compliance from Jul-Sept 2020). (Exclusions: Maternity, Paeds, Mental Health, Psychiatry); For this reporting period; MRSA KPI has **not** been met.
- 70% compliance for CPE acute inpatient admission CRA completion (8% decrease in compliance from Jul-Sept 2020). For this reporting period; CPE KPI has **not** been met.



National MRSA Screening Clinical Risk Assessment uptake in comparison with Lanarkshire.

As you are aware, an uptake of **90%** with application of the MRSA Screening Clinical Risk Assessment is necessary in order to ensure that the national policy for MRSA screening is as effective as universal screening.

Below is current data for the 4 most recent quarters within NHSL, and for Scotland:

MRSA Uptake	2019_20 Q3	2019_20 Q4	2020_21 Q1	2020_21 Q2
Lanarkshire	88%	89%	88%	87%
Scotland	88%	87%	84%	86%

National CPE Screening Clinical Risk Assessment uptake in comparison with Lanarkshire.

CPE Uptake	2019_20 Q3	2019_20 Q4	2020_21 Q1	2020_21 Q2
Lanarkshire	78%	81%	69%	78%
Scotland	85%	85%	80%	85%

Hand Hygiene

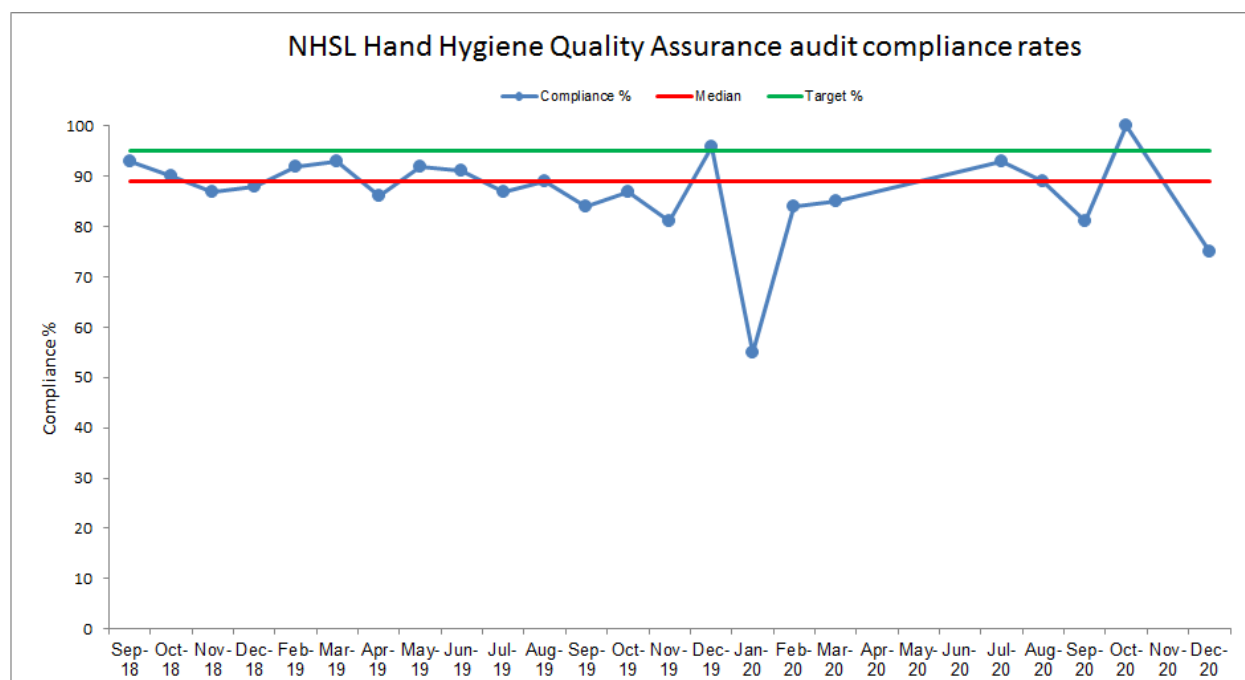
Hand Hygiene is a term used to describe the decontamination of hands by various methods including routine hand washing and/or hand disinfection which includes the use of alcohol gels and rubs. Hand Hygiene is recognised as being the single most important factor in the prevention of infection wherever care is delivered.

Local Performance Indicator: To achieve 95% compliance or above.

NHSL Performance (Oct - Dec 2020): IPC Quality Assurance HH Audits. (14 audits completed)

- 88% compliance achieved.
- For this reporting period the Local Performance Indicator has **not** been met.

Chart 8 – Hand Hygiene Compliance rate Sept 2018 to Dec 2020



Staff Group Compliance: Oct - Dec 2020

A breakdown of the staff group compliance levels from IPCT audits completed during October to December 2020 is:

Nursing: 20 nursing staff compliant from 25 observations (80%)

Doctors: 2 medical staff compliant from 2 observations (100%)

Ancillary/Other: 8 ancillary/other staff compliant from 8 observations (100%)

Allied Health Professionals (AHPs): 9 AHPs compliant from 9 observations (100%)

Commentary

This level of compliance was flagged at the most recent Infection Control Committee (ICC) - each area is tasked to develop urgent responses to go back to ICC. Due to Covid pressure the breakthrough collaborative has been placed on hold. It was agreed due to these issues it will be recommenced in March 2021.

Outbreaks and Incidents

From 01-04-2020 to 01-02-2021, NHS Lanarkshire have reported 108 outbreaks related to COVID-19 in the acute division and the HSCPs. ARHAI Scotland collates all outbreak and incident data and send daily to territorial boards for management purposes.

Commentary

All outbreaks have been managed and escalated via Scottish Government processes. As community prevalence has continued to fall, patient and staff prevalence have matched that trend with a drop in outbreaks.