



INFECTION PREVENTION & CONTROL

ANNUAL REPORT

1 April 2021 – 31 March 2022

Contents

| | |
|---|-------------------------------------|
| Infection Prevention and Control Team..... | 3 |
| The Team..... | Error! Bookmark not defined. |
| Executive Summary | 4 |
| <i>Escherichia coli</i> bacteraemia (ECB) | 9 |
| <i>Staphylococcus aureus</i> bacteraemia (SAB)..... | 11 |
| <i>Clostridioides difficile</i> Infection (CDI) | 13 |
| MRSA Acute Inpatient Admission Screening | 15 |
| Carbapenemase producing <i>Enterobacteriaceae</i> | 16 |
| Hand Hygiene..... | 17 |
| Surgical Site Infection..... | 18 |
| Outbreak Management..... | 19 |
| Monitoring Programme | 23 |
| COVID-19 response | 25 |
| Infection Related Intelligence Service | 24 |
| Healthcare Improvement Scotland (HIS) Inspections..... | 27 |
| Decontamination | 29 |
| Training and Education..... | 30 |
| Celebrating Success 2021-2022..... | 31 |
| Looking forward 2022-2023..... | 31 |
| Glossary of Terms | 32 |

Infection Prevention and Control Team

IPC Nursing Team

- Lyndsay Quarrell, Infection Prevention and Control Nurse until 15-06-2021, then IPC Clinical Nurse Specialist from 16-06-2021 (acting then permanent) 1.0 wte
- Alison Gold, IPC Nurse until 15-06-2021, then IPC Clinical Nurse Specialist from 16-06-2021 (acting then permanent) 1.0 wte
- Lorna Barbour, IPC Clinical Nurse Specialist, 1.0 wte
- Vicky Macdonald IPC Nurse 1.0 wte
- Kelly McGee, IPC Nurse 1.0 wte (Maternity leave 30-05-2021)
- Lisa McLelland, IPC Nurse (from 03-08-2020) 0.6 wte
- Lorna Dickson, IPC Nurse 1.0 wte
- Christine Wands, IPC Nurse 1.0 wte

Administrative Team

- Letitia Mccafferty, IPC Secretary 0.8 wte
- Derek Cameron, IPC Secretary 1.0 wte
- Clare Penrice, IPC, Data Co-ordinator 0.6 wte
- Emma O'Hare, IPC administrative Support, NHSL Bank

Decontamination

- Andrew Stewart, Acting Decontamination Lead 22-11-2022 until 17-01-2022. 1.0 wte.

Surveillance Team

- Liz Young, Lead Surveillance Nurse (deployed to IPC September 2021) 1.0 wte. (retired)

Management Team

- Eddie Docherty, Executive Director of Nursing Midwifery and Allied Health Professionals (NMAHPs) 1.0 wte
- Christina Coulombe, Head of IPC, 1.0 wte
- Carol Whitefield, Senior Nurse Infection Prevention and Control (IPC), 1.0 wte
- Linda Thomas, Senior Nurse Infection Prevention and Control 1.0 wte (May 2021) then seconded to MRP.
- Kaileigh Begley, IPC Clinical Nurse Specialist 0.8 wte until 15-08-2022 then Senior Nurse IPCT (Acting and permanent). 0.80 wte
- Nicola Miller, IPC Clinical Nurse Specialist 0.8 wte until 15-08-2022 then Senior Nurse IPCT (Acting and permanent). 08.0 wte
- Carlos Varon Lopez, IPC Doctor 1.0 wte (sessions: 6)
- Pauline Ferula, IPC Business Manager. 1.0 wte

Care Home Assurance Team

- Julie Burns, Acting Senior Nurse IPC, 1.0 wte
- Sandra Burke, IPC Clinical Nurse Specialist 1.0 wte
- Jennifer MacVicar, IPC Clinical Nurse Specialist 1.0 wte

Executive Summary

COVID-19 (SARS CoV-2) Pandemic

COVID-19 (SARS CoV-2) continued to place significant demands on the healthcare system in Lanarkshire over the past year. Infection Prevention and Control (IPC) have worked to ensure the service demands are met and continue to be met. As with most services, IPC were constantly morphing to ensure all elements of the pandemic response were monitored and managed. Severe resource challenges were experienced as a result of national guidance for contact tracing which not only put a considerable strain on the IPC workforce but also on the boards operational capacity. Strong collaboration, co-production and collegiate support provided a platform for strengthening and operationalizing IPC COVID-19 guidance.

Monklands Replacement Project (MRP)

The Senior Nurse for IPC was seconded to the MRP in May 2021. Recurring funds were allocated in January 2021, however it had been agreed that due to the complexity and responsibility of the role that a band 8b Nurse Consultant was required to fulfil the requirements of the role. To date, the post remains under review and the Infection Prevention and Control Senior Nurse remains on secondment.

IPC Breakthrough Series Collaborative

The IPC Breakthrough Series Collaborative launched on 2 June 2021 to provide a quality improvement approach to support a reduction in *Escherichia coli* bacteraemia, *Staphylococcus aureus* bacteraemia, and *Clostridioides difficile* infection to achieve Healthcare Associated Infection (HAI) Annual Operating Plan (AOP) Standards. There are approx. 45 teams across our three acute hospitals and North and South Health and Social Care Partnerships working on an Infection Prevention and Control (IPC) Collaborative project. These projects are to help reduce infection for their service users and despite the challenging times staff have continued to enthusiastically learn new improvement skills and begin/continue their projects. The NHS Lanarkshire Quality Improvement and IPC Team continue to support clinical teams with their projects.

Business as Usual (BAU) Key Deliverables

- The Infection Prevention & Control Team (IPCT) continues to work towards improving surveillance, prevention and control of HAI across Lanarkshire through collaborative joint working;
- During 2021-2022, the IPCT was not fully established; due to staff sickness, maternity leave and unfilled vacancies.

IPC absences 01 April 2021-31 March 2022

| Roster Location | In Post Avg WTE | Short Term Sick Hours | Short Term Sick% | Long Term Sick Hours | Long Term Sick% | All Sick Leave Hours | All Sick Leave % | Infection Control Hours | Infection Control % | All Industrial Injury Hours | All Industrial Injury % | Swine Flu Hours | Swine Flu % | TOTAL LOST HOURS | TOTAL LOST % |
|----------------------------------|-----------------|-----------------------|------------------|----------------------|-----------------|----------------------|------------------|-------------------------|---------------------|-----------------------------|-------------------------|-----------------|-------------|------------------|--------------|
| NHSL HAI-Admin (E&M) (PAIAW) | 3.48 | 145.00 | 2.13 % | 1222.50 | 17.92 % | 1367.50 | 20.04 % | 0.00 | 0.00 % | 0.00 | 0.00 % | 0.00 | 0.00 % | 2388.75 | 34.72 % |
| NHSL HAI-Infection Control (E&M) | 11.53 | 135.00 | 0.60 % | 1122.50 | 4.97 % | 1257.50 | 5.56 % | 22.50 | 0.10 % | 0.00 | 0.00 % | 0.00 | 0.00 % | 7128.33 | 31.54 % |
| Total | 15.01 | 280.00 | 0.95 % | 2345.00 | 7.97 % | 2625.00 | 8.92 % | 22.50 | 0.08 % | 0.00 | 0.00 % | 0.00 | 0.00 % | 9497.08 | 32.27 % |

- National Hand Hygiene audit reporting discontinued in September 2013, however auditing in Lanarkshire continues and has shown room for improvement across the majority of professions;

- Lanarkshire continues to comply with national mandatory surveillance requirements albeit there remains a pause on Caesarean Section, Hip Arthroplasty and Vascular and large Bowel Surgical Site Infection surveillance during the pandemic;
- Epidemiological data for SSI is not included due to the pausing of surveillance to support the COVID-19 response.
- *Escherichia coli* bacteraemia (ECB) enhanced surveillance continued during 2021-2022. The end of March 2022 Annual Operating Plan (AOP) Standard was not achieved;
- The SAB rate for Lanarkshire has also fluctuated during 2021 -2022. The end of March 2022 AOP Standard was not achieved.
- *Clostridioides difficile* infection (CDI) rates have varied during this reporting period. The end of March 2022 AOP Standard was also not achieved.
- The winter of 2021-2022 was less challenging in terms of norovirus outbreaks. When outbreaks occurred they were contained with no spread to other wards and staff demonstrated great commitment and effort;
- A number of wards and bays were temporarily closed to admissions and transfers due to COVID-19 (SARS CoV-2). There was a similar picture in most larger mainland boards across Scotland;
- Almost fourteen thousand IPC related education and training modules were completed by staff during 2021-2022. These modules are over and above mandatory induction and compulsory eLearning;
- Lanarkshire remains GREEN in the National Cleaning Specification monitoring reports; and
- The Healthcare Environment Inspectorate inspected University Hospital Monklands in January 2022. The focus of the Inspection was on Safe patient care. There were 7 requirements, with 1 relating to IPC: NHS Lanarkshire will ensure that all staff carry out hand hygiene at appropriate moments and use personal protective equipment in line with current guidance.

NHS Lanarkshire AOP Standards for HCAI 2019 to 2024/National KPIs/Local Standards

| Standards | | Benchmarking | | 2021/2023 Target | 2022/2024 Target |
|--|---|---|---|---|---|
| | | National rate Year-end Mar 2019 (100,000 TOBDs) | NHSL rate Year-end Mar 2019 (100,000 TOBDs) | NHSL rate Year-end Mar 2022 (100,000 TOBDs) | NHSL rate Year end March 2023 (100,000 TOBDs) |
| Gram-negative bacteraemia standard <i>E. coli</i> Bacteraemia | Reduction of 50% in healthcare associated <i>E. coli</i> bacteraemia by 2023/24, with an initial reduction of 25% by 2021/22. 2018/19 should be used as the baseline for <i>E. coli</i> bacteraemia reduction | 38.4 | 44.7 | 33.5 | 22.4 |
| <i>Staphylococcus aureus</i> bacteraemia (SAB) standard | Reduction of 10% in the national rate of healthcare associated SAB from 2019 to 2023, with 2018/19 used as the baseline for the SAB reduction target | 16.8 | 17.9 | 16.1 | |
| <i>Clostridioides difficile</i> infection (CDI) standard | Reduction of 10% in the national rate of healthcare associated CDI from 2019 to 2023, with 2018/19 used as the baseline for the CDI reduction target | 14.7 | 16.5 | 14.8 | |

Escherichia coli bacteraemia (ECB) (Gram-negative bacteraemia Standard)

Measure & Data: Rate of HCAI ECB per 100,000 total occupied bed days. Data published by Health Protection Scotland quarterly, Standard calculated against quarterly rolling year, three-month time lag.

Local Trajectory to achieve national standard of 50% reduction over five years from the NHSL end March 2019 baseline (benchmark)

| | |
|---------|--|
| 2019/20 | 44.7 to reduce to 33.5 |
| 2020/21 | 41.0 to reduce to 33.5 |
| 2021/22 | to reduce to 33.5 (25% reduction) |
| 2022/23 | to reduce to 33.5 |
| 2023/24 | 33.5 to reduce to 22.3 (50% reduction from end March 2019 baseline rate of 44.7) |

Escherichia coli Bacteraemia (ECBs)

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL ECB HCAI rate of 35.8 per 100,000 TOBDs; 202 HCAI cases;
- National ECB HCAI rate of 36.0 per 100,000 TOBDs;
- NHSL is below the national comparator for 2021/2022 HCAI ECB rates;
- NHSL is above the local AOP Standard rate (33.5) for 2021/2022 ECB rates.

Staphylococcus aureus bacteraemia (SAB) Standard

Measure & Data: Rate of HCAI SAB per 100,000 total occupied bed days. Data published by Health Protection Scotland quarterly, Standard calculated against quarterly rolling year, three-month time lag.

Local Trajectory to achieve national standard of 10% reduction over three years from the NHSL end March 2019 baseline (benchmark)

| | |
|---------|------------------------|
| 2019/20 | 17.9 to reduce to 16.1 |
| 2020/21 | to reduce to 16.1 |
| 2021/23 | to reduce to 16.1 |

Staphylococcus aureus Bacteraemia (SAB)

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL SAB HCAI rate of 16.3 per 100,000 TOBDs; 92 HCAI cases;
- National SAB HCAI rate of 17.6 per 100,000 TOBDs;
- NHSL is below the national comparator for 2021/2022 HCAI SAB rates; and
- NHSL is above the local AOP Standard rate (16.1) for 2021/2022 HCAI SAB rates.

Clostridioides difficile Infection (CDI) Standard

Measure & Data: Rate of HCAI CDI per 100,000 total occupied bed days. Data published by Health Protection Scotland quarterly, Standard calculated against quarterly rolling year, three-month time lag.

Local Trajectory to achieve national standard of 10% reduction over three years from the NHSL end March 2019 baseline (benchmark)

| | |
|---------|------------------------|
| 2019/20 | 16.5 to reduce to 14.8 |
| 2020/21 | to reduce to 14.8 |
| 2021/23 | to reduce to 14.8 |

Clostridioides difficile Infection (CDI)

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL CDI HCAI rate of 18.8 per 100,000 TOBDs; 106 HCAI cases;
- National CDI HCAI rate of 14.3 per 100,000 TOBDs;
- NHSL is above the national comparator for 2021/2022 HCAI CDI rates; and
- NHSL is above the local AOP Standard rate (14.8) for 2021/2022 HCAI CDI rates.

National Key Performance Indicators

MRSA & CPE CRA Compliance

Key Performance Indicator (KPI): To achieve 90% compliance or above. Quarterly reports submitted to Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland.

NHSL Performance (April 2021 -March 2022):

- 86% compliance for MRSA acute inpatient admission CRA completion (2% decrease in compliance from April 2021 – March 2022). (Exclusions: Maternity, Paeds, Mental Health, Psychiatry);
- For this reporting period; MRSA KPI has **not** been met.
- 67% compliance for CPE acute inpatient admission CRA completion (8% decrease in compliance from April 2021-March 2022); and
- For this reporting period; CPE KPI has **not** been met.

Local Standards

Hand Hygiene IPC Quality Assurance Audit

NHSL performance in 2021/2022:

Achieved 79% against a national requirement of 95% (decrease of 6% from 2021/2022).

Surgical Site Infections (SSIs)

NHSL performance in 2021/2022

Epidemiological data for SSI are not included due to the temporary suspension of all mandatory and voluntary SSI surveillance to support the COVID-19 response in March 2020.

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

Outbreak Incidence

NHSL performance in 2021/2022:

- 66 separate outbreak incidents; 12 in University Hospital Monklands (UHM); 19 in University Hospital Wishaw (UHW); 20 in University Hospital Hairmyres (UHH); 15 in the Health & Social Care Partnerships (H&SCPs);
- 45 ward closures; 21 room restrictions; and
- 494 patients; 188 staff affected.

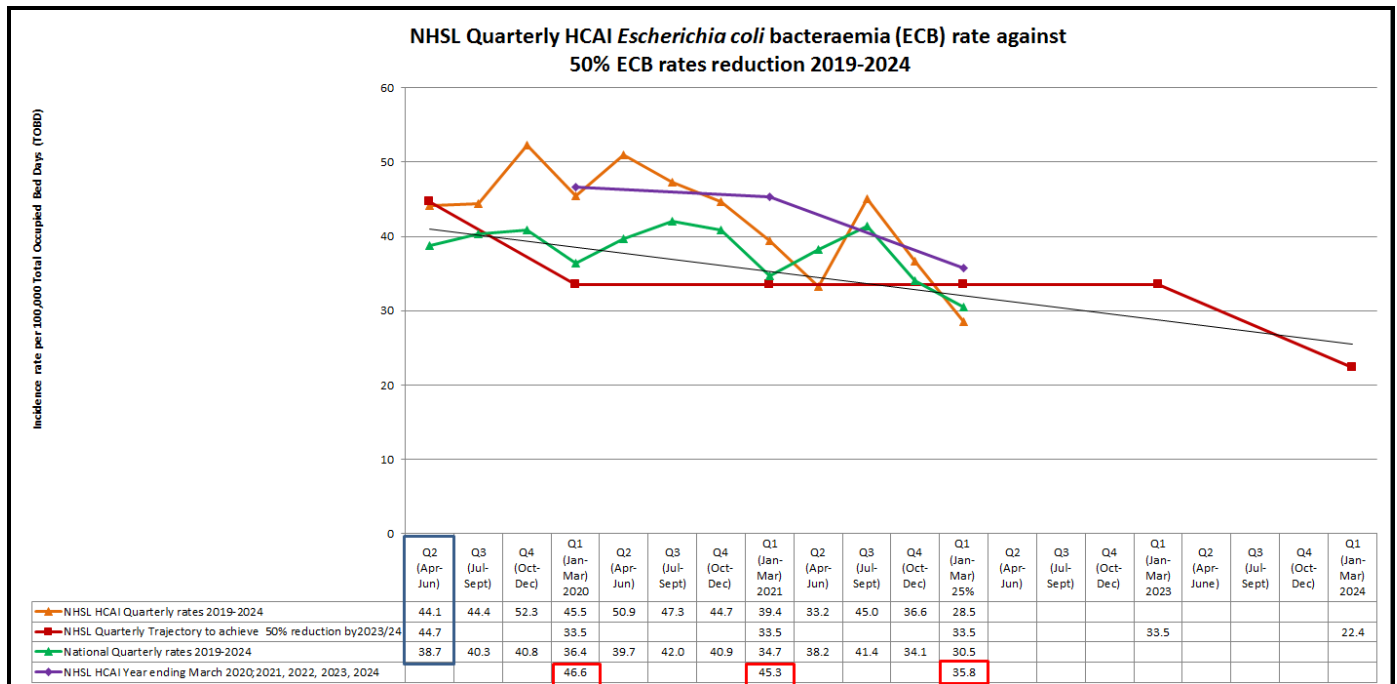
Escherichia coli bacteraemia (ECB)

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, inappropriate use of medical devices. Sometimes however, the source of the bacteraemia isn't known.

E. coli is currently the most common cause of bacteraemia in Scotland. As a result, the Scottish Government Health and Social Care Directorate (SGHSCD) requested an in-depth analysis of the epidemiology of *E. coli* bacteraemia.

| Standards | | Benchmarking | | 2021/2023 | 2023/2024 |
|------------------------------------|---|-------------------|-------------------|---------------------------------------|---|
| | | National rate | NHSL rate | Target | Target |
| | | Year-end Mar 2019 | Year-end Mar 2019 | NHSL rate | NHSL rate |
| Gram-negative bacteraemia standard | Reduction of 50% in healthcare associated <i>E. coli</i> bacteraemia by 2023/24, with an initial reduction of 25% by 2021/22. 2018/19 should be used as the baseline for <i>E. coli</i> bacteraemia reduction | 38.4 (2341 cases) | 44.7 (252 cases) | Year-end Mar 2022 33.5 (189 cases) | Year end March 2023 22.4 (126 cases) |



521 Total Cases



202 HCAI Cases



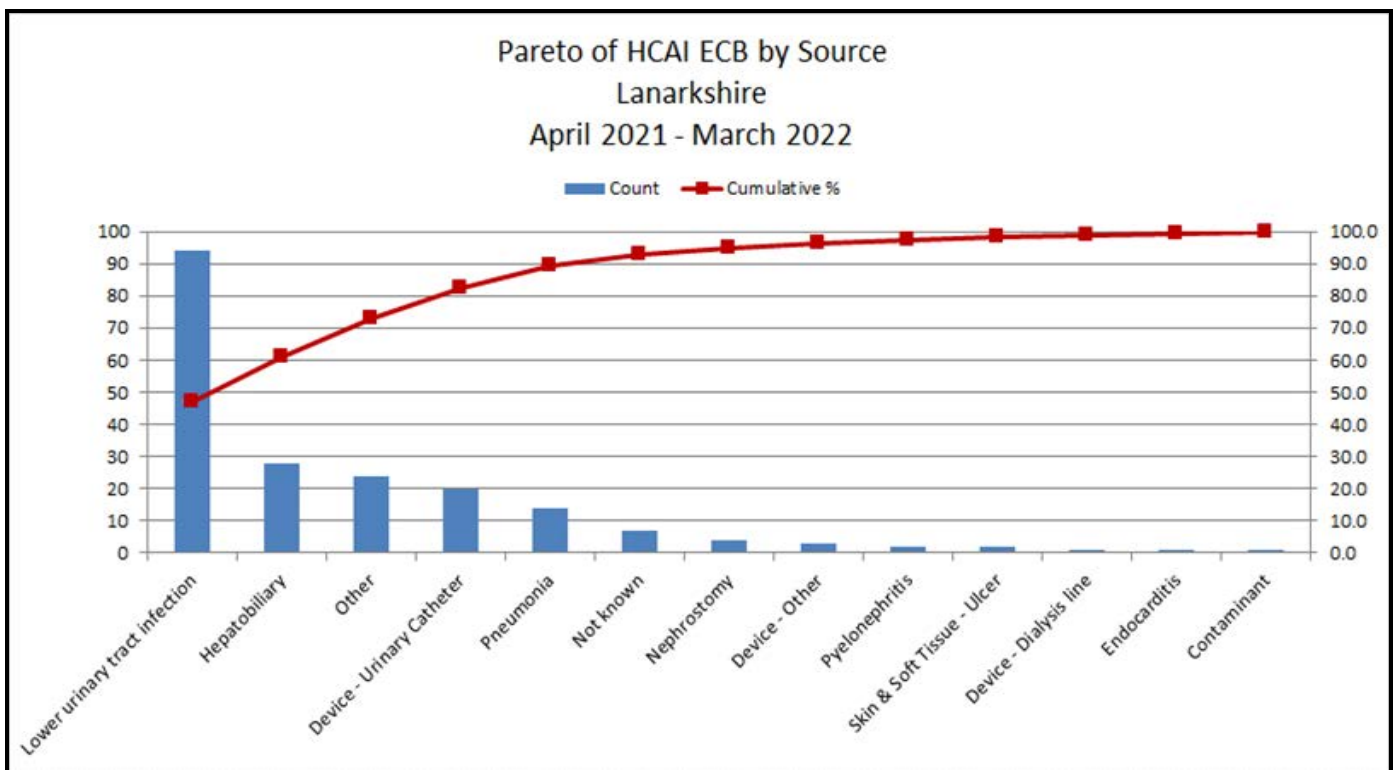
319 CAI Cases

(13 HCAI cases above target of 189 cases)

Escherichia coli bacteraemia Standard

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL ECB HCAI rate of 35.8 per 100,000 TOBDs; 202 HCAI cases;
- National ECB HCAI rate of 36.0 per 100,000 TOBDs;
- NHSL is below the national comparator for 2021/2022 HCAI ECB rates; and
- NHSL is above the local AOP Standard rate for 2021/2022 ECB rates.



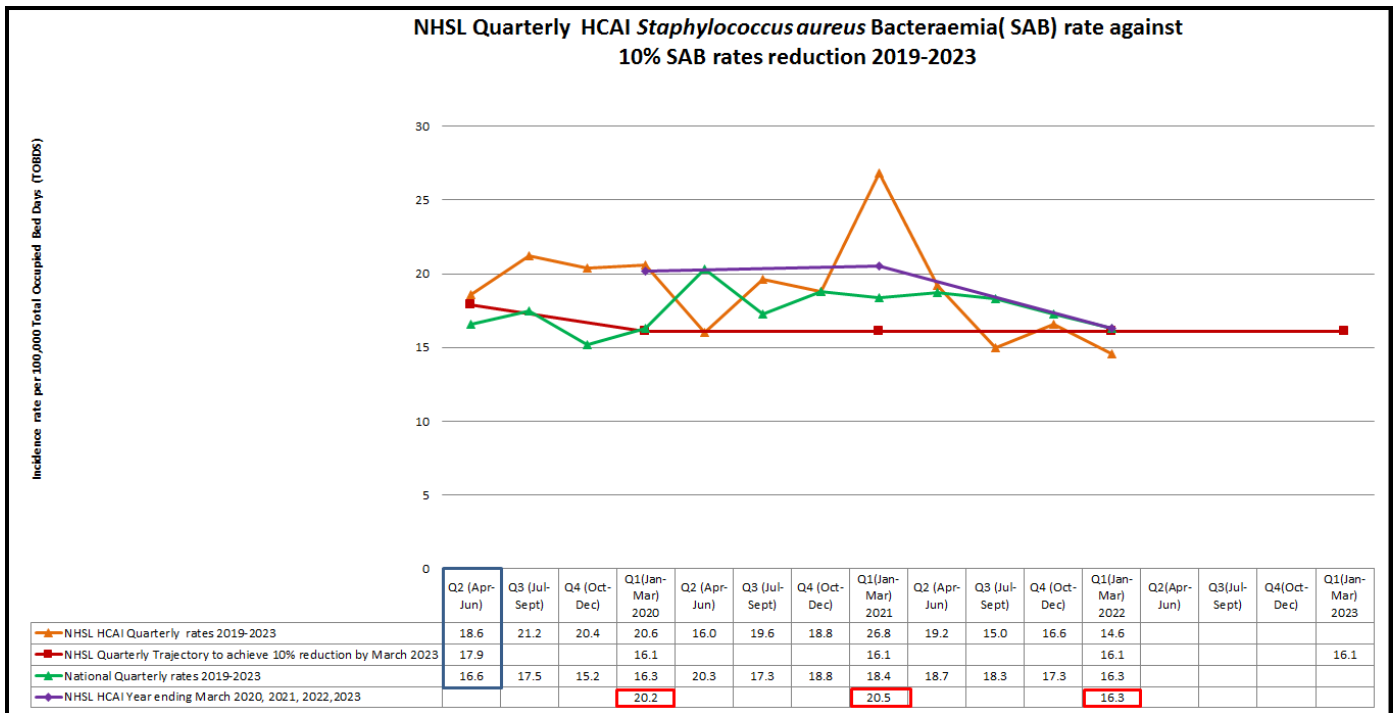
Quality Improvement and interventions to reduce ECB infections:

- Monitoring of compliance with the National Infection Prevention and Control Manual Chapter 1: Standard Infection Control Precautions (SICPs) by the clinical teams;
- Monthly data score cards to clinical teams detailing number of ECB;
- ECB data is a standard Agenda item on all Hygiene Groups;
- A full review of the ECB data is currently underway across all of health to identify areas for improvement specifically related to lower urinary tract infection; and
- ECB reduction is a key deliverable in the Virtual IPC Breakthrough Series Collaborative and Antimicrobial Stewardship continues to be a priority in the management of patients with lower urinary tract infections.

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.

| Standards | | Benchmarking | | 2021/2023 Target |
|---|--|---|---|---|
| | | National rate Year-end Mar 2019 (100,000 TOBDs) | NHSL rate Year-end Mar 2019 (100,000 TOBDs) | NHSL rate Year-end Mar 2023 (100,000 TOBDs) |
| Staphylococcus aureus bacteraemia (SAB) standard | Reduction of 10% in the national rate of healthcare associated SAB from 2019 to 2022, with 2018/19 used as the baseline for the SAB reduction target | 16.8 (1026 cases) | 17.9 (101 cases) | 16.1 (91 cases) |



161 Total Cases



92 HCAI Cases



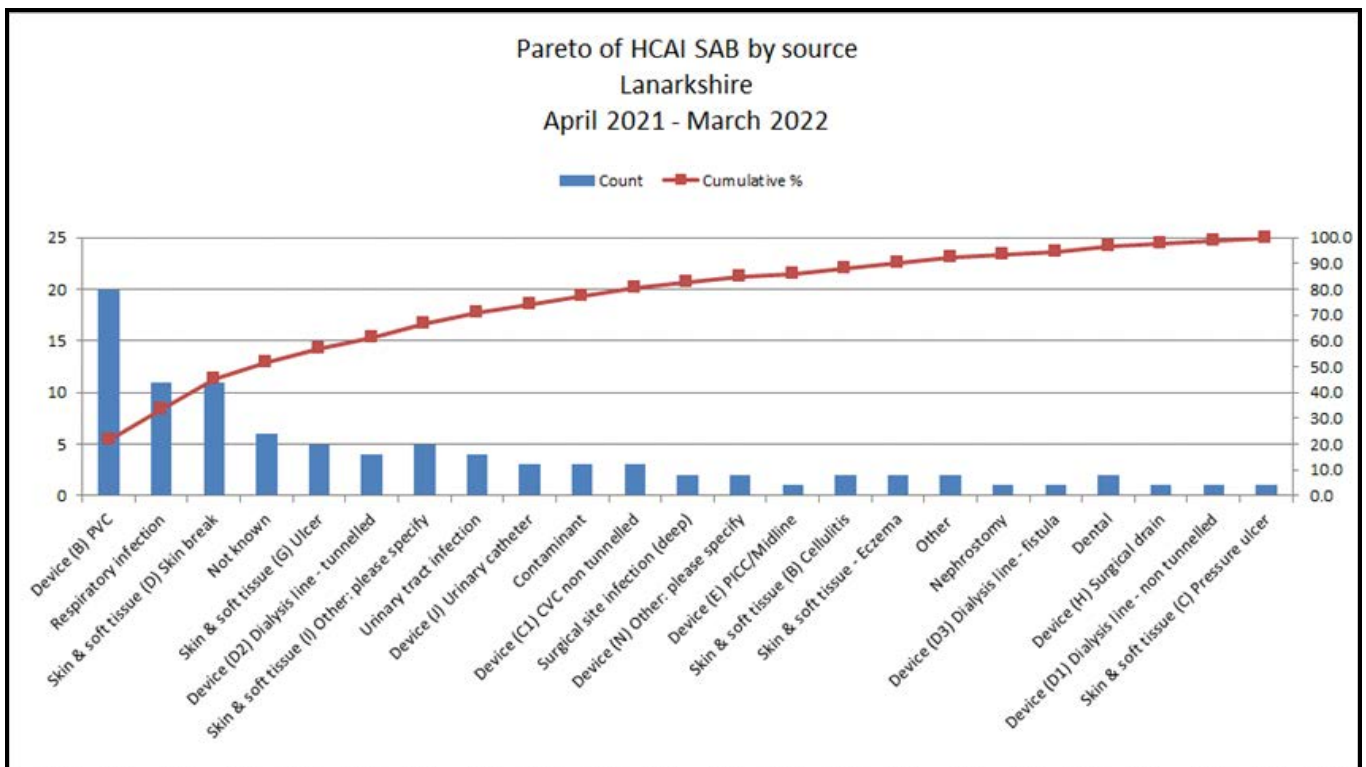
69 CAI Cases

(1 HCAI case above target of 91 cases)

Staphylococcus aureus bacteraemia Standard

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL SAB HCAI rate of 16.3 per 100,000 TOBDs; 92 HCAI cases;
- National SAB HCAI rate of 17.6 per 100,000 TOBDs;
- NHSL is below the national comparator for 2021/2022 HCAI SAB rates; and
- NHSL is above the local AOP Standard rate for 2020/2021 HCAI SAB rates.



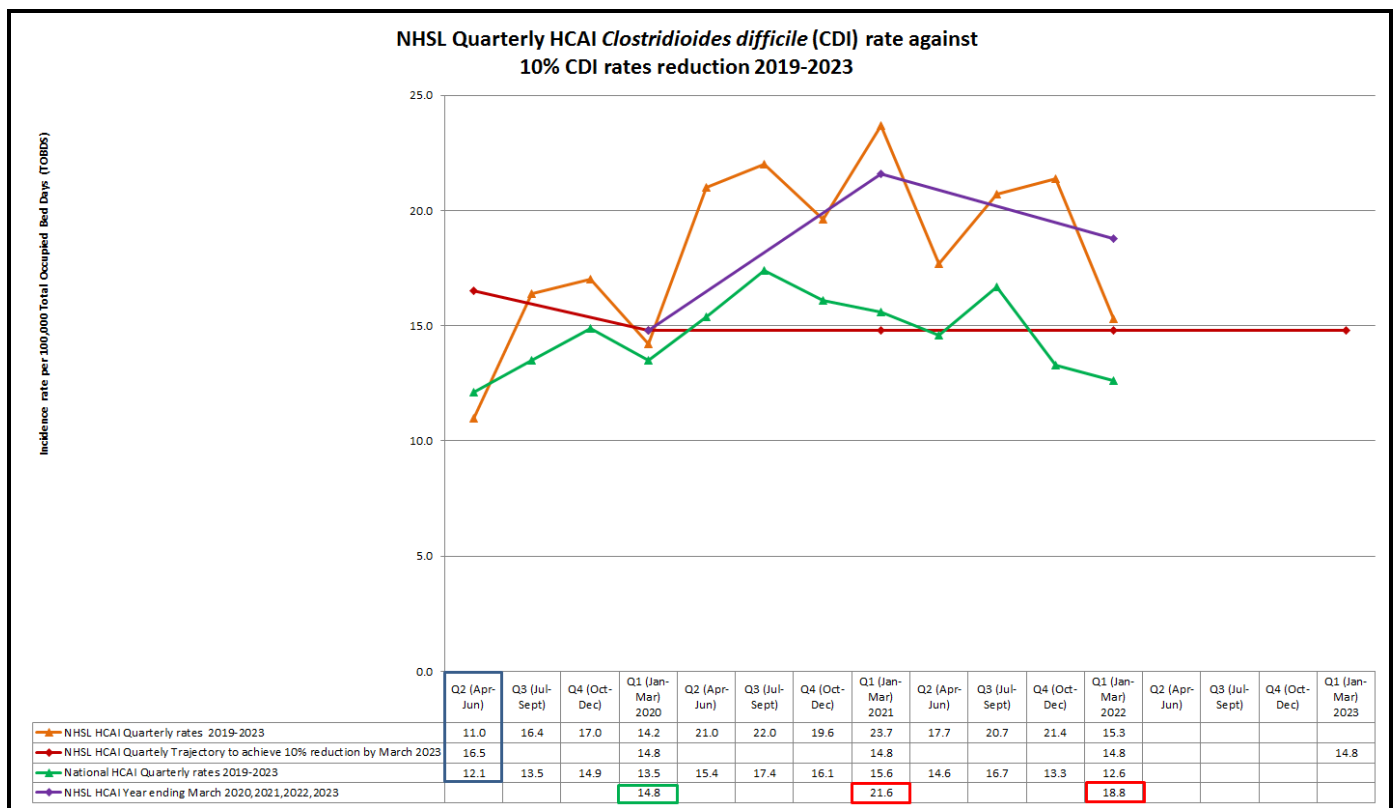
Quality Improvement and interventions to reduce *S. aureus* Bacteraemia (SAB):

- Monitoring of compliance with the National Infection Prevention and Control Manual Chapter 1: Standard Infection Control Precautions (SICPs) by the clinical teams;
- Monitoring of compliance with Meticillin resistant *Staphylococcus aureus* Clinical Risk Assessment;
- Monthly data score cards to clinical teams detailing number of SAB and source;
- SAB data is a standard Agenda item on all Hygiene Groups;
- SAB multi-disciplinary reviews for patients with a SAB noted on the death certificate is undertaken. A Datix is then completed and a review undertaken to determine if a SAER is required. All learning is taken through the Hygiene Groups;
- Part 1 of the Safety Manual for Vascular Access Device Safety (VADS) has been completed. This guidance will support staff to safely insert and maintain peripheral vascular devices; and
- SAB reduction is a key deliverable of the Virtual IPC Breakthrough Series Collaborative.

Clostridioides difficile Infection (CDI)

CDI is a significant 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.

| Standards | | Benchmarking | | 2021/2023 |
|--|--|-------------------------|------------------------|------------------------|
| | | National rate | NHSL rate | Target |
| | | Year-end Mar 2019 | Year-end Mar 2019 | Year-end Mar 2023 |
| | | (100,000 | (100,000 | (100,000 |
| | | TOBDs) | TOBDs) | TOBDs) |
| Clostridioides difficile infection (CDI) standard | Reduction of 10% in the national rate of healthcare associated CDI from 2019 to 2022, with 2018/19 used as the baseline for the CDI reduction target | 14.7 (895 cases) | 16.5 (93 cases) | 14.8 (84 cases) |



138 Total Cases



106 HCAI Cases



32 CAI Cases

(22 HCAI cases above target of 84 cases)

Clostridioides difficile Standard

NHSL Performance (April 2021 - March 2022): HCAI

- NHSL CDI HCAI rate of 18.8 per 100,000 TOBDs; 106 HCAI cases;
- National CDI HCAI rate of 14.3 per 100,000 TOBDs;
- NHSL is above the national comparator for 2021/2022 HCAI CDI rates; and
- NHSL is above the local AOP Standard rate for 2021/2022 HCAI CDI rates.



Quality Improvement and interventions to reduce CDIs:

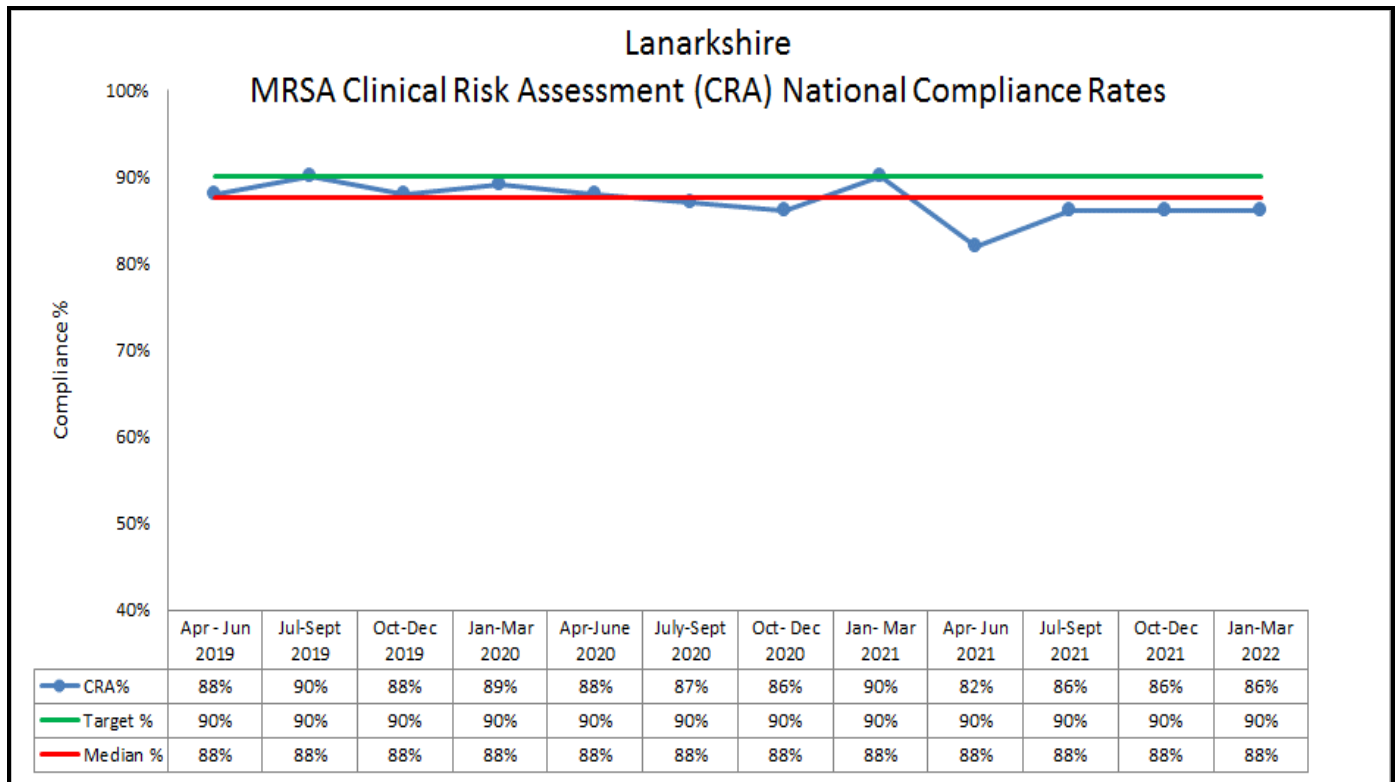
- Monitoring of compliance with the National Infection Prevention and Control Manual Chapter 1: Standard Infection Control Precautions (SICPs) by the clinical teams;
- Management of Loose Stools information provided to all wards by the IPCT to refresh actions, management and precautions to be taken;
- Prompt recognition of diarrhoeal patients and isolation;
- Monthly data score cards to clinical teams detailing number of CDI;
- CDI data is a standard Agenda item on all Hygiene Groups;
- Refresh of the Vale of Leven improvement plan commissioned by the ICC;
- Support from ARHAI Scotland to understand the impact of the pandemic on local and national AOP Standards;
- A Datix is raised for all CDI related deaths and severe cases. A review is then undertaken to determine if a SAER is required; all learning is tabled at the Hygiene groups for improvement; and
- Antimicrobial stewardship continues to be a priority in the management of CDI.

MRSA Acute Inpatient Admission Screening

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

Key Performance Indicators (KPI) for Meticillin Resistant *Staphylococcus aureus* (MRSA) for Clinical Risk Assessment (CRA)

- NHSL overall compliance was 86% against a national requirement of 90% or above. This is a decrease of 4% from last year's performance; and
- There were a total of 140 patient nursing notes reviewed and 120 had the CRA completed. Of the 120 patients who had a CRA completed, 26 patients required to be swabbed for MRSA which equates to 22%

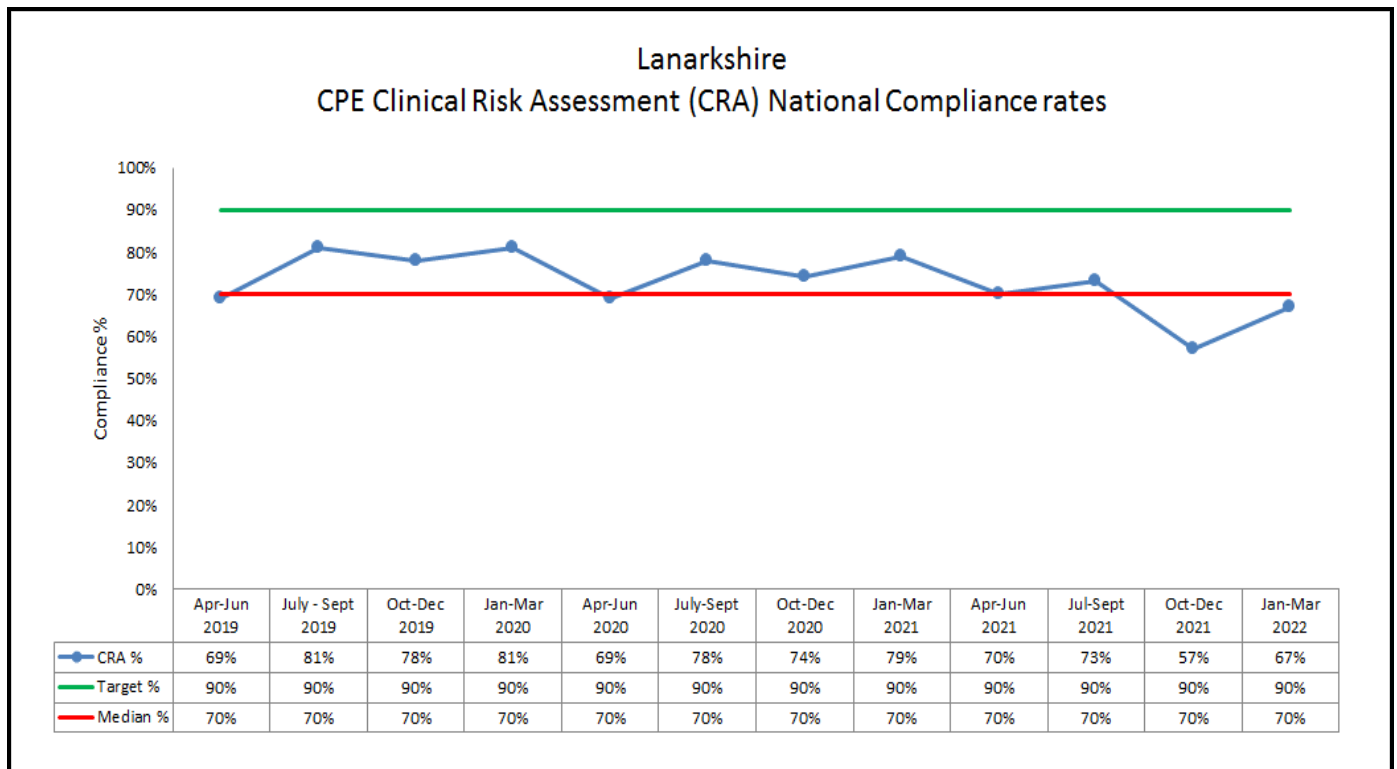


Carbapenemase producing *Enterobacteriaceae*

A national Carbapenemase producing *Enterobacteriaceae* (CPE) acute inpatient admission screening policy was fully implemented across NHSL since May 2018. A CPE CRA is completed for all acute inpatient admissions and against the screening policy identifies a subset of patients at high risk of CPE colonisation or infection on admission to hospital. These patients are then screened in line with national guidelines for CPE screening. This method of screening reduces the number of patients that require to be laboratory tested for CPE and allows high risk patients to be pre-emptively isolated in a single room whilst the results of the test are awaited.

Key Performance Indicators (KPI) for Clinical Risk Assessment (CRA) for Carbapenemase-producing *Enterobacteriaceae* (CPE) CRA compliance.

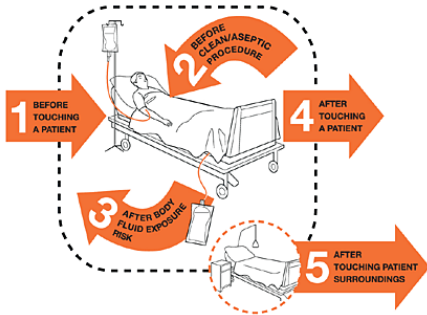
- NHSL overall compliance was 67% against a national requirement of 90% or above. This is a decrease of 8% from last year's performance; and
- There were a total of 140 patient nursing notes reviewed and 94 had the CRA completed. Of the 94 patients who had a CRA completed, 1 patient was required to be swabbed for CPE.



Local Standards

Hand Hygiene

Hand Hygiene is recognised as being the most effective cornerstone of IPC in healthcare.

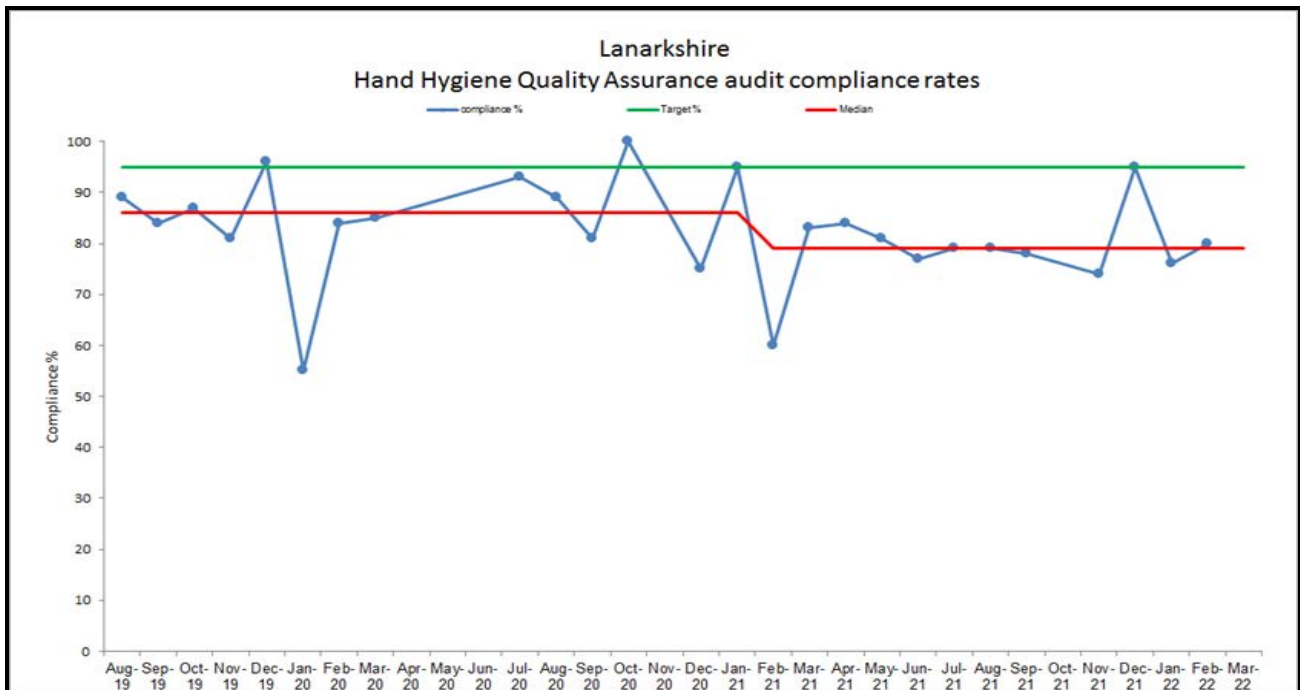


Hand Hygiene is a term used to describe the decontamination of hands by various methods including routine hand washing and/or hand disinfection which includes the use of alcohol gels and rubs.

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

NHSL has reached an overall compliance level of 79% during 2021/2022 against the national compliance level of 95% or above. Below is a breakdown of compliance levels by staff group of hand hygiene quality assurance reviews carried out by the IPCT. Please note the data source is from IPC quality assurance hand hygiene audits; clinical teams will carry out separate local hand hygiene compliance audits however these are not included in the data below. Please note that this year in response to the COVID-19 pandemic the audit programme was paused for a period of time to allow both IPC staff and clinical staff to focus on the pandemic and delivery of patient care during this challenging time.

- **NHS Lanarkshire overall compliance: 79% (833 of 1050 staff assessed)**
- Nursing: 78% (613 of 788 staff were compliant);
- Medical: 89% (127 of 143 staff were compliant);
- Ancillary/Other: 71% (47 of 66 staff were compliant); and
- Allied Health Professionals: 65% (51 of 79 staff were compliant).



Surgical Site Infection

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 it can result in increased pain, suffering and in some cases require additional surgical interventions.

Epidemiological data for SSI are not included due to the temporary suspension of all mandatory and voluntary SSI surveillance to support the COVID-19 response in March 2020.

Prior to the pausing of surveillance, NHSL did not receive an SSI exception report for 2019/2020 from ARHAI Scotland. Exception reports are issued to NHS boards where the incidence rate of SSI is higher than expected based on the national data and is above the upper 95% confidence limit in the funnel plot analysis. Any NHS board issued with an exception are asked to provide ARHAI Scotland with a board action plan outlining measures they will be taking to reduce the incidence of SSI.

Quality Improvement and interventions to reduce SSIs:

- On pause

Outbreak Management

66 Separate Outbreaks in 2021-2022

In 2021/2022 there was an increase in the number of healthcare associated outbreaks of infection with a total of **66** outbreaks (**55** COVID-19 Outbreaks, **3** Norovirus outbreaks, and **8** D&V outbreaks) managed by the IPCT and frontline staff in comparison to **13** outbreaks in 2020/2021.



12 UHM – 12 ward closures; no room restrictions.



20 UHH – 12 ward closures; 8 room restrictions.



19 UHW – 6 ward closure; 13 room restrictions.



2 South H&SCPs – 2 ward closures; 0 room restrictions.



13 North H&SCPs - 13 Ward closures, 0 room restrictions.

- 494 patients; 188 staff affected.

Total Number of IPCT Referrals 2021-2022

There were 6183 IPC referrals for April 2021-March 2022.

UHM -1863 referrals

UHW -1726 referrals

UHH - 1646 referrals

H&SCP non acute - 948 referrals

Healthcare Infection Incident Assessment Tool (HIIAT)- COVID-19 Reporting

During April 2021 to March 2022 there were 28 RED, 12 AMBER and 88 GREEN HIIATs relating to COVID-19 sent to ARHAI Scotland.

Red HIIATS for COVID 19

12 red HIIATS for University Hospital Wishaw (UHW)
6 red HIIATS for University Hospital Hairmyres (UHH)
4 red HIIATS for University Hospital Monklands (UHM)
1 red HIIAT for Lady Home Cottage Hospital
3 red HIIAT for Stonehouse Hospital Lockhart unit
1 red HIIAT for Ward 3 Mental Health (UHW)
1 red HIIAT for Victoria Memorial Cottage Hospital

Amber HIIATS for COVID 19

0 amber HIIATS for UHW
7 amber HIIATS for UHM
1 amber HIIATS for UHH
1 amber HIIAT for Kello Hospital
1 amber HIIAT for Stonehouse Hospital Lockhart unit
1 amber HIIAT for Udston Hospital Brandon ward
1 amber HIIAT for Udston Hospital Clyde ward

Green HIIATS for COVID 19

25 green HIIATS for UHW
27 green HIIATS for UHH
24 green HIIATS for UHM
1 green HIIAT for Airbles Road Centre
2 green HIIAT for Beckford Lodge
1 green HIIAT for Cleland Hospital
1 green HIIAT for Coathill Glenmore ward
1 green HIIAT for Kello Hospital
3 green HIIAT for Stonehouse Hospital Lockhart unit
3 green HIIAT for Mental Health (UHW)

Healthcare Infection Incident Assessment Tool (HIIAT)- Non-COVID-19 Reporting

During April 2021 to March 2022 there were 3 RED, 1 AMBER and 12 GREEN HIIATs relating to other organisms sent to ARHAI Scotland.

Red HIIAT

- 1 red HIIAT for UHM regarding *Staphylococcus aureus* (RDU A)
- 1 red HIIAT for UHW regarding *Clostridioides difficile* (Ward 12)
- 1 red HIIAT for UHM regarding *Enterococcus faecium* (ICU/Ward 26)


Amber HIIAT


- 1 Amber HIIAT for UHM regarding *Aspergillus* (Ward 16)

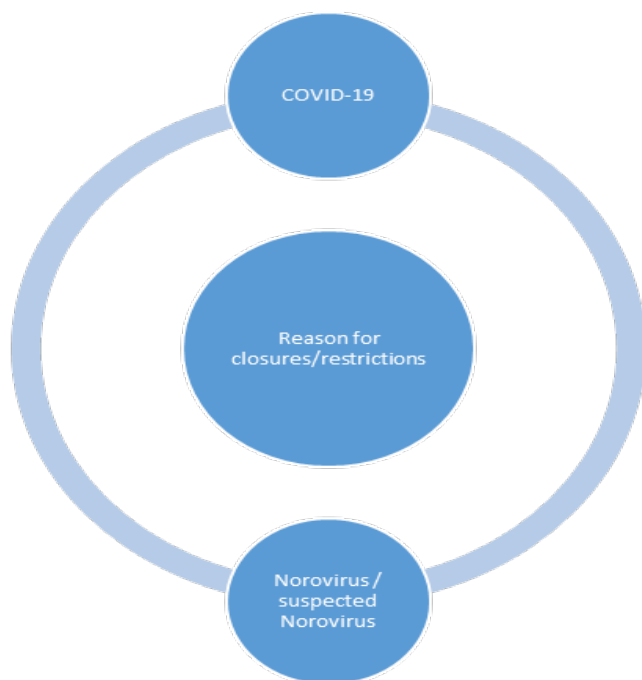
Green HIIATs

- 1 Green HIIAT for UHM regarding *Staphylococcus aureus* (RDU B)
- 1 Green HIIAT for UHM regarding *Burkholderia cepacia* (ICU/Ward 17)
- 1 Green HIIAT for UHM regarding *Pseudomonas* (Ward 16)
- 1 Green HIIAT for UHM regarding *Klebsiella pneumonia* (Ward 4)
- 1 Green HIIAT for UHM regarding Unknown (ICU ward 26)
- 1 Green HIIAT for UHM regarding *Legionella pneumophila* (Renal/Endoscopy)
- 1 Green HIIAT for UHM regarding Unknown (Ward 16)
- 1 Green HIIAT for UHW regarding Unknown (Neonatal)
- 1 Green HIIAT for UHW regarding *Staphylococcus capitis* (Neonatal)
- 1 Green HIIAT for UHW regarding *Stenotrophomonas maltophilia* (ACCU)
- 1 Green HIIAT for UHW regarding *Clostridioides difficile* (Ward 12)
- 1 Green HIIAT for UHW regarding *Clostridioides difficile* (Ward 12)

 45 Full Ward Closures

 21 Room restrictions

 494 Patients affected
188 Staff affected



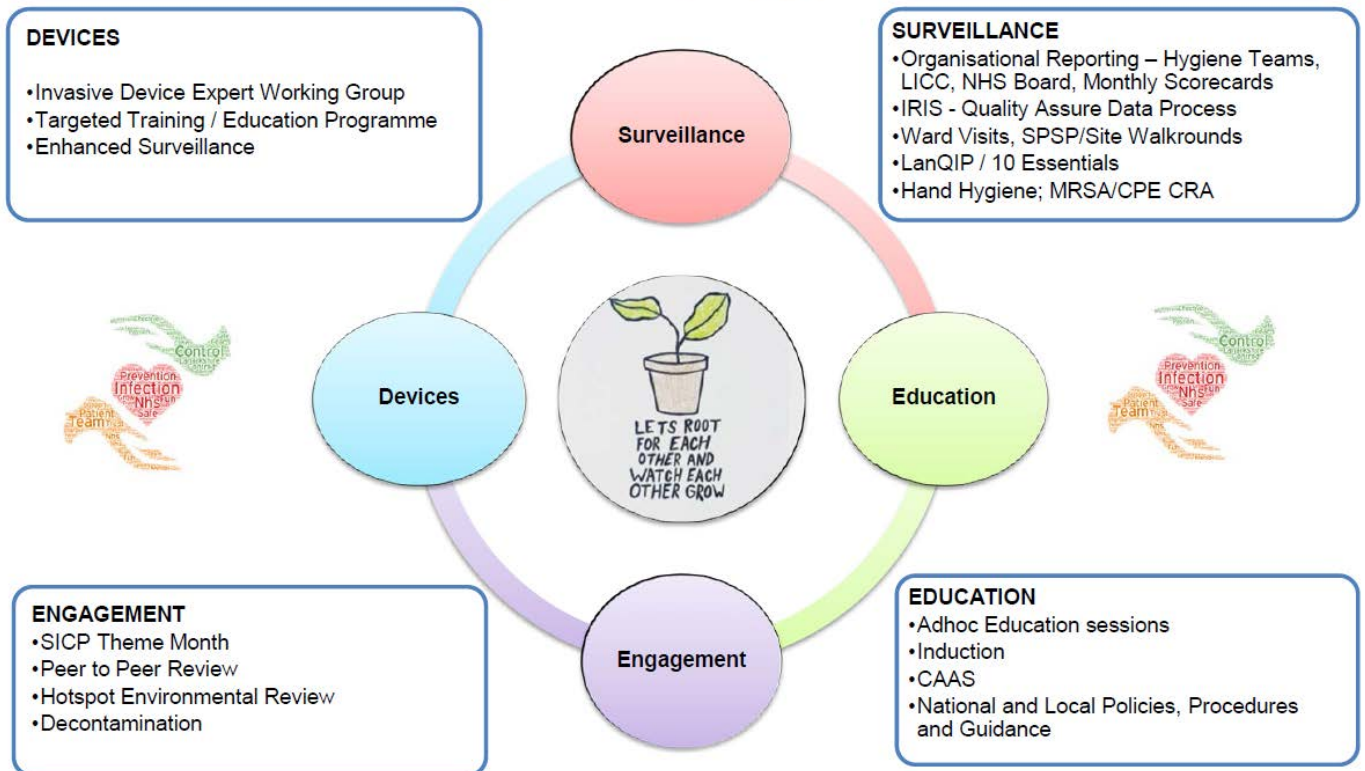
Interventions to support reduction of outbreaks:

- Winter preparedness folders prepared and distributed to all inpatient areas in NHSL;
- IPCT COVID-19 education sessions delivered as and when required across all of health.
- IPCT engagement with staff to work proactively in managing patients / isolation / cohort to minimise effect;
- Apply learning from IMT and / or Outbreak Management De-briefs; and
- Infection Prevention Update Daily (Safety Brief) as per IPC pandemic response plan.

Monitoring Programme

The role of an IPCT in healthcare is to prepare for, prevent, detect and manage outbreaks of infection. In order to achieve this, a key focus on prevention of infection is paramount – the greater the emphasis on prevention, the less time spent controlling. Most of the activity centred around the pandemic response and supporting teams with the application of guidance into practice.

Infection Prevention and Control - 'SEED' Surveillance; Education; Engagement; Devices



SEED Topics Completed

There were no SEEDS carried out from April 2021 until March 2022, this was due to the COVID-19 pandemic. The focus for the reporting period April 2021 to March 2022 was the delivery of COVID-19 education sessions. SEED education sessions are always put on pause during the winter months to allow for winter preparedness. Winter preparedness folders were delivered to all in patient areas within NHSL in November 2021.

COVID-19 Response

In December 2019 a novel coronavirus was identified in Wuhan City, China. Early cases were likely infected via an animal source in a 'wet market', however as the cases increased evidence confirmed human to human transmission. The World Health Organisation (WHO) declared a public health emergency of international concern in January 2020. In response to this emerging situation UK preparedness commenced to engage and prepare the public and healthcare teams initially to contain the virus then to manage the ongoing situation. On the 11 March 2020, WHO declare a Global Pandemic advising 'all countries can still change the course of the pandemic if they detect, test, treat, isolate, trace and mobilise people in their response'.

IPCT Response 2021/2022

- Guidance changes and updates for staff
- National planning, consultation and guidance development
- FAQs & Bulletins
- PPE training
- Pathway planning i.e. respiratory, surgical, dental etc.
- Community Assessment Centres support
- Remobilisation and Recovery support for all services
- Care Home Support
- Liaising with wider community organisations – Social Work/Care Inspectorate/GPs
- Pathways for children to return to education/nursery
- Support for operating theatres/endoscopy units with post AGP follow time relating to pathway
- Procurement of PPE
- Outbreak management – PAG/IMTs

IPC Resource April 2021 to March 2022

- There were 11.52 wte IPCT Nursing staff in post for this reporting period, 20.10% sick leave was recorded.
- There was 1wte IPCN on Maternity Leave from 30-05-2021
- There were 3.48 wte administrative staff in post for this reporting period, 5.58% sick leave was recorded.
- As noted above funding issues regarding the post for the Decontamination Lead 1x1.0 wte were identified. This is currently being pursued by the Head of IPC and has been recorded as a risk on the IPC risk register.
- All work programme deliverables were reviewed and leaned to release resource;
- All staff received IT resource and support to work from home if and when required (part of existing contingency planning)

Surveillance

- During 2020-2021 the dedicated Surveillance team was stood down. This was in response to the pandemic and the need to move staff to front line positions. This was also the case for 2021-2022 (the Lead Surveillance Nurse retired in September 2021).

Recovery and Remobilisation Phase: Ongoing review of resource versus demand

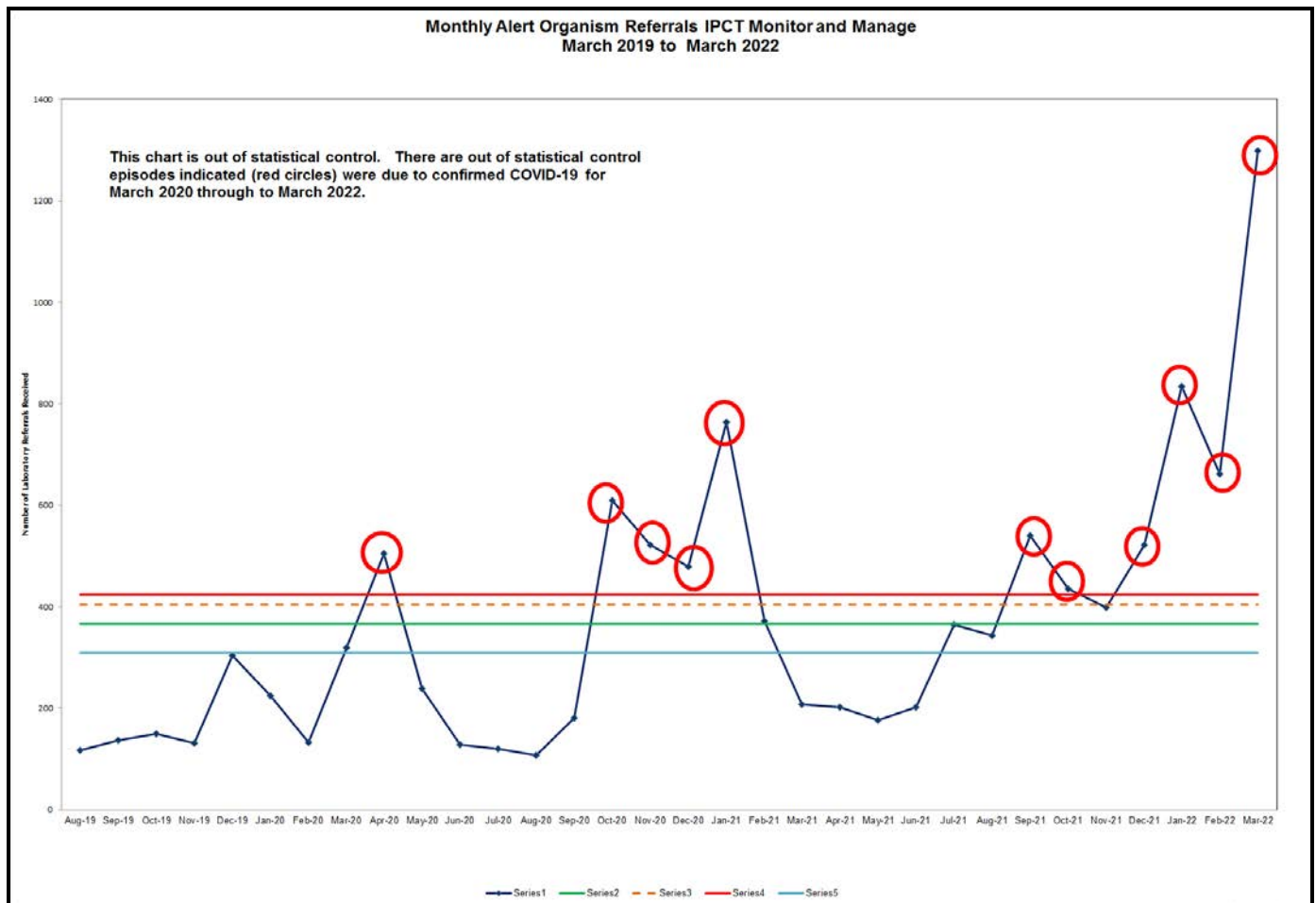
As services moved to recovery there was an additional demand on IPC technical expertise. Any triggers in relation to demand outstripping capacity and flex in the system were addressed as and when identified.

Infection Related Intelligence Service

Every NHS Board in Scotland is mandated by the Standards for Healthcare Associated Infection (2015) to have robust and effective surveillance systems of alert organisms and conditions in place. NHSL has had a bespoke surveillance system in place since 2016; this system is person dependent and not an electronic surveillance system.

Commencing in February 2020 to 31 March 2022 the IPC service responded to the demand of the COVID-19 Pandemic. There were 2995 confirmed cases in NHSL for this period. The IPCT extended working hours to provide advice out of hours and over weekends. The IPCT worked closely with colleagues to provide up to date status reports on the numbers of suspected and confirmed COVID-19 cases. Successful and timely management of these cases allowed safe and effective management of all COVID 19 cases although there were significant challenges with patient placement at times.

Throughout 2021-2022, there were a total of 5235 alert organisms (up by 1005 from previous year) referred via the laboratory to the IPCT to monitor and manage within an acute setting and 948 via General Practitioner (GP) samples and other non-acute areas received. The following chart provides an overview of the alert organism referral number.



This chart is out of statistical control. There are out of statistical control episodes indicated (red circles) these were due to numbers of confirmed Influenza cases in 2018/19 and confirmed Covid-19 for March 2020 through to March 2022.

Healthcare Improvement Scotland (HIS) Inspections

HIS Announced/unannounced inspections 2021-2022

HIS confirmed in November 2021 that a programme of hospital inspections would commence, focussing on the delivery of safe patient care.

The methodology was adapted to inspect against Healthcare Associated Infection (HAI) Standards (2015), the Health and Social Care Standards (2017), the Quality Framework and any other national standards that come into scope through inspection findings.

Inspection tools have been updated and will continue to be reviewed to ensure that they reflect current national guidance and any impact this may have on the delivery of safe care.

As part of the new methodology, NHS boards were asked to provide evidence of the board's policies and procedures relevant to the inspection. The purpose of this is to limit the time the inspection team is onsite, reduce the burden on ward staff and to inform the virtual discussion session.

NHS Lanarkshire has undergone **1** unannounced inspection for this reporting period as follows:

University Hospital Monklands underwent an unannounced inspection undertaken 18-20 January 2022. The findings were as follows:

Domain 5 - Delivery of safe, effective, compassionate and person-centred care

Requirement 1a

A robust process will be established across NHS Lanarkshire to ensure safe patient placement when utilising non-standard clinical areas for patient care.

NHS Lanarkshire will continue to work to ensure risk assessments and care plans are regularly evaluated and updated to reflect changes in the patient's condition or needs, and that all relevant documentation is in place and completed.

Requirement 1b

NHS Lanarkshire must ensure that patients have person-centred care plans in place for all identified care needs. These should be regularly evaluated and updated to reflect changes in the patient's condition or needs. The care plans should also reflect that patients are involved in care and treatment decisions.

Requirement 2

NHS Lanarkshire will ensure that patient mealtimes are managed consistently and that patients receive adequate support at mealtimes

Requirement 3

NHS Lanarkshire will ensure that all staff carry out hand hygiene at appropriate moments and use personal protective equipment in line with current guidance.

Requirement 4

NHS Lanarkshire will ensure that there are systems in place to assure themselves that essential maintenance works are completed to the correct standard and any risks to patients and staff are identified and managed.

Domain 7 - Workforce management and support

Requirement 5

NHS Lanarkshire will ensure that there are communication systems and processes in place to provide staff with feedback of the actions taken to address risks raised

Requirement 6

NHS Lanarkshire will ensure a balanced approach when distributing supplementary staffing, ensuring consideration is given to levels of patient dependency and complexity when making real time staffing decisions

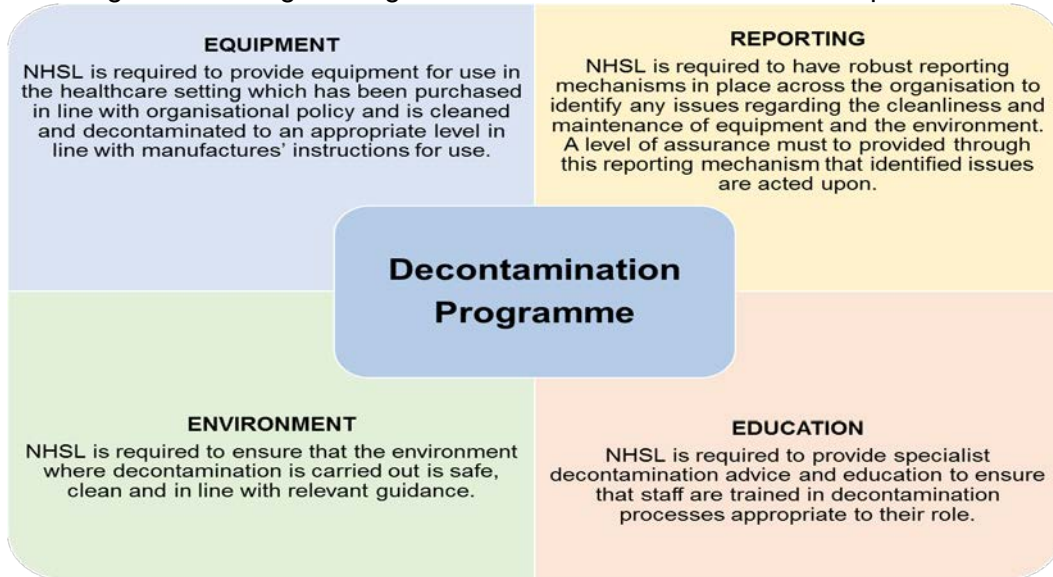
Domain 9 - Quality improvement-focused leadership

Requirement 7

NHS Lanarkshire will ensure that systems and processes are in place to identify, assess, manage and communicate any patient safety risks throughout the organisation

Decontamination

The HPS definition of decontamination is that there is a combination of processes used to reduce the number of infections that cross from one person to another – cross infection – from medical instruments, equipment or the environment. Decontamination is the term used that means cleaning, disinfection and sterilisation. There is currently a risk recorded on the IPC Risk Register due to not having the recurring funding to have a Decontamination Lead in post.



Quality improvement and interventions to implement the decontamination programme:

- Decontamination Environmental Monitoring group continue to meet quarterly to act as a management group and ensure that NHSL operates safely with respect to the management of decontamination and environmental monitoring;
- The Lead for Decontamination undertook monitoring on behalf of the DEMG to ensure that decontamination policy/procedures undertaken within NHSL encompass all statutory and regulatory requirements to improve patient outcomes, however the post became vacant in January 2022. The previous post holder continues to provide advice regarding decontamination issues in the meantime.
- The Decontamination of Equipment and Environment Policy was reviewed, and an extension was granted until October 2022 to ensure the content is robust.
- The Terms of Reference for the DEMG are currently under review to ensure the membership includes the appropriate stakeholders and the remit of the group is clear.

Training and Education

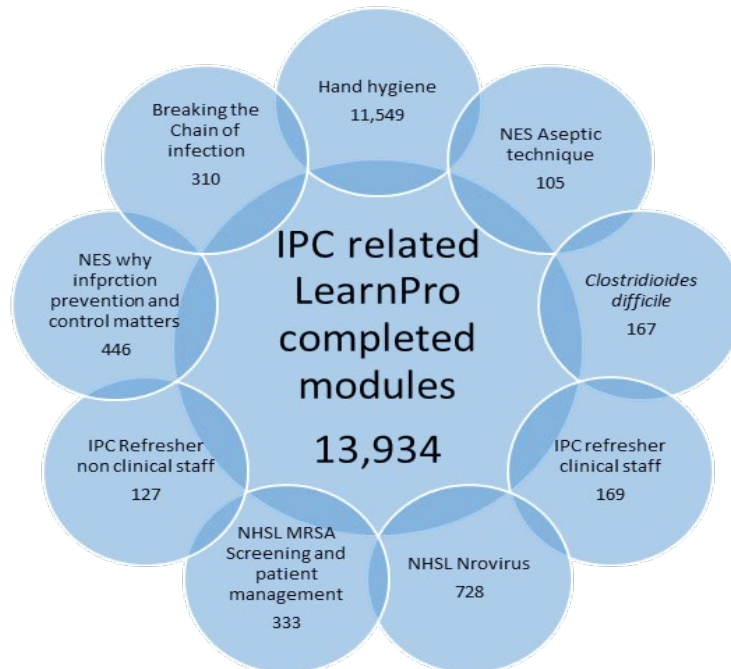


IPCT Training & Education Sessions

The organisation has around 14,500 staff members (clinical and non-clinical roles). Throughout 2021/2022, various training and educational sessions were completed by the IPCT. The training primarily consisted of focused COVID-19 education in response to the pandemic:

- COVID-19 specific ward based training
 - PPE training including donning and doffing
 - Hand hygiene in relation to COVID-19
 - Medical Induction
 - Newly Qualified Nurse Induction
 - COVID 19 Q&A
 - COVID-19 bulletin/FAQ development
- Winter Preparedness/outbreak folder
 - Various educational videos produced for communications campaigns
 - IPC Breakthrough Series Collaborative

NHSL Staff LearnPro Modules Completed



Celebrating Success 2021-2022

The COVID-19 pandemic had and continues to have an impact on how we deliver care. Healthcare delivery has been completely transformed as we strive to preserve the lives and wellbeing of our communities, our patients, service users, residents and staff. Working collaboratively has never been more important, as together, teams have had to navigate changing parameters and find common ground to maintain safety and quality.

A massive thank you to all the staff in our wards, departments, community hospitals, health centres/GP surgeries, dentists, care homes, schools and councils for valuing our support. To all managers and senior leaders, thank you for your leadership and for steering the ship in very rough waters.

Looking forward 2021-2022

Operational Service Delivery

NHS Lanarkshire will continue to make progress in the prevention and control of infection and the management of HCAI during 2022-2023, and respond quickly and effectively to developments and changes in national strategy. This will form a strong base from which to move forward on the challenges of the next twelve months as set out in the IPC Annual Work Programme 2022-2023. Particular focus will be placed on achieving the current Annual Operating Plan Standards and Local Standards for Hand Hygiene and Multi Drug Resistant Organisms (MDRO) clinical risk assessment compliance by the end of March 2023. The Virtual Breakthrough Series Collaborative will support much of this work in the next year.

Glossary of Terms

| | |
|--------|--|
| ABHR | Alcohol Based Hand Rub |
| AMC | Antimicrobial Management Committee |
| AMR | Antimicrobial Resistant |
| BD | Beckton Dickinson |
| AOP | Annual Operating Plan |
| BSI | Blood Stream Infection |
| AE | Authorising Engineer |
| ENT | Ear, Nose, Throat |
| VADs | Vascular Access Device Safety |
| PFI | Private Finance Initiative |
| GRG | Governance Review Group |
| HFS | Health Facilities Scotland |
| POCT | Point of Care Testing |
| CAAS | Care Assurance Accredited Scheme |
| CAI | Community Associated Infection |
| CDI | <i>Clostridioides difficile</i> Infection (CDI) |
| CMT | Corporate Management Team |
| CPE | <i>Carbapenemase Producing Enterobacteriaceae</i> |
| CRA | Clinical Risk Assessment |
| CVC | Central Venous Cannula |
| DCNS | Decontamination Clinical Nurse Specialist |
| DEMG | Decontamination Environmental Monitoring Group |
| ECB | <i>Escherichia coli</i> Bacteraemia |
| ECDC | European Centre for Disease Control |
| Ecoli | <i>Escherichia coli</i> |
| ERAS | Enhanced Recovery After Surgery |
| FAPPC | Feedback of Antibiotic Prescribing to Primary Care |
| GP | General Practitioner |
| H&SCPs | Health and Social Care Partnerships |
| HAI | Healthcare Associated Infection |
| HCAI | Healthcare Associated Infection |
| HCSW | Healthcare Support Worker |
| HIS | Health Improvement Scotland |
| HPC | Health Protection Committee |
| HPS | Health Protection Scotland |
| IDEAG | Invasive Device Expert Advisory Group |
| IMT | Incident Management Team |
| IPC | Infection Prevention and Control |
| IPCSN | Infection Prevention and Control Surveillance Nurses |
| IPCT | Infection Prevention and Control Team |
| IPS | Infection Prevention Society |
| IRIS | Infection related intelligence service |
| LDP | Local Delivery Plan |
| ICC | Infection Control Committee |
| MRSA | <i>Meticillin resistant staphylococcus aureus</i> |
| MSSA | <i>Meticillin sensitive staphylococcus aureus</i> |
| NES | National Education for Scotland |
| NHS | National Health Service |
| NHSL | NHS Lanarkshire |
| NMAHPS | Nursing, Midwifery and Allied Health Professionals |
| NPPS | National Point Prevalence Survey |
| NSS | National Services Scotland |

| | |
|--------|---|
| OBDs | Occupied Bed Days |
| PDP | Personal Development Plan |
| PMS | Patient Management System |
| PRG | Policy Review Group |
| PVC | Peripheral Venous Cannula |
| PVL | <i>Panton-Valentine Leukocidin</i> |
| SAB | <i>Staphylococcus aureus bacteraemia</i> |
| SAPG | Scottish Antimicrobial Pharmacy Group |
| SEED | Surveillance, Education, Engagement, Devices |
| SICPs | Standard Infection Control Precautions |
| SIPCEP | Standard Infection Prevention and Control Education Pathway |
| SOP | Standard Operating Procedure |
| SPC | Statistical Process Chart |
| SPSP | Scottish Patient Safety Programme |
| SPUD | Surveillance Prevalence Update Daily |
| SSIs | Surgical Site Infections |
| TBPs | Transmission Based Precautions |
| UHH | University Hospital Hairmyres |
| UHM | University Hospital Monklands |
| UHW | University Hospital Wishaw |
| UTI | Urinary Tract Infection |
| VRE | <i>Vancomycin resistant enterococci</i> |
| WHO | World Health Organisation |
| WSG | Water Safety Group |