

# INFECTION PREVENTION & CONTROL

## Annual Report 2019-20

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## Executive Summary

Healthcare associated infection (HCAI) continue to be a high priority for the NHS. The number of Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemias and *Clostridioides difficile* cases apportioned to a Trust are used as performance indicators. There are targets to ensure that organisations across health economies work towards reducing the number of avoidable healthcare associated infections.

Within Northumbria Healthcare NHS Foundation Trust infection prevention and control is seen as a high priority with engagement and ownership at all levels from board to ward. We work in close collaboration with partners in the wider health economy e.g. Clinical Commissioning Groups. Improvement programmes to reduce the number of MRSA bacteraemias, *C.difficile* cases and surgical site infections continue to be implemented. Along with multi-disciplinary team work looking at reducing Gram Negative blood-stream infections (GNSBI).

In 2019-20 there were 3 cases of MRSA bacteraemia apportioned to the Trust. This year the Trust had 51 cases of *C.difficile* apportioned against a target of 39. This year there was a change in apportioning rules for cases of *C.difficile* occurring in the community where there had been contact with the reporting acute Trust in the preceding 28 days.

The Trust is registered with the Care Quality Commission. Based on self-assessment, the Trust has declared itself compliant with the Health and Social Care Act 2008 Code of Practice for the Prevention and Control of Healthcare Associated Infections (the Hygiene Code) by having appropriate systems in place to protect patients, staff and the public from healthcare associated infection. On-going compliance is reassessed on a regular basis and reported through the Assurance Committee on a quarterly basis.

## Foreword

This is my third annual report as Director of Infection Prevention and Control (DIPC) and marks a difficult time in Infection Control with the prospect of Covid-19 (Coronavirus) and the impact it will have on the organisation. As this report covers up to 31<sup>st</sup> March 2020 Covid-19 doesn't appear heavily within it and will be covered in full in the annual report for 2020-21.

This year marked the flexible retirement of our Lead Nurse, Diane Sisterson and the appointment of Ruth Henein as the full-time lead for Infection Prevention and Control. Can I take this opportunity to thank Diane for all her hard work and leadership she has provided for the Trust. Other staff changes included the appointment of a data analyst (Aimee Joyce) to improve our understanding of what the data is telling us about Healthcare Acquired Infections (HCAIs) and what measures we can put in place to prevent these.

We are seeing a steady rise in methicillin sensitive *Staphylococcus aureus* (MSSA) bacteraemias admitted to the Trust from a community setting. There are no obvious explanations for these but their rise has been coupled with a drop in methicillin resistant *Staphylococcus aureus* (MRSA) bacteraemia rates. This coming year we would like to understand these infections in greater depth with an aim to reduce their number.

A huge challenge for the team has been (and still is) the requirement to reduce Gram negative bloodstream infections (GNBSI). These bacteria are the patient's own flora (endogenous) that are causing these infections. This is very different to our previous successes with bacteria acquired by the patient whilst in a healthcare environment (exogenous) e.g. MRSA, *C.difficile*. Thus, our normal infection prevention and control interventions of hand hygiene, screening, environmental decontamination and

education of staff need to change to adapt to this new challenge. Therefore, we have been focusing more on patient education particularly around hand hygiene at mealtimes and hydration, catheter care (particularly around the decision to catheterise in the first place and date of removal) and the diagnosis of urinary tract infections (discouraging the use of urinary dipsticks to make the diagnosis).

I am really pleased with the schools initiative and hope that through investing in prevention at a young age will reduce the burden of infection on the community and the Trust as these children become adults.

Data supplied is correct at 13/05/20 and may be subject to change.

## 1. Introduction

As required by the Health and Social Care Act 2008 Code of Practice for the Prevention and Control of Healthcare Associated Infection (Hygiene Code) this is Northumbria Healthcare NHS Foundation Trusts Annual Report.

Within the report we detail the structures and systems in place and actions taken to protect patients, staff and the public from healthcare associated infection.

The report covers the period April 2019 to March 2020.

## 2. Infection Prevention & Control Arrangements

### 2.1 Trust Board

The delivery of excellence in safety and quality continues to be a high priority for Northumbria Healthcare NHS Foundation Trust. The Trust Board for Northumbria Healthcare NHS Foundation Trust has the collective responsibility for ensuring that the risks of infection in the organisation are minimised.

The Board provides strategic leadership to ensure the effective delivery and management of patient safety in relation to infection prevention and control.

Infection prevention and control is embedded into strategic planning and thus into service delivery across the Trust. The Director of Infection Prevention and Control (DIPC) is directly accountable to the Chief Executive and Trust Board and provides regular reports to the Board on compliance with infection control standards and on progress in delivering reductions in MRSA bacteraemias and *Clostridium difficile* infections.

### 2.2 Infection Prevention and Control Team

The Infection Prevention and Control Team are led by the Director of Infection Prevention & Control. The team as part of Northumbria Healthcare NHS Foundation Trust Clinical Support and Cancer Services business unit.

The team consists of:

- 1.4 wte band 8A Lead Infection Prevention & Control Nurses
- 1.6 wte band 7 Infection Prevention & Control Nurses
- 11.25 wte band 6 Infection Prevention & Control Nurses
- 0.67 wte band 3
- 0.85 wte band 5 (Data analyst)
- 0.43 wte band 2 (admin)
- DIPC – 4.5 PAs (18 hours)
- Other Consultant Microbiologists – 3 PAs (12 hrs)

The nursing team is led by Diane Sisterson and Ruth Henein Lead Infection Prevention & Control Nurses. In addition to the DIPC there are 4 Consultant Microbiologists who are an integral part of the team

### 2.3 Infection Control Committee

The Infection Control Committee is responsible for the strategic planning of infection prevention and control across Northumbria Healthcare NHS Foundation Trust, with full consultation with all stakeholders. Membership of this committee includes representation from Business Units, Estates, Pharmacy, Occupational Health and the Infection Prevention & Control Team.

The committee acts as a source of expert advice to the executive on infection prevention and control issues. It reviews information on rates of healthcare associated infections and ensures appropriate policies and procedures are in place to minimise the risk. It endorses and monitors the Infection Prevention & Control Annual Programme and the work of the MRSA and *Clostridium difficile* improvement programmes.

The Infection Control Committee meets 8 times per year (twice per quarter). In each quarter there is an Operational and Performance meeting and an Assurance meeting. Due to the global COVID-19 pandemic the March, April and June meetings were cancelled.

The implementation of infection prevention and control improvement programmes is delivered through modern matrons and clinical teams with guidance and support from the Infection Prevention and Control Team and Infection Control Committee.

The team hold weekly Healthcare Associated Infection (HCAI) meetings which are teleconferenced across the Trust mainly between North Tyneside General Hospital, Wansbeck General Hospital and The Northumbria. Attendance includes modern matrons, managers, directors of nursing and the Infection Prevention & Control Team. This multidisciplinary meeting is a forum for discussion surrounding audit, root cause analyses of HCAI cases, outbreak management and infection control surveillance. Attendees are encouraged to raise any other infection control related issues at these meetings. Action notes are recorded and disseminated on a weekly basis to members of the group.

### 2.4 Assurance Framework

The Trust's Assurance Framework includes the risks, controls and related assurances that underpin the delivery of the principal objectives and is monitored and updated by the Assurance Committee on a quarterly basis reporting to Trust Board. Risks associated with infection prevention and control that may affect the Trust achieving its corporate objectives appear on the Assurance Framework.

- Risk register – the Infection Prevention and Control risk register (incorporated into Clinical Support and Cancer Services risk register) is reported to the Infection Control Committee and the Clinical Support Operational Board. High risks are escalated to the Assurance Committee on a quarterly basis as part of the Trust wide risk register.
- Assurance Committee – the Director of Infection Prevention and Control is a core member of the Assurance Committee and regularly reports to the Chief Executive and Trust board on infection prevention and control performance.
- Safety and Quality Committee – the Director of Infection Prevention and Control is a member of the Safety and Quality Committee. The minutes of the Infection Control Committee are presented to this group.
- Policy ratification – all infection prevention and control policies are approved at the Infection Control Committee and then ratified at the Assurance Policy Group.



The Trust is required to comply with national infection control standards including:

- Health and Social Care Act 2008
- NICE Guidance
- Care Quality Commission (regarding healthcare associated infections)

### 3. Health and Social Care Act 2008 (Hygiene Code)

The Health and Social Care Act 2008 Code of Practice for the Prevention and Control of Healthcare Associated Infections was updated in December 2009 to include 10 compliance criteria. The Care Quality Commission Fundamental Standards uses this guidance as the basis for:

- Regulation 12: Safe Care and Treatment (Infection Control)
- Regulation 15: Premises and Equipment (Infection Control)

➤ Based on self-assessment of the compliance criteria the Trust declared itself to be compliant with these standards

The Director of Infection Prevention & Control collates evidence on a regular basis to show continued compliance with the relevant standards. The evidence is reviewed by the Infection Control Committee and by the Assurance Committee on a quarterly basis.

### 4. Strategic Plan

In July 2018 the Infection Prevention and Control Team were asked to set 5 key objectives by Ellie Monkhouse Chief Nurse. Dr David Tate, Director of Infection Prevention and Control and Diane Sisterson, Lead Nurse Infection Prevention & Control discussed this and devised the following 5 objectives.

- Reduce E.coli bacteraemia
- Improve hydration
- Improve public engagement
- Improve staff awareness of CPE - Carbapenemase Producing Enterobacteriaceae
- Integrated 7 day working provision

The progress of the priorities was monitored through the Infection Control Committee on a quarterly basis. The above priorities are regularly discussed at the monthly team meetings and will be reviewed for the 2020-2021 period.

## 5. MRSA Improvement Programme

In November 2004 the Secretary of state for Health issued new targets for MRSA bloodstream infections in acute NHS Trusts in England. It should be acknowledged that huge improvements have been made in reducing MRSA bacteraemias in England. Figure 1 shows the data for Northumbria Healthcare NHS Foundation Trust

From 1<sup>st</sup> April 2018 the Post Infection Review (PIR) process for investigating MRSA bacteraemia changed. PIR's are now only required for organisation above a certain MRSA bacteraemia rate threshold. Northumbria Healthcare NHS Foundation Trust is not required to carry out PIR's on MRSA bacteraemia from 1<sup>st</sup> April 2018. Cases where the infection onset is >2 days after admission will be considered hospital-onset cases; all other cases will be considered to be community-onset.

Further information regarding the changes can be found via NHS Improvement

[https://improvement.nhs.uk/documents/2512/MRSA\\_post\\_infection\\_review\\_2018\\_changes.pdf](https://improvement.nhs.uk/documents/2512/MRSA_post_infection_review_2018_changes.pdf)

- For the period April 2019 to March 2020 there were 3 cases of MRSA bacteraemia apportioned to the Trust. The Trust had a target of 0 cases.
- The target for 2020-21 remains at 0 cases.

The following related incidents were investigated in 2019-20 (includes pre and post 48-hour cases):

- MRSA bacteraemia (SI 2019/7981) April 2019
- MRSA bacteraemia (SI 2019/8456) April 2019
- MRSA bacteraemia (SI 2019/10081) May 2019
- MRSA bacteraemia (SI 2019/10813) May 2019
- MRSA bacteraemia (SI 2019/16153) July 2019
- MRSA bacteraemia (SI 2019/17674) August 2019
- MRSA bacteraemia (SI 2019/23106) October 2019
- MRSA bacteraemia (SI 2019/23538) October 2019
- MRSA bacteraemia (SI 2019/25320) November 2019
- Management of the Increased incidence of MRSA transmission (SLE 2020/534) January 2020
- MRSA bacteraemia (SI 2020/26304) March 2020

The Trust monitors the compliance of MRSA screening for patients admitted to the Trust as an emergency or elective case. Figure 3 details compliance of screening.

Figure 1: MRSA bacteraemias identified by Northumbria Healthcare NHS Foundation Trust compared to target, for period April 2005 to March 2020.

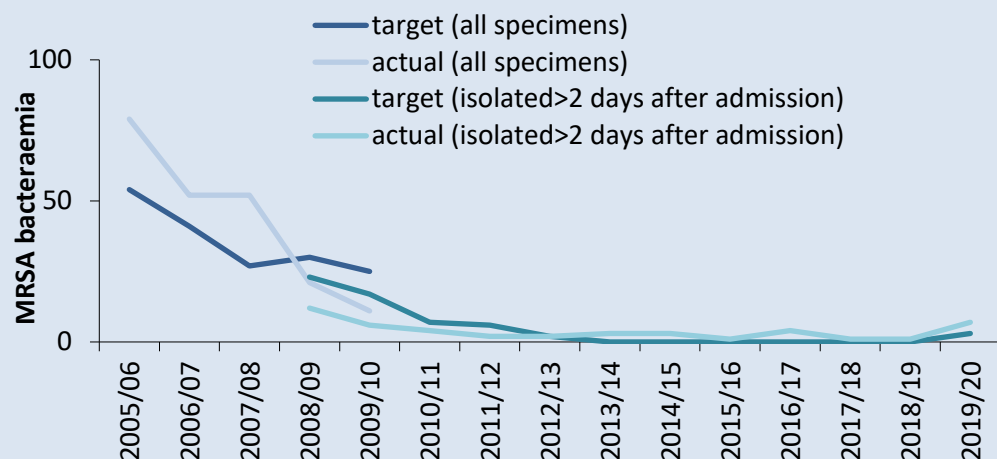


Figure 2: NHS Trusts in England ranked by rate of MRSA bacteraemia infection 2019-20 (hospital onset cases) Denominator - KH03 occupied overnight beds (per 100,000)

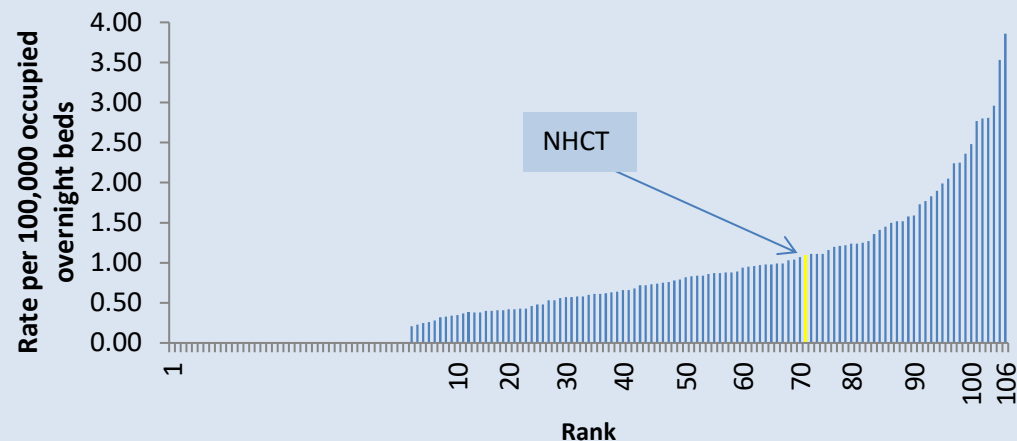


Figure 3: Elective and emergency MRSA screening compliance for 2019-20

MRSA Standard of compliance	Trust standard	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average
100% of elective patients, including day-cases	100%	94.4%	89.6%	98.2%	95.7%	99.7%	108.1%	111.0%	124.3%	108.3%	105.6%	114.3%	-	104.5%
100% of emergency patients	100%	102.2%	104.2%	105.9%	105.3%	105.0%	104.2%	103.9%	101.2%	100.8%	103.8%	100.8%	-	103.4%

In March 2020, MRSA screening was suspended due to the COVID-19 pandemic, therefore no screening compliance was collated.

## 6. Clostridioides difficile Improvement Programme

This year *Clostridium difficile* changed its name to *Clostridioides difficile* due to the recognition that it doesn't actually belong in the *Clostridium* family but the *Peptoclostridium* genus. However common sense prevailed, otherwise we would be calling it "*P.diff*" and the new family was named with C as it's first letter so we can still use the term "*c.diff*".

National mandatory surveillance of *Clostridioides difficile* infection in those aged 65 years and over commenced in January 2007. The target was changed from April 2008 by splitting those cases developing in hospital from those developing in the community and was extended to include all those aged 2 years and over.

For 2019/20 cases reported to the healthcare associated infection data capture system were assigned as follows:

- **hospital onset healthcare associated (HOHA):** cases that are detected in the hospital two or more days after admission
- **community onset healthcare associated (COHA):** cases that occur in the community (or within two days of admission) when the patient has been an inpatient in the trust reporting the case in the previous four weeks
- **community onset indeterminate association (COIA):** cases that occur in the community (or within two days of admission) when the patient has been an inpatient in the trust reporting the case in the previous 12 weeks but not the most recent four weeks
- **community onset community associated (COCA):** cases that occur in the community (or within two days of admission) when the patient has not been an inpatient in the trust reporting the case in the previous 12 weeks.

Acute provider objectives for 2019/20 will be set using the **sum** of these two categories:

- **hospital onset healthcare associated:** cases that are detected in the hospital two or more days after admission
- **community onset healthcare associated:** cases that occur in the community (or within two days of admission) when the patient has been an inpatient in the trust reporting the case in the previous four weeks.

Further information regarding the changes can be found via NHS Improvement

[https://improvement.nhs.uk/documents/808/CDI\\_objectives\\_for\\_NHS\\_organisations\\_in\\_2019\\_12March.pdf](https://improvement.nhs.uk/documents/808/CDI_objectives_for_NHS_organisations_in_2019_12March.pdf)

Trust apportioned cases were defined as those where the faecal specimen was collected more than 2 days after admission until 31/03/2019, after this date, cases were apportioned as per above. Figure 4 shows the data for Northumbria Healthcare NHS Foundation Trust

Figure 4: Number of newly diagnosed cases of *C.difficile* infection developing in hospitalised patients in Northumbria Healthcare NHS Foundation Trust compared to target, for period April 2008 to March 2020.

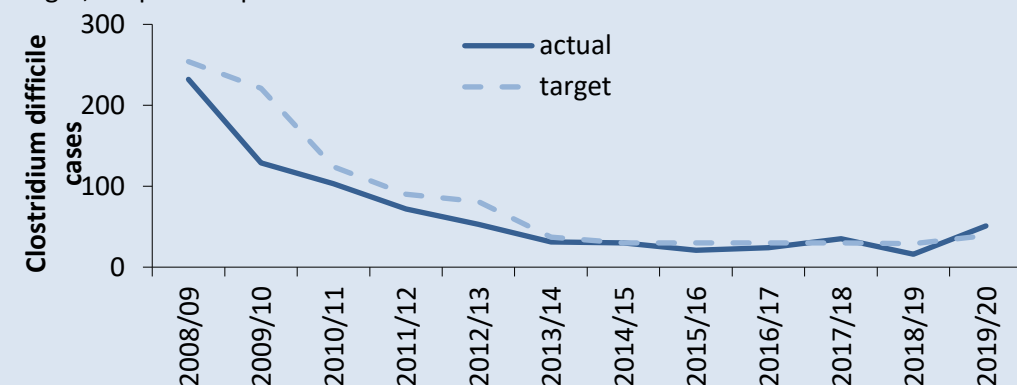


Figure 5: Apportioning of *C.difficile* including target and non-target GDH cases.

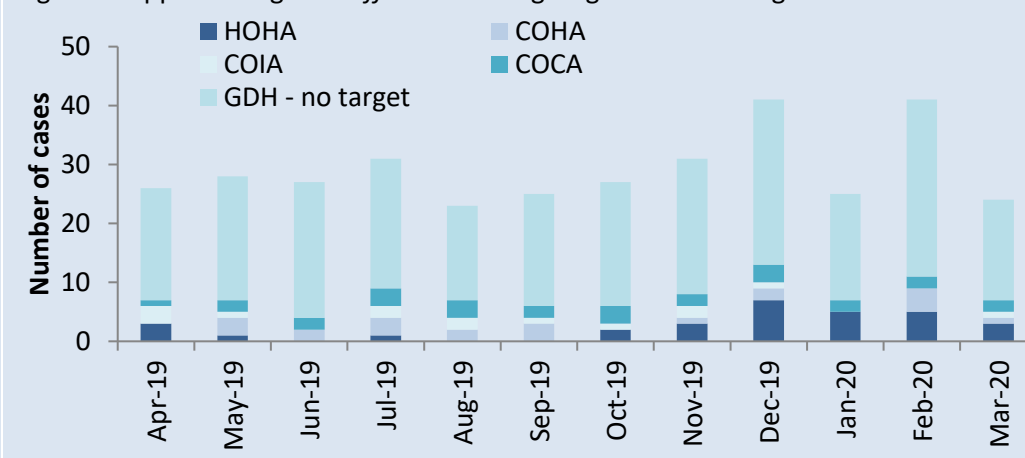


Figure 6: NHCT rate of *C.difficile* infection 2008-20 Trust apportioned cases Denominator - KH03 occupied overnight beds (per 100,000) (Hospital Onset Healthcare Associated for 2019/2020)

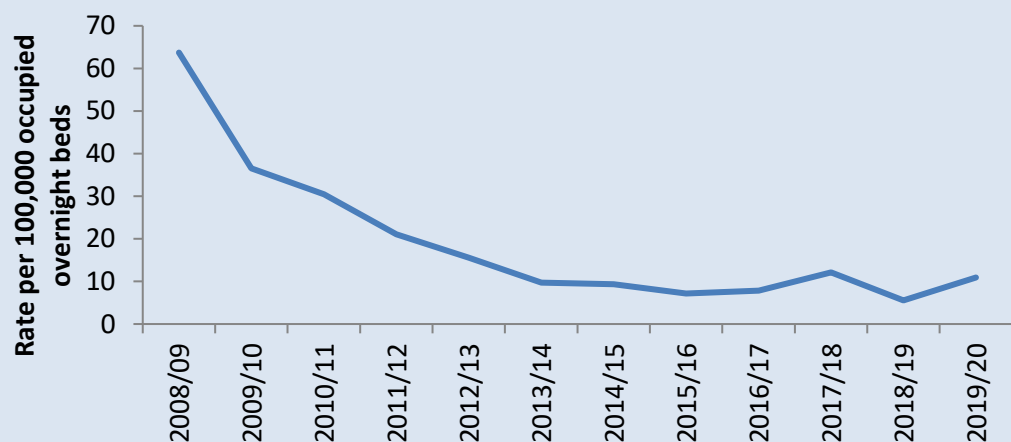
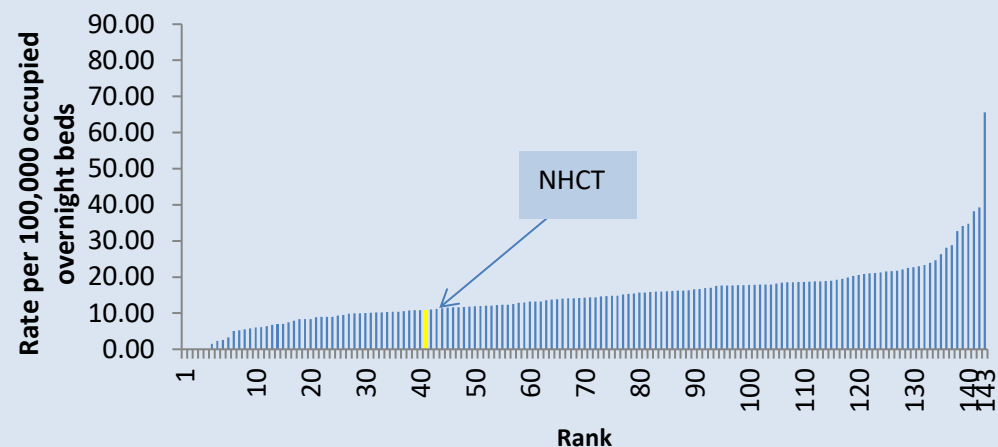


Figure 7: NHS Trusts in England ranked by rate of *C.difficile* infection 2019-20 Trust apportioned cases Denominator - KH03 occupied overnight beds (per 100,000) (Hospital Onset Healthcare Associated)



Appropriate management of cases continues to be delivered through the use of an integrated care plan for use by all staff groups involved in the care of a patient and a weekly multi-disciplinary team meeting which reviews the care of all patients with *C.difficile* infection in the Trust.

Root cause analysis covering both hospital and community aspects of healthcare provision is undertaken for all cases of *C.difficile* (including GDH cases). Root cause analysis of community related cases are shared with the appropriate CCG on a monthly basis. Root cause analysis of these cases are fed back to the weekly HCAI meeting.

Follow-up of patients with *C.difficile* who are discharged into the community was first introduced in 2012-13 and this has continued since. The service provides support and advice and enables the early detection of patients who may relapse, thus improving patient care.

The following related incidents were investigated in 2019-20:

- *C.difficile* on Part 1 of death certificate (SI 2019/24718) November 2019
- *C.difficile* on Part 1 of death certificate (SI 2019/27459) December 2019
- *C.difficile* on Part 1 of death certificate (SI 2020/3975) February 2020

➤ For the period April 2019 to March 2020 there were 51 cases of *C.difficile* infection apportioned to the Trust. The Trust had a target of 39 cases.

The change in the apportioning criteria has had a significant impact on the Trust's *C.difficile* rate. Under the former apportionment rules, we would have had 30 cases, rather than the 51 we ended up with. We have continued to monitor closely antimicrobial use and particularly restricting the use of quinolones (notably ciprofloxacin) and the cephalosporins.

## 7. Surgical Site Infection Improvement Programme

Northumbria has been one of the very few Trusts who have made the commitment in the development of the Surgical Site Infection Surveillance Service (SSISS). Preventing and reducing surgical site infection has consistently remained one of the key themes in the Trust priorities in delivering safe care to our patients.

The Trust undertakes surveillance of surgical site infections following prosthetic knee and hip replacement and repair of fractured neck of femur as part of the national surveillance scheme. This data is published by Public Health England and is available via its website.

Summaries of root cause analyses are to be shared during the weekly HCAI meetings.

## 8. Outbreaks

Norovirus is the most common cause of infectious intestinal disease tending to be more common during the winter. Norovirus activity varies from year-to-year.

Following the significant winter pressures in 2017/18 the Trust took a proactive approach to visitor restrictions in December 2018. A similar approach was also adopted in November 2019 and at a winter pressures meeting held on 25<sup>th</sup> November 2019 the following restrictions were introduced:

### All areas (except ED)

- Limit visiting to 2 visitors per patient (nurse in charge discretion for care of the dying and patients with special requirements e.g. learning difficulties)
- No children under 12 years of age allowed to visit
- Encourage staff who have not been vaccinated to have a Flu vaccine
- Promote high standards of PPE
- External hospital visiting e.g. HVS trolley / chaplaincy – ensure staff are aware which patients have flu and avoid contact. Adhere to IPC policies re HH and bare below elbow.
- Patients who are flu positive who require transfer to wards or department should wear a mask
- Staff tending to flu patients in isolation should wear a mask
- FFP3 masks are only for high risk contact e.g. aerosol generating procedures.
- Staff should refrain from coming to work if unwell
- Staff to share messages to relatives, visitors and patients of importance of avoiding attending hospital if unwell

### NSECH ED

- Limit visiting to 1 visitor per patient (nurse in charge discretion for care of the dying and patients with special requirements e.g. learning difficulties)
- No children under 12 years of age allowed to visit
- Encourage staff who have not been vaccinated to have a Flu vaccine

- Promote high standards of PPE
- External hospital visiting e.g. HVS trolley / chaplaincy – ensure staff are aware which patients have flu and avoid contact. Adhere to IPC policies re HH and bare below elbow.
- Patients who are flu positive who require transfer to wards or department should wear a mask
- Staff tending to flu patients in isolation should wear a mask
- FFP3 masks are only for high risk contact e.g. aerosol generating procedures
- Patients presenting with flu symptoms who will be discharged home do not require a flu swab, treat symptomatically with Tamiflu and discharge
- Patients presenting with flu symptoms who are sick and require admission require a flu swab and treatment with Tamiflu
- Staff should refrain from coming to work if unwell
- Staff to share messages to relatives, visitors and patients of importance of avoiding attending hospital if unwell

#### URGENT CARE CENTRES

- Identify a room within your department to act as an isolation room for patients with suspected flu
- Patients presenting with flu symptoms who will be discharged home do not require a flu swab, treat symptomatically with Tamiflu and discharge
- Patients presenting with flu symptoms who are sick and require admission require a flu swab and transfer to NSECH for admission – they should wear a mask for transfer.
- Limit visiting to 1 visitor per patient (nurse in charge discretion for care of the dying and patients with special requirements e.g. learning difficulties)
- Staff to share messages to relatives, visitors and patients of importance of avoiding attending hospital if unwell

In 2019/20 there were 6 Norovirus and 5 respiratory incidents identified.

## 9. Other Surveillance Programmes

In October 2010 the Department of Health announced that it was going to extend the mandatory surveillance to include Meticillin Sensitive *Staphylococcus aureus* (MSSA) bacteraemia and *E.coli* bacteraemias. The surveillance of MSSA bacteraemias commenced in January 2011 with *E.coli* bacteraemia surveillance starting in June 2011. From April 2017 it became mandatory to report *Pseudomonas aeruginosa* and *Klebsiella spp* to Public Health England.

### 9.1 MSSA bacteraemia

As with MRSA bacteraemia, those specimens collected within 48 hours of admission are likely to be community acquired and those taken 48 hours or more after admission are likely to have developed in hospital. A root cause analysis is undertaken for all hospital acquired MSSA bacteraemia to ensure any deficiencies in care are identified and lessons learnt. Root cause analyses of these cases are fed back to the weekly HCAI meeting. A breakdown of all MSSA bacteraemia can be seen in figure 8.

- There are no targets set for MSSA bacteraemia

Figure 8: MSSA bacteraemias identified by Northumbria Healthcare NHS Foundation Trust in 2019-20

MSSA bacteraemia	2018-19 outturn	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	TOTAL
Hospital onset	26	1	2	1	2	0	4	7	1	5	0	2	2	27
Community onset	82	4	12	15	6	10	3	2	6	10	7	2	16	93
<b>TOTAL</b>	<b>108</b>	<b>5</b>	<b>14</b>	<b>16</b>	<b>8</b>	<b>10</b>	<b>7</b>	<b>9</b>	<b>7</b>	<b>15</b>	<b>7</b>	<b>5</b>	<b>18</b>	<b>121</b>

Figure 9: MSSA bacteraemia cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20 split into hospital onset and community onset cases.

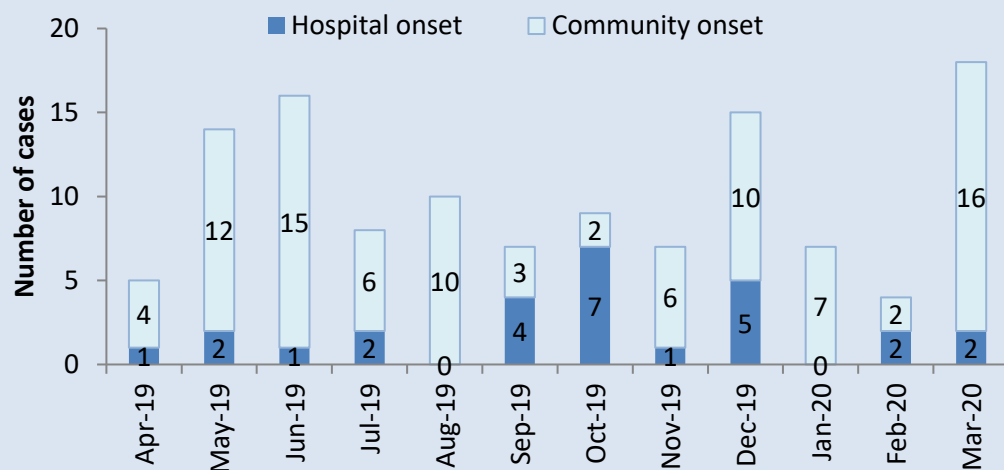
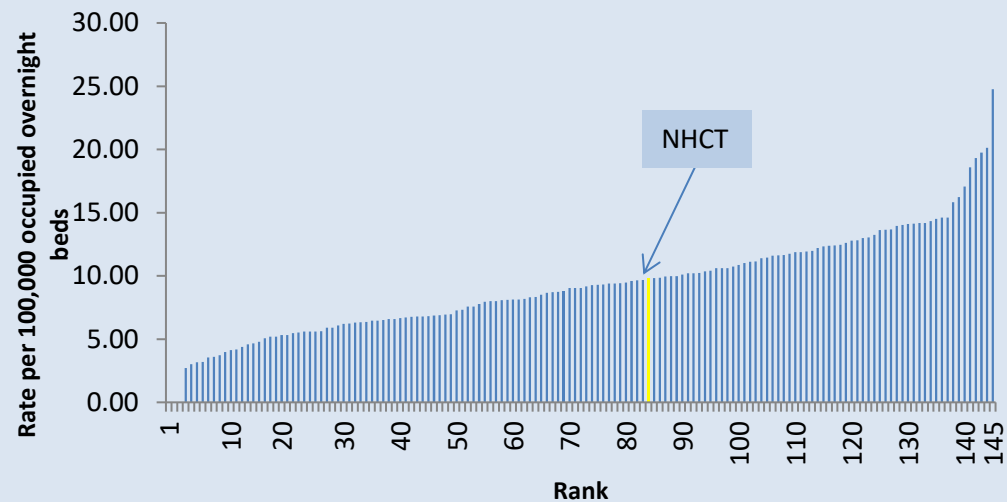


Figure 10: NHS Trusts in England ranked by rate of MSSA bacteraemia infection 2019-20 (hospital onset cases) Denominator - KH03 occupied overnight beds (per 100,000)



## 9.2 E.coli bacteraemia

There has been an 9 case increase in the overall number of *E.coli* bacteraemia identified by Northumbria Healthcare NHS Foundation Trust during 2019-20 however there has been a 2 case decrease in hospital onset cases. A breakdown can be seen in Figure 11.

➤ There are no targets set for *E.coli* bacteraemia

Figure 11: *E.coli* bacteraemia cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20

E.coli bacteraemia	2018-19 outturn	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	TOTAL
Hospital onset	73	9	2	5	5	8	4	6	6	6	8	5	7	71
Community onset	370	28	37	35	41	47	34	36	26	30	29	25	13	381
<b>TOTAL</b>	<b>443</b>	<b>37</b>	<b>39</b>	<b>40</b>	<b>46</b>	<b>55</b>	<b>38</b>	<b>42</b>	<b>32</b>	<b>36</b>	<b>37</b>	<b>30</b>	<b>20</b>	<b>452</b>



Figure 12: E.coli bacteraemia cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20 split into hospital onset and community onset cases.

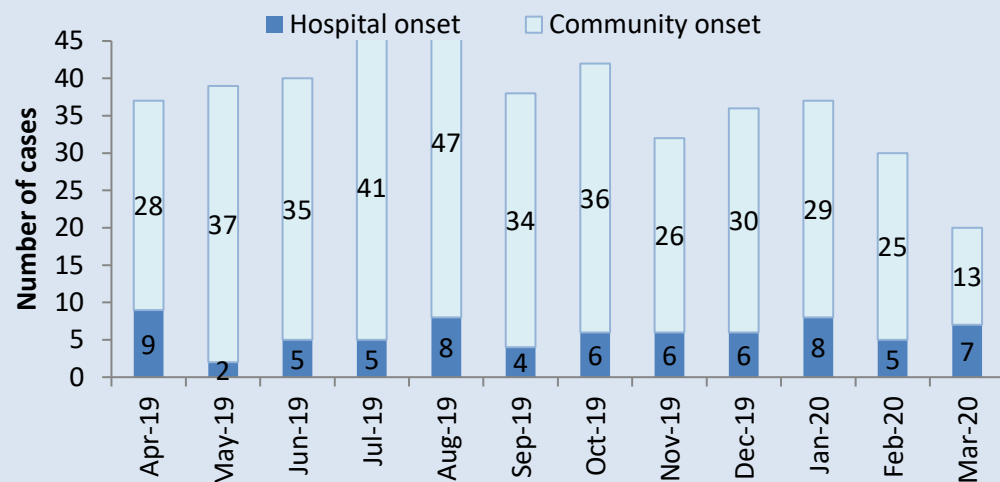
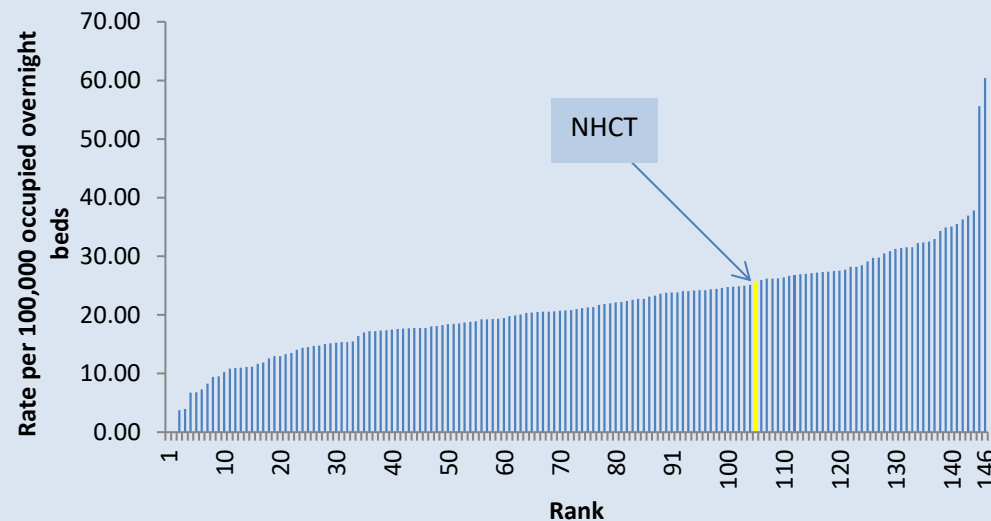


Figure 13: NHS Trusts in England ranked by rate of E.coli bacteraemia infection 2019-20 (hospital onset cases) Denominator - KH03 occupied overnight beds (per 100,000)



### 9.3 *Klebsiella spp*

There has been a 15 case increase in the number of *Klebsiella* identified by Northumbria Healthcare NHS Foundation Trust during 2019-20. A breakdown can be seen in figure 14.

➤ There are no targets set for *Klebsiella spp*

Figure 14: *Klebsiella spp* cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20

<i>Klebsiella spp</i>	2018-19 outturn	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	TOTAL
Hospital onset	20	1	1	3	2	6	3	2	0	1	2	2	2	25
Community onset	77	6	8	8	7	8	9	6	7	7	6	5	10	87
<b>TOTAL</b>	<b>97</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>14</b>	<b>12</b>	<b>8</b>	<b>7</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>12</b>	<b>112</b>

Figure 15: *Klebsiella spp* cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20 split into hospital onset and community onset cases.

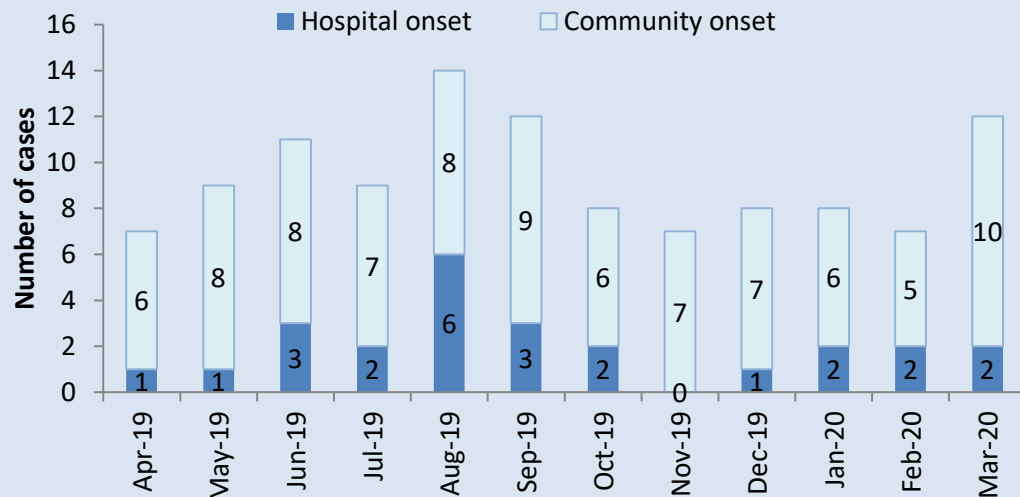
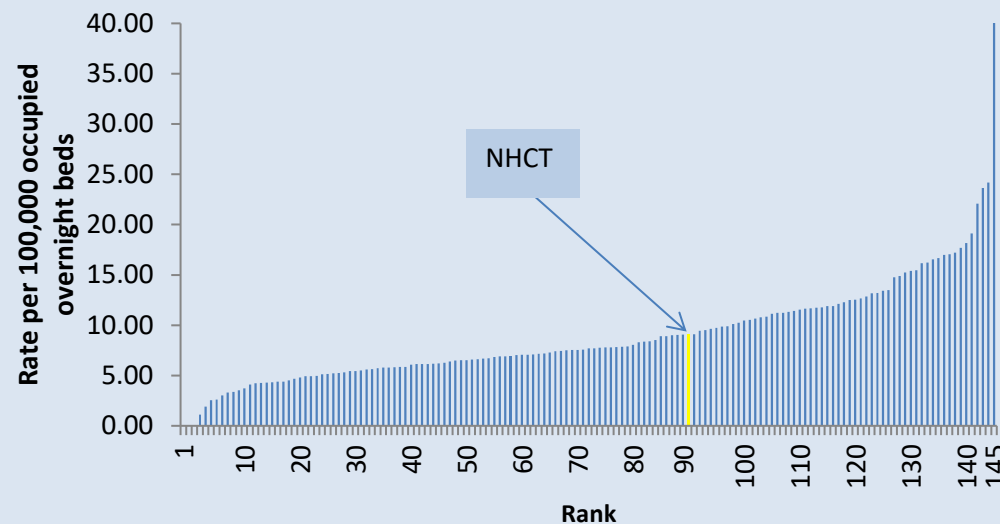


Figure 16: NHS Trusts in England ranked by rate of *Klebsiella* infection 2019-20 (hospital onset cases) Denominator - KH03 occupied overnight beds (per 100,000)



#### 9.4 *Pseudomonas aeruginosa*

There has been a 6 case decrease in the number of *Pseudomonas aeruginosa* identified by Northumbria Healthcare NHS Foundation Trust during 2019-20. A breakdown can be seen in figure 17.

➤ There are no targets set for *Pseudomonas aeruginosa*

Figure 17: *Pseudomonas aeruginosa* cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20.

<i>Pseudomonas aeruginosa</i>	2018-19 outturn	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	TOTAL
Hospital onset	6	0	0	0	2	0	1	0	1	0	0	0	0	4
Community onset	25	2	0	2	2	1	4	3	2	2	0	1	2	21
<b>TOTAL</b>	<b>31</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>25</b>

Figure 18: *Pseudomonas aeruginosa* cases identified by Northumbria Healthcare NHS Foundation Trust for period 2019-20 split into hospital onset and community onset cases.

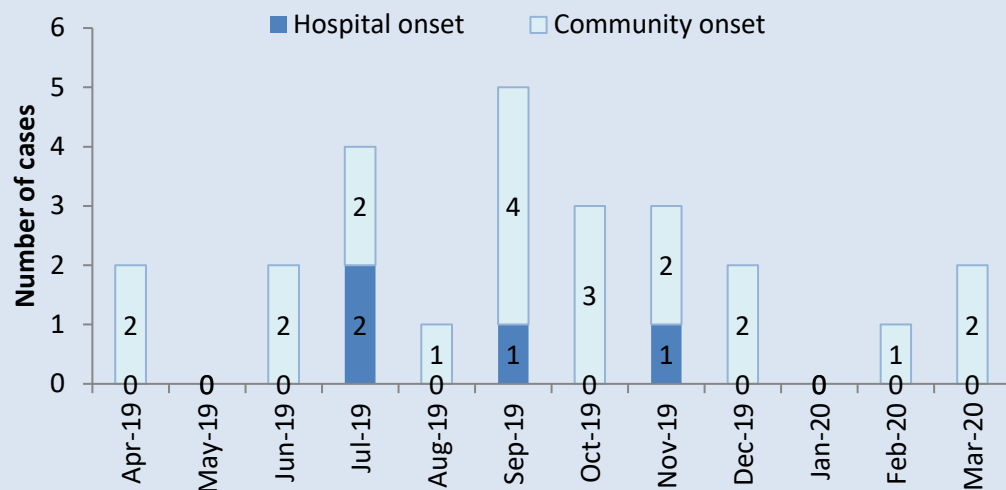
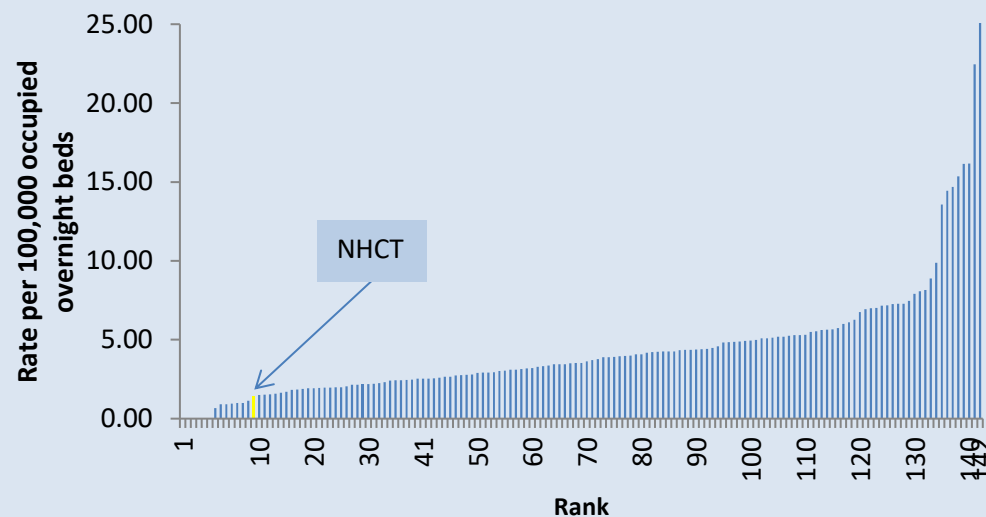


Figure 19: NHS Trusts in England ranked by rate of *Pseudomonas aeruginosa* 2019-20 (Trust apportioned cases) Denominator - KH03 occupied overnight beds (per 100,000)



### 9.5 Gram-negative bloodstream infections

In 2017 the secretary of state launched an initiative to reduce gram-negative bloodstream infections by 50% by 2021. Initially the focus is on *E.coli* bacteraemia as they are the largest proportion of gram-negative bloodstream infections.

Further information regarding the initiative can be found via NHS Improvement [https://improvement.nhs.uk/documents/984/Gram-negative\\_IPCresource\\_pack.pdf](https://improvement.nhs.uk/documents/984/Gram-negative_IPCresource_pack.pdf)

## 10. Audit

### 10.1 Ward self-submission infection control audits

Wards and departments undertake weekly audits of hand hygiene, commode cleanliness intravascular device care and urinary catheter care. The data is reviewed at the weekly HCAI meeting and deficiencies addressed by the modern matron of the area concerned. Validation checks are performed by the Infection Prevention and Control team. Figure 20 shows the monthly compliance data – note there is no audit data for March 2020 as these were suspended in response to the COVID-19 situation.

Figure 20: Monthly compliance data for hand hygiene, intravascular device care plan use, urinary catheter care plan use and commode cleanliness for April 2019-March 2020

	Trust standard	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
<b>IV device care plan</b>	>95%	94.2%	95.5%	97.7%	93.6%	94.9%	97.2%	94.4%	94.1%	93.9%	96.2%	95.5%	-
<b>Urinary catheter care plan</b>	>85%	98.1%	98.7%	96.9%	98.9%	98.2%	98.9%	96.6%	98.5%	99.0%	96.9%	99.3%	-
<b>Hand hygiene</b>	>95%	99.7%	99.7%	99.6%	99.8%	99.6%	99.7%	99.4%	99.2%	99.2%	99.6%	99.3%	-
<b>Commode cleanliness</b>	>=98%	99.5%	98.4%	97.7%	99.0%	98.4%	98.5%	96.9%	98.6%	98.8%	98.4%	99.7%	-

## 10.2 Infection control audits

In addition to the ward weekly audits the following audits have also been carried out:

- 5575 - *C.difficile* Policy Compliance Audit
- 5576 – Audit to monitor the quality and benefit of information and community follow up for patients diagnosed with *C.difficile* infection
- 5604-4 – Weekly Cannula Audit
- 5606-4 - Weekly Commode Audit
- 5780 - Insertion and on-going management of central and midlines in the acute hospital audit
- 5976 - MRSA Policy Compliance Audit
- 5977 - Prevalence survey of indwelling urethral catheters and associated infections, and audit of the on-going management of urethral catheters trust wide
- 6035-4 – Weekly Urinary Catheter Audit
- 6088-3 JELS audit
- 6222 – Patient Hand wipe Audit - To monitor the compliance to the Trust policy in relation to the provision of hand hygiene facilities prior to meals
- 6267-2 Hand Hygiene Patient Satisfaction Survey
- 6501 - Audit in the community of the on-going management of central vascular devices and midline devices
- 6720 – CPE Audit
- 6940 – Hand Hygiene Community Audit

There is a regular rolling programme of audits for all wards and departments. This programme is co-ordinated by the Infection Prevention and Control Team. The tool kit sets a level of 85% as compliant with the audit standard. Action plans are implemented in those areas falling below 100% compliance. The Trust wide results for the period April 2019-March 2020 are shown in figure 21.

The audits are mirrored in the community setting and are based on the Infection Prevention Society Quality Improvement Tools. These tools set a level of 85% for compliance. Action plans are implemented in those areas falling below 100% compliance. The overall scores are shown in figure 22.

Figure 21: Infection Prevention and Control Audit Compliance for hospital wards and departments.

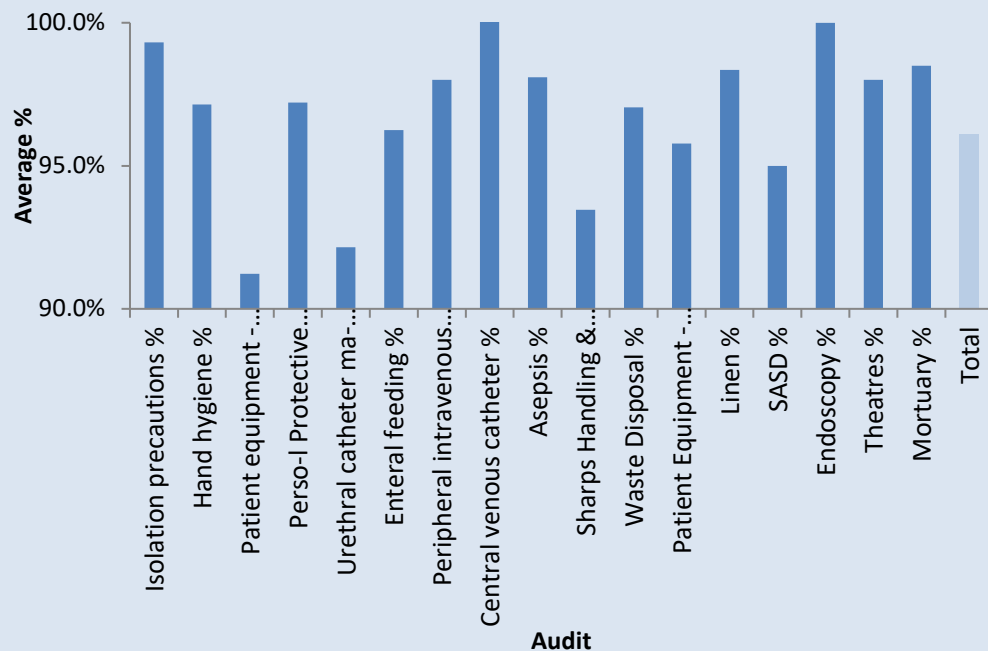
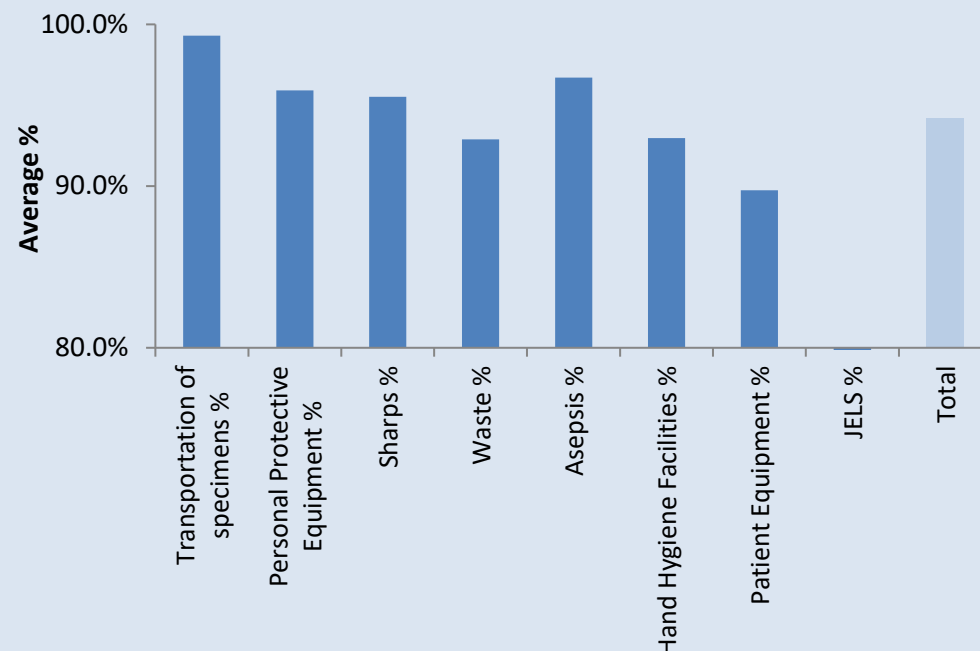


Figure 22: Infection Prevention and Control Audit Compliance for community settings.



## 11. Education and Training

Infection prevention and control advice and information is given to all new staff on their first day at work prior to commencing clinical duties as part of their induction. The infection prevention and control section includes the following topics:

- The Health and Social Care Act 2008 Code of Practice
- Chain of Infection
- Hand Hygiene and Bare Below Elbow Policy
- WHO 5 Moments for Hand Hygiene
- Personal Protective Equipment
- Sharps Injury
- Specimen Collection and Transportation
- Food Hygiene and Risk of Infection From Foods
- Waste Management
- Cleanliness and Decontamination

- MRSA
- *C.difficile*
- Antibiotic Stewardship

E-learning packages are used for all junior doctors.

Mandatory training sessions have continued and attendance is monitored on a regular basis through the Workforce Committee. All clinical staff are required to undergo infection prevention and control training, including hand hygiene, every year. All non-clinical staff are required to undergo infection prevention and control training, including hand hygiene, every three years. A summary of training can be seen in figure 23.

Figure 23: Summary of infection prevention & control training end of year compliance

Business Unit	Level 1 Training		Level 2 Training	
	Number of staff requiring training	Number of staff trained	Number of staff requiring training	Number of staff trained
319 CHI Child Health Directorate	100	100	368	332
319 CLI Clinical Support	142	131	550	485
319 COM Community Business Unit	618	615	1381	1179
319 COR Corporate Services	880	858	136	118
319 MED Emergency Care and Medicine Business Unit	304	283	1770	1419
319 Staff Bank	448	420	740	617
319 SUR Emergency Surgery & Elective Care Business Unit	505	476	1379	1073
319z Northumbria Healthcare Facilities Management Ltd	892	825	1	0
319z Northumbria Primary Care	82	80	77	63
<b>Grand Total</b>	<b>3971</b>	<b>3788</b>	<b>6402</b>	<b>5286</b>

A number of other training events took place including the annual infection prevention and control study day which was held on Friday 29<sup>th</sup> November 2019 at Cobalt Conference Centre.

Development opportunities for members of the Infection Prevention and Control Team are agreed at annual appraisal.

## 12. Decontamination & Cleanliness

Environmental cleanliness is monitored through the National Cleanliness Scores (NCS) and Patient Led Assessment of Clinical Environment (PLACE) audits. These are consistently high with any exceptions reported to the weekly HCAI meetings. Enhanced cleaning is undertaken in response to every case of *C.difficile*.

Patient feedback on cleanliness, collected as part of the Patient Experience data set is included into the quarterly assessment of compliance with the CQC Fundamental Standard Regulations 12 and 15.

A Decontamination Group oversees the systems in place to ensure effective decontamination of re-usable medical devices. Minutes of the Decontamination Group are shared with the Infection Control Committee.

A Water Safety Group oversees the processes in place to minimise the risks to patients, staff and visitors from the water systems. Minutes of the Water Safety Group are shared with the Infection Control Committee.

## 13. Antibiotic Stewardship

There are concerns globally about the rise in antibiotic resistant organisms which potentially threaten some of the major advances in medicine that have occurred over the last 50 years. The key driver of the development of antibiotic resistance is the use of antibiotics. Control of antibiotic use is therefore an important part of the control measures to reduce infection caused by antibiotic resistant organisms. Ensuring the appropriateness of antibiotic prescribing is a key component in reducing healthcare associated infection.

Locally, the Trust has a Lead Antibiotic Pharmacist and Consultant Microbiologist overseeing the antibiotic stewardship agenda. Regular antibiotic prescribing audits are undertaken across the Trust and these show good compliance with guidelines. In line with National Guidance to reduce the risk of *C.difficile* infection, the use of certain antibiotics, such as Cephalosporins and Fluoroquinolones is strictly controlled within the Trust.

An overview of antibiotic stewardship in the Trust for 2019/20 is as follows:

- Total antibiotic prescribing continues to fall year on year
- Progress continues to be made against the NICE gap analysis action plan
- Completion of the trust antimicrobial stewardship action plan except for two actions:
  - IV to oral switch. Audits demonstrate poor compliance with IV to PO switch policy particularly at base sites, this is likely due to reduced pharmacist and junior doctor presence
  - Time allocated to specialist antimicrobial pharmacist. We have 0.1 WTE, the UK average in 2011 was 1 specialist antimicrobial pharmacist per 776 beds and 16% had full time antimicrobial pharmacist.
- We were committed to achieve the 2019-2020 AMR CQUINs:
  - Management of lower UTI in the over 65s: to achieve minimum payment, we need to achieve > 60% compliance and to achieve full payment we would need to reach 90% compliance overall – Quarter 1 performance was 28% (but this will be excluded nationally), quarter 2 performance was 75% and quarter 3 performance was 77%

- Nationally, performance is 38% and only one Trust in England has achieved 90%. We are currently 4th nationally for context.
- Antibiotic Prophylaxis in colorectal surgery: Achieved full compliance in all the quarters measure to date.
- However, these schemes are currently suspended due to the COVID pandemic.
- 6 monthly antibiotic steering groups continue (although May 2020 meeting postponed due to the COVID pandemic)
- Penicillin allergy challenge project (catalyst) progressing using the Flow Coaching Academy methodology
- Awarded funding to pilot the world café methodology for antibiotic prescribing – this was rolled out successfully at all sites following a very successful pilot conducted at the Grand Round
- Participation in the new NE and NC ICS AMS Workstream and North Tyneside CCG AMR groups

Future plans are to:

- Increase specialist antimicrobial pharmacist time
- Increase pharmacy presence at base sites
- Undertake further work with primary care to improve antimicrobial stewardship across the whole system

## 14. Nursing and Residential Care Homes

All care homes must be registered with the Care Quality Commission (CQC) and are required to have systems and processes in place that reduce the risks of residents, clients and staff acquiring a healthcare associated infection (HCAI).

Part of the work of the Infection Prevention and Control Team is to develop and enhance systems, training and processes within care homes by supporting care providers. Support is provided through education and training, information and knowledge sharing through development of resident champion and link members, development and sharing of policies, audit and specialist advice.

The training service provided by the Infection Prevention and Control Team was historically done so with no charge. Following a review by the Lead Infection Prevention and Control Nurse it was agreed that a training fee would be introduced from January 2017 for all nursing and residential homes in North Tyneside and for residential homes in Northumberland. Nursing homes in Northumberland continue to receive free training due to a service level agreement between the Trust and Northumberland County Council.

Quality Weighted Payment (QWP) inspections are carried out on all care homes by the Local Authority. The Infection Prevention and Control Team have previously supported the Local Authority by taking part in the audit process and by providing advice following the inspections. Due to the significant workload placed on the team whilst carrying out the inspections and producing lengthy follow up reports, it was agreed that the team would provide verbal feedback at the time of the inspection and paperwork would be handed over directly to local authority staff to produce reports.



## 15. Patient and Public Involvement

It is important that patients and the public are informed about and involved in infection prevention and control activities. Patient information leaflets continue to be reviewed and updated.

Good hand hygiene compliance is a fundamental part of the delivery of safe healthcare and remains a Trust priority. Alcohol sanitiser dispensers and prominent signage at the hospital entrances as well as departmental and ward entrances, promote hand hygiene to patients and visitors as well as staff. The team have been keen to implement clear messages highlighting the importance of good hand hygiene and bare below elbows in clinical areas. The project is to complete within the summer months when floor decals are being installed at the entrances to clinical areas Trustwide.

Many public engagement activities are undertaken in the community. Members of the community based team took part in the Children's Countryside Day hosted by the Glendale Agricultural Society, raising awareness of the importance of hand hygiene.

Trust board reports, which include information on infection prevention and control, are widely available on the Trust internet site.

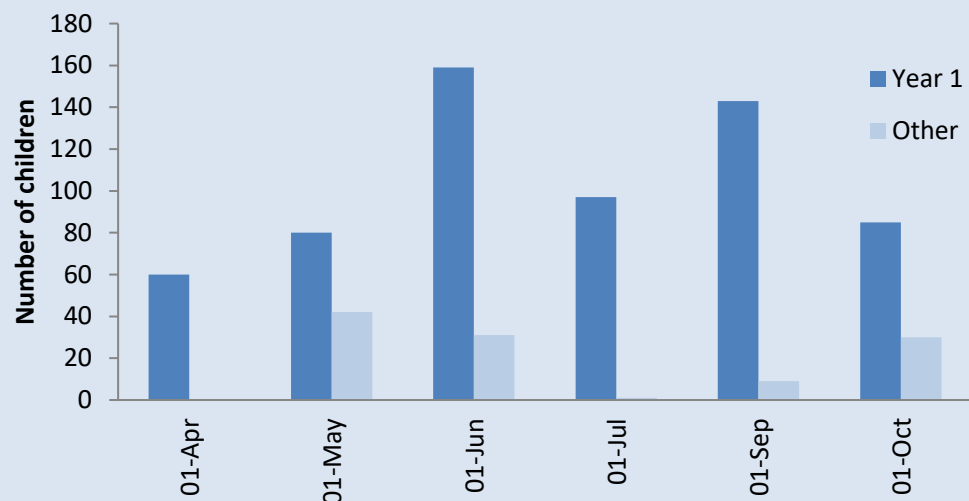
The results of Trust's real time patient experience data on cleanliness is included as part of our outcome measures for Health and Social Care Act 2008 (Hygiene Code) compliance.

The Infection Prevention and Control Team work closely with the Patient Advice Liaison Service (PALS) team who carry out quarterly patient experience questionnaires. They approach 5 patients on each appropriate ward and ask 5 questions relating to their infection control experience within the Trust. The team met with the PALS team in April 2019 to discuss the feasibility of the PALS team continuing with this project. It was agreed that moving forward; the PALS team will carry out the questionnaires between April-October each year thus reducing the frequency from quarterly to annually. This decision was made for a variety of reasons including that due to the visiting restrictions implemented during the winter months, PALS officers were unable to visit the wards for non-essential reasons. It should be acknowledged that the team greatly appreciate the support of the PALS teams in carrying out these surveys.

The team have also been engaging with local schools and nurseries (key stages 1 and 2) to raise awareness of the importance of hand hygiene. This piece of work will continue into 2020-21 with a focus on year 1 children.

Figure 24 shows a breakdown of training figures.

Figure 24: Number of children who have accessed hand hygiene training via school engagement sessions provided by NHCT IPC team



## 16. Gateshead and North of Tyne Healthcare Associated Infection Reduction Partnership

The DIPC and Infection Prevention and Control Nurse represent Northumbria Healthcare NHS Foundation Trust on the Gateshead and North of Tyne Healthcare Associated Infection Reduction Partnership. The groups include representatives from all NHS healthcare providers and commissioners from North of Tyne and Gateshead.

The aim of the group is to support and facilitate cross organisational working covering the whole health economy, to achieve sustainable reductions of MRSA bacteraemias and *C.difficile*.

A separate healthcare associated infection control group has been set up by Northumberland CCG and again the DIPC and Lead Nurse contribute to this group.

## 17. The Future

Infection Prevention and Control will continue to be a key element of the patient safety agenda. The MRSA bacteraemia target and the *C.difficile* reduction target will continue to be major drivers for improvement in infection prevention and control.

The increasing recognition both nationally and internationally of the problem of antibiotic resistance will be another key driver, particularly with regard to antibiotic stewardship.

The surveillance systems for MSSA bacteraemia, *E.coli* bacteraemia, *Pseudomonas aeruginosa* and *Klebsiella* spp. will provide further data and may identify further work that can be done to improve patient safety and reduce gram-negative bloodstream infections.

External scrutiny of infection prevention and control will involve the Health and Social Care Act 2008 Code of Practice (Hygiene Code) and by the delivery of MRSA bacteraemia and *C.difficile* reduction targets.

The development of the infection prevention and control information dashboard will continue. In addition the teams' key priorities will continue to be monitored.

The team will continue to carry out close surveillance on all *C.difficile* cases in an attempt to identify any trends.

The team continues to work closely with local schools to carry out hand hygiene awareness sessions to year 1 children on an annual basis. The majority of the sessions will be held in the Spring/Summer and early Autumn terms in order for messages to be shared before the winter pressures.

The team will continue to monitor the prevalence of emerging organisms such as Carbapenemase Producing Enterobacteriaceae (CPE), Vancomycin Resistant Enterobacter (VRE) and other Multi Drug Resistant Organisms (MDRO).

Following the global COVID-19 pandemic the team are changing the way we engage with care homes. At the time of writing this report the team is in the process of recruiting new staff to help support the expansion of work in social care.

## 18. Infection Prevention & Control Snapshot 2019-20



\* MRSA screening was suspended in March 2020 due to COVID-19 pandemic