

Infection Prevention and Control Annual Report

April 2019-March 2020

Our Bolton NHS FT Values



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Date	10/11/20	Author	Richard Catlin	

Title:	IPC Annual Report 2019/20
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Meeting:	IPC Committee	Purpose	Assurance	✓
Date:	23/11/20		Discussion	
Exec Sponsor	Marie Forshaw		Decision	

Summary:	<ul style="list-style-type: none"> ▪ HCAI performance has largely remained unchanged from year-to-year ▪ There was a significant spike in CDT cases in the summer of 2019 which has been extensively reviewed and performance has improved to baseline ▪ The Trust achieved 81.9% frontline staff seasonal flu uptake in 19/20 – the joint highest in Greater Manchester ▪ The activities of the Trust were significantly affected at the end of the year and into 2020/21 by the emergence of a global pandemic caused by SARS-CoV-2 ▪ No national objectives for HCAI have been set by NHS England due to the impact of COVID-19
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Previously considered by:	Infection Prevention and Control Committee
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Proposed Resolution	Continued surveillance
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This issue impacts on the following Trust ambitions			
<i>To provide safe, high quality and compassionate care to every person every time</i>	✓	<i>Our Estate will be sustainable and developed in a way that supports staff and community Health and Wellbeing</i>	
<i>To be a great place to work, where all staff feel valued and can reach their full potential</i>		<i>To integrate care to prevent ill health, improve wellbeing and meet the needs of the people of Bolton</i>	✓
<i>To continue to use our resources wisely so that we can invest in and improve our services</i>		<i>To develop partnerships that will improve services and support education, research and innovation</i>	

Prepared by:	Richard Catlin	Presented by:	Marie Forshaw
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1. EXECUTIVE SUMMARY

This report is intended to give a concise overview of key activities in the Trust related to infection prevention and control (IPC), healthcare associated infections (HCAI) and antibiotic stewardship. IPC remains critical to the Trust as it is a core component in the delivery of clean, safe care; failures in IPC can lead to adverse outcomes for patients and a poor patient experience. Antimicrobial stewardship has increasingly been identified as a challenge for the UK and presents a legitimate risk of the widespread dissemination of multi-drug resistant organisms and is therefore reflected in this report and future plans.

The Trust has IPC and HCAI objectives set by NHS England related to *Clostridium difficile*¹ and meticillin resistant *Staphylococcus aureus* (MRSA)².

For 2019/20 NHS England introduced new nomenclature for HCAI which are used here, definitions for these are included in

Table 1: Summary table of performance of 2019/20 HCAI cases as reported as part of the mandatory surveillance scheme

Organism	Cases Reported			
	All Cases	Hospital Onset Cases		
Meticillin Resistant <i>Staphylococcus aureus</i> (MRSA) bacteraemias	6	2		
<i>Clostridium difficile</i> toxin cases	67	HOHA	COHA	Total
		38	19	57
Meticillin Sensitive <i>Staphylococcus aureus</i> (MSSA) bacteraemias	101	14		
<i>Escherichia coli</i> (<i>E. coli</i>) bacteraemias	258	41		
<i>Pseudomonas aeruginosa</i> bacteraemias	11	2		
<i>Klebsiella spp.</i> bacteraemias	68	14		

MRSA Bacteraemia

NHS England adopts a zero tolerance to MRSA bacteraemias with an expectation that acute providers will have no avoidable MRSA cases as determined by root cause analysis of the case.

There were two Hospital Onset MRSA cases in 2019/20 compared with one case in the previous year.

¹ https://improvement.nhs.uk/documents/808/CDI_objectives_for_NHS_organisations_in_2019_12March.pdf

² <https://www.england.nhs.uk/wp-content/uploads/2018/12/8-contract-technical-guidance-2019-20.pdf>

Clostridium difficile

NHS England sets the annual *Clostridium difficile* objectives. The objective for 2019/20 was no more than 32 combined HOHA and COHA cases (see **Appendix 1** for definitions). There were 57 cases in total (38 HOHA cases and 19 COHA cases). There was a mid-year spike in cases and the Trust invited in the NHSi NW lead for Infection Prevention and Control (IPC) to review policy and processes. No clear issues were identified and the rate of cases has reverted to the baseline prior to this spike. All HOHA samples for a four-month period were sent for ribotyping by Public Health England (PHE) and there was no evidence of identifiable persistent transmissions between patients. The systems for cleaning and cleaning assurance were reviewed in conjunction with iFM Bolton.

Meticillin Sensitive *Staphylococcus aureus* (MSSA) Bacteraemia

There are no national objectives for MSSA cases but these are a good proxy for the delivery of safe care, in particular related to line and wound care which are frequently the root cause of these infections. In 2019/20 there was a reduction to 15 Hospital Onset cases compared with 22 cases in the previous year.

Gram Negatives

In November 2016, the government announced an intention to reduce all Gram negative bloodstream infections by 50% by the end of 2020/21. As a consequence, two new organisms were added to the mandatory surveillance list: all species of *Klebsiella* (described as *Klebsiella spp.*) and *Pseudomonas aeruginosa*.

***Escherichia coli* (*E. coli*) Bacteraemia**

There were 41 Hospital Onset *E. coli* bacteraemias in 2019/20 compared with 39 cases in the previous year.

***Pseudomonas aeruginosa* Bacteraemia**

There were two Hospital Onset *Pseudomonas aeruginosa* bacteraemias in 2019/20 in comparison with two cases in the previous year.

***Klebsiella spp.* Bacteraemia**

This surveillance includes all species of *Klebsiella* – referred to as *Klebsiella spp.* There were 14 Hospital Onset *Klebsiella spp.* bacteraemias in 2019/20 in comparison with 12 cases in the previous year.

Carbapenemase Producing Enterobacteriaceae (CPE)

CPE has been a concern in 2019/20 with two unrelated outbreaks on two wards. It has been reassuring to note that since the resolution of these outbreaks, the number of cases has reverted to the baseline seen before these incidents.

In total there were 28 CPE cases identified at Bolton FT in 2019/20 compared with 34 cases in the preceding year. Of these, 20 cases were from screening samples – indicating CPE



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colonisation rather than infection – and eight samples compared with 30 and six respectively in the previous year.

2. SYSTEMS TO MANAGE AND MONITOR THE PREVENTION AND CONTROL OF INFECTION PREVENTION AND CONTROL (IPC)

2.1 IPC Service Delivery

The IPCT remains unchanged from the structure in the previous year. The IPC functions continue to be split between the acute team who serve the Trust's acute services and the community team who serve the Trust's community functions as well as the Bolton Council. Bolton Council continues to commission Bolton Foundation Trust to provide community IPC services for their areas of accountability and the community services provided by Bolton FT.

The Director of Infection Prevention and Control (DIPC) retains overarching responsibility for IPC and reports directly to the Board. The Assistant DIPC (ADIPC) oversees the development and implementation of IPC strategy and policies for the acute and community teams, reporting directly to the DIPC. The ADIPC works in conjunction with the IPC doctor and the rest of the IPC team and key staff such as the antimicrobial pharmacist to develop strategy related to IPC and HCAI. The IPC matron has primary operational responsibility for day-to-day IPC management, management of the IPC team and oversight of key quality standards.

2.2 Microbiology Services

The provision of microbiology services also remains unchanged with three consultant microbiology posts (2.6 WTE).

The team continue to provide advice by phone; regular antimicrobial ward rounds for the review of patients with complex or prolonged antibiotic treatment and has recently established a weekly ward round to review *Clostridium difficile* toxin positive patients. The team also provide planned and prospective support for the critical care departments such as ICU and NICU.

Out of hours IPC advice continues to be provided by the microbiology service. The microbiology service also provides IPC advice Greater Manchester West Mental Health Trust under a service level agreement and a limited service for GPs.

The Trust has invested in an additional WTE antimicrobial pharmacy post to supplement the wider IPC service and to improve the scrutiny and awareness of safer antimicrobial prescribing. This increases this provision from 0.3 WTE to 1.3 WTE.

The microbiology laboratory continues to provide a seven-day service for the diagnosis of *Clostridium difficile* toxin, Meticillin resistant *Staphylococcus aureus* (MRSA), and Norovirus infections.

2.3 Healthcare Associated Infection (HCAI) System

The IPCT makes use of ICNet; a proprietary system for the management of HCAI. The system extracts data from the Trust laboratory system and Patient Administration System.



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It uses this information to alert the IPCT to these results in real time and is also the electronic patient record (EPR) for the IPCT. The system allows epidemiological information to be used from historical data. The system also allows the acute and community team to function collaboratively and independently with each able to access each other's notes and to alert the opposing team to new information e.g. a patient of interest can be flagged prior to or on discharge for follow-up in the community.

Sunrise EPR is now used in conjunction with ICNet.

In the event that the lab reporting from ICNet is no longer functional the IPC team are able to get any relevant lab results directly from the microbiology laboratory. In the longer term, there will be reporting system which will allow the IPC team to retrieve microbiology information from the EPR system.



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3. Healthcare Associated Infections (HCAI) performance

The Trust participates in the mandatory HCAI programmes. The following conditions are reported to the Department of Health (DH) via the Public Health England (PHE) Data Collection System (DCS):

1. MRSA positive blood cultures
2. *Clostridium difficile* toxin positive results
3. MSSA positive blood cultures
4. *E. coli* positive blood cultures
5. *Pseudomonas aeruginosa* blood cultures
6. *Klebsiella spp.* positive blood cultures

3.1 MRSA Bacteraemia

NHS England apportions cases to acute Trusts as outlined in **Appendix 1**.

Fig. 1: MRSA Cases

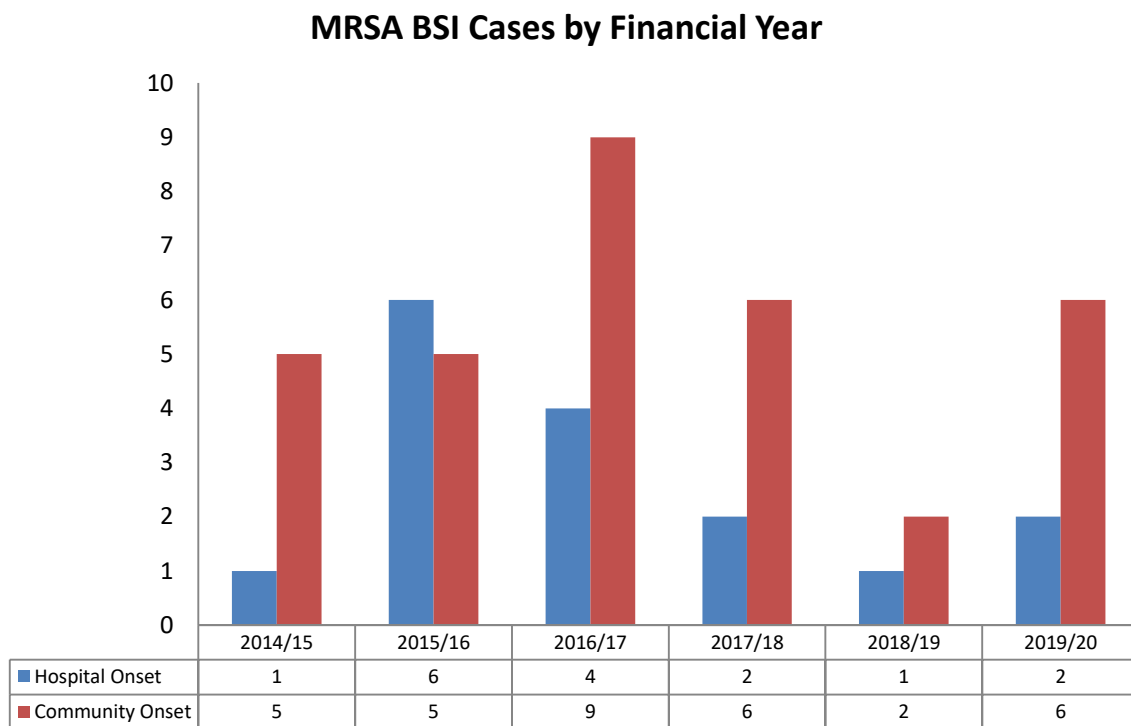
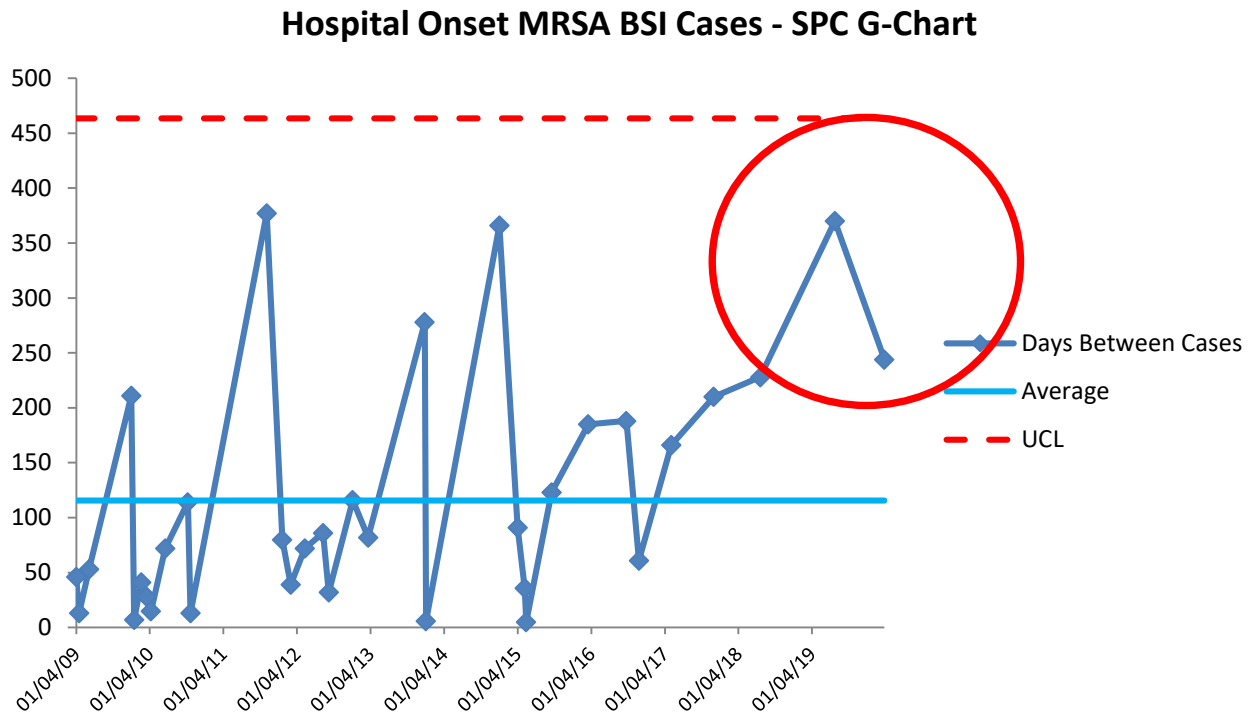


Fig. 2: Hospital Onset MRSA Cases SPC Chart



This chart shows that the period of time between MRSA cases had been increasing for the past two years but the most recent case in 2020 reduce this time interval.

3.1.1 Trust Apportioned Cases

NHS England has set a zero tolerance policy for MRSA bacteraemias so every acute provider has a trajectory of zero cases every year. During 2019/20 there were two Hospital Onset cases.

Case 1: The source of the patient’s infection was an ankle ulcer and old prosthesis and the post-infection review did not identify learning that would have mitigated the outcome. The patient was known to be MRSA positive and was managed in line with the Trust policy.

Case 2: The source of the patient’s infection was an infected abscess formed from repeated injections of recreational drugs. The patient was screened for MRSA on admission and was screen negative. An initial set of blood cultures were negative but a second set of blood cultures collected on the third day of admission were positive. The post-infection review did not identify learning that would have mitigated the outcome.

An increasing proportion of resistant (MRSA) and sensitive (MSSA) *Staphylococcus aureus* bloodstream infections have been linked to recreational drug use. The community IPC team have worked proactively with the formal structures such as the Bolton drugs and alcohol teams. They have also worked with some of the less formal structures outside of health and social care like local hostels to increase awareness of clean injecting, general hygiene in an effort to reduce the risk of infections in this high-risk group.

3.1.2 Non-Trust Apportioned MRSA Cases

There were four Community Onset cases in 2019/20. These cases have been reviewed using post-infection review (PIR) methodology. In year, the support by Bolton FT for the CCG to undertake these reviews has been strengthened to improve shared learning.

3.1.3 MRSA Screening

The Trust has maintained a universal policy to MRSA screening with all elective and non-elective admissions being screened for MRSA on admission to the Trust. Additional screening is undertaken in the critical care departments of the Trust where patients are screened on admission to the relevant unit and on a weekly basis. Elective patients may also be screened as part of their pre-admission pathway to maximise safety prior to surgery or other invasive procedures.

Patients are re-screened for MRSA weekly once they have been an inpatient for 14 days or more.

Patients who have become colonised with MRSA after admission are now reviewed to determine measures to reduce future likelihood.

3.2 *Clostridium difficile*

NHS England apportions cases as outlined in **Appendix 1**. Every hospital onset hospital associated case is formally reviewed and managed by the Trust HCAI Harm Free Care Panel.

The Trust remains compliant follows the Department of Health guidelines for *C. difficile* testing³. These guidelines stipulate that all stool specimens type 5-7 on the Bristol Stool Chart (BSC) should be tested if there is no other clear cause of diarrhoea. All samples submitted to the lab from the acute services in patients older than two years that meet this definition should always be tested for CDT in the laboratory, additional to any other test request. Any sample in a patient over the age of 65 from community patients should be tested for CDT additional to any other tests requested.

The test should be undertaken using a two-step algorithm with a sensitive screening test; step one using glutamate dehydrogenase enzyme immunoassay (GDH EIA) or *Clostridium difficile* toxin polymerase chain reaction (CDT PCR). Step two using CDT EIA. It is only the CDT EIA positive cases that are mandated for reporting. Bolton FT uses GDH EIA followed by CDT EIA.

In 2019/20 an additional testing step has been introduced. Samples that are GDH EIA positive and CDT EIA negative are tested with CDT PCR. If this test is negative then we can confirm with a high level of certainty that the patient's stool sample does not contain a toxigenic *Clostridium difficile* which means that they cannot develop a *Clostridium difficile* infection (CDI) and are of no clinical risk to other patients. These patients may be taken out of isolation and managed as per their needs. Patients stool with CDT detected by PCR may have had a false negative CDT EIA test or have *Clostridium difficile* but they don't currently have active infection. CDT EIA can only be detected when the bacteria is producing the toxin that causes disease.

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215135/dh_133016.pdf

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These patients are kept in isolation in line with the trust *Clostridium difficile* policy and may be treated for CDI following discussion with the microbiology team.

3.2.1 Trust Apportioned Cases

The objective for Bolton FT by NHS England was no more than 32 HOHA and COHA cases combined. The Trust ended the year with 57 cases in total (38 HOHA cases and 19 COHA cases).

Fig. 3: CDT cases

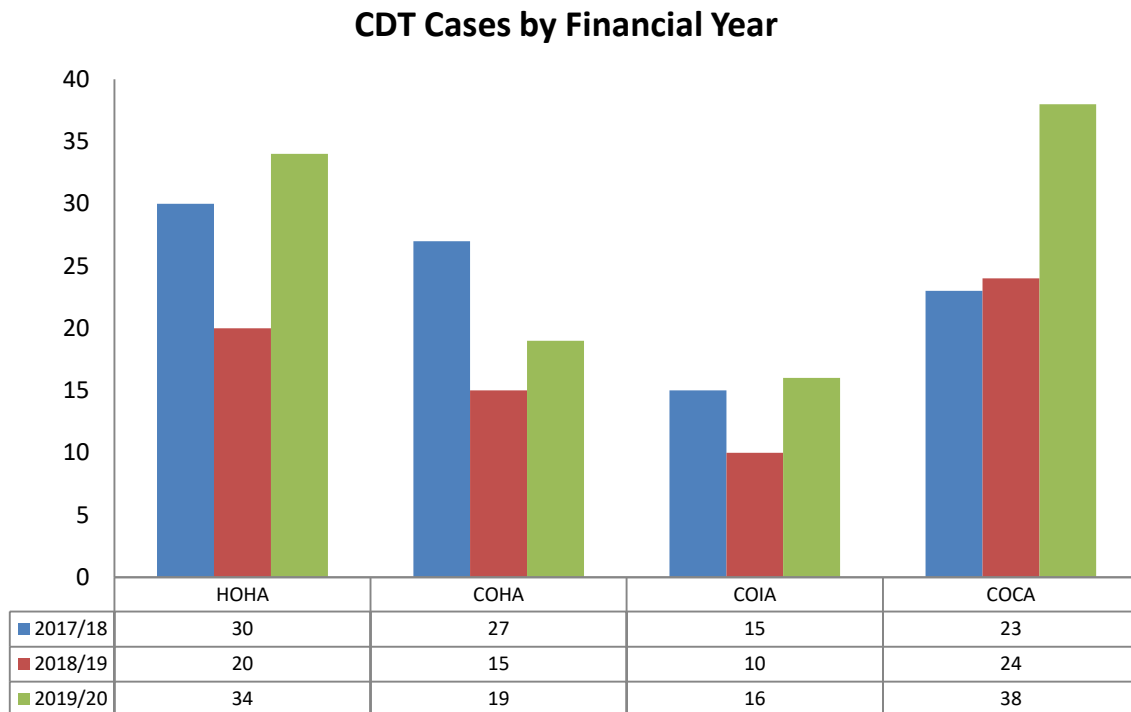
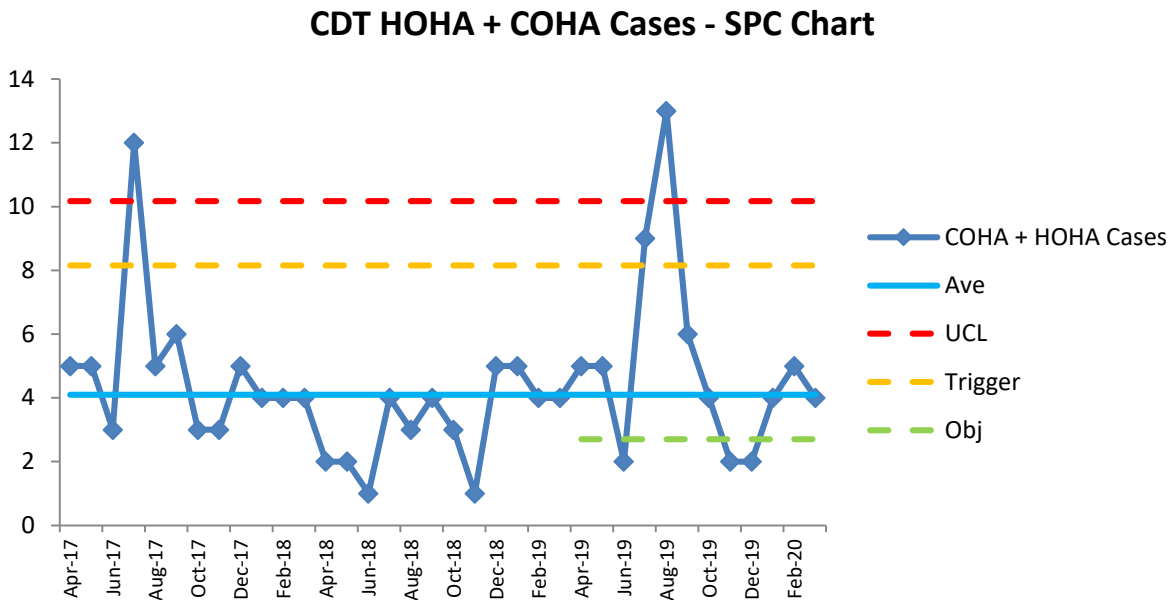


Fig. 4: Hospital Onset CDT Cases SPC Chart



There has been a general sustained improvement in the number of HOHA & COHA cases over the past three years (the 2019/20 definitions have been applied to cases retrospectively for comparative review). However there was a mid-year spike in cases during July, August and September 2019 before the incidence of cases reverted to the pre-spike levels.

This period of increased incidence includes a small number of cases (three) connected to an outbreak one ward but the cause of the rest of this spike remains unknown. For four months all of the HOHA cases were sent for ribotyping to try and identify any otherwise unrecognised linked cases. None were determined using this process.

All CDT positive patients and their connections were reviewed going back to January 2019 but no new connections and opportunities for cross-transmission were identified.

The IPC service worked in liaison with iFM Bolton to review cleaning methods and audit standards. This has resulted in a redistribution of cleaning staff to support cleaning in clinical areas and a shared cleanliness audit programme between the two organisations.

The NHSi lead for IPC in the North-West was invited in to review the trust policies and processes to identify areas where Bolton would benefit from the shared learning from other organisations. The considered opinion from this independent review was that there were no serious concerns and this corresponded with a subsequent reduction in cases in September which has been maintained into 2020/21.

Trust apportioned cases are subject to a review which is undertaken using a guided root cause analysis approach. The purpose of these is to review the care provided and assess whether the care delivered was safe and appropriate. They are reviewed to establish whether care might have contributed to the risk of the patient developing a CDT infection and if this is the case, whether the corresponding policy was followed.

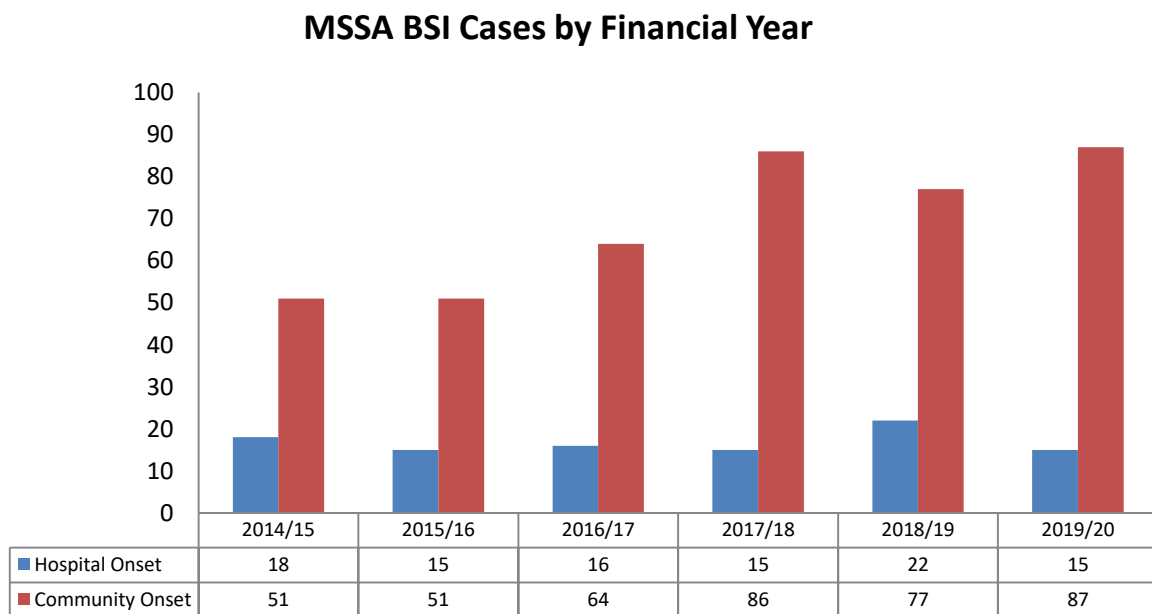
The clinical teams are responsible for the review. On the day of the result, the ward/department management team (patient consultant, ward manager and matron) are notified and given a date for the case to be fed back. The reviews are undertaken by a multidisciplinary team led by the patient’s consultant. Feedback is undertaken at a Harm Free Care Panel chaired by the DIPC or Medical Director attended by the ADIPC and/or IPC matron, IPC doctor or Consultant Microbiologist and antimicrobial pharmacist. The cases are presented by senior doctor and a senior nurse from the department.

3.3 MSSA Bacteraemia

There are no national targets for MSSA cases. NHS England apportsions cases in line with the process in **Appendix 1**. The IPC Committee created an internal stretch target of no more than 15 cases to bring the incidence back in line with the number of cases reported in 2017/18.

There was a reduction in MSSA cases in 19/20 to 15 Hospital Onset cases from 22 in the year earlier.

Fig. 5: MSSA cases



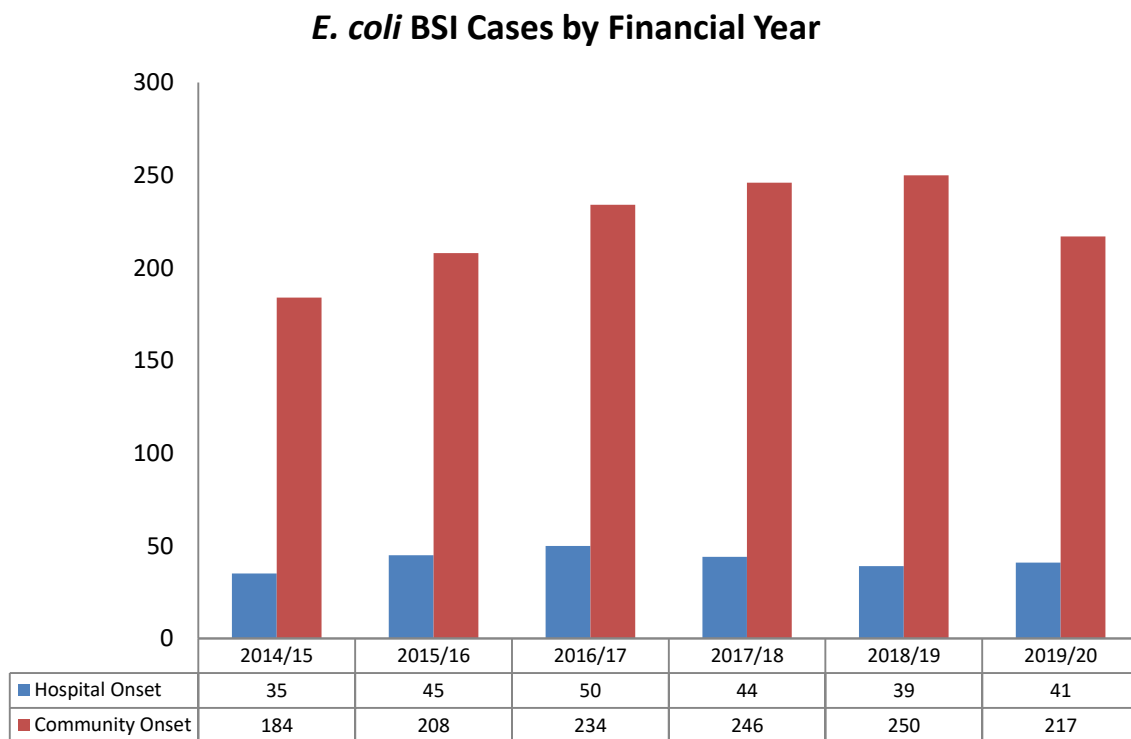
Gram Negatives

In November 2016, the government announced an intention to reduce all Gram negative bloodstream infections by 50% by the end of 2020/21. As a consequence, two new organisms were added to the mandatory surveillance list: *Klebsiella* species and *Pseudomonas aeruginosa*.

3.4 *E. coli* Bacteraemia

E. coli infections are more complex than MRSA or MSSA infections and much less likely to be attributed only to healthcare provision with personal hygiene and levels of hydration key risk factors for these infections.

Fig. 6: *E. coli* cases



Bolton FT has seen a general reduction of cases over the past few years:

Fig. 7: Bolton *E. coli* Cases

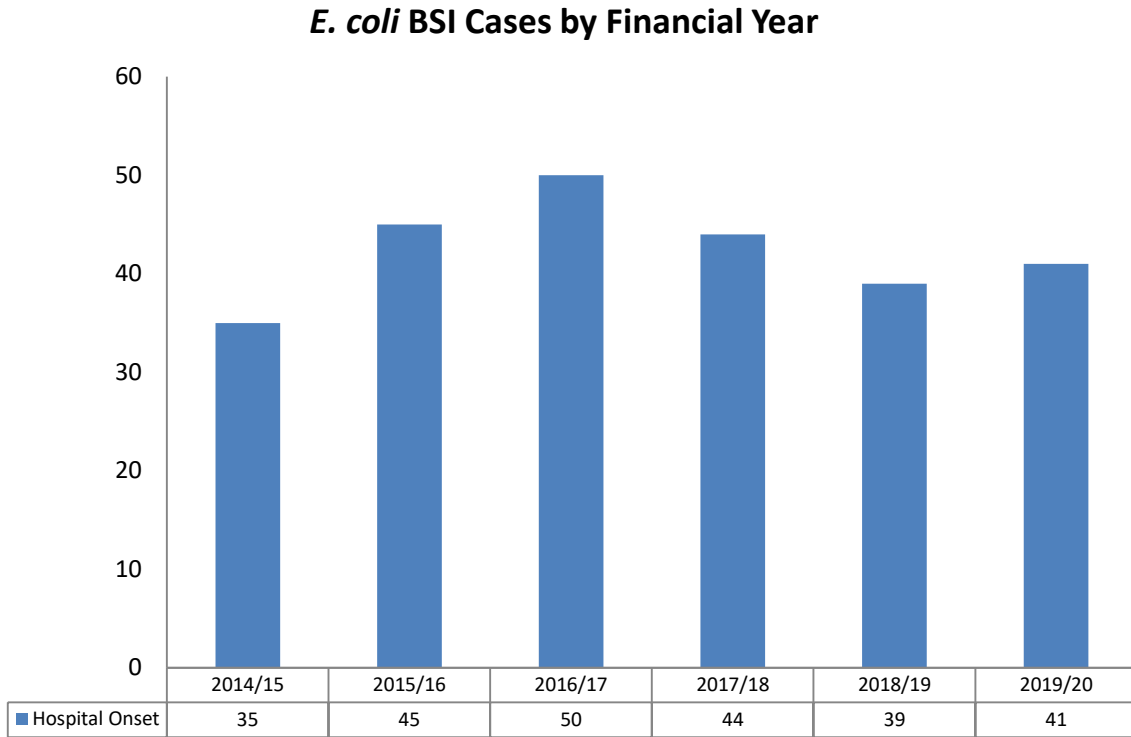
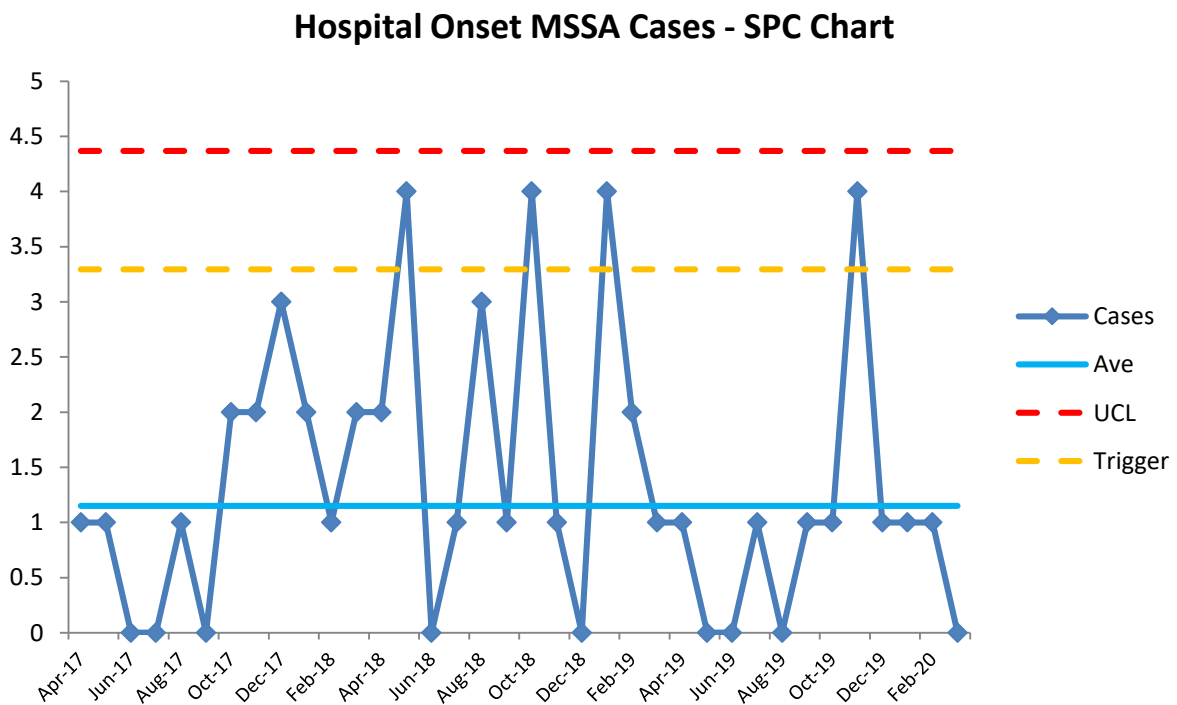


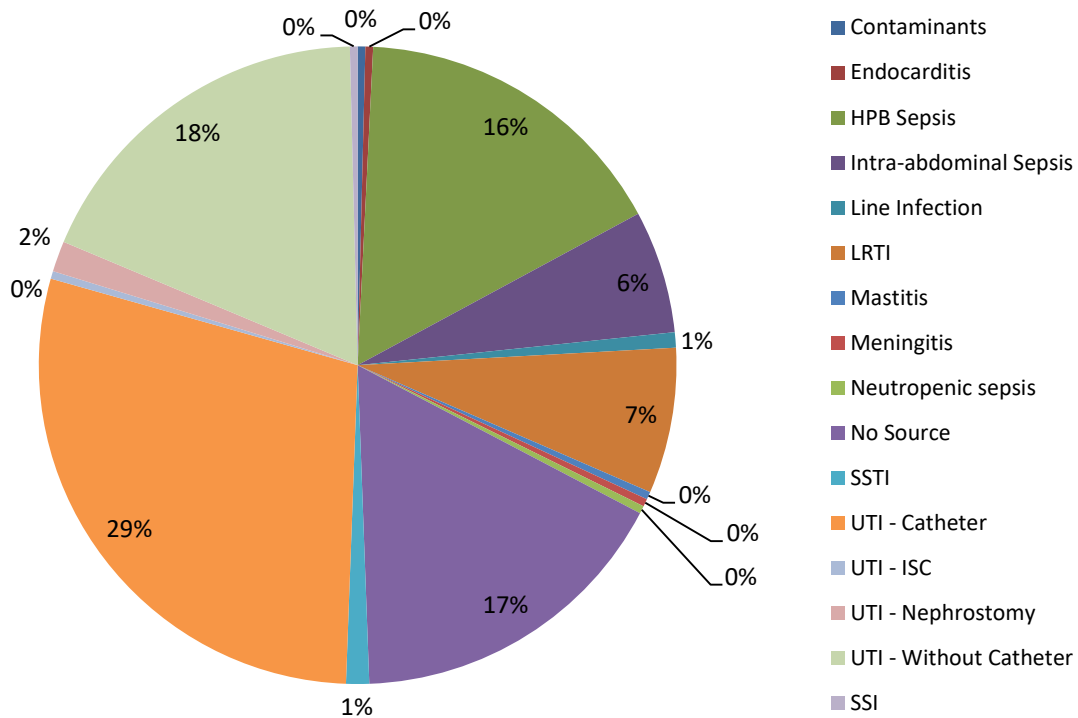
Fig. 8: *E. coli* SPC Chart



There are *E. coli* cases that are directly related to the provision of healthcare – *E. coli* infections due to urinary tract infections in patients with indwelling urinary catheters – others are less clear although hydration and cleanliness are known to be important.

The IPC Committee now sees a breakdown of *E. coli* cases by cause to better understand the impact of the provision of healthcare on the incidence of *E. coli* bloodstream infections. Shown here are cases for 2019/20:

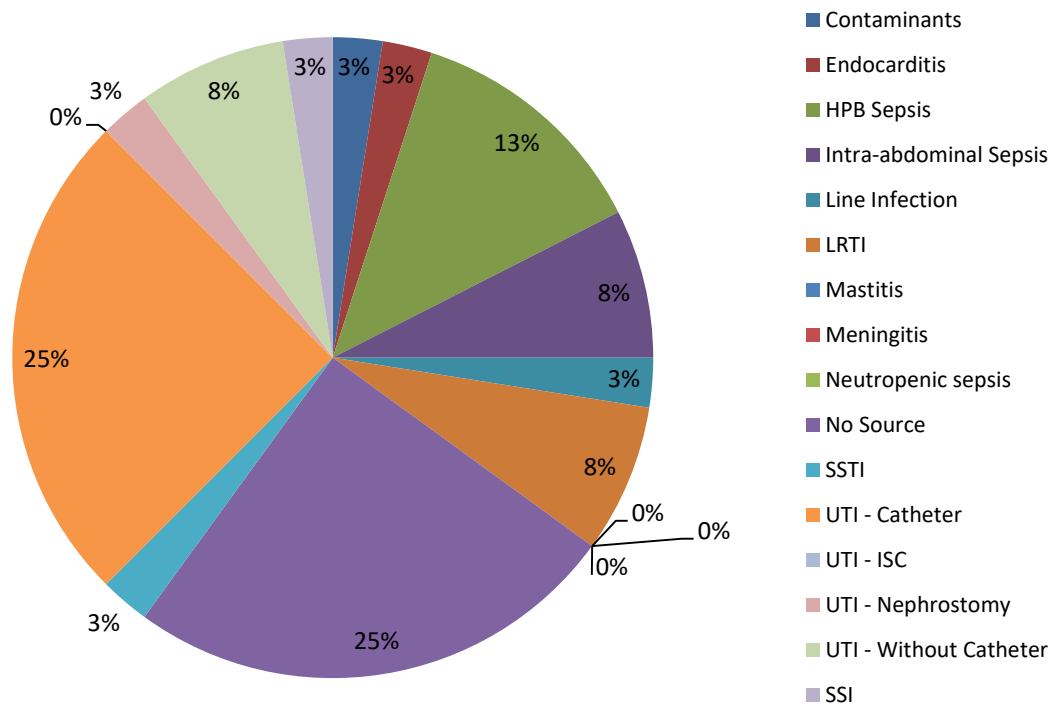
Fig. 9: *E. coli* by Proportion & Source; all *E. coli* BSI



Key to abbreviations	
HPB Sepsis	Hepatobiliary sepsis
LRTI	Lower respiratory tract infection
SSTI	Skin/soft tissue injury
UTI	Urinary tract infection
ISC	Intermittent self-catheterisation
SSI	Surgical site infection

The most common source was urinary tract infections (with a urinary catheter) followed by hepatobiliary infection and urinary tract infection (without a urinary catheter). No source was identified in 16% of cases.

Fig. 10: E. coli by Proportion & Source; Hospital Onset E. coli BSI



Urinary tract infections with a urinary catheter is the most common source and so needs to be the focus on harm reduction work in 2020/21.

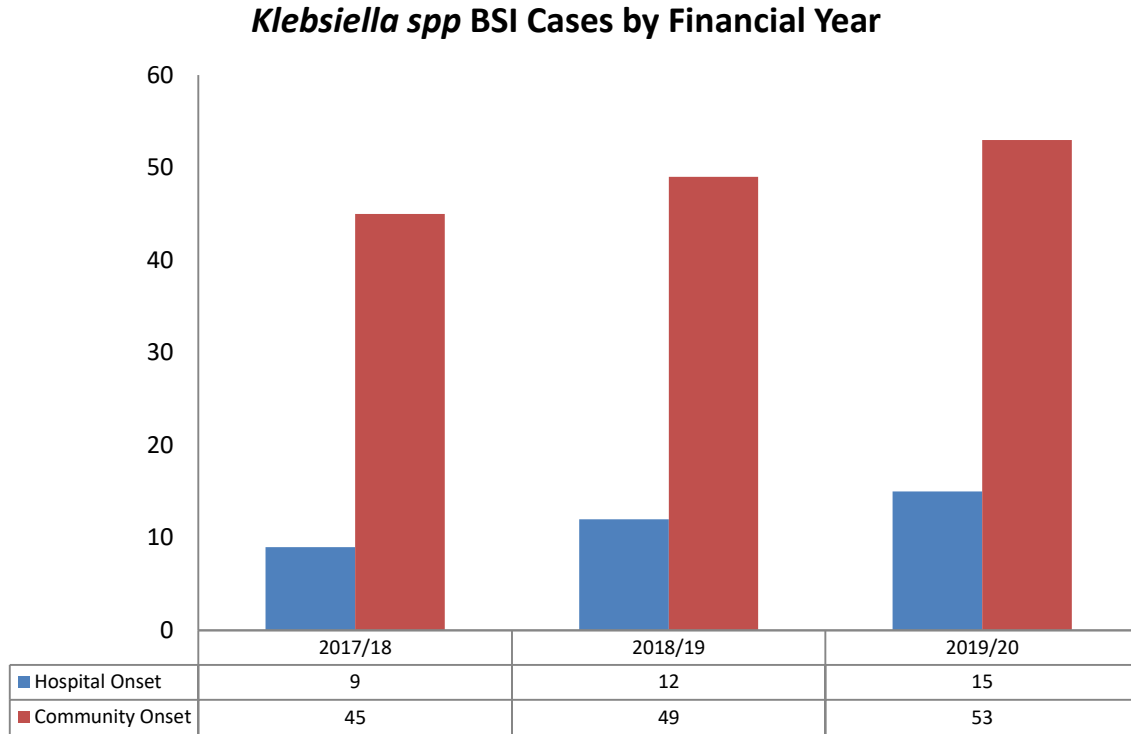


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3.5 *Klebsiella spp.* Bacteraemia

Mandatory surveillance of bloodstream infections caused by all species of *Klebsiella* started in 2017. There were 68 cases in total of which 15 were apportioned to the Trust. This compares with 60 cases in the year before of which 12 were apportioned as Hospital Onset.

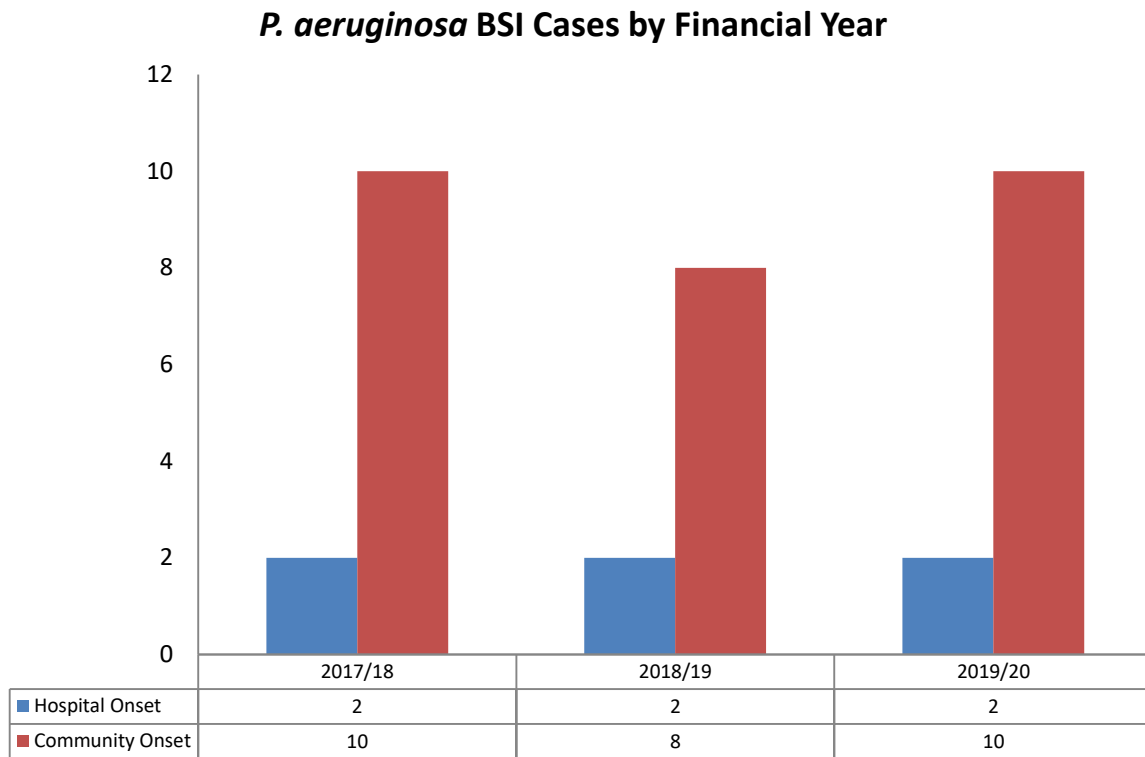
Fig. 11: *Klebsiella spp.* Cases



3.6 *Pseudomonas aeruginosa* Bacteraemia

Mandatory surveillance of bloodstream infections caused by *Pseudomonas aeruginosa* started in 2017. There have been no significant changes with 10 cases in total of which two were apportioned as Hospital Onset this compared to eight and two cases respectively in the year before.

Fig. 12: *Pseudomonas aeruginosa* Cases



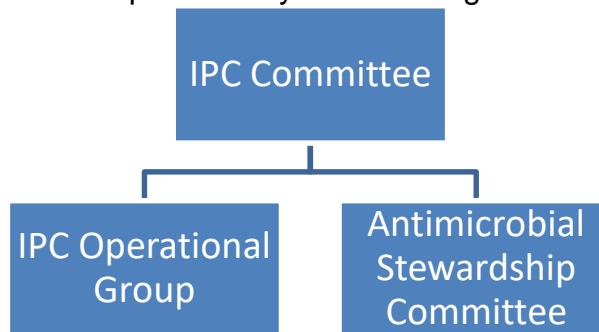
3.6 Additional Surveillance

In addition to these HCAI, the IPC team undertakes active surveillance of other infections or conditions that are important because of the illness they cause and the impact or due to the antibiotic resistance they confer.

These organisms are reported to the IPC team either by the ICNet (the IPC team surveillance system and electronic patient record) or by the laboratory on suspicion or confirmation.

4. Infection Prevention and Control Governance

IPC assurance continues to be provided by the following:



4.1 Infection Prevention Control Committee (IPCC)

The committee meets monthly and is chaired by the DoN/DIPC. This committee provides assurance to the DIPC to be reported to the Board where required and provides a strategic direction for the provision of IPC. The committee covers the following on a regular basis plus other topics by exception:

- HCAI surveillance
- Outbreaks/periods of increased incidence
- Antimicrobial stewardship
- Policy approval
- Emerging issues
- Divisional concerns

The revised Terms of Reference are available on request.

4.2 Infection Control Operational Group

This group also meets on a monthly basis. The purpose of this group is much more operational and covers agenda items such as:

- IPC audits
- Operational impact of emerging issues
- HCAI performance and corresponding feedback from RCAs

The revised Terms of Reference are available on request.

4.3 Antibiotic Stewardship Committee (ASC)

The antimicrobial stewardship committee is chaired by the Trust Antimicrobial Stewardship lead – who is a consultant medical microbiology – and includes representation from each of the clinical divisions. The remits of the group are to provide assurance on the following:

- Ensuring the relevant policies are in date and evidence based
- Provide assurance that key antibiotic prescribing policies are audited and that the audits are fed back
- The Trust has a strategy for providing safe and effective care related to antibiotic prescribing and use

The committee oversees the audit of antibiotic prescribing against the standards set out in the DH Start Smart Then Focus⁴. There are five auditable standards:

1. Compliance with Trust Antibiotic Guidelines (*including prescription in line with culture and sensitivity testing and/or microbiology recommendation*).
2. Indication for treatment written in the patient case notes at the point of antibiotic initiation.
3. Indication for treatment written in the antibiotic section of the prescription chart.
4. Stop date or a review clearly documented in the case notes by 48 hrs.
5. Stop or review date clearly documented on the prescription chart by 48 hrs.

Trustwide Compliance with Each Standard:

The set the Trust an objective of at least 85% compliance with all five standards for 2019/20

Fig. 13: Antimicrobial Stewardship Compliance Standard 1

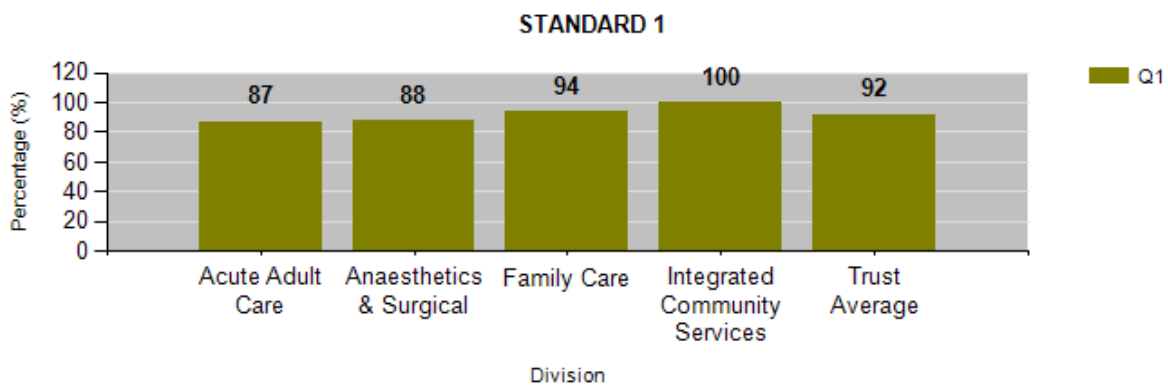
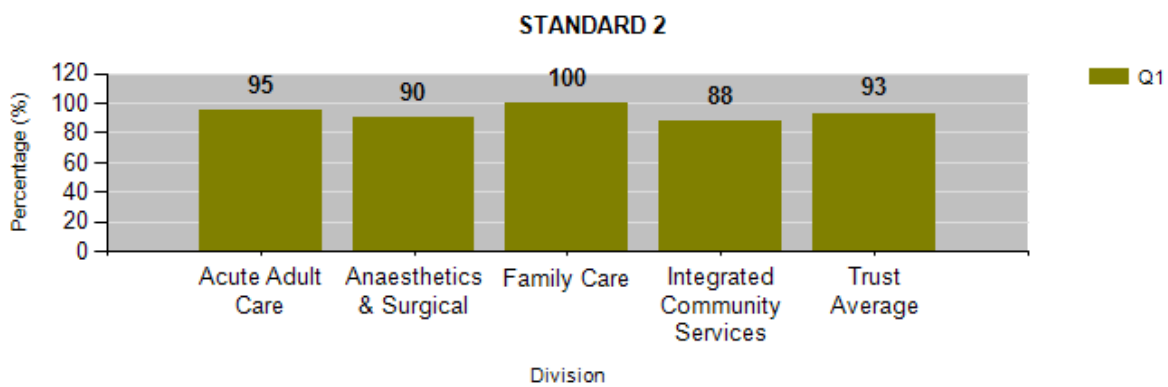


Fig. 14: Antimicrobial Stewardship Compliance Standard 2



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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/417032/Start_Smart_Then_Focus_FINAL.PDF

Fig. 15: Antimicrobial Stewardship Compliance Standard 3

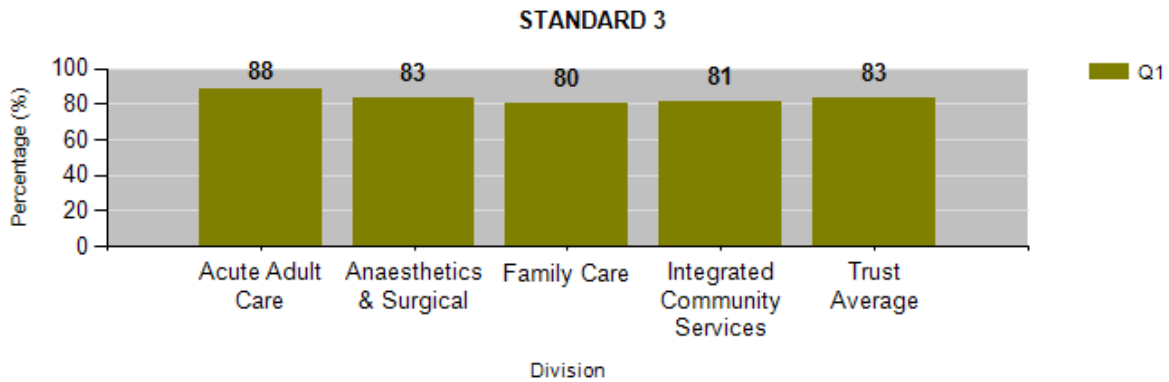


Fig. 16: Antimicrobial Stewardship Compliance Standard 4

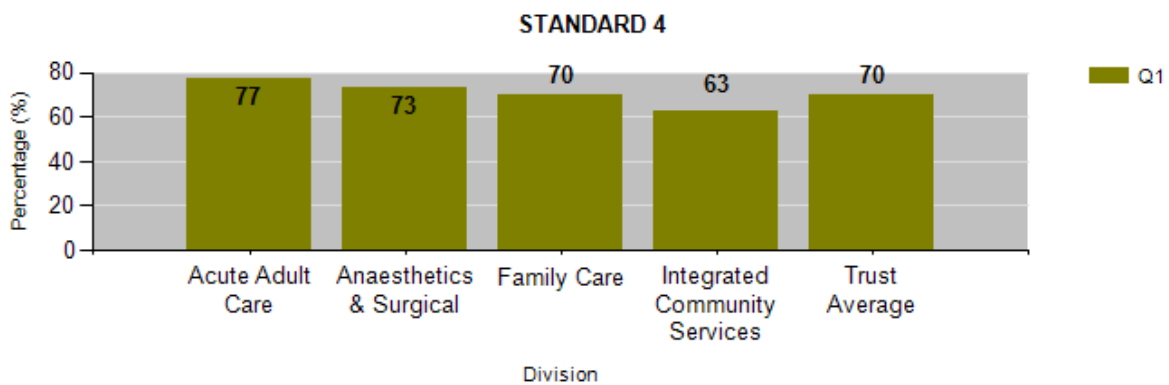
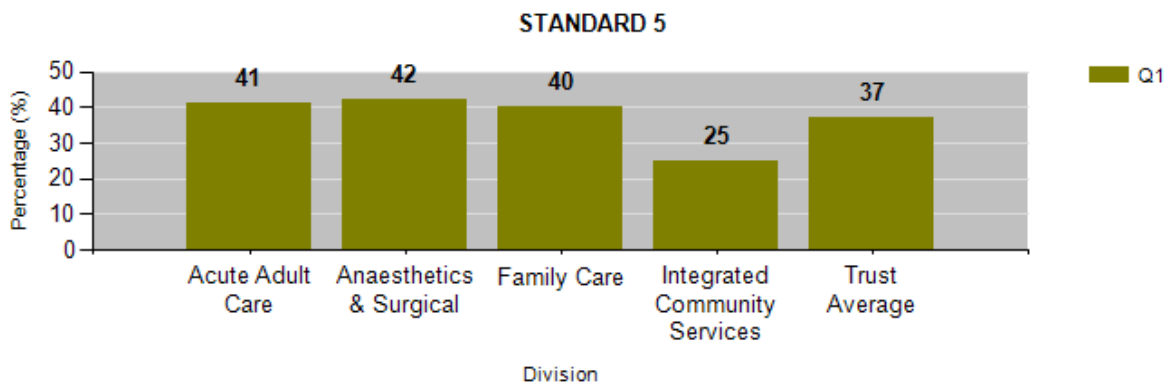


Fig. 17: Antimicrobial Stewardship Compliance Standard 5



With the implementation of electronic prescribing and medicines administration as part of EPR, the standards from 2020/21 have been revised to reflect the changes in prescription as review dates and indication documentation are required fields and will become less relevant:

1. STANDARD 1: Compliance with Trust Antibiotic Guidelines (including prescription in line with culture and sensitivity testing and/or microbiology recommendation).
2. STANDARD 2: Allergy status fully completed?
3. STANDARD 3: Stop or review date documented by 72 hours?
4. STANDARD 4: If stop/review performed - is the prescribed duration prescribed in line with guidelines / microbiology advice?
5. STANDARD 5: Saline flush administered (if on IVs)?

4.4 Representation at other Trust wide groups

Members of the IPCT represent the service at a number of Trust wide groups such as the medical devices group, Professional Advisory Group (PAG), Group Health and Safety Committee and is invited into other Trustwide groups such as building projects as required.

The IPCT also represent the Trust at external meetings including the Greater Manchester West Mental Health Trust IPCC, North West Infection Control (NORWIC) and the NHS North IPC collaborative group.



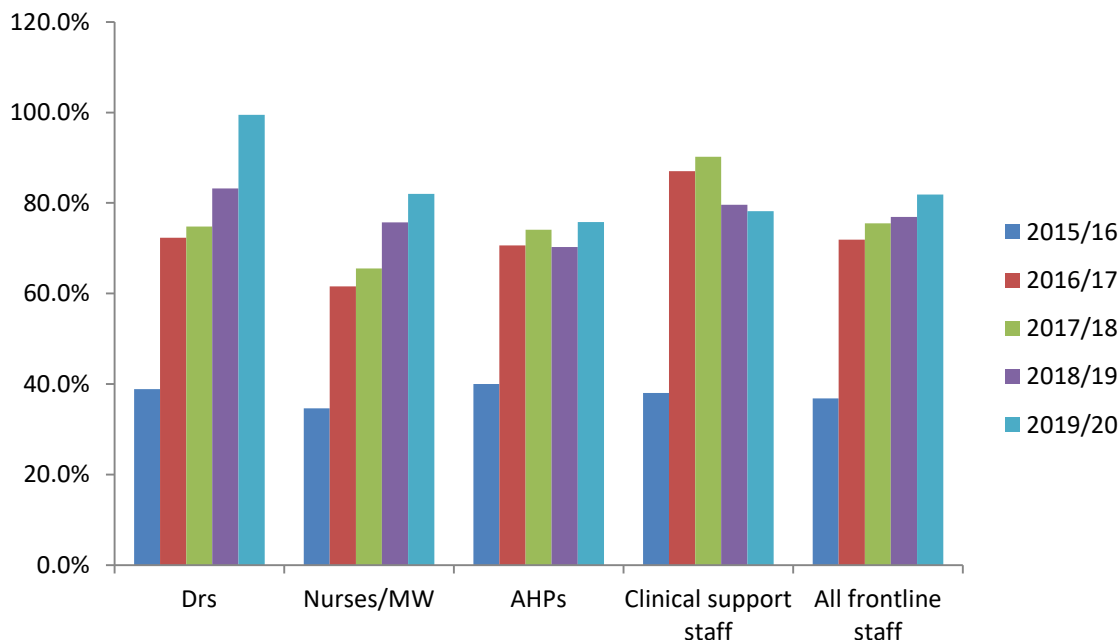
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5. Flu

5.1 Staff Flu Vaccination Campaign

The IPCT led on a successful flu vaccination programme for frontline staff in 2019/20⁵. Uptake in all frontline staff groups increased based on the previous years. Overall uptake for the Trust for frontline healthcare staff was 81.9% and was the joint highest uptake in acute trusts in Greater Manchester.

Fig. 10: Flu Vaccine Uptake



In total 4464 staff were vaccinated of which 3530 were frontline staff.

6 COVID-19

In November 2019 a novel viral pneumonia was recognised in Asia. This was later identified to be a novel coronavirus – initially referred to as Novel Wuhan Coronavirus, this has now been formally named as:

- SARS-CoV-2: the name of the virus
- COVID-19: the name of the disease

This is a new coronavirus that has recently had a primary host in an animal and has undergone two significant changes:

1. The ability to cause disease in humans
2. The ability to spread from human to human without an intermediary animal host

COVID-19 was declared a pandemic by the World Health Organisation (WHO) on March 11 2020.

⁵ Frontline staff are classified by the DH as: doctors, GPs, qualified nurses/midwives, other registered healthcare professionals and support staff to clinical staff

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The first case of COVID-19 was identified at Bolton FT 2nd march 2020 and by the end of March 2020 132 people had tested positive for SARS-CoV-2.

The virus has been hugely disruptive to hospital services and society during 2020 but the impact of the disease was seen in the next financial year although the Prime Minister did declare a national lockdown 23rd March 2020.

7. Community IPC

The team covers such services as care, homes, Bolton hospice, schools, district nursing, podiatry and community loan stores as examples. The team provide an informative, open, and knowledgeable service working cross organisationally to promote safe and effective infection prevention and control practices.

The team have worked with care homes, schools and nurseries around the importance of reporting and appropriately managing outbreaks of infection - including diarrhoea and vomiting, and influenza. They have visited schools and carried out education sessions with the smallest of children, and also liaised with the local authority neighbourhood teams to encourage the 'Making Every Contact Count' approach to infection prevention and control with a view to this message being shared with the wider community.

There are now separate bi-monthly link meetings for both FT community staff and care home staff which serve as an educational and informative forum for staff to feed back to their areas of work. The team also carries out mandatory training for our community staff, and have made time to visit several individual teams at their request, including podiatry and respiratory services, to carry out more 'tailor made' training for staff.

The team also liaise directly with patients where necessary to ensure they are receiving the correct treatment and have a good understanding of their infection. This might include an initial conversation (by phone or in person) and it often followed up by a home visit to ensure correct practices and treatment are in place. This usually involves communication and close liaison with other teams - including district nurses, Children's Community Nursing Team, tissue viability service, podiatry and GPs amongst others.


7.1 Care Homes

The team continue to work consultatively with care homes to ensure that they are safe and improving.

7.2 Training

IPC mandatory training for staff in ICSD predominantly remains face-to-face delivered by the CIPCT. In addition to delivering this, the team have provided 23 training sessions to care staff, monthly training at IPC link meetings, training for schools and education staff. The team has made efforts to provide IPC awareness sessions to hard to reach groups like parents with children with long-term health conditions and vulnerable adults who are homeless or who are injecting drug users.

During 2019/20 a decision was made to move all IPC mandatory training from face-to-face to e-learning to improve access.



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7.4 Other Functions

The team also take queries by phone, contribute to RCAs of Trust and non-Trust related infections. The team continue to lead on work in the Bolton population in raising awareness of infections related to injecting drug use such as MRSA and Group A *Streptococcus*.

The IPC team were also critical in helping to provide the flu vaccine for staff in the Trust community services – providing much of the uptake in this division.

8. Cleaning and Decontamination

8.1 Decontamination across the Trust

The Infection Prevention and Control team continues to provide decontamination advice throughout the Trust. The IPCT are available to give specialist advice on policies, procedures and the purchase of equipment in relation to decontamination.

The methods, processes and audits have been reviewed in year in response to a spike in CDT cases as described earlier.

8.2 Cleaning Service

Domestic services continue to be delivered by Bolton iFM. Bolton iFM continue to monitor cleaning standards as part of the service contract. Audits are undertaken using national standards. The audits are visual inspections incorporating 41 standards.


Departments are considered to be high-risk (for example, complex care) or very high-risk (for example, ICU). The same standards are monitored, but a successful audit in a high-risk area is 95% compliance with the audit whereas the required compliance in a very high-risk area is 98%.

All cleaning performance is reviewed and discussed at the Trust IPC Committee and the IPC Operational Group. Scores are reviewed monthly by the IPC team and area with consistently low scores or scores that generate a specific concern are discussed with the relevant managers.

At the intermediate care facilities there is local authority in-house cleaning staff. Darley Court's cleanliness is now assessed exactly the same as any other inpatient department in the Trust and reviewed with the same processes. All community healthcare facilities perform a 3 monthly audit which checks the standards of cleanliness and identifies any building fabric or building concerns. The audits are returned to the management team to progress any actions.

In the new build health centres the cleaning is performed by Eric Wright associates and is performed to a high standard they perform monthly environmental/cleaning audits which are reported to the relevant management teams.

All environmental cleaning audits are reported to the IPC Committee via the revised divisional IPC monthly reports for assurance and exceptions are challenged and discussed.



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8.3 Infection Control audits

The IPCT carry out audits of practice and adherence to key IPC standards on at least an annual basis. High risk areas (listed below) are audited at least twice yearly:

- ICU
- HDU
- A&E Dept
- Ward D1
- Ward D2
- CDU
- NICU
- Main Theatres

The audits are planned in advance and carried out by a member of the IPCT with a member of the ward staff; ideally the ward manager or IPC link nurse.

Action plans are completed by the ward staff and returned to the IPCT and the results are fed back at the IPC operational group. The group is attended by representatives from Bolton iFM facilities to assist if there are environmental issues that the ward staff cannot resolve themselves.

If the initial audit is unsatisfactory then a re-audit is required and if there are significant concerns, the issue may be escalated to the senior management team for support.

These audits are reported to the IPC Committee via the revised divisional IPC monthly reports for assurance and exceptions are challenged and discussed.

8.4 Hand Hygiene Audits

Hand hygiene audits are completed by nominated departmental staff continue and are inputted into secure applications. All grades of all types of staff are included in the audit and up to five members of staff are observed to check that hand washing before and after patient contact is taking place. Managers are able to generate reports for feed back to their team/department.

Hand hygiene audits are reported to the IPC Committee via the revised divisional IPC monthly reports for assurance and exceptions are challenged and discussed.

8.5 Bolton System of Care Accreditation (BoSCA)

The IPCT participate in the review of wards as part of BoSCA. The IPCT undertake elements 1, 10 and 13 of the BoSCA:

1. First Impressions: 15 Step Challenge
10. Infection Control
13. Environment

This is another opportunity for the IPCT to work with the ward staff to review and improve the care standards on their ward related to cleanliness and infection prevention and control.

The team work supportively with the ward staff to resolve any issues identified which helps to improve understanding and standards.



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9. Education and Training Activities

The delivery of training remains a core component of the IPC service. The IPCT provides training for the Trust on the corporate induction and day 2 of the induction for clinical staff. There is now an e-learning module for clinical and non-clinical mandatory training for acute staff although this training is still face-to-face with community staff.

Table 3: IPC Mandatory Training Compliance (end March 2020)

Division	Training Compliance
Acute Adult Care	92.2%
Anaesthetic & Surgery	93%
Diagnostic & Support Services	95.3%
Family Care	92.8%
Integrated Care Services	95.2%
Total	93.6%

The IPCT increasingly deliver training on an ad hoc basis as required and in response to incidents. More time is being devoted to training on a one-to-one basis or in small groups in the work setting as this is known to be an effective way of training staff.

An example of such is the 'Germ Warfare' sessions undertaken by the band 6 nurses in the IPC team. This is a regular, planned in-reach programme where the IPC nurses for a month will engage with clinical and frontline staff on a one-to-one basis or in small groups on key topics such as MRSA, CDT, SIGHT, the appropriate use of personal protective equipment or hand hygiene. The feedback from staff is that this is a valuable approach and supports the e-learning well.

The IPC team provide core training for cascade trainers – for example for cascade trainers for fit testing or aseptic non-touch technique (ANTT). An important part of the development of the Trust IPC link nurses is also teaching, training and information sharing.

9.1 Student Nurse Placements

The IPCT is a spoke placement area for both student nurses and qualified staff. During their placement the student/staff are given an insight into the daily working of the team which includes ward and patient visits, training, audits, community aspects and reviewing microbiology results. Visiting staff are given an information package which includes the names and contact details of the IPCT/microbiology team and the key roles and responsibilities in relation to infection prevention and control of all staff within the Trust. They are also given an opportunity to undergo a brief training session to discuss the fundamental aspects of infection control.

9.2 IPC Link Meetings

The link group meetings have now been split into two discreet groups: acute staff link nurses and community staff link nurses. Each group is held bi-monthly and held mid-afternoon to facilitate maximum attendance.

The meetings generally incorporate a short presentation or demonstration related to an aspect of IPC. This is followed by the team giving the group up to date information on recent events, new initiatives, key priorities and educational opportunities. The purpose of the meeting is for the attendees to disseminate the information to their clinical areas.

The 'Link Champion' trophy is presented to a link person who has shown initiative in their area. The link person is presented with a trophy and a certificate. A certificate is also given to the ward/department to display on their achievement board.

10. Plans for 2020/21

During the next 12 months the IPCT aims to ensure a high quality and effective service across the whole Trust with an aim of preventing infection by the application of clean, safe care against a backdrop of the COVID-19 pandemic. This will be the most challenging period experienced by the NHS in its existence and the risks to staff and health are difficult to calculate. At all times the IPC team and DIPC will endeavour to meet the 10 core standards in the Code of Practice and NICE guidance.

Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance (updated 2012)		NICE (2011) Quality Improvement Guide for HCAI
Criterion	The registered Provider is required to demonstrate	Quality Improvement Statement
1	Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider how susceptible service users are and any risks that their environment and other users may pose to them	1
2	Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections	2
3	Provide suitable accurate information on infections to service users and their visitors	
4	Provide suitable accurate information on infections to any person concerned with providing further support or nursing/medical care in a timely fashion	4
5	Ensure that people who have or develop an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing on the infection to other people	5
6	Ensure that all staff and those employed to provide care in all settings are fully involved in the process of preventing and controlling infection	6
7	Provide or secure adequate isolation facilities	7
8	Secure adequate access to laboratory support appropriate	8
9	Have and adhere to policies, designed for the individual's care and provider organisations. That will help to prevent and control infections	9
10	Ensure so far as is reasonably practicable, that care workers are free of and are protected from exposure to infections that can be caught at work and that staff are suitably educated in the prevention and control of infection associated with provision of health and social care	10

At the time of writing there have been no objectives set by NHS England.

As a consequence, the IPC has advised that the objectives from the previous year be adopted and where none exist, has adopted its own objective:

MRSA BSI	Zero tolerance (NHSE 2019/20)
CDT (HOHA + COHA cases)	No more than 32 cases (NHSE 2019/20)
MSSA BSI	No more than 14 hospital onset cases (local)
<i>E. coli</i> BSI	No more than 36 hospital onset cases (local)
<i>Pseudomonas</i>	Zero tolerance (local)
<i>Klebsiella spp.</i> BSI	No more than 13 hospital onset cases (local)



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Appendix 1: HCAI Nomenclature from 2019/20

Blood Cultures – including MRSA, MSSA, *E. coli*, *Klebsiella spp.* and *Pseudomonas aeruginosa*

The nomenclature and classification of these infections is unchanged from previous years.

- **Community Onset:** these are cases that are likely to have originated from care or exposure in the community prior to admission to hospital. This classification of infections is likely to be evident on admission or to become evident shortly after the infection is evident. Samples collected on the day of admission or the following day are classified as being of community onset and are reported here and publically as such.
- **Hospital Onset:** these are cases that are more likely to have originated from care or exposure in the hospital setting. Infections that become evident after two days of admission are less likely to be related to a community source. Samples collected from the second day after admission are classified as being of hospital onset and are reported here and publically as such.

Sample Collected Prior to Admission	Sample Collected on the Day of Admission	Sample Collected on the Day Following Admission	Sample Collected Later in the Admission
Community Onset	Community Onset	Community Onset	Hospital Onset

Clostridium difficile Cases

There has been significant change in the classification and nomenclature of *Clostridium difficile* infections from 2019/20.

Before 2019/20 these infections, these infections were classified as community onset and hospital onset infections in a similar way to blood cultures:

Sample Collected Prior to Admission	Sample Collected on the Day of Admission	Sample Collected on the Admission Day plus 1 day	Sample Collected on the Admission Day plus 2 days	Sample Collected Later in the Admission
Community Onset	Community Onset	Community Onset	Community Onset	Hospital Onset

This has been changed in to better reflect the progress of *Clostridium difficile* disease.

- **Community onset community associated:** cases that occur in the community or on the day of admission or the following day **and** the patient has not been an inpatient in the trust reporting the case in the previous 12 weeks (COCA).
- **Community onset indeterminate association:** cases that occur in the community or on the day of admission or the following day **and** the patient has been an inpatient in the trust reporting the case in the previous 12 weeks but not the most recent four weeks (COIA).

- **Community onset healthcare associated:** cases that occur in the community or on the day of admission or the following day **and** the patient has been an inpatient in the trust reporting the case in the previous 4 weeks (COHA).
- **Healthcare onset healthcare associated:** cases detected from a sample collected from the third day of admission (admission being day 1 – HOHA).

From 2019/20 it is the HOHA and COHA cases that count towards the centrally agreed objectives for acute Trus



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