

## Board of Directors

<b>Date:</b>	2 September 2020	<b>Attachment Number:</b>	12 (ii)								
<b>Title of Report:</b>	Infection Prevention & Control Annual Report 2019 – 2020										
<b>Purpose of the report and the key issues for consideration/decision:</b>	<p>This annual report provides evidence of progress against the annual plan which incorporates progress made against the Infection Prevention targets.</p> <ul style="list-style-type: none"> <li>• C. difficile reporting objectives for 2019/20 changed, seeing an addition of a prior healthcare exposure element for community onset cases and a reduction in the number of days to apportion hospital-acquired cases from three or more (day 4 onwards) to two or more (day 3 onwards) days following admission.</li> <li>• In October 2019 the Trust reported that there were, in total 6 CDI cases linked to Ward 4 during the period of August 2019 to October 2019; three cases were hospital onset and three cases community onset healthcare associated – outbreak management initiated.</li> <li>• There was 1 MRSA attributable to the Trust.</li> <li>• There were 15 hospital-acquired MSSA bacteraemia, compared with eight in the previous year : rate per 100,000 bed days 9.6 nationally : 7.55 ANHSFT for the most recent reporting period 2018/9.</li> <li>• The Trust’s response to COVID-19 commenced in January 2020 with work on the development of existing preparedness protocols and responding to Chief Medical Officer Alerts and Public Health England Briefing Notes.</li> <li>• Airedale NHSFT remains the lowest user of antibiotics in Yorkshire and Humber (black line/blue diamonds in graph A). The NHS standard contract now includes a requirement to have a reduction of antibiotic usage of 1% or greater during 2019/20 compared with calendar year 2018. Airedale NHSFT’s antibiotic usage in 2019/20 was 95% of calendar year 2018.</li> <li>• The national PLACE (Patient Led Assessment for the Care Environment) was undertaken in September 2019 - results are not comparable with those in previous collections, due to the large scale national review and question set changes.</li> <li>• Ward kitchens have now been supplied with new commercial refrigerators and following the disappointing result of 4 stars an action plan has been created and now all actions have been completed.</li> </ul>										
<b>Prepared by:</b>	Allison Charlesworth Matron Infection Prevention										
<b>Presented by:</b>	Jill Asbury, Director of Nursing/Director of Infection Prevention and Control										
<b>Strategic Objective(s) supported by this paper:</b>	<table border="1"> <tr> <td><b>Financial Sustainability</b></td> <td></td> <td><b>Empower &amp; Engage Staff</b></td> <td></td> </tr> <tr> <td><b>Quality of Care</b></td> <td>x</td> <td></td> <td></td> </tr> </table>			<b>Financial Sustainability</b>		<b>Empower &amp; Engage Staff</b>		<b>Quality of Care</b>	x		
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<b>Quality of Care</b>	x										

<b>Is this on the Trust's risk register:</b>	<table border="1"> <tr> <td data-bbox="483 221 592 353">No</td> <td data-bbox="592 221 735 353"></td> <td data-bbox="735 221 858 353">Yes</td> <td data-bbox="858 221 954 353">x</td> <td data-bbox="954 221 1171 353">If Yes, Score</td> <td data-bbox="1171 221 1469 353">2017-022 Water Safety - Legionella 2017-063 Clostridium difficile</td> </tr> </table>	No		Yes	x	If Yes, Score	2017-022 Water Safety - Legionella 2017-063 Clostridium difficile										
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<b>Which CQC Standards apply to this report:</b>	<p><b>12(2)(h)</b> - assessing the risk of, and preventing, detecting and controlling the spread of, infections, including those that are health care associated.</p> <p><b>15 - 15(1)(a)</b> - All premises and equipment used by the service provider must be clean.</p>																
<b>Have all implications related to this report been considered: (please X)</b>	<table border="1"> <tr> <td data-bbox="483 546 930 611">Finance Revenue &amp; Capital</td> <td data-bbox="930 546 999 611"></td> <td data-bbox="999 546 1367 611">Equality &amp; Diversity</td> <td data-bbox="1367 546 1469 611">x</td> </tr> <tr> <td data-bbox="483 611 930 676">National Policy/Legislation</td> <td data-bbox="930 611 999 676">x</td> <td data-bbox="999 611 1367 676">Patient Experience</td> <td data-bbox="1367 611 1469 676">x</td> </tr> <tr> <td data-bbox="483 676 930 741">Human Resources</td> <td data-bbox="930 676 999 741"></td> <td data-bbox="999 676 1367 741">Terms of Authorisation</td> <td data-bbox="1367 676 1469 741"></td> </tr> <tr> <td data-bbox="483 741 930 806">Governance &amp; Risk Management (BAF)</td> <td data-bbox="930 741 999 806"></td> <td data-bbox="999 741 1367 806">Other:</td> <td data-bbox="1367 741 1469 806"></td> </tr> </table>	Finance Revenue & Capital		Equality & Diversity	x	National Policy/Legislation	x	Patient Experience	x	Human Resources		Terms of Authorisation		Governance & Risk Management (BAF)		Other:	
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<b>Action Required: (please X)</b>	<table border="1"> <tr> <td data-bbox="475 869 651 934">Approve</td> <td data-bbox="651 869 703 934">x</td> <td data-bbox="703 869 874 934">Discuss</td> <td data-bbox="874 869 911 934"></td> <td data-bbox="911 869 1150 934">Receive for information</td> <td data-bbox="1150 869 1203 934">x</td> <td data-bbox="1203 869 1442 934">Decision</td> <td data-bbox="1442 869 1481 934"></td> </tr> </table>	Approve	x	Discuss		Receive for information	x	Decision									
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<b>Previously Considered By:</b>	<table border="1"> <tr> <td data-bbox="483 987 1098 1052">Infection Control Committee Quality &amp; Safety Committee</td> <td data-bbox="1098 987 1214 1052">Date:</td> <td data-bbox="1214 987 1469 1052">11 June 2020 24 June 2020</td> </tr> </table>	Infection Control Committee Quality & Safety Committee	Date:	11 June 2020 24 June 2020													
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<b>Recommendations:</b>	<p>To receive the annual report for 2019-20</p> <p>Approve the plans for 2020/2021</p>																

## Airedale NHS Foundation Trust

### Infection Prevention & Control Annual Report 2019 – 2020

#### 1.0 Summary

The annual report provides a summary of the annual plan for the year 2019/20 and indicates progress made against the Infection Prevention targets.

The prevention and control of infection continues to be a high priority for the Trust. There is a strong commitment throughout the organisation to prevent all avoidable healthcare associated infections (HCAIs).

There are a number of infection prevention targets included in the national contract and are therefore subject to mandatory reporting, these are:

- Clostridium difficile infection (CDI)
- Methicillin-resistant Staphylococcus aureus (MRSA) bacteraemia
- Methicillin-susceptible S. aureus (MSSA) bacteraemia
- Gram negative bacteraemias

There have been 24 cases of *C. difficile* in the trust.

The Trust had one MRSA bacteraemia.

A new HCAI target of reducing Gram negative bacteraemias was introduced in April 2017 as part of the national contract. The majority of Gram negative bacteraemias are community-acquired: 210 in total, of which 170 were community-acquired. There have been 36 cases of hospital acquired Gram negative bacteraemias (breakdown below). Post Infection Review (PIR) meetings showed that the majority were non-preventable.

E coli bacteraemia: total 173; hospital 26, community 147

Klebsiella bacteraemia: total 27; hospital 8, community 19

Pseudomonas aeruginosa bacteraemia: total 6; hospital 2, community 4

The Trust's response to COVID-19 commenced in January 2020 with work on the development of existing preparedness protocols and responding to Chief Medical Officer Alerts and Public Health England Briefing Notes.

In addition to the information on infection prevention, the report also outlines the work done on significant other infection control work.

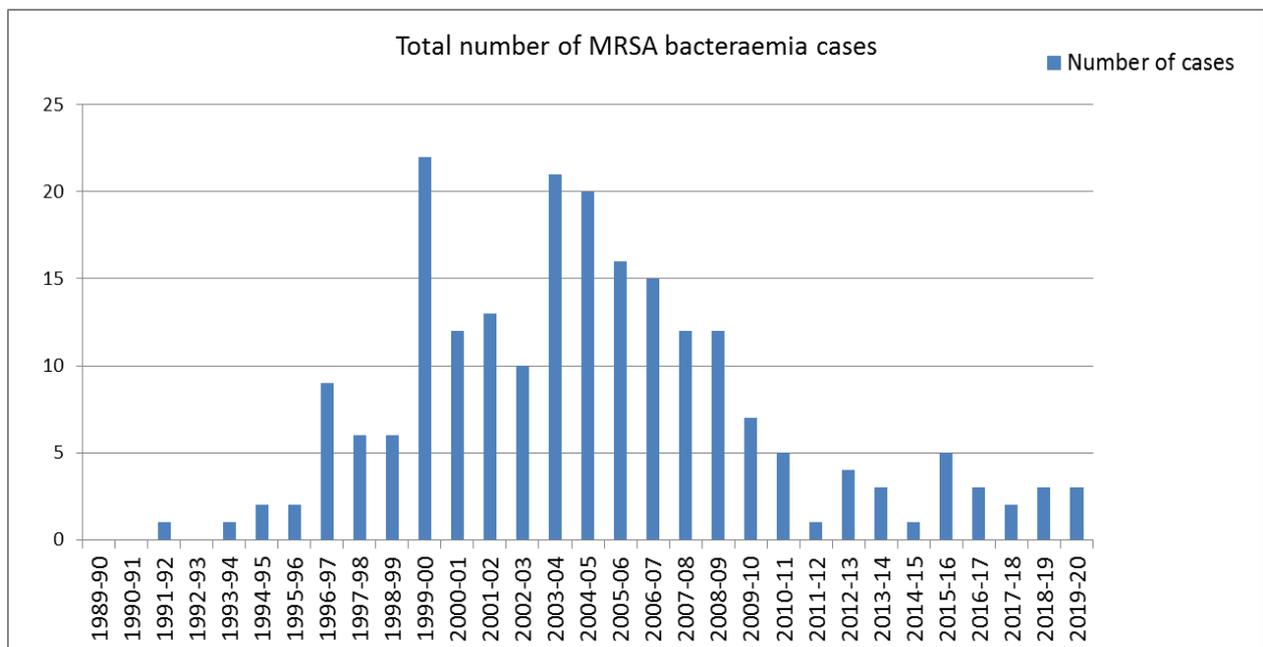
## **2.0 Performance 2019-20: Infection Prevention Targets**

### **2.1 MRSA (Methicillin Resistant *Staphylococcus aureus*)**

Mandatory MRSA bacteraemia (blood stream infection) surveillance has been undertaken since April 2001 by all NHS Trusts in England. As an organisation we have a zero-tolerance approach to hospital acquired infections and, as with every NHS Acute Trust, we had a contractual objective in 2019/20, of zero cases of hospital-acquired MRSA bacteraemia.

The Trust has had one MRSA bacteraemia case. No source for the bacteraemia was established at the PIR meeting as the patient had never been colonised with MRSA and had experienced a long lie on the floor pre-admission resulting in pressure damage to skin.

There were 2 MRSA bacteraemia cases attributed to community.



**Graph 1 : Actual numbers of MRSA bacteraemias at Airedale NHS Foundation Trust (ANHSFT)**

#### **2.1.2 MRSA Screening**

The screening method established in December 2018 that aligned the Airedale and Bradford process has continued.

The Trust continues MRSA screening of both elective and emergency patients in line with national guidance our protocol includes:

##### **Patient groups screened:**

- All adult general acute admissions

- Patients admitted to/attending high risk areas as per individual departmental protocols
- Patients previously identified as colonised or infected by MRSA
- Elective orthopaedic and breast implant patients at pre-assessment

**Re-screening:**

All in-patients at 2 weekly intervals – weekly on Intensive Care and Neonatal Unit.

**MRSA colonisation suppression:**

- On admission for all patients admitted from a nursing/residential home
- All acute orthopaedic patients on admission if over 65years of age
- Patients found to be MRSA positive on screening

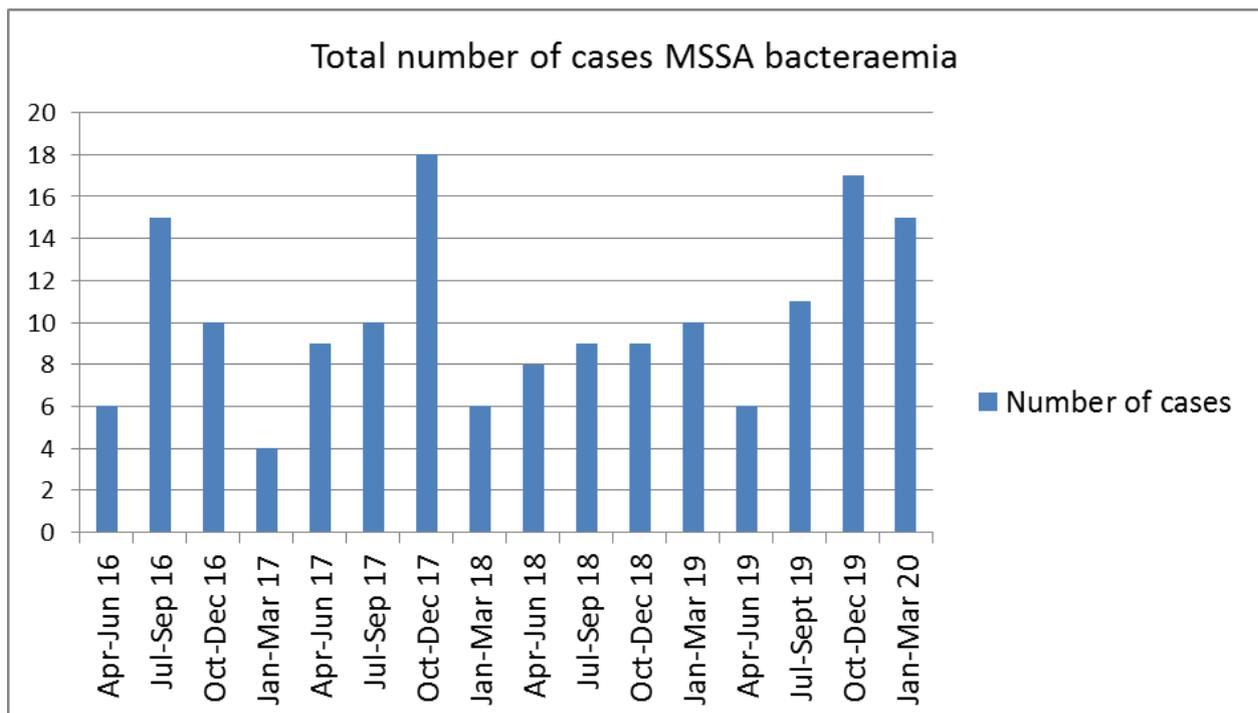
**Recommended Standard Colonisation Suppression:**

1. Bactroban (mupirocin) nasal ointment - in **pregnancy** use Naseptin
2. Hibiscrub body wash or Oilatum plus if patient has skin problems

As in previous years the Trust continues to see a small amount of mupiricin-resistance, which has historically been associated with probable clonal spread from the Bradford area. The Trust uses alternative colonisation suppression protocols in patients where mupiricin resistance is found.

**2.2 MSSA (Methicillin-sensitive Staph aureus)**

Whilst there is mandated reporting of MSSA bacteraemia there are no nationally set trajectories.



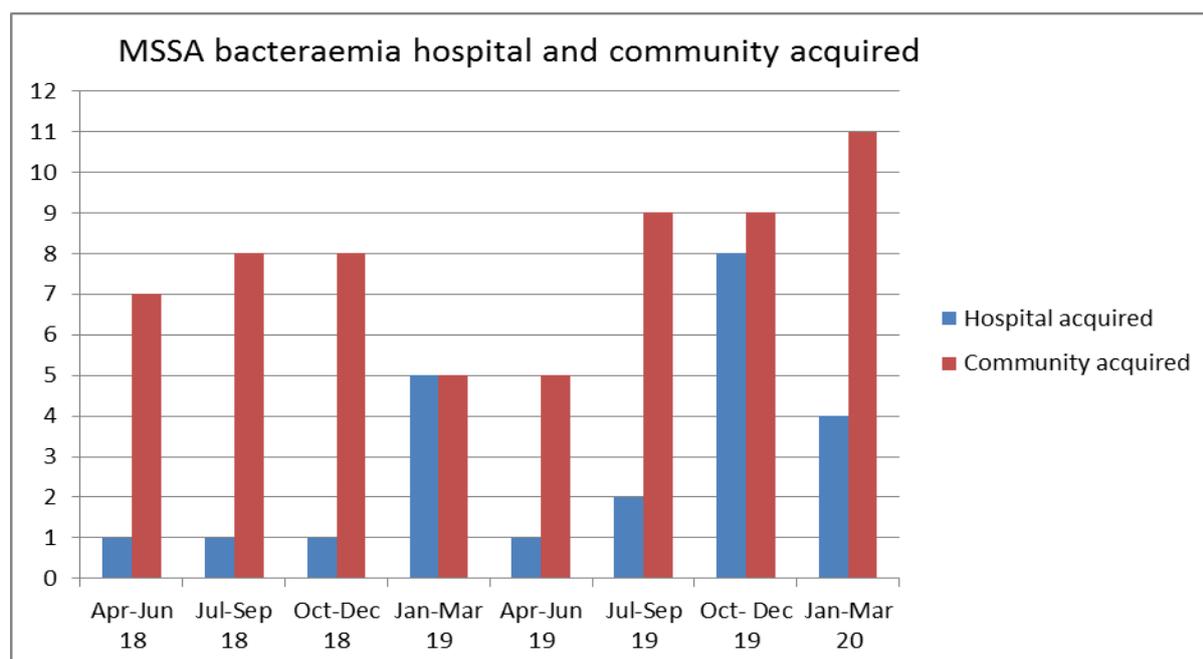
**Graph 2: Community and hospital acquired MSSA blood stream infections per quarter since 2016**

Both hospital and community cases increased in 2019/20.

There were 15 hospital-acquired MSSA bacteraemia, compared with eight in the previous year.

2018/19: 28 community and 8 hospital cases.

2019/20: 34 community and 15 hospital cases.



**Graph 3: Community and hospital acquired MSSA blood stream infections per quarter since 2018**

From a national perspective the incidence rate per 100,000 bed days for hospital-acquired MSSA cases has increased steadily from 7.8 in 2012/13 to 9.6 in 2018/19.

Figure Organisation name	Financial year							
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Airedale	8.0245007	5.015	2.6731	7.1429	5.484	7.7863	8.6339	7.558

**Table 1: ANHSFT MSSA rates per 100,000 bed days for hospital acquired cases 2011/12 to 2018/19**

Regionally 340 cases of MSSA bacteraemia were reported in Yorkshire and Humber in quarter four, of which 102 cases were hospital-onset. The Trust reported eight hospital acquired cases in this quarter.

All hospital cases were reviewed by a Consultant Microbiologist and a total of three hospital acquired cases progressed to a multi-disciplinary Post Infection Review (PIR) and all were deemed unavoidable. In the first case there was no conclusive

evidence of the source of the bacteraemia and it is known that in 40% of cases no source is found. In the second case the patient had a history of self-neglect and the pressure ulcer acquired pre-admission was found to be the likely source and in the third case there was a recurrence of a deep seated MSSA infection related to a shortened antibiotic course that was not in line with the recommendation for the patient post discharge and led to a re-admission to the Trust – this was fed back to the General Practitioner.

It is important to note that following review of the hospital cases no common source or themes emerged.

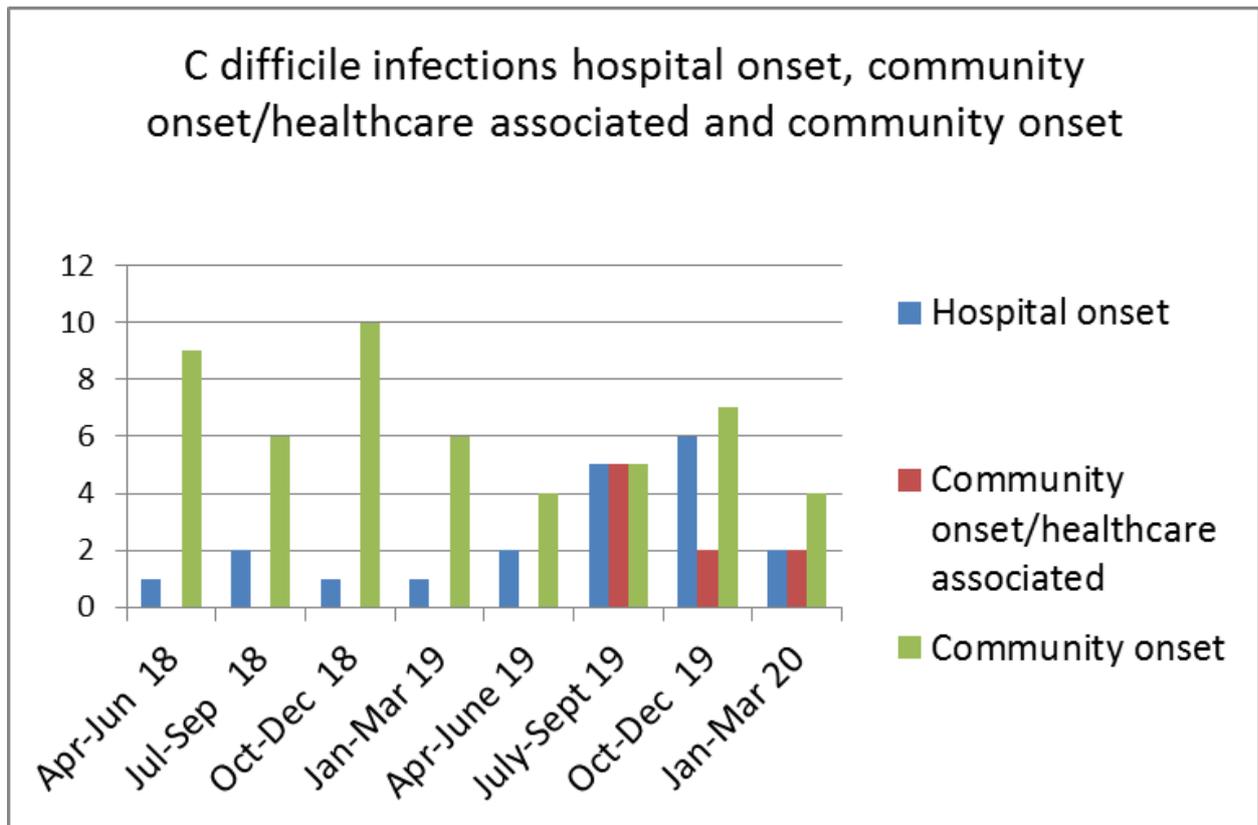
### **2.3 Clostridium difficile**

In 2014/15 NHS England introduced a change in the methodology for calculating organisational *C. difficile* objectives introducing sanctions for cases only where they were associated with lapses in care, referred to as avoidable.

Objectives were set using the data from 1 April 2018 to 31 December 2018. This data has been annualised and a count of cases calculated. The Trust had a target of ten avoidable cases for 2019/20.

The Trust had a total of 24 cases, 15 hospital onset and 9 community onset healthcare associated. Each case was discussed at a multi-disciplinary PIR meeting. It was agreed, in conjunction with community infection prevention staff that 5 cases were avoidable, as there were lapses in care; 4 of these cases related to a CDI cluster on Ward 4 detailed below. The remaining cases were all deemed unavoidable.

PIRs highlighted some issues around appropriate antimicrobial therapy both in the hospital and community setting. Learning has been shared through governance groups and direct communication with the General Practitioner; an action plan has been completed and monitored closely.



Graph 4 : Actual numbers of CDI at ANHSFT

### 2.3.1 Ward 4 CDI Cluster

In October 2019 the Trust reported that there were, in total 6 CDI cases linked to Ward 4 during the period of August 2019 to October 2019; three cases were hospital onset and three cases community onset healthcare associated.

The first case reported was 21<sup>st</sup> August 2019 and the last case was reported on the 26<sup>th</sup> October 2019. Ribotyping was available for all 6 cases, with 4 cases being ribotype 011 and 2 identified as 015. All the cases were female. Ribotyping is a molecular technique that takes advantage of unique DNA sequences to differentiate strains of bacteria.

Ward 4 is an elderly acute medical ward. The patients invariably have multiple risk factors associated with CDI.

All cases reported antimicrobial use prior to the positive result. Laxative and Proton Pump Inhibitor (PPI) use were reported in two cases. Two cases also had tested GDH positive, toxin negative shortly before their positive CDI result, which indicates the presence of *C. difficile* in the bowel but it is not causing CDI. All the above are known risk factors associated with CDI.

The Yorkshire and Humber Epidemiological Team assisted the Trust by preparing an epidemiological report based on available patient demographic and risk factors data.

Case ID	Specimen date	Ribotype	Previous CDI or GDH +, toxin -	Age	Antibiotics	PPI	Laxatives
A	21/08/2019	15		79	Flucloxacillin, Metronidazole, Pivmecillinam	Y	
B	20/09/2019	11	2/9/2019 and 15/9/2019	79	Pip/taz	Y	
C	08/10/2019	15		95	Amoxicillin, Metronidazole, Gentamicin Tazocin		
D	09/10/2019	11		82	Clarithromycin Amoxicillin (both GP prescribed)		Y
E	14/10/2019	11	August 2019 and 07/10/2019	90	Clarithromycin		
F	28/10/2019	11		94	Tazocin		Y

**Table 2: Demographic and risk factor data for *C. difficile* infections associated with Ward 4 at Airedale General Hospital, August-October 2019.**

The bed occupancy, movement and patient admission overlap data did not provide definitive evidence of cases subsequently infecting other patients, but case E could have been shedding spores whilst on the ward and this coupled with general concerns around cleanliness, it is considered possible that spores could have contaminated areas in and around the general patient bed space after an infected patient vacated.

Enhanced surveillance of the Ward 4 environment and infection prevention practices using a CDI audit tool had already been undertaken weekly by the Infection Prevention Team (IPT) from the 17<sup>th</sup> October 2019; at the point that an increase in CDI cases on the ward was noted.

The increase in CDI cases corresponded to a reduction in standards of cleanliness. The environment cleaning audit known as the Monit Audit on 4<sup>th</sup> October 2019 was 74.59% previously in July 2019 a score of 94.53% was achieved.

The Director of Nursing, Consultant Microbiologist and IPT met on 29<sup>th</sup> October 2019, immediate key actions were discussed and an action plan was commenced. Immediate actions included:

- Ward 4 enhanced surveillance CDI audit increased to alternate days and included observations during mealtimes, drink rounds and practice of visiting staff
- Mattress and bed frame check

- CDI audits on all inpatient areas
- Soap and water handwashing only, all hygienic hand rub removed from the general ward area (left at entrance)
- Visiting teams/visitors informed of soap and water handwashing only
- Tristel Fuse used for all cleaning
- Full curtain change completed
- Weekly Monit audit
- Isolation posters on side room doors
- Plan for Ward 4 to decant to Ward 2 to allow environmental remedial work to be undertaken and the ward to be cleaned
- Consider Hydrogen Peroxide Vapour (HPV) use – procurement to source companies.

The first outbreak management meeting was held on 31<sup>st</sup> October 2019. Representatives from the Trust, AGH Solutions, Community and Public Health England were in attendance.

Adherence to infection prevention practices, levels of cleanliness, general estates maintenance and lack of robust escalation procedures were scrutinised and a robust action plan formulated, monitored through fortnightly outbreak meetings.

No further CDI cases have been reported on Ward 4. Following conclusion of the outbreak meetings any ongoing actions have been monitored through regular governance meetings and fed back through the Infection Control Committee to ensure that they were progressed and completed.

<b>Cleanliness/Environmental</b>
Environmental remedial work and ward clean Ward 4
Monit audit undertaken weekly on Ward 4
Cleaning hours increased on Ward 4 permanently from 7.5hrs to 9.5hrs a day
Ward cleaning schedules shared with Senior Sisters
Domestic Supervisor and Senior Sister ward huddles
IPT and domestic service weekly huddle
Toilet check sheets
Facilities assistants employed Dec 2019 for equipment/bed cleaning on AAU
Representative from bed supplier started bed cleaning training every Monday from 13th Jan 2020
SOP for Monit audits
Escalation poster devised
Domestic services review to identify wards that require extra cleaning hours
Ramp for shower access on Ward 4 installed
Condemned item replacement programme process
Ward decant SOP
Draft NHS National Standards of Healthcare Cleanliness working group established
<b>Infection Prevention</b>
CDI audits completed on all inpatient areas in November/December 2019 and January 2020

CDI audit completed on alternate days on Ward 4 – now weekly
Disposal of all used equipment after use e.g. tympanic ear probes added to the CDI audit tool
Isolation Room Standard Operating Procedure (SOP) developed
Personal Protective Equipment crib sheet developed on Ward 4 shared with Senior Sisters
Sluice storage reviewed and list of items to be stored in sluices issued
Peer review of commodes by each shift implemented on Ward 4
Mealtime volunteers that handle food completed level 1 food hygiene training
Housekeepers informed of the importance of pre meal hand hygiene for patients
Bespoke HCSW infection prevention mandatory training package developed and implemented
Updated infection prevention information sheet for agency/bank staff reissued
HPV considered - not required but keep in view
CDI audit report completed by Heads of Nursing - key themes identified
Alert added to SystmOne for patients on PPI's who start antibiotics
<b>Procurement</b>
Multi use patient products such as cleansing foam discontinued and replaced with single use products
Ward stock lists reviewed and essential items grey listed - only change if IPT consulted
Paper bags introduced for disposal of rubbish at the bedside
Disposable curtains: company assessed Ward 4 in order to provide cost of implementation across Ward 4, 5, 6 and 9
Shower curtain funding process finalised
Mattress bags introduced for transport of clean and condemned mattresses
Cleansing products reviewed by Tissue Viability Nurse

**Table 3: list of actions completed from Ward 4 CDI cluster action plan**

One action is ongoing - MONIT cleaning scores have yet to be made immediately available on completion to the Director of Nursing, Heads of Nursing, Matrons, Senior Sisters and Infection Prevention Team in way that alerts to a pass or fail; this is in part due to a technical issue with the reporting system for cleanliness audits.

#### **2.4 Gram negative bacteraemias**

A new surveillance scheme of Gram negative bacteraemias was introduced on 1<sup>st</sup> April 2017 and has an associated target reduction of 10% in 2017/8 and a 50% reduction by 2021 using 2016 figures as the baseline.

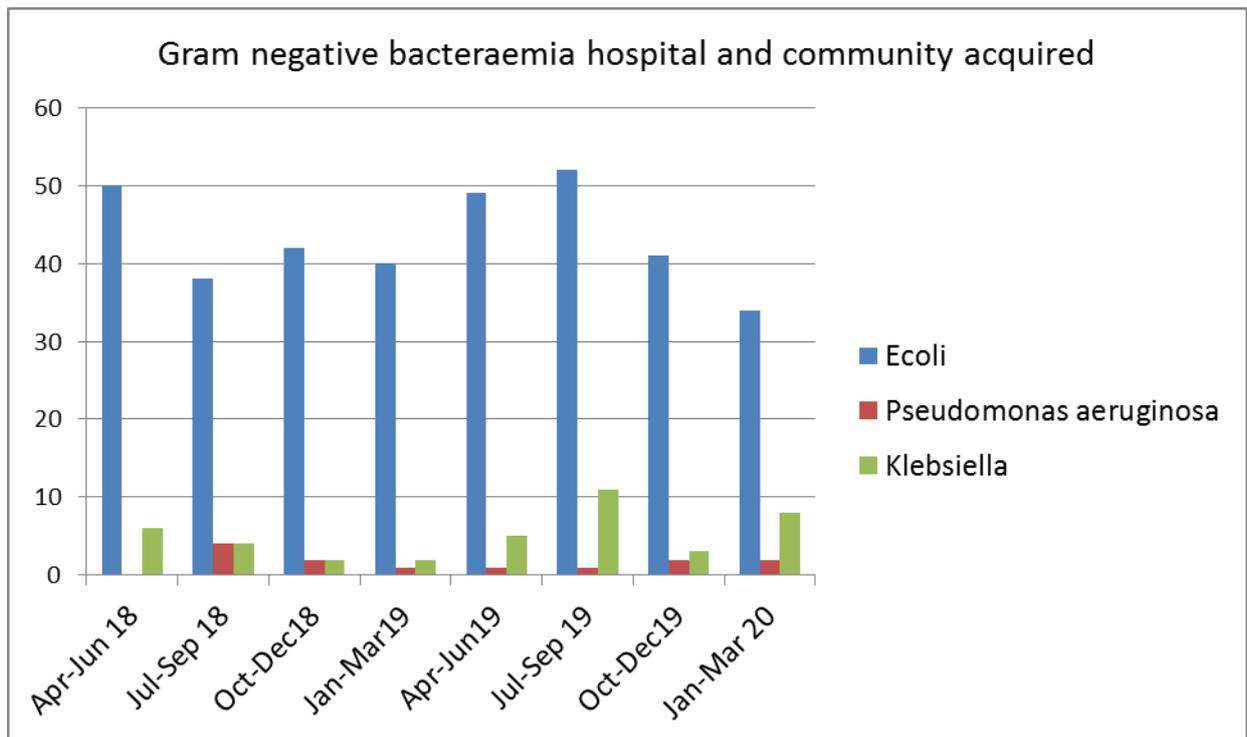
The majority of Gram negative bacteraemias at Airedale are community-acquired: 206 in total, of which 170 were community-acquired. There have been 36 cases of hospital acquired Gram negative bacteraemias.

All hospital-acquired cases are reviewed by a Consultant Microbiologist and referred for PIR if required. A small number of cases were subject to a PIR - some delays in relation to the timing of samples were highlighted, but all cases reviewed were deemed non-preventable. As expected there were a high number of cases urinary in

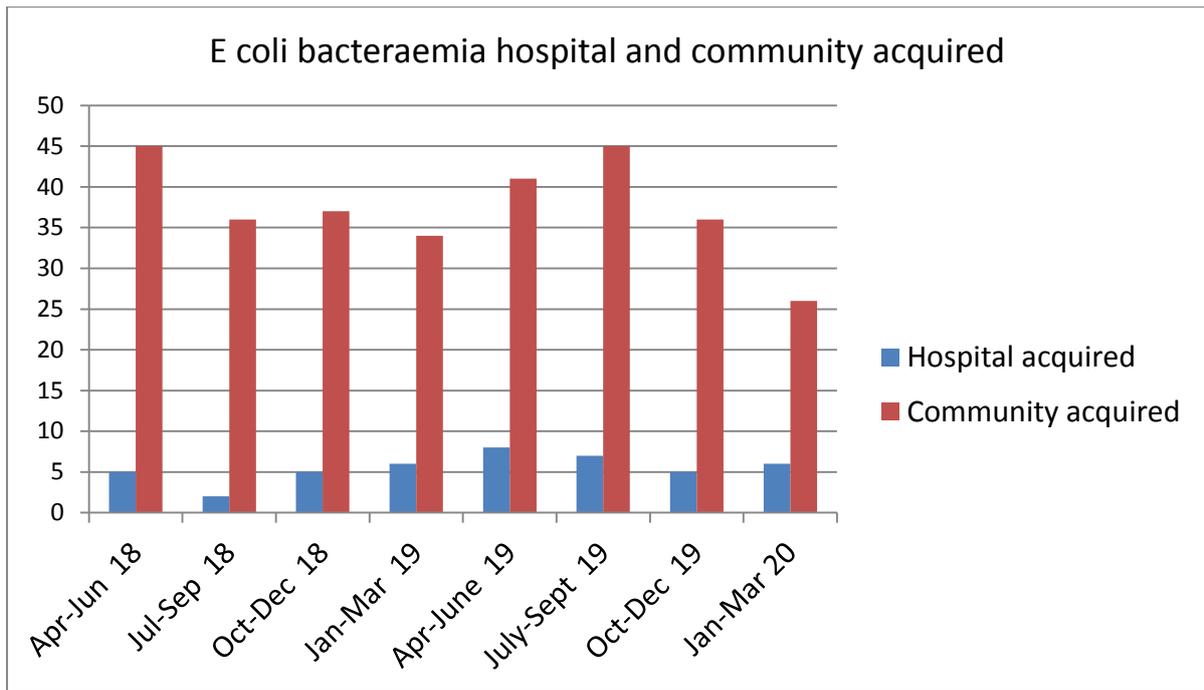
origin and of these, there were 26 patients known to have an indwelling urinary catheter in place.

	Escherichia coli		Klebsiella		Pseudomonas aeruginosa	
	Hospital	Community	Hospital	Community	Hospital	Community
2016/17	24	116	Not recorded		Not recorded	
2017/18	17	134	2	26	2	4
2018/19	18	152	2	11	2	5
2019/20	26	147	8	19	2	4

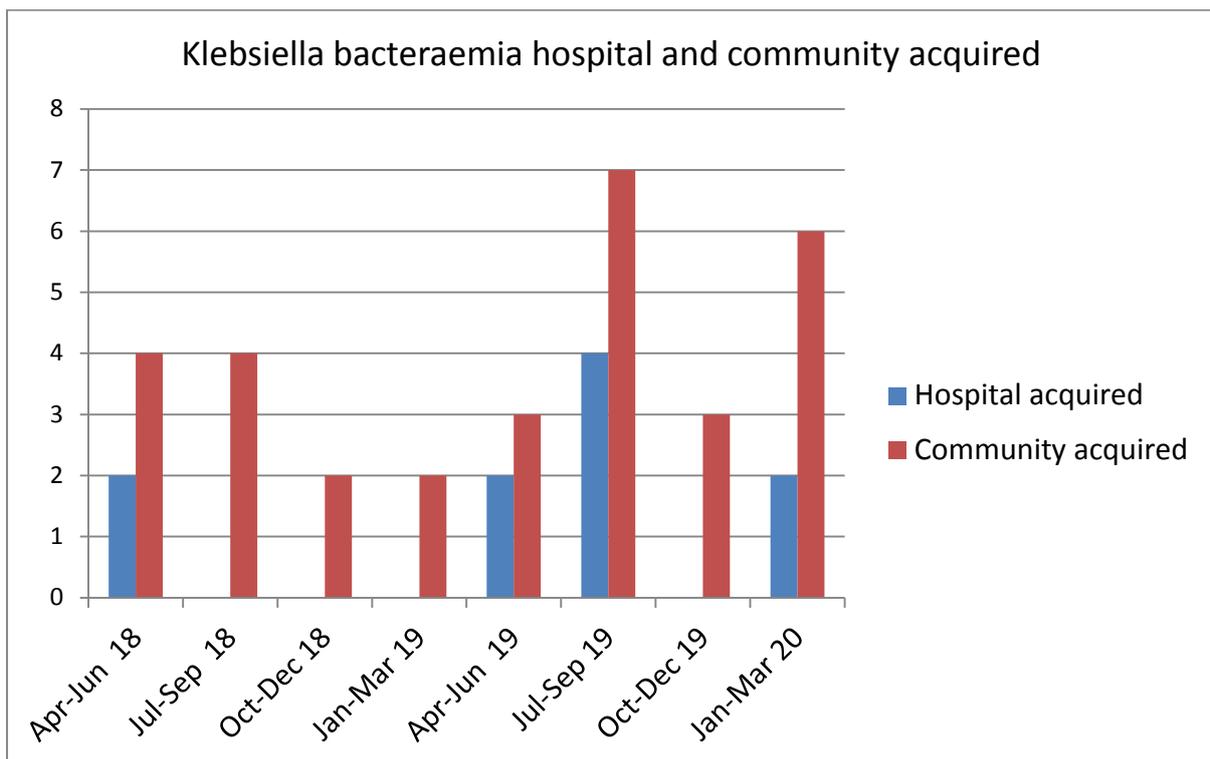
Table 4: Gram negative bacteraemias hospital and community acquired from 2016/17



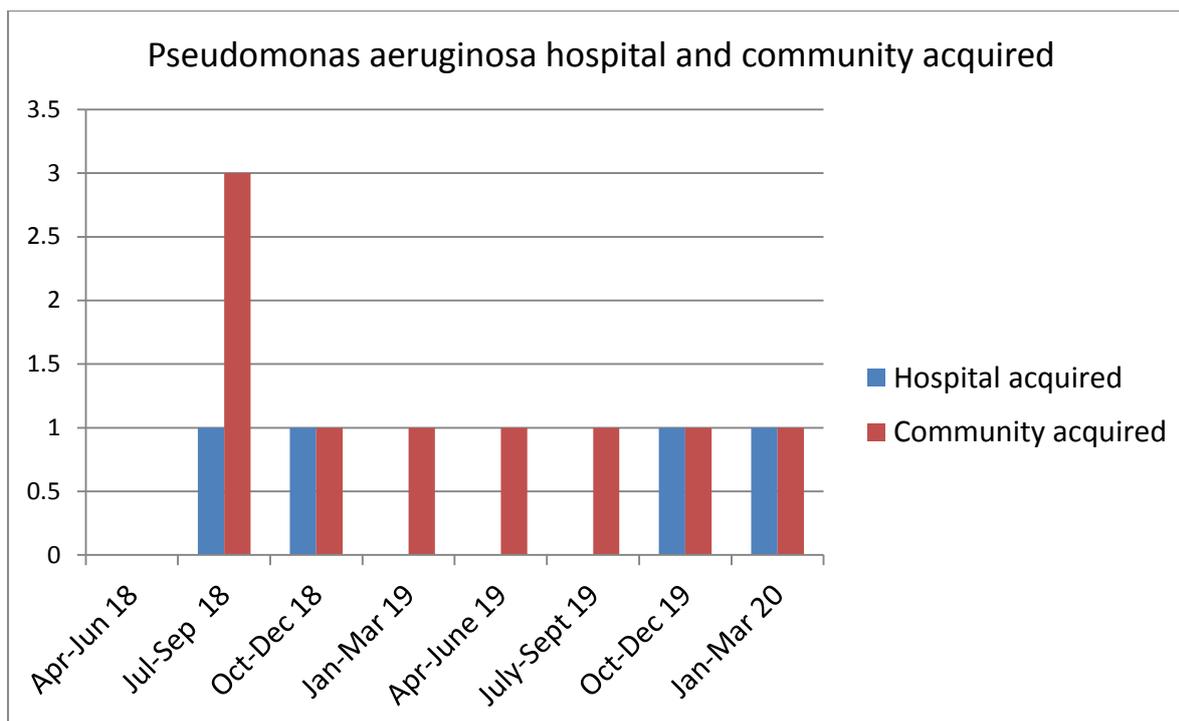
Graph 5: Hospital and community acquired Gram negative bacteraemias per quarter from 2018/19



**Graph 6: Hospital and community acquired E.coli bacteraemias per quarter from 2018/19**



**Graph 7: Hospital and community acquired Klebsiella bacteraemias per quarter from 2018/19**



**Graph 8: Hospital and community acquired Pseudomonas aeruginosa bacteraemias per quarter from 2018/19**

In 2018 NHSI commended ANHSFT as one of only 59 Trusts to have achieved a 10% or greater reduction in the hospital onset Escherichia coli bloodstream infections. Airedale NHS Foundation Trust baseline numbers were 24 in 2016 and 17 in 2017, equivalent to a 29.2% reduction in cases. There was an 8% increase in E.coli case, therefore A 10% reduction in hospital acquired cases for 2019/20 was not achieved.

#### **2.4.1 Preventive measures that the affect incidence of Gram negative bacteraemias**

NHS Improvement released a toolkit in September 2019 for prevention of Gram negative bacteraemias and the Infection Prevention Team have undertaken a gap analysis against this document to inform future developments.

An evidence review on semi-recumbent bed position to prevent pneumonia was undertaken by a Consultant Microbiologist:

- Good evidence for semi-recumbent position in Intensive Care Units, in ventilated patients in the prevention of ventilator-associated pneumonia – this is already in place.
- No evidence that semi-recumbent position decreases risk of aspiration pneumonia in patients with poor swallowing, poor cough reflex, dysphagia, seizures, degenerative neurological disease, Parkinsons, stroke, impaired consciousness.

Strategies that work seem to be mainly within the professional realm of speech plus language therapy/nutrition:

- Use oral feed rather than nasogastric
- Swallowing exercises
- Food of correct consistency
- Positioning: chin down, head turn....
- And general points such as early mobilisation.

Various other interventions have been tried to prevent aspiration pneumonia/hosp-acquired pneumonia but have not shown a benefit, e.g. improving oral health.

Other factors to decrease hospital acquired pneumonia are dependent on appropriate feeding techniques and mobilisation.

The Trust also considered the use of chlorhexidine 0.1% for meatal cleansing prior to urinary catheter insertion and it was agreed that the evidence base was not yet strong enough to consider change.

The Trust employs the following preventative measures:

1. Monthly audits already in place include High Impact Interventions (urinary catheters, cannulae and chronic wounds) and Safety Thermometer (urinary tract infections with catheter harms)
2. ICU complete Care Bundles for Ventilated-associated Pneumonia, Central Venous Access Device Infection, Sepsis and tracheostomy care
3. Infection Prevention Team also undertake 'spot' audits on urinary catheters, peripheral cannulae and preparation for hand hygiene
4. The 'Urinary Catheter Monitoring Bundle'
5. 'Standard Operating Procedure for Urinary Catheter Care and Maintenance'
6. 'Criteria for Urine Specimens (Midstream and Catheter) in Suspected Urinary Tract Infections'
7. Patient catheter passport successfully piloted
8. Staff are assessed against a competency for aseptic technique
9. We have a robust Antibiotic Policy which includes 'Start Smart then Focus'
10. We have a Surgical Site Infection (SSI) Guideline that includes the NICE Guidance
11. Gram negative programme now included in mandatory training and bespoke mandatory Healthcare Support Worker training programme implemented
12. Infection Risk Score (IRS) is completed by wards and reassessed weekly or if condition changes and this gives a high, medium and low risk score and care is planned accordingly
13. Criteria for urine testing and clinical diagnosis of urinary tract infection screensaver and posters used to aid staff in early diagnosis and appropriate treatment of urinary tract infections in the over 65yrs.

#### **2.4.2 Targeted preventive measures for Gram negative bacteraemia in specific patient groups 2019/20**

Safety Thermometer (urinary tract infections with catheter harms) data continued to be audited by infection prevention to identify recurring themes. The key theme identified was that the majority of patients had been admitted with signs and symptoms of urinary tract infection but started treatment on admission to hospital.

Quality improvement plans included; the promotion of hand hygiene for patients with particular focus before meals and after using the toilet. Patient hydration was improved with introduction of hydration stations and increased drink rounds on the elderly inpatient wards. Early diagnosis and appropriate treatment of urinary tract infections in the over 65yrs was monitored through the new CQUIN 'Lower Urinary Tract Infections in Older People' and prevention of hospital acquired pneumonia was reviewed in relation to positioning of patients in bed and mouth care.

#### **2.4.3 Key work streams 2020/21**

Rollout of hydration stations and increased drink rounds to all inpatient areas. Oral hygiene measures review and standardisation in order to promote and encourage patient hydration and nutrition. The urinary catheter passport will be fully implemented following the successful pilot and a re-audit of appropriate urinary catheter usage is planned. Joint working with our therapy and nursing colleagues around prevention of hospital acquired pneumonia will continue. Quality improvement programmes around patient hand hygiene that were interrupted by the COVID-19 response will be resumed.

#### **2.5 Extended spectrum beta lactamases (ESBLs)**

In 2019/20 we had 90 inpatients with an ESBL compared to 94 in 2018/19; recurrent infection was diagnosed in 38 patients (known ESBL carriers) and 52 were first episodes of ESBL infection. ESBL coliforms colonise the human gut, for several years after initial acquisition: this is the main cause of recurring infection.

The commonest site of infection in new cases was the urinary tract: 30 patients had ESBL in urine sample (26 from midstream urine, 4 from catheterised patients).

Strong antimicrobial stewardship, in particular avoiding third generation cephalosporins is crucial in minimising resistance. Twice weekly antimicrobial stewardship ward round by Consultant Microbiologist and Antimicrobial Pharmacist are undertaken.

#### **2.6 Carbapenemase - Producing Enterobacteriaceae (CPE) and Carbapenem resistance**

CPEs are an increasing problem in South Asia, Southern Europe and many hospitals in the London and Greater Manchester. There have been some localised problems in Leeds and Bradford.

There has been no transmission of CPE's in the Trust and the Trust follows national guidelines on risk-stratification and screening of patients. A number of actions were undertaken in 2018 to raise staff awareness, these included review of nursing documentation, screensavers and introduction of a CPE screening database overseen by infection prevention.

Sixty two inpatients have been screened for CPE after appropriate risk assessments of hospital stays and all results were negative.

The microbiology department has introduced a new method of CPE testing that allows for results to be available within 24 hours after receipt of sample.

### **3.0 Outbreaks**

Viral gastroenteritis is a very infectious illness which can be caused by any one of several different viruses e.g. Norovirus. The main symptoms are vomiting and diarrhoea. Symptoms can last between 24 to 72 hours. Viral gastroenteritis can spread quickly in hospitals. It is not possible to completely prevent the spread of the virus but actions such as prompt identification of case and isolating or cohorting symptomatic patients will decrease transmission. Viral gastroenteritis is now managed without full ward closure as per national guidance, which means that new admissions can be exposed to some risk of infection.

There were no outbreaks of viral gastroenteritis in the last year. This contrasts with eight outbreaks in 2018/19 affecting 56 patients and 21 staff. The decrease could be to a possible seasonal variation with a less virulent strain of the virus in circulation.

### **4.0 Contamination injuries for 2019/20**

The number of contamination injuries in the year increased from 58 in 2019/20 to 63 in 2019/20.

A decrease was seen in phlebotomy, cannulation and administration of medicine injuries with splash injuries remaining high. However no particular area of practice identified. Five members of staff received scratch injuries from the same patient in one episode and there were two miscellaneous injuries where staff in the Pathology Department sustained cuts.

Pathology was noted as an increase in injuries area. The Pathology Quality Manager has investigated this with the infection control nurses and re-iterated safe working processes.

The Contamination Injuries Working Group which reports to the Health and Safety Operational Group continues to investigate reported incidents and provides a consistent approach in monitoring key trends and sharing of lessons learnt. The Employee Health and Wellbeing and Infection Prevention Team (IPT) provide

feedback to the group on their investigation of contamination injuries. The working group also correlates reports to ensure consistency of actions taken, for example the raising of awareness through 'sharps safety' and incident reporting at both induction and mandatory training sessions.

April 2019 - March 2020													
Classification	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Total
During phlebotomy		1				2	1		1	2	2		9
During cannulation			1		1							1	3
During administration of medicine		1				1	1					1	4
During a surgical procedure:													
Suturing during surgery	1				3		1	1					6
Suturing midwifery													0
Suturing ED/Ward procedure												1	1
Scalpel injury during surgery	1												1
Other injury during surgery	1	2											3
Scalpel injury other													0
During a procedure other e.g OPD, Xray, other surgical apparatus				1				1	1				3
During disposal		1	1			1	1		2	1	1		8
Incorrect disposal in environment							1					1	2
During cleaning of equipment								1		1			2
Bite or scratch			1			2							3
Splash with body fluids to eye, nose, mouth or broken skin	2	2		2	1	1		3	1		2		14
Miscellaneous				1			1	1			1		4
<b>Total</b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>4</b>	
<b>Cumulative Total</b>	<b>5</b>	<b>12</b>	<b>15</b>	<b>19</b>	<b>24</b>	<b>31</b>	<b>37</b>	<b>44</b>	<b>49</b>	<b>53</b>	<b>59</b>	<b>63</b>	<b>63</b>

**Table 5: Contamination Injuries at ANHSFT 2018/19**

There were 5 more injuries reported than in the previous year. Splash with body fluids to eye, nose, mouth or broken skin continues to account for the highest number of incidents. In most of the reported incidents it is difficult to mitigate the risk as a number of incidents were from routine activities such as flushing of cannulas, taking blood glucose measurements and cleaning of equipment.

During disposal of sharps had the next highest number of injuries sustained. A number of these could have been prevented if staff followed sharps safety advice i.e. not passing a used needle, taking the needle off the syringe and not disposing as one unit, disposing of sharps at the point of use and not using trays to carry equipment safely.

#### **4.1 Actions for 2020/21:**

Further education of staff on the correct disposal of sharps to include staff undertaking a risk assessment prior to all procedures to ensure the correct personal protective equipment is worn. Company representatives will continue to support training in the Trust.

#### **5.0 Organisation and Staffing**

The Director of Nursing continues to represent Infection Prevention on the Board and is the Director of Infection Prevention and Control.

Infection Prevention is monitored through the Infection Prevention and Control Group which meets quarterly.

Infection prevention and control issues are discussed with Ward Managers at the Nursing and Midwifery Leadership and Governance Forums. The Infection Prevention and Control Nurse (IPN) team work with the Infection Prevention and Control Link Workers from wards and departments.

A fulltime substantive Consultant Microbiologist joined ANHST in January 2020.

## **6.0 Influenza**

The flu vaccination target for clinically facing staff was 80 percent and the uptake of the vaccine was 80.7% percent. In 2020/21 the target is 90 percent.

### **6.1 Influenza outbreak Ward 19**

An increase in cases of influenza 'A' among patients and staff was reported on Ward 19 in December 2019, it was found that 13 members of staff and 8 patients tested positive over a period 7 days; this was assessed as a probable nosocomial outbreak. Outbreak control measures were implemented and an outbreak management meeting was convened on the 17<sup>th</sup> December where the timeline of events was reviewed. A number of key actions were identified around improving communication and escalation to the IPT, transfer and discharge letters to include information about the increase in cases, extra flu vaccinations to be ordered in response to national increase in flu cases, ensure all long stay patients on all wards have been offered a vaccine and develop a general communications message for staff to highlight the increase in influenza activity. A number of long stay patients were identified and given the vaccine. No further meetings were required.

## **7.0 Hand Hygiene**

<b>Date</b>	<b>%</b>	<b>Date</b>	<b>%</b>
Apr-19	97	Oct-19	97
May-19	97	Nov-19	97
Jun-19	97	Dec-19	95
Jul-19	96	Jan-20	96
Aug-19	95	Feb-20	97
Sep-19	96	Mar-20	-

**Table 6: Monthly Hand Hygiene compliance audit results 2019/20**

The monthly hand hygiene audit reports a Trust aggregated compliance average of 96.4 per cent between April 2019 and February 2020. This is part of a robust and ongoing infection prevention clinical audit programme to evaluate care standards for example, of cannulae and urinary catheter care. The audits were suspended in March 2019 due to COVID-19 pandemic.

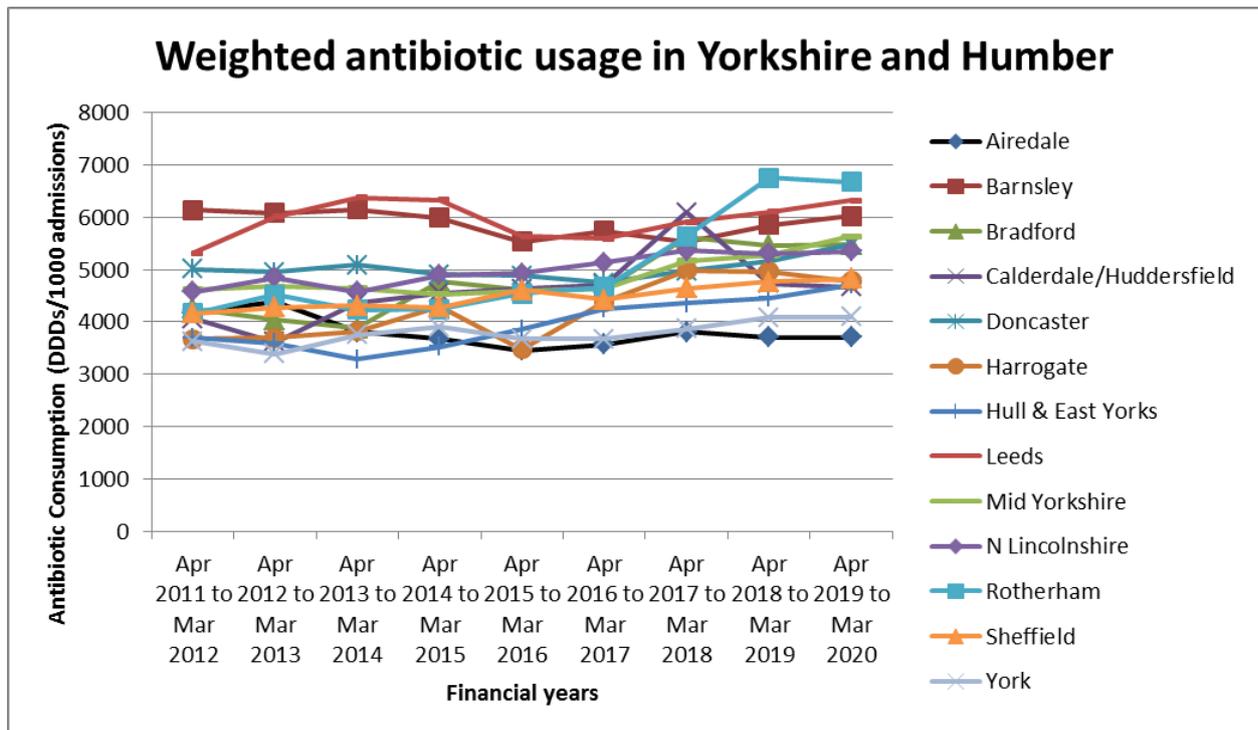
Enhanced surveillance and education is being undertaken in the Emergency Department following three recent complaints/PALS regarding compliance with hand hygiene during phlebotomy procedures.

## **8 Antimicrobial Stewardship**

Antimicrobial stewardship (AMS) is ensuring the best outcomes for patients with infections whilst minimising patient harm (e.g. C. difficile infection) and antimicrobial resistance.

### **8.1 Antibiotic Usage**

Airedale NHSFT remains the lowest user of antibiotics in Yorkshire and Humber (black line/blue diamonds in graph A). The NHS standard contract now includes a requirement to have a reduction of antibiotic usage of 1% or greater<sup>1</sup> during 2019/20 compared with calendar year 2018. Airedale NHSFT's antibiotic usage in 2019/20 was 95% of calendar year 2018.



**Graph 9: Weighted antibiotic usage**

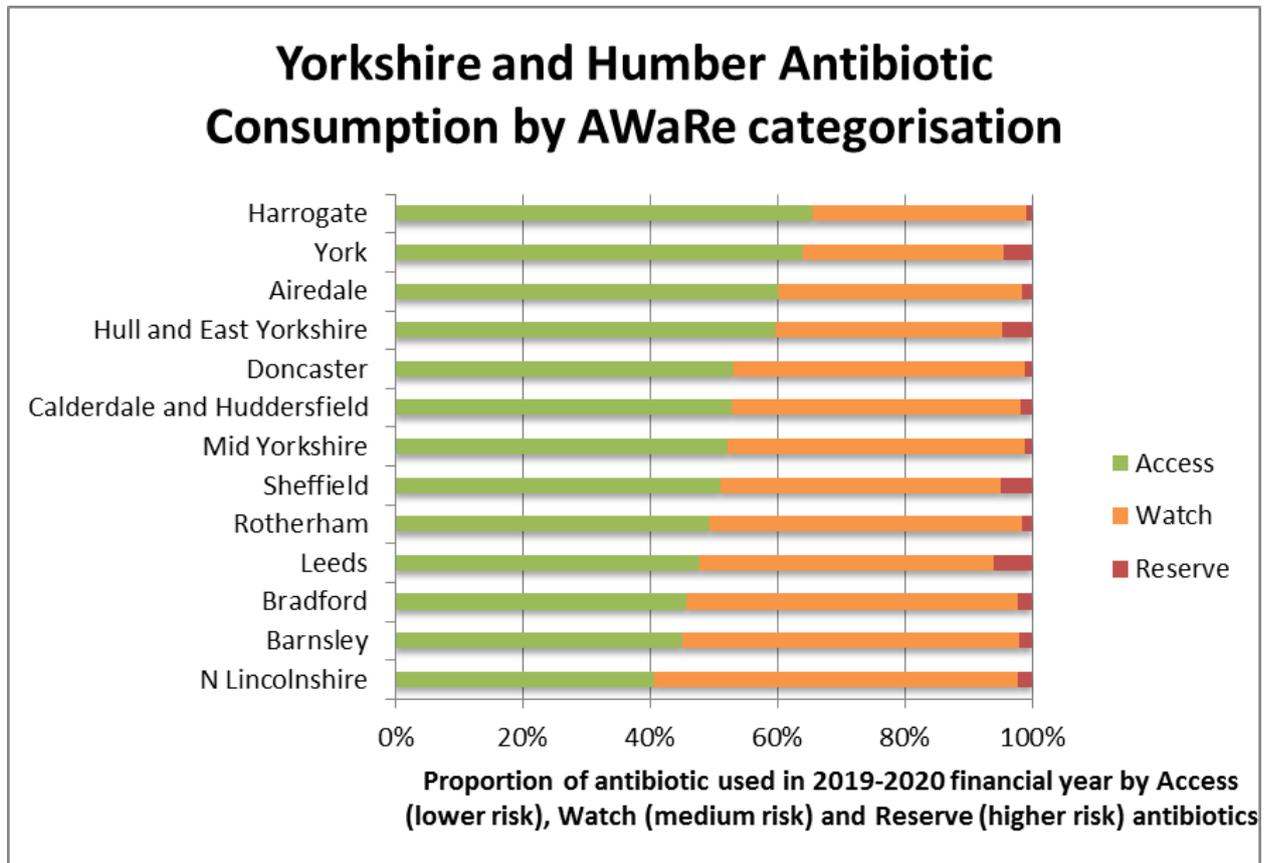
Antibiotic usage is now categorised by PHE's adaptation of the WHO AWaRe categorisation<sup>2</sup>. Antibiotics are considered either to be "Access" (low risk antibiotics such as amoxicillin and gentamicin), "Watch" (medium risk antibiotics with a place in practice such as ciprofloxacin and Piperacillin-tazobactam) and "Restrict" (higher risk

<sup>1</sup> Antimicrobial resistance: Total antibiotic consumption moves to the NHS Standard contract for 2019/20 NHS Improvement February 2020

[https://improvement.nhs.uk/documents/4934/FINAL\\_20190228\\_NHS\\_Standard\\_Contract\\_FAQs\\_1920\\_v6.pdf](https://improvement.nhs.uk/documents/4934/FINAL_20190228_NHS_Standard_Contract_FAQs_1920_v6.pdf)

<sup>2</sup> [https://improvement.nhs.uk/documents/2689/7\\_CQUIN\\_FAQs\\_1819\\_FINAL.pdf](https://improvement.nhs.uk/documents/2689/7_CQUIN_FAQs_1819_FINAL.pdf)

antibiotics reserved for severe sepsis such as Meropenem). In 2019/20, Airedale had the third highest proportion of Access antibiotics in the region, behind York and Harrogate Trusts, which means that Airedale is preferentially utilizing low risk antibiotics. Airedale was fourth in Watch antibiotics and joint fourth in Reserve antibiotics. This position remains consistent with previous years.



Graph 10: Antibiotic usage by categorisation

## 8.2 Antibiotic CQUIN

There were two antibiotic CQUINs during 2019/20. Due to the COVID-19 pandemic, data collection for both CQUINs was paused nationally in Quarter 4.

CQUIN 1a looked at a care bundle approach to the prescribing of antibiotics for lower urinary tract infections in older people. Airedale's performance on this was poor, but this was associated with unclear audit criteria around the use of urine dipsticks for this patient cohort. The CQUIN was failed if a urine dipstick was used in the diagnosis in a lower UTI in the elderly; however urine dipsticks were routinely used to monitor patients for renal disease on admission. It was therefore difficult to identify where a dipstick was used inappropriately as the results were appropriately reviewed by the clerking doctor and documented. Performance was at approximately 60% at the point that data collection ceased.

Performance on CQUIN1a was poor throughout the NHS, leading to the CQUIN payment being granted to all for quarter 1.

CQUIN1b looked at the appropriateness of antibiotic prophylaxis in colorectal surgery. This had not previously been a concern at ANHSFT and results were above 90% throughout the year.

Performance was at approximately 60% at the point that data collection ceased. We are awaiting national guidance on when CQUINs will be restarting. It is expected that a UTI CQUIN will be included in 2020/21 but nothing has been received to date.

### **8.3 COVID-19**

There are no recognised antiviral treatments for COVID-19. Airedale NHSFT is enrolled on the RECOVERY trial, which randomises patients to potential existing therapies that have shown some evidence of being active against coronaviruses. As of 28<sup>th</sup> April 2020, 3 patients had been randomised to treatment with hydroxychloroquine, and 5 patients had been randomised to dexamethasone. A further 8 patients have been randomised to no antiviral treatment.

One concern with the COVID-19 is the potential for overuse of antibiotics where there is diagnostic uncertainty over whether the respiratory infection is COVID-19, bacterial or a combination of both. Nationally it is suggested that 86% of UK patients might be being treated with antibiotics<sup>3</sup>. An audit is planned to review antibiotic usage of COVID-19 positive patients to assist with planning for future waves of the pandemic, including NG173 (COVID-19 rapid guideline: antibiotics for pneumonia in adults in hospital, published 01 May 2020).

### **8.4 Joint Working with Bradford Teaching Hospitals**

Representatives of ANHSFT attended the inaugural meeting of the Joint Antimicrobial Prescribing Review Group in February 2020. This meeting included review of antibiotic stewardship in primary and secondary care, and a peer review of respiratory and urinary tract antibiotic guidance. Whilst efforts were made to harmonise the two Trusts guidelines, there were a number of areas where the Trusts agreed it was appropriate to maintain slight differences.

Unfortunately, this work is on hold due to management of the COVID-19 pandemic. However, communication between Trusts continues and this work will resume when circumstances permit.

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<sup>3</sup> Personal communication from ISARIG collaborative <https://isaric4c.net/>

## **8.5 Antimicrobial Pharmacist Staffing**

Due to sickness and vacancies within the Pharmacy Department, the senior antimicrobial pharmacist (Kevin Frost) was seconded to an Interim Clinical Lead Pharmacist position from October 2018 onwards. A second senior antimicrobial pharmacist was appointed from January 2019 to January 2020, who contributed significantly to the data collection requirements of the UTI antimicrobial CQUIN. It is anticipated that the secondment will end with the appointment of a substantive Lead Pharmacist for Clinical Services taking up the position in autumn 2020.

## **9.0 Environment**

Robust cleaning is a mainstay in the prevention of infection. The Facilities departments transferred into the Trust's wholly owned subsidiary, AGH Solutions, in March 2018 which resulted in a number of service level agreements (SLAs) being developed to ensure that the service provision is maintained and continued to provide the level of service that ensures the best outcomes for patients.

Routine cleanliness audits are undertaken in line with the NHS Framework of audit; a work programme is maintained by the Enhanced Cleanliness Team, including a programmed curtain and shower change. An escalation process has been agreed in the event of the wards falling below their expected 95% score. Weekly meetings with infection prevention and domestic services have been a success and opened up the communication and improved our working partnership.

<b>Audit Schedule for Functional Risk Categories National Standards of Cleanliness</b>				
	<b>Weekly (98%)</b>	<b>Monthly (95%)</b>	<b>Quarterly (85%)</b>	<b>6 Monthly (80%)</b>
Example of Areas to be audited/frequency	ICU ED Theatres Pharmacy HODU	Wards Endoscopy SSD	Clinics/out patients Radiology	Non clinical areas/offices etc.

**Table 7: Example audit schedule**

The national PLACE (Patient Led Assessment for the Care Environment) was undertaken in September 2019 the initiative is concerned with the continuous provision of a safe and qualitative patient environment, principally with regard to the following domains:

- Cleanliness
- Condition, Appearance and Maintenance
- Organisational Food
- Ward Food
- Privacy, Dignity and Wellbeing
- Dementia
- Disability

The 2019 PLACE inspections were carried out at Airedale General Hospital site over 6 days from 6 to 13 September 2019.

PLACE assessments were introduced with the key purpose of ensuring patients are at the centre of all assessments of hospital environments. Patient assessors are required to comprise 50% of the PLACE assessment team and Airedale was compliant with this requirement.

<b>Patient Assessors</b>	<b>Staff Assessors</b>	<b>Place Programme Leads</b>
2 volunteers who were previous patients with an interest in the hospital	2 Infection Prevention Nurses	Head of Procurement
5 members from Trusts volunteers	2 Matrons	Facilities Project Manager
1 was a governor	2 Senior Nursing Staff	

**Table 9: PLACE 2019 Assessor profile**

The assessment is very specific in detailing which patient areas must be visited in a site the size of Airedale General Hospital. The following wards and departments were audited in 2019 PLACE

<b>WARDS – minimum 10</b>	<b>Out-Patient Areas</b>	<b>Compulsory Areas</b>
AAU	Oncology & Haematology (HODU)	Emergency Department
WARD 4	Main Outpatient Department	Communal Areas
WARD 5	Diabetes Centre	External areas
WARD 7	Radiology- X-ray	
WARD 9		
WARD 10		Food Assessments;
WARD 13		Wards 9, 10 and 17
WARD 17 - compulsory		
WARD 21- compulsory		

**Table 10: PLACE 2019 Inspected Areas**

Note: Castleberg Hospital was not scheduled for re-opening until October 2019, there was no requirement to carry out a PLACE assessment at that location, NHS Digital were informed.

The table below provides the Trust's PLACE 2019 results which are benchmarked against the national average.

	<b>AGH site</b>	<b>All site average</b>
<b>Cleanliness</b>	96.5%	98.6%
<b>Organisation Food</b>	85.6%	91.1%
<b>Ward Food</b>	82.2%	92.6%
<b>Privacy, Dignity and Wellbeing</b>	88.1%	86.1%
<b>Condition, Appearance &amp; Maintenance</b>	95.0%	96.4%
<b>Dementia</b>	86.1%	80.7%

Table 11: PLACE 2019 Site Scores and National Average Scores

Note: The 2019 results are not comparable with those in previous collections, due to the large scale national review and question set changes.

A Local Improvement Plan was developed which summarises all the non-compliance environmental issues that have been identified at AGH and action required to achieve compliance. The Plan provides the Trust with a strategy for achievement of the recommendations to further improve the experience of service users and patients whilst in Trust care with all actions monitored through Patient Environment Action Group (PEAG) on a quarterly basis.

## **9.1 Domestic Services**

This service is provided in the same format as previously, and in accordance with the SLA.

This has enabled a level of flexibility, for example out of hours allows the cleaning of outpatient clinics when they are closed enabling staff to provide a higher standard of cleaning as they are not working around the service whilst it is in use. This is a very recent change so the full potential has yet to be realised.

The department had a number of vacancies that was a struggle to try and resolve. We worked closely with our partner recruitment agency resulting in all vacancies been filled within a month of our recruitment campaign

### **9.1.1 Ward Housekeeper**

This role was initially transferred in March 2018 into the Domestic services within the Facilities Department of AGH Solutions. However, since then it has been successfully transitioned over to the catering department within AGH Solutions in January 2020. It is envisaged that the service compliments the catering service with clear working synergies between the two services current work and improvements to date being:

- The Ward hostess/housekeeper supervisors are now in post and forging good working relationships with all ward staff
- Analysis of the agreed SLA between the Trust and AGH has highlighted where all the operating gaps are.

- Regular updates of a quarterly newsletter has been introduced with the second just gone out to all team members
- 2 listening sessions have captured all the team to keep them all up to date of anything new with any opportunity for feedback
- All Hostess/housekeepers have received 'basic food safety training'
- A working group has been formed to support this role and help with the integration within the department, and to develop the role of the Housekeeper/Hostess going forward working in collaboration with key stakeholders from the trust
- As a result of COVID-19 all staff have had additional intense training to ensure the safety of patients, colleagues and themselves.
- All patient menus have been re-coded in line with the International Dysphagia Diet Standardisation Initiative (IDDSI) and the British Dietetic Association (BDA). Patients now have access to paper menus with the national coding standards e.g. easy chew, high energy and healthy eating to enhance the patient experience.

### **9.3 NHS Framework for Audit (Monits)**

The Domestic department has a robust audit plan which worked and provided the information we required. During the winter months of 2019 some areas failed their audits. If an audit fails the agreed standards for that ward it is re-audited on a weekly basis for a month. Although the processes were in place, it was identified that the failures were not always been communicated to management teams or infection prevention to enable the Trust to improve our scores. It was acknowledge that the failing scores were not always the cleanliness of the ward, sometimes the reduction in scores were related to equipment cleaning which is the responsibility of the clinical teams.

As part of the review an escalation flow chart was developed and implemented. The process included a new revised re-audit schedule for areas that fell below their expected targets.

### **9.4 Catering Hygiene**

A food safety audit has been carried out in November 2019 by STS who are working in partnership with AGH solutions in supporting, guiding and providing training solutions to the organisation.

The report states:

'The general running of the kitchen and practices observed were excellent, the space and structure was well set out and staffs are correctly dressed and aware of procedures for food handling within the kitchen.'

There were a number of recommendations that have now been implemented to ensure there is correct temperature control of high risk foods being prepared in the department. A blast chiller and a standalone refrigerator for the sole use of sandwiches and salads

Overall standard, operations and documentation were of an excellent standard

Ward kitchens have now been supplied with new commercial refrigerators which when probed were running below 5 centigrade. All records are checked and monitored for any corrective actions they are then retained within the catering department as part of the due diligence requirement.

The Friends of Airedale coffee shops are now being advised and guided by the catering department. All shop volunteers have undergone in-house basic food hygiene training.

- AGH have engaged with an external supplier called STS (support, training services) leading food safety consultants.
- A food safety audit at Airedale was carried out in November 2019 the result was 88% and December at Castleberg 2019 with 100% score.
- An action plan was created following the audit. All actions have been completed.
- An independent fridge to control the temperatures of ready to eat foods has been purchased
- All wards have been issued with a commercial fridge.
- Ward fridge temperatures have been the responsibility of the catering department to ensure that the due diligence records are correct in line with the Food safety act 1990.
- Following the disappointing result of 4 stars an action plan has been created and now all actions have been completed. Awaiting a re visit which was due in February 2020. Covid-19 may be the reason for the delay.

## **10.0 Water Safety**

The Trust's Water Safety group continues to meet on a quarterly basis which is chaired and monitored by the appointed Water Safety Authorising Engineer. The Group consists of key members identified within the HTM guidance document tasked with ensuring that appropriate risk assessments and Water Safety Plans are in place, that remedial engineering work takes place if problems are identified, and

results of water testing for Legionella and Pseudomonas aeruginosa are monitored and acted on if necessary.

During 2019/20 the Water Safety Group produced and ratified the recommend Water Safety Plan document which was formulated and published in order that the Trust may promote compliance with legislation covering all aspects of management of the Trust's water policy. We have had no positive tests in the last 12 months for legionella or pseudomonas.

### **10.1 Legionella**

Legionella has been effectively targeted via a closely monitored temperature control and statutory planned preventative maintenance regime. These control measures extend to an ongoing dead leg removal programme which during 2019/20 has targeted several little used water outlets identified during the risk assessment process and removed in a planned ward decant project which will continue dependent of clinical operational requirements.

Legionella samples are taken on a 12 monthly basis as per statutory guidance in the following augmented areas which are monitored via the Water Safety Group:

<b>Department</b>	<b>Outlets</b>
ICU [incorporating HDU/CCU]	As agreed
Adult ITU [Ward 16]	As agreed
Oncology [Ward 19]	As agreed
Haematology Day Case	As agreed

**Table 12: Augmented care areas - legionella sampling**

During the period of 2019/20 these samples have returned with no concerns which support assurances that a robust legionella prevention control measures are in place.

### **10.2 Pseudomonas aeruginosa**

The Pseudomonas testing regime continues to take place on a 6 monthly as per statutory guidance in the following augmented areas which are also fully monitored and reviewed via the Water Safety Group members. During the period of 2019/20 the results have returned with no concerns which indicates a good cleaning regime is in place:

Department	Outlets
ITU/HDU [Ward 16]	As agreed
Neo-natal Unit	As agreed
Haematology day case [Ward 19]	As agreed

**Table 13: Augmented care areas - Pseudomonas aeruginosa sampling**

### **10.3 Waste**

On 31 July 2018, the Environment Agency notified central Government of an issue concerning clinical waste collection and disposal for hospitals and other public services provided by the company, Healthcare Environmental Services (HES). In this instance, the primary concern was that too much waste was being held in a number of waste storage and treatment sites by a contractor, Healthcare Environment Services (HES). While the waste was stored securely, it was not being processed and disposed of within the correct regulatory timescales. At no point has there been an impact on public health or any delay to the ability of the NHS to carry out operations.

The Department of Health and Social Care, Defra, the Cabinet Office, NHS England, NHS Improvement and the Environment Agency worked together to resolve these issues. From the outset, the Government's priority was to ensure measures were put in place so that Trusts could continue operating as normal should there be any disruption to waste collection and disposal. This objective was achieved. The Department of Health and Social Care worked with the NHS to help Trusts put contingency plans in place. A major part of these contingency plans concerned contractual discussions with HES and other providers which were commercially sensitive.

Throughout, the Government's priority was to ensure measures were put in place so that NHS Trusts can continue operating as normal. No gap in service provision was reported and we are working to ensure that this remains the case.

COVID-19 presented in spring 2020 and all waste generated on site initially was treated as Category B waste (infectious). As 'hot wards' were established waste generated in these areas continued to be treated as Category B waste (infectious). Waste segregation in accordance with HTM/07/01 Safe Management of HealthCare Waste was reinstated on all on 'cold wards'.

Regular/daily updates have been provided to appropriate personnel during this pandemic including NHSI/E

### **11.0 Guidance implemented in 2019/20**

Routine IPC audits and face to face mandatory training was suspended in February 2020 in response to Covid-19.

- ‘*Clostridium difficile* infection objectives for NHS organisations in 2019/20 and guidance on sanction implementation’
- Reduce healthcare associated Gram-negative blood stream infections by 50% by March 2021 – joint improvement plan developed with CCG, Local Authority and Acute Trusts.
- NHSI toolkit and recommendations for prevention of Gram negative bacteraemias.
- CPE toolkit review and update position statement from PHE.
- Briefing Note 28<sup>th</sup> May 2019 re cluster of listeriosis associated with sandwich products supplied to hospital Trusts.
- COVID-19 PHE and specialist professional body’s guidance on management of suspected and confirmed cases, screening and infection prevention precautions.

### **11.1 Progress made with 2019/2020 plan**

- ***MRSA and C. difficile targets***

MRSA bacteraemia target was set at zero.  
Not achieved, we had 1 hospital acquired bacteraemia.

The *C. difficile* target was set at 10 avoidable.  
We achieved this. We had 6 avoidable cases.

- ***Bacteraemias***

All MSSA, *E. coli*, Pseudomonas and Klebsiella bacteraemias were monitored and reported. PIRs were completed where indicated.

- ***Antibiotic stewardship***

Antibiotic prescribing patterns, particularly those around the antibiotic prescribing of urinary tract infection for the over 65s and antibiotic prophylaxis for colorectal surgery, were monitored by the antibiotic pharmacists. Ward rounds including pharmacist and microbiologist were extended to twice weekly, following the appointment of a substantive medical microbiologist.

- ***Develop new and ensure all existing Policies/Guidelines are updated***

These guidelines were reviewed and updated:

- Birthing Pool
- Viral Haemorrhagic Fever
- Major Outbreak

- MRSA
- Outbreak – control and closure of wards
- Tuberculosis
- CDI

No Policies required a review.

- ***Update patient information leaflets***

These leaflets were reviewed and updated:

- Peripheral Cannulae leaflet
- MRSA (Hydrex) – how to apply
- MRSA (Octenisan) – how to apply
- Shingles
- CDI
- Reducing the Risk of Infection – Patient
- Reducing the Risk of Infection - Visitors
- Group A Streptococcal Infections

- ***Improve levels of staff training***

Induction, mandatory and junior doctor training sessions continued throughout the year and a non-clinical workbook was introduced alongside the existing clinical workbook.

As of March 2020 training compliance levels were:

Infection prevention level 1 compliance 91.75% (non-clinical).  
Infection prevention level 2 compliance 89.47% (clinical).

Improvement has already been seen through the introduction of the clinical and non-clinical workbook and bespoke sessions have been delivered in Maternity, Endoscopy, Theatre, Community teams and to new Nurse Associates.

- ***Engage with local patient and public groups to minimise harm from HCAIs.***

Lay member continued to attend the Infection Control Committee.

- ***Monitor compliance with infection prevention and control guidelines.***

This was done with formal audits – as listed in the 2019/20 plan – with regular visits to patient areas and informal observation. Annual Surgical Site Infection and Sharps Equipment audits were completed.

- ***Ensure environment fit for purpose.***

Water sampling conducted as plan.

Water policy meetings held, and water safety plan agreed.

Pseudomonas risk assessments completed for augmented care and high risk areas.

To provide an ultra-clean environment to enhance the surgical procedures undertaken in the Dales Suite, particularly our cataract service, the Trust has ordered a SurgiCube.

- ***Sustain engagement with staff maintaining their motivation to prevent HCAIs.***

Bradford and Airedale study day supported.

Rolling programme for Healthcare Support Worker sessions facilitated Screensavers used to deliver key messages on criteria for urine testing and clinical diagnosis of urinary tract infections and Norovirus.

Quality and Safety Newsletter used to feedback on key issues from PIRs

High visibility of the IPT and the wider team in wards and departments, advising and supporting staff on best practice.

- ***Monitor and risk assess potential impact of any new or emerging infections/developments.***

COVID-19 is an infectious disease caused by a newly discovered coronavirus.

The initial preparation meeting was held on 28<sup>th</sup> January 2020, before moving to a more formal command and control meeting structure in late February.

Personal Protective Equipment (PPE) training was key and formed a large part of the IPT work load in the latter half of quarter four.

AGH Solutions worked closely with the IPT to source, distribute and maintain adequate stock levels of the appropriate standard of PPE for staff across our hospital and community teams.

The hospital floors, corridors and some departments were designated as either 'hot' or 'cold' zones, to facilitate safe patient and staff flow through the hospital.

Front facing departments such as the Emergency Department and Acute Admissions Unit began work on their triage and COVID-19 phasing implementation plans. This work was completed in conjunction with those departments where patients would be likely to attend for further investigation or ongoing care e.g. Radiology, Intensive Care Unit.

Practice drills across disciplines based on current guidance were undertaken to ensure our business continuity plans were ready and robust

Arrangements were put in place to swab suspected cases in accordance with government and infection prevention requirements with support from the Emergency Department.

The NHS 'Minimum operating standards Novel Coronavirus (COVID-19) Patient Pathway' was issued on the 20<sup>th</sup> February 2020 and all patient pathways were reviewed against this guidance and the Trust remained responsive to any evidence based amendments.

Posters at hospital, ward and department entrances were used to keep staff, patients and visitors informed of the ever evolving situation regarding recent travel abroad, signs and symptoms, when to contact NHS 111 and self-isolation protocols.

AGH Solutions were instrumental in sourcing products to support cleanliness in the environment and hand hygiene, increasing existing stock levels and the streamlined introduction of new products.

## **12. Plans for 2020-21**

- Achieve the MRSA (0) and *C. difficile* (10) targets
- Monitor and report all Meticillin Sensitive *Staphylococcus aureus* (MSSA)
- Monitor and achieve the 50% reduction by 2021 in *E. coli*, *Pseudomonas* and *Klebsiella* bacteraemias
- Monitor multi-resistant organisms e.g. Extended Spectrum Beta-lactamases (ESBLs), Carbapenemase Producing Enterobacteriaceae (CPE)
- Audit compliance with MRSA and COVID-19 screening
- Monitor antibiotic prescribing patterns
- Monitor infection prevention and control practices within the Trust
- Ensure environment fit for purpose and supports good infection prevention practices
- Sustain engagement with staff to continue their high motivation to prevent HCAs including expansion of the infection prevention nursing team and supporting new nurses to complete distance learning infection prevention modules through Dundee University
- Develop new and ensure all existing Policies/Guidelines/information leaflets etc. are updated within appropriate timeframe

- Monitor and risk assess the potential impact of any new or emerging infections and any new developments or innovations.

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## **GLOSSARY OF MICRO-ORGANISMS AND EPISODE CATEGORIES**

Bacteraemia	Presence of bacteria in the bloodstream
Bacteraemia: Hospital-onset	Any NHS patient specimens taken on the third day of admission onwards (e.g. day 3 when day 1 equals day of admission) at an acute trust (including cases with unspecified specimen location) for Inpatients, Day-patients, Emergency Assessment, or Unknown patient category

Bacteraemia: Community-onset	<p>Any NHS patient specimens not determined to be hospital-onset. This will typically include the following groups:</p> <ul style="list-style-type: none"> <li>• Any acute trust specimens taken on either the day of admission or the subsequent day (e.g. days 1 or 2, where day 1 equals day of admission)</li> <li>• Any specimens from patients attending an acute trust who are not Inpatients, Day patients or under Emergency Assessment</li> <li>• Any specimens from patients attending an identifiable healthcare location except an acute trust. This includes GP, nursing home, non-acute NHS provider, Independent Sector Provider, Mental Health Provider, residential home, penal establishment, unknown or other</li> </ul>
Bacteremia: Hospital-onset, Healthcare Associated (HOHA)	<p>Any NHS patient specimens taken on the third day of admission onwards (i.e. <math>\geq</math> day 3 when day of admission is day 1) at an acute trust (including cases with unspecified specimen location) for Inpatients, Day-patients, Emergency Assessment, or unspecified patient category. Records with a missing admission date (where the specimen location is acute trust or missing and the patient category is Inpatient, Day-patient, Emergency Assessment, or unspecified) are also included.</p>
Bacteremia: Community-onset, Healthcare Associated (COHA)	<p>Any case reported by an NHS acute trust not determined to be Hospital-Onset Healthcare Associated but where the patient was discharged from the reporting organisation within 28 days prior to the current specimen date (where date of discharge is day 1).</p>
Bacteremia: Community-onset, Community Associated (COCA)	<p>Any case reported by an NHS acute trust not determined to be Hospital-Onset Healthcare Associated but where the patient has not been discharged from the reporting organisation within the past 28 days, to the current specimen date (where date of discharge is day 1).</p>
CPE (carbapenemase-producing Enterobacteriaceae)	<p>This is an enzyme produced by Gram negative bacteria (such as E coli, Klebsiella pneumoniae) which leads to resistance to all beta-lactam antibiotics, including carbapenems (which are often considered the 'antibiotic of last resort'). These bacteria</p>

	are often resistant to many other classes of antibiotics, so infections caused by CPEs are difficult to treat, resulting in high morbidity and mortality. Outbreaks on a hospital ward may occur until transmission is interrupted by infection prevention practices.
Clostridium difficile (Clostridiodes difficile; C difficile)	A Gram-positive bacterium that can cause infection of the colon (colitis). Infection is often manifested by diarrhoea, fever, abdominal pain, and bloody stools. It is spread faeco-orally, often via contamination of the environment. Outbreaks on a hospital ward may occur until transmission is interrupted by infection prevention practices.
C difficile infection: Hospital-onset	Any NHS patient specimens taken on the fourth day of admission onwards (e.g. day 4 when day 1 equals day of admission) at an acute trust (including cases with unspecified specimen location) for Inpatients, Day-patients, Emergency Assessment, or unspecified patient category
C difficile infection: Community-onset	Any NHS patient specimens not determined to be hospital-onset. This will typically include the following groups: <ul style="list-style-type: none"> <li>• Any acute trust specimens taken on either the day of admission or the subsequent day (e.g. days 1 - 3, where day 1 equals day of admission)</li> <li>• Any specimens from patients attending an acute trust who are not Inpatient, Day-patient or under Emergency Assessment</li> <li>• Any specimens from patients attending an identifiable healthcare location except an acute trust. This will typically include GP, nursing home, CCG hospital and private patients</li> </ul>
C difficile infection: Hospital-onset, Healthcare Associated (HOHA)	Any NHS patient specimens taken on the third day of admission onwards (i.e. $\geq$ day 3 when day of admission is day 1) at an acute trust (including cases with unspecified specimen location) for Inpatients, Day-patients, Emergency Assessment, or unspecified patient category. Records with a missing admission date (where the specimen location is acute trust or missing and the patient category is Inpatient, Day-patient, Emergency Assessment, or unspecified) are also included.

C difficile infection: Community-onset, Healthcare Associated (COHA)	Any case reported by an NHS acute trust not determined to be Hospital-Onset Healthcare Associated but where the patient was discharged from the reporting organisation within 28 days prior to the current specimen date (where date of discharge is day 1).
C difficile infection: Community-onset, Indeterminate Associated (COIA)	Any case reported by an NHS acute trust not determined to be Hospital-Onset Healthcare Associated but where the patient was discharged from the reporting organisation within 28 days prior to the current specimen date (where date of discharge is day 1).
C difficile infection: Community-onset, Community Associated (COCA)	Any case reported by an NHS acute trust not determined to be Hospital-Onset Healthcare Associated but where the patient has not been discharged from the reporting organisation within the past 84 days, to the current specimen date (where date of discharge is day 1).
ESBL: Extended spectrum beta lactamases	This is an enzyme produced by Gram negative bacteria (such as E coli, Klebsiella pneumoniae) which leads to resistance to most beta-lactam antibiotics, such as cephalosporins. Therefore, Gram negative bacteria which possess ESBLs are more difficult to treat. The enzyme is transmissible among Gram-negative bacteria. Outbreaks on a hospital ward may occur until transmission is interrupted by infection prevention practices.
MSSA: Methicillin-sensitive Staphylococcus aureus	A Gram-positive bacterium that causes skin and soft tissue, bone and joint, deep-seated tissue, and bloodstream infections. It is a common colonizer of human skin and mucosal surfaces and cause infections when there is a breach in the skin or mucosal barriers.
MRSA: Methicillin-resistant Staphylococcus aureus	This is a Staphylococcus aureus that is resistant to many antibiotics, including a class of antibiotics called beta-lactams which are commonly used to treat MSSA. Therefore, MRSA infections are more difficult to treat and therefore tend to cause more morbidity and mortality.
Pseudomonas aeruginosa	A Gram-negative bacterium that have many intrinsic antibiotic-resistance mechanisms and can cause serious infection in humans. Nosocomial (healthcare-associated) infections are often seen in immunocompromised patients and patients

on intensive care units.
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### Reference

Mandatory enhanced MRSA, MSSA and Gram-negative bacteraemia, and Clostridioides difficile infection surveillance Protocol version 4.3; January 2020.

Found at:

[https://hcaidcs.phe.org.uk/ContentManagement/LinksAndAnnouncements/HCAIDCS\\_Mandatory\\_Surveillance\\_Protocol\\_v4.2.pdf](https://hcaidcs.phe.org.uk/ContentManagement/LinksAndAnnouncements/HCAIDCS_Mandatory_Surveillance_Protocol_v4.2.pdf)