NHS
Airedale
NHS Foundation Trust

# Board of Directors

| | | | |
|---|---|---|---|
| **Date:** | 25 September 2019 | **Attachment:** | **12(ii)** |
| **Title of Report:** | **Infection Prevention & Control Annual Report 2018 – 2019 Report** | | |
| **Purpose of the report and the key issues for consideration/decision:** | This annual report provides a summary of the annual plan for the year 2018/19 and indicates progress made against the Infection Prevention targets.<br>• Against the C. difficile target of 6 this year we had 5 cases all were unavoidable.<br>• C. difficile reporting objectives for 2019/20 will change, 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.<br>• There was 1 MRSA attributable to the Trust.<br>• There were eight hospital-acquired MSSA bacteraemia, compared with ten in the previous year.<br>• Mandatory monitoring continues for gram negative bacteraemias. The majority of Gram negative bacteraemias at Airedale are community-acquired: 190 in total, of which 168 were community-acquired.<br>• Twenty four inpatients have been screened for CPE after appropriate risk assessments of hospital stays; of these nine were inadvertent contacts of a patient confirmed with New-Delhi metallo beta-lactamase.<br>• The number of outbreaks of viral gastroenteritis has increased in the last year. There were eight outbreaks in 2018/19 affecting 56 patients and 21 staff. This is against an occupancy level of 95 – 98 % in 2018/9<br>• Antibiotic usage at ANHSFT continues to be benchmarked against other Trusts in Yorkshire and Humber through the Define® system. In 2018-2019, ANHSFT was the lowest supplier of antibiotics when weighted against activity<br>• Legionella has been effectively targeted through a programme of work to remove little used water outlets and surveillance; including water testing and temperature monitoring continues, to ensure progress is maintained<br>• Sharps injuries have improved in the last year<br>• Antibiotic audit does demonstrate high compliance with Trust guidance.<br>• Kitchens in the ward areas continue to flag as a cause for concern, mainly due to wear and tear as majority need upgrading.<br>• National issue with Waste Provider resulted in enactment of contingency plans<br>Plan of work for 2019/20 maintain the focus on continuing the improvements seen in 2018/19 | | |
| **Prepared by:** | Allison Charlesworth, Matron Infection Prevention and Endoscopy | | |
| **Presented by:** | Jill Asbury, Director of Nursing | | |
| **Strategic Objective(s) supported by this paper:** | **Financial Sustainability** | | **Empower & Engage Staff** |
| | **Quality of Care** | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Is this on the Trust's risk register:** | **No** | | **Yes** | X | **If Yes, Score** | 2017-022 Water Safety - Legionella<br>2017-063 Clostridium difficile |
| **Which CQC Standards apply to this report:** | Safeguarding and safety section 8 Cleanliness and Infection Control | | | | | |

| | | | |
|---|---|---|---|
| **Have all implications related to this report been considered: (please X)** | **Finance Revenue & Capital** | | **Equality & Diversity** | |
| | **National Policy/Legislation** | X | **Patient Experience** | X |
| | **Human Resources** | | **Terms of Authorisation** | |
| | **Governance & Risk Management (BAF)** | X | **Other:** | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Action Required: (please X)** | **Approve** | | **Discuss** | | **Receive for information** | X | **Decision** | |

| | | | |
|---|---|---|---|
| **Previously Considered By:** | **Quality & Safety committee** | **Date:** | **24 July 2019** |
| **Recommendations:** | The Board is asked to note the key points in the report and the work that is being undertaken to maintain the excellent progress made against the infection control standards and therefore the safe care of patients. | | |

# Airedale NHS Foundation Trust

## Infection Prevention & Control Annual Report 2018 – 2019

### 1.0 Summary

The annual report provides a summary of the annual plan for the year 2018/19 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 five cases of *C. difficile* in the trust, all of which were considered to be unavoidable.

We had one MRSA bacteraemia in the trust.

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: 190 total, of which 168 were community-acquired. There have been 22 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 170; hospital 18, community 152

Klebsiella bacteraemia: total 13; hospital 2, community 11

Pseudomonas aeruginosa bacteraemia: total 7; hospital 2, community 5

The Trust was commended last year on the 29.2 % reduction achieved in Gram negative bacteraemias on the baseline of 2016 incidence.

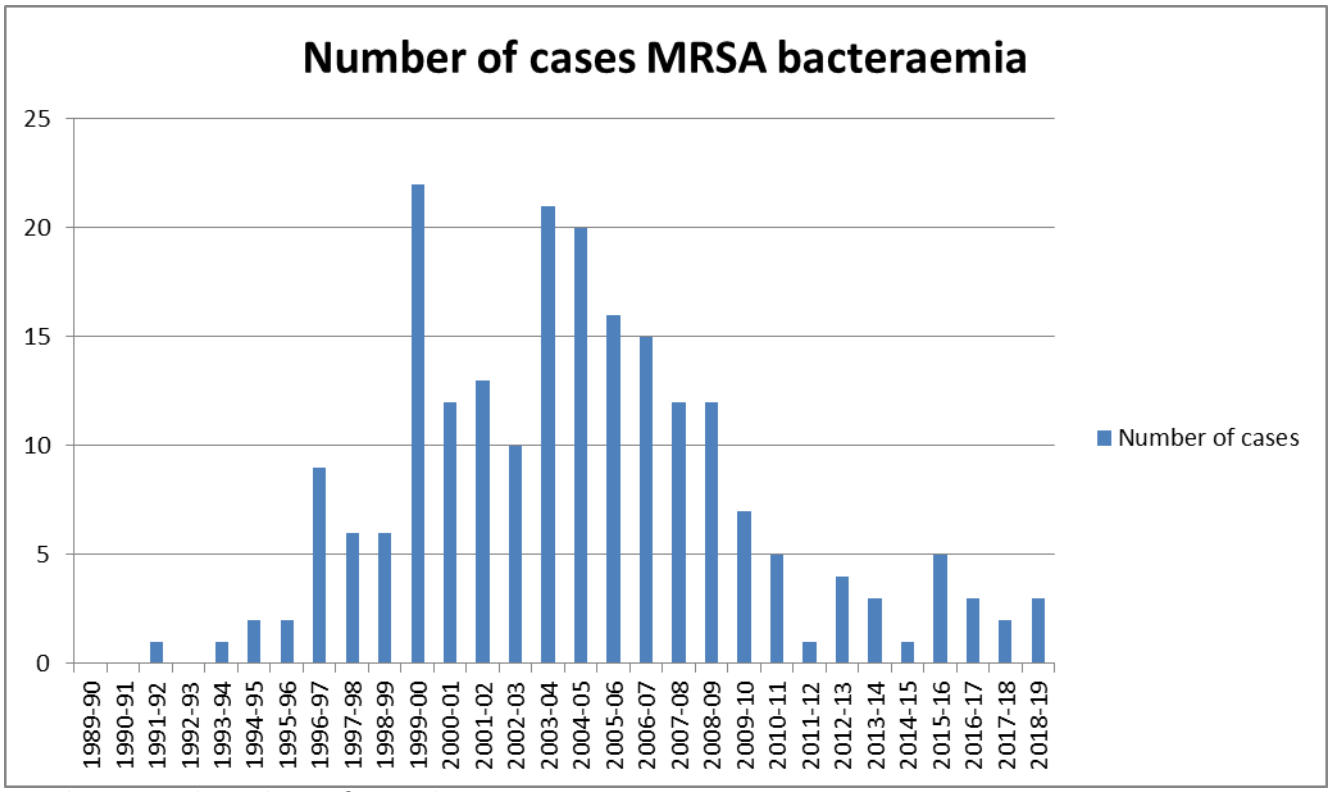
In addition to the information on infection prevention, the report also outlines the work done on significant other infection control work.

## 2.0 Performance 2018-19: 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 2018/19, of zero cases of hospital-acquired MRSA bacteraemia.

The Trust has had one MRSA bacteraemia case. The source of the bacteraemia was difficult to establish due to multiple patient comorbidities. Key learning points around obtaining appropriate clinical swabs, antimicrobial prescribing following telephone consultation and timely colonisation suppression were addressed through a shared PIR meeting between the Trust and community. The actions from this meeting have been completed.




**Graph 1 : Actual numbers of MRSA bacteraemias at ANHSFT**

### 2.1.2 MRSA Screening

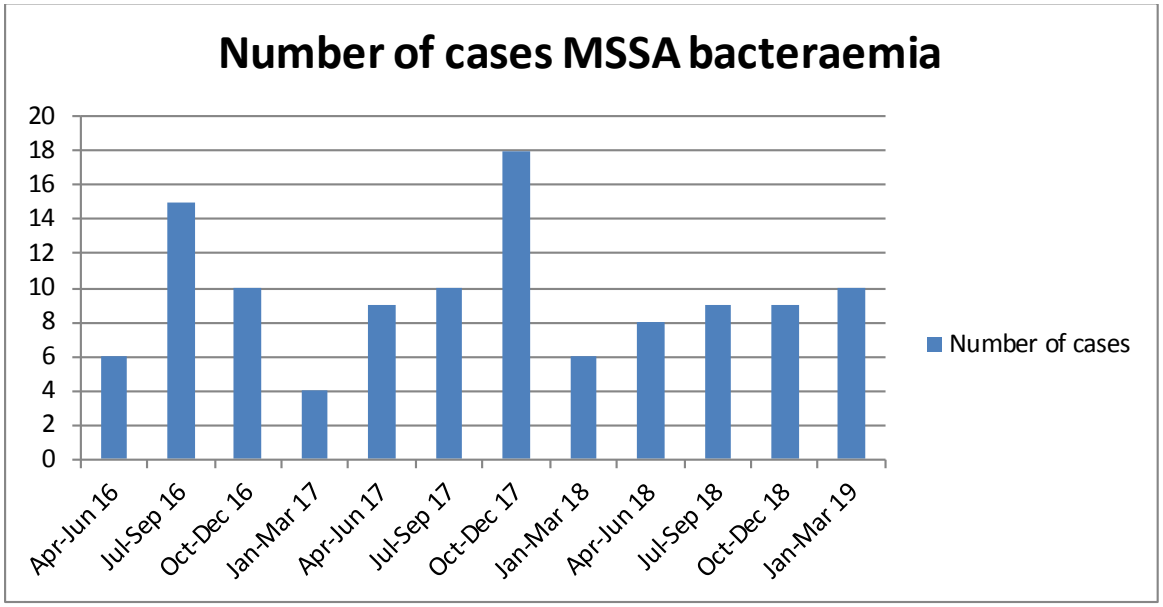
In December 2018 the MRSA screening method was changed from a swab in broth to a moistened swab in transport medium. This change brought the Trust in line with Bradford Hospitals and streamlined processes in the Microbiology Laboratory. Positive results are now reported 24hrs earlier.

The Trust continues MRSA screening of both elective and emergency patients in line with national guidance and continues to see mupiricin-resistance, probably due to clonal spread from the Bradford area.

## 2.2 MSSA (flucloxacillin-sensitive Staph aureus)

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

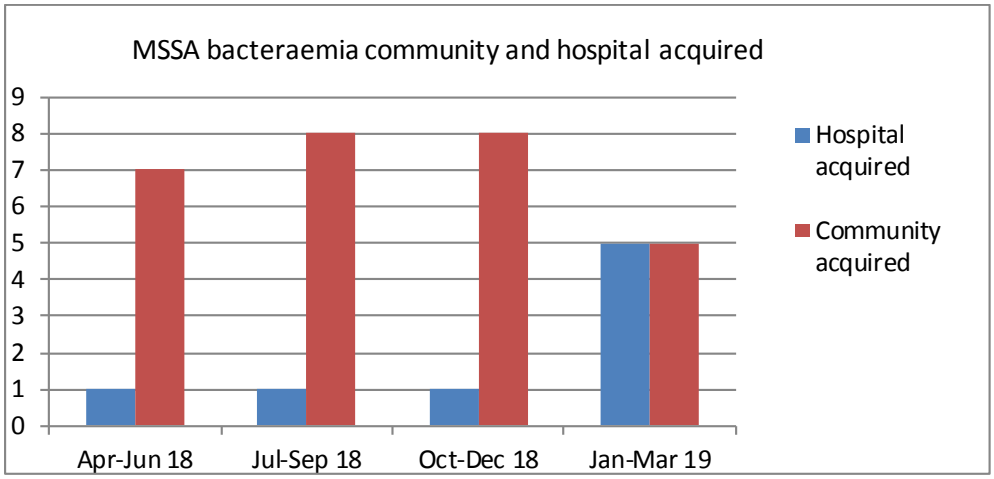
There were eight hospital-acquired MSSA bacteraemia, compared with ten in the previous year.




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

2017/18: 33 community-associated and 10 hospital-acquired bacteraemia.

2018/19: 28 community-associated and 8 hospital-acquired bacteraemia.




**Graph 3: Community and Hospital acquired MSSA blood stream infections per quarter 2018/19**

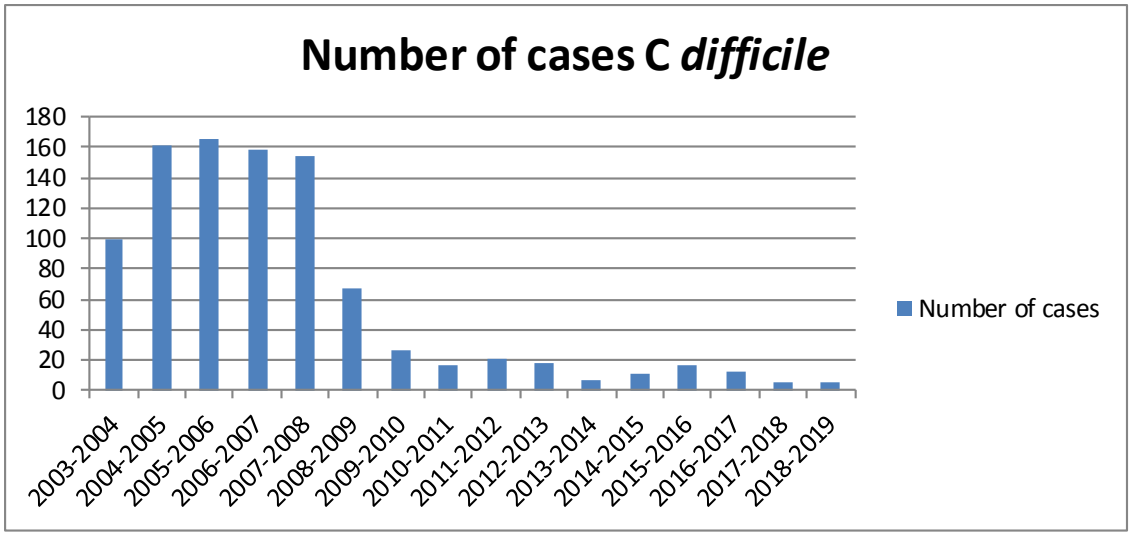
The Trust has seen a small increase in cases in the final quarter of 2018/19 with five community-associated and five hospital-acquired. Only one hospital-acquired case required a PIR, the case was deemed unavoidable as every care had been taken to manage and preserve the vascular access device in a patient with an extensive history of difficult vascular access for chemotherapy. No common themes were identified

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 9.1 in 2017/18. Airedale NHS Foundation Trust data for hospital acquired MSSA cases is consistent with this.

## 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. The Trust successfully challenged the target for 2018/19 which was initially set at five and amended to a case number of six.

The Trust had five hospital-acquired cases in 2018/19. Each case was discussed at a multi-disciplinary PIR meeting. It was agreed, in conjunction with community infection prevention staff that, all five cases were unavoidable, as there were no lapses in care.




**Graph 4 : Actual numbers of CDI at ANHSFT**

### 2.3.1 Reporting objective 2019/20

C. difficile reporting objectives for 2019/20 will change, 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.

Acute provider objectives for 2019/20 will be set using the two categories below:

**Hospital onset healthcare associated**: cases that are detected in the hospital three or more days after admission (admission day is day one)

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

Objectives have been set using the data from 1 April 2018 to 31 December 2018. This data has been annualised and a count of cases calculated for each clinical commissioning group. The Trust has a target of ten cases for 2019/20.

### 2.3.2 Changes to first line treatment for *C. difficile* Infection

The West Yorkshire Association of Acute Trusts (WYAAT) group have advised oral vancomycin as first line treatment for *C. difficile* infection in hospitalised patients. This change has been supported by the Consultant Microbiologist and guidance will be updated to reflect the change. Community treatment remains the same with oral metronidazole as first line treatment

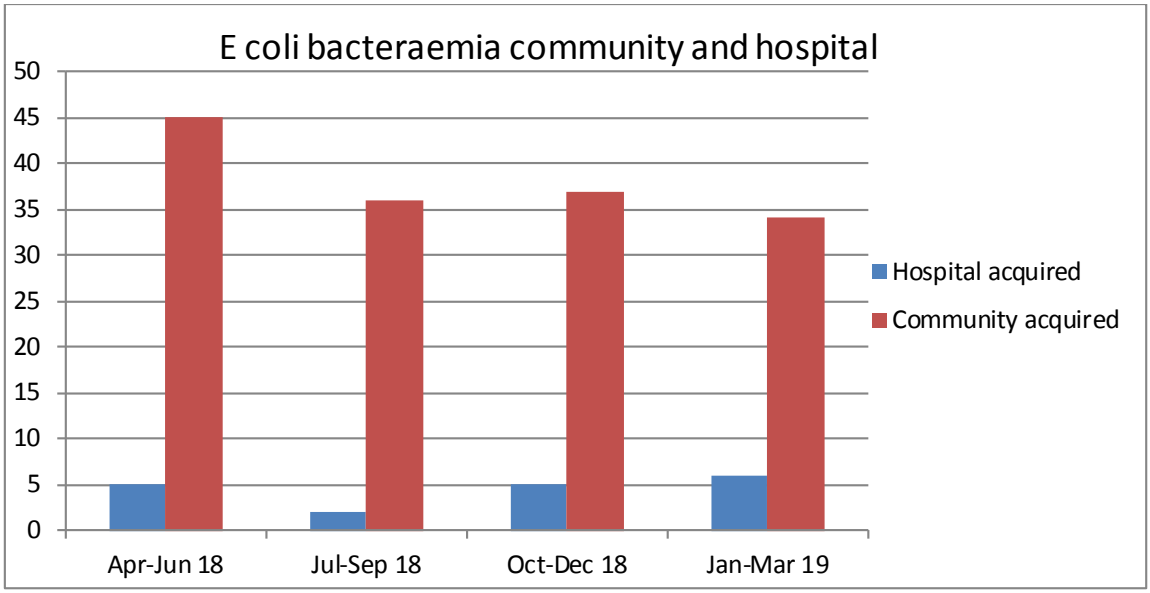
### 2.4 Gram negative bacteraemias

A new surveillance scheme of Gram negative bacteraemias was introduced on 1st 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: 190 in total, of which 168 were community-acquired. There have been 22 cases of hospital acquired Gram negative bacteraemias. PIR meetings showed that the majority were non-preventable.

| | 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 |

**Table 1: Gram negative bacteraemias hospital and community acquired from 2016/7**




**Graph 5: Community and Hospital acquired E. coli blood stream infections per quarter 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.
A 10% reduction in hospital acquired cases for 2018/19 was not achieved.

### 2.4.1 E.coli Research Project

Airedale have been selected to take part in the NHS England protocol Understanding the epidemiology of *E.coli* bloodstream infections in the North of England' from the 1st April 2019. This is based on the fact that historically Airedale has had an exemplary National Data Capture System completion rate.

### 2.4.2 Preventive measures that the affect incidence of Gram negative bacteraemias

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, cannulae, preparation for hand hygiene and compliance with MRSA screening and suppression protocol
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. Staff are assessed against a competency for aseptic technique

8. We have a robust Antibiotic Policy which includes 'Start Smart then Focus'
9. We have a Surgical Site Infection (SSI) Guideline that includes the NICE Guidance
10. Gram negative programme now included in mandatory training
11. 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
12. Carbapenemase - Producing Enterobactericeae (CPE) screensaver and posters used to aid staff in identification of patients at risk of carriage of CPE

### 2.4.3 Targeted preventive measures for Gram negative bacteraemia in specific patient groups

A trust wide urinary catheter audit was undertaken in June 2018 looking at appropriate use of catheters. 44 catheters were audited in total. One patient had no reason specified for insertion of their catheter and one patient had a catheter in for mobility/skin integrity reasons, the remaining 42 patients audited did have an appropriate reason for their catheter e.g. monitoring of urine output, retention of urine and long term catheters. A re-audit was undertaken in September 2018 where 38 catheters were audited and all had an appropriate reason stated for the insertion.

Safety Thermometer (urinary tract infections with catheter harms) data has been audited by infection prevention to identify recurring themes. Themes identified were dehydration – poor fluid intake documented by GP and patients admitted with symptoms of urinary tract infection but started treatment in hospital.

There was a notable increase in E coli bacteraemia of a urinary source during the summer months of hot weather in 2018.

### 2.4.4 Key work streams 2019/20

Quality improvement plans include; the promotion of hand hygiene for patients with particular focus before meals and after using the toilet. Urinary catheter care and usage will continue to be monitored and work on a catheter passport will continue. Patient hydration will be improved with the implementation of hydration stations on the elderly care wards. Early diagnosis and appropriate treatment of urinary tract infections in the over 65yrs will be monitored through the new CQUIN 'Lower Urinary Tract Infections in Older People' and prevention of hospital acquired pneumonia will be reviewed in relation to positioning of patients in bed and mouth care.

## 2.5 Extended spectrum beta lactamases (ESBLs)

The third generation of the antibiotic family, cephalosporins (e.g. cefotaxime, ceftazidime) were developed in the 1970s and introduced into human medicine in the early 1980s. They represented a huge therapeutic advance for the treatment of infections caused by multi-resistant Gram-negative bacteria. By 1985 resistance was found to these new antibiotics. This new resistance was because bacteria, mainly coliforms such as E coli or Klebsiella, produced enzymes that destroyed these

antibiotics. These bacterial enzymes were named Extended Spectrum Beta-Lactamases (ESBLs).

ESBLs were initially a problem in hospitalised patients, but are now increasingly found in community patients. Overuse of antibiotics in both humans and agricultural practice probably contributes to this.

In 2018/19 we had 94 inpatients with a clinical infection due to ESBL, of whom recurrent infection was diagnosed in 25 patients (known ESBL carriers) and 69 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 was the urinary tract: 74 patients had ESBL in urine sample (60 from midstream urine, 14 from catheterised patients).

There were nineteen bacteraemias. The majority were due to urinary tract sepsis, with a smaller contribution from intra-abdominal/biliary sepsis.

Strong antimicrobial stewardship, in particular avoiding third generation cephalosporins is crucial in minimising resistance.

## 2.6 Carbapenemase - Producing Enterobactericeae (CPE) and Carbapenem resistance

Carbapenem-resistant enterobacteriaceae (CPE) are coliforms such as E coli or Klebsiella that are resistant to meropenem. Meropenem is a beta-lactam drug reserved for infections due to multi-resistant organisms, especially ESBLs, and is regarded as the treatment of last resort for difficult Gram negative infections.

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.

Twenty four inpatients have been screened for CPE after appropriate risk assessments of hospital stays; of these nine were inadvertent contacts of a patient confirmed with New-Delhi metallo beta-lactamase. The inadvertent contact occurred in July 2018 when the patient was readmitted into a bay, guidance and staff reminders of the process were reissued at this time and no further issues have been identified.

The microbiology department are planning to introduce a new method of CPE testing that will allow 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.

The number of outbreaks of viral gastroenteritis has increased in the last year. There were eight outbreaks in 2018/19 affecting 56 patients and 21 staff. This contrasts with four outbreaks (affecting 25 patients and 3 staff) in the previous year. These findings broadly reflect the national picture. The increase could be related to a new strain of Norovirus circulating as there were no major changes in bed occupancy, staffing or infection control procedures.

| **Viral Gastroenteritis** | | | | |
|---|---|---|---|---|
| **Airedale Hospital episodes 1st April 2015 – 31st March 2019** | | | | |
| **Year** | Wards affected | Patients affected | Staff affected | Total number of days restricted |
| 2015/16 | 11 | 80 | 7 | 58 |
| 2016/17 | 9 | 62 | 6 | 52 |
| 2017/18 | 4 | 25 | 3 | 16 |
| 2018/19 | 8 | 56 | 21 | 49 |

**Table 2: Viral gastroenteritis outbreaks at ANHSFT from 2015/16**

| Viral Gastroenteritis | | | | | | | |
|---|---|---|---|---|---|---|---|
| Airedale Hospital episodes 1st April 2018 – 31st March 2019 | | | | | | | |
| **Ward** | **Month** | **Dates** | **Patients** | **Staff** | **Visitors** | **Number of days ward/bays closed/restricted** | **Organism** |
| 9 | Sept | 14th -20th | 7 | 2 | 0 | 3 ward bays/7days | Not known |
| 7 | Nov | 8th-13th | 6 | 4 | 0 | 2 ward bays/5 days | Norovirus |
| 5 | Nov | 8th-12th | 1 | 3 | 0 | 1 ward bay/4 days | Norovirus |
| 4 | Nov | 9th-19th | 13 | 3 | 0 | 5 ward bays/10days | Norovirus |
| 6 | Nov | 14th-19th | 8 | 1 | 0 | 2 ward bays/5 days | Norovirus |
| 9 | Nov | 16th-22nd | 7 | 3 | 0 | 2 ward bays/6 days | Norovirus |
| 14 | Nov | 19th-22nd | 5 | 5 | 0 | 2 ward bays/3 days | Norovirus |
| 4 | Dec | 3rd-12th | 9 | 0 | 0 | 3 ward bays/9 days | Norovirus |
| **Total** | | | **56** | **21** | **0** | | |

**Table 3: Viral Gastroenteritis Outbreaks at ANHSFT 2018/19**

This is against an occupancy level of 95 – 98 % in 2018/9

## 4.0 Contamination injuries for 2018/19

The number of contamination injuries decreased in the year 2018/19 from 82 to 58.

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 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.

## 4.1 Actions for 2019/20:

The Infection Prevention Link Nurse in Theatre plans to look at a breakdown of injuries sustained to raise profile of safe working practices and the Pathology Quality Manager will monitor any further incidents and consider re-training for staff as necessary. Company representatives will continue to support training in the Trust.

| | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | March | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Classification | | | | | | | | | | | | | |
| During phlebotomy | 1 | | 2 | 1 | 1 | | | | | 1 | 1 | | 7 |
| During cannulation | | | | | | | | | | | | | |
| During administration of medicine | | | 1 | 1 | | | 1 | | | 1 | | | 4 |
| During a surgical procedure: | | | | | | | | | | | | | |
| Suturing during surgery | 1 | | 1 | | | | 1 | | | | 1 | | 4 |
| Suturing midwifery | | | | | | | | | | | | 1 | 1 |
| Suturing ED/Ward procedure | | | | 1 | | | | | | | | | 1 |
| Scalpel injury during surgery | 1 | | | | | | | | | | | | 1 |
| Other injury during surgery | | 1 | | 1 | 1 | 1 | | | 1 | | | | 5 |
| Scalpel injury other | | | | | | | | | | | | | |
| During a procedure other e.g. OPD, Xray, other surgical apparatus | | | | | | | | | | | | 1 | 1 |
| During disposal | | 1 | | 1 | 1 | | | 1 | 3 | | | 1 | 8 |
| Incorrect disposal in environment | | | | | | | 1 | 1 | | | | 1 | 3 |
| During cleaning of equipment | | | 1 | | | | | | | | | | 1 |
| Bite or scratch | | | | | | | | | | 5 | | | 5 |
| Splash with body fluids to eye, nose, mouth or broken skin | | 2 | 3 | 1 | | 3 | 1 | 2 | 2 | | | 1 | 15 |
| Miscellaneous | | | 1 | | 1 | | | | | | | | 2 |
| Total | 3 | 4 | 9 | 6 | 4 | 4 | 4 | 4 | 6 | 7 | 2 | 5 | |
| Cumulative Total | 3 | 7 | 16 | 22 | 26 | 30 | 34 | 38 | 44 | 51 | 53 | 58 | 58 |

**Table 4: Contamination Injuries at ANHSFT 2018/19**

## 5.0 Organisation and Staffing

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

Infection Prevention is monitored through the Infection Prevention and Control Committee 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.

Sadly due to service pressures, the Infection Prevention Link Workers Group has not met in 2018/19.

## 6.0 Influenza

The flu vaccination target for clinically facing staff was 75 percent and the uptake of the vaccine was 76 percent. In 2019/20 the target is 80 percent.

## 7.0 Hand Hygiene

| Date | % | Date | % |
|---|---|---|---|
| Apr-18 | 98 | Oct-18 | 98 |
| May-18 | 98 | Nov-18 | 97 |
| Jun-18 | 98 | Dec-18 | 97 |
| Jul-18 | 98 | Jan-19 | 98 |
| Aug-18 | 97 | Feb-19 | 98 |
| Sep-18 | 98 | Mar-19 | 99 |

**Table 5: Monthly Hand Hygiene compliance audit results 2018/19**

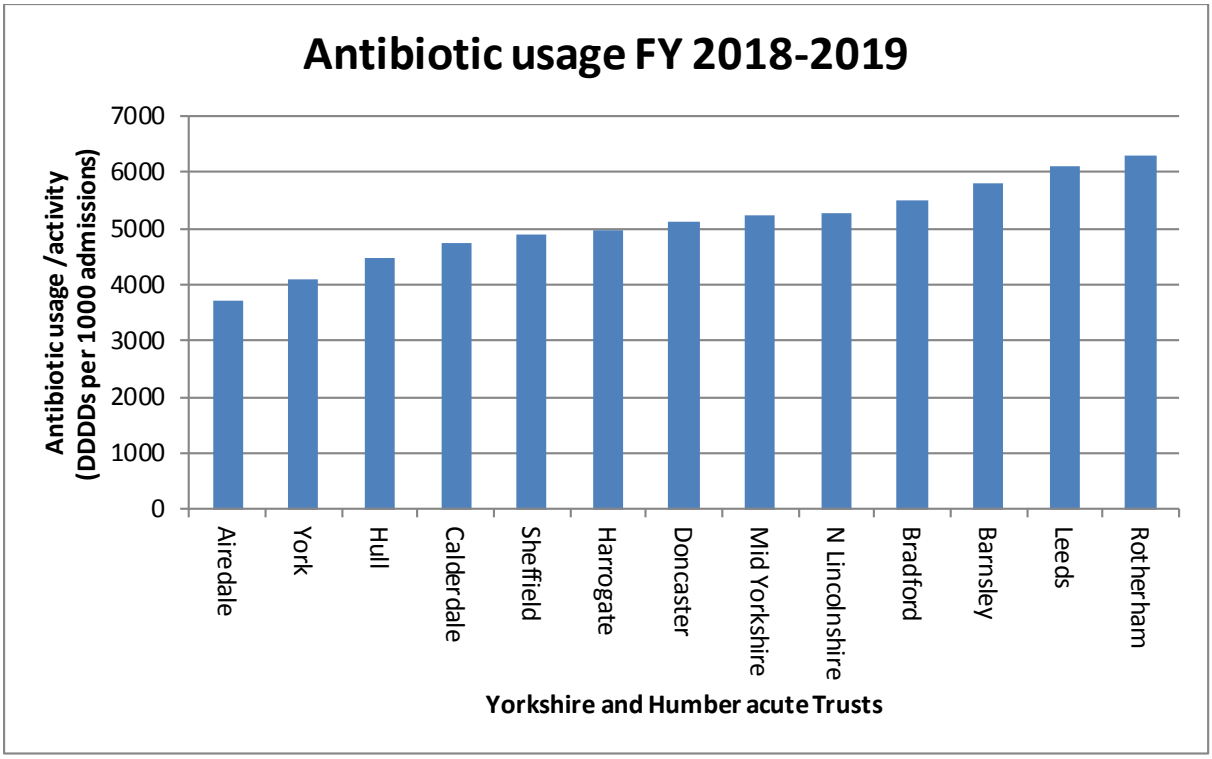
The monthly hand hygiene audit reports a Trust aggregated compliance average of 98 per cent since April 2018. This is part of a robust and ongoing infection prevention clinical audit programme to evaluate care standards for example, of cannulae and urinary catheter care.

## 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

Antibiotic usage at ANHSFT continues to be benchmarked against other Trusts in Yorkshire and Humber through the Define® system. In 2018-2019, ANHSFT was the lowest supplier of antibiotics when weighted against activity, as shown in the graph below.




**Graph 6: Antibiotic usage Yorkshire and Humber acute Trusts 2018/19**

## 8.2 Antibiotic CQUIN

In March 2018, the Department of Health announced that one of the national CQUINs for 2018-2019 would seek to reduce the impact of serious infections through improvement in the management of sepsis and the prevention of antimicrobial resistance. This report details work undertaken to manage the remaining part 2d of the CQUIN, which required ANHSFT to demonstrate reduction in consumption of total antibiotics and carbapenem class antibiotics and-tazobactam by 2% and 3% respectively during the period April 2018-March 2019 compared with calendar year 2016. A third part of 2d requires the Trust to maintain AWaRe "Access" category antibiotics ("Good" antibiotics) at greater than 55% of total.

Local monitoring indicates that ANHSFT met 2 out of the 3 parts of CQUIN 2d as shown in Table 1 below:

| | All antibiotics (DDDs per 1000 admission) | AWaRe categorisation (% DDDs within Access group) | Meropenem (DDDs per 1000 admissions) |
|---|---|---|---|
| 2018-19 CQUIN target: | < 3530 (2% reduction) | >55% | < 33.4 (3% reduction) |
| 2018-19 local result | 3718 (5% increase) | 61% | 30.9 (10% reduction) |

**Table 6: Summary of antibiotic consumption at ANHSFT during 2018-2019, compared with the Antimicrobial CQUIN targets**

Two out of three parts were achieved. Despite ongoing quality improvement work and monitoring, it was not possible to achieve the total antibiotic part of the antibiotic

CQUIN during the financial year 2018-2019. Failure to achieve these targets can be attributed to:

- A winter period with a perceived increase in patients admitted with respiratory tract infection
- Existing high quality of antibiotic usage at ANHSFT leaving limited scope for quality improvement, despite the involvement of antibiotic pharmacists from Harrogate District NHSFT and Mid Yorkshire NHSFT in reviewing current practice during 2018.
- Reluctance to take steps that may adversely impact on patient care as a result of using less effective or more toxic antibiotics

**Alignment of Antibiotic Guidance**

As described above, treatment of *Clostridium difficile* is the first antimicrobial guidance that is being harmonised across secondary care Trusts. Other guidance is underway to provide greater alignment between Trusts and CCGs in Yorkshire and Humber. The local area prescribing committees have agreed that all their community settings should utilise the new NICE/PHE community antibiotic guidelines.

**Consultant Microbiologist**

As there is no substantive microbiologist in place, consultant microbiologist service provision is currently provided by one long-term locum and telephone contacted service from Bradford Teaching Hospitals. Whilst it is a risk that advice from on-call microbiologists at Bradford teaching hospitals might differ from local antibiotic practice, this is mitigated by:

- Contact to microbiologist being practice only if local guidance is not suitable/appropriate for a particular patient
- Follow-up of patients by ANHSFT pharmacists or microbiologist the next working day

## 8.3 EPMA

Following the successful implementation of a set of Electronic Prescribing and Medicines Administration (EPMA) regimens, a set of Vancomycin EPMA regimens have been developed. These are currently undergoing ratification by the EPMA group but are expected to be launched later in 2019.

Following on from observations made by the CQC inspectors during December 2018, work has been underway to implement the ARK approach to antibiotic reviews. Prescriptions will be annotated with a categorisation ("Probable", "Possible", "Finalised") of how confident the presriber is that the patient requires the infection. This will then be reviewed using an EPMA prompt, giving a clearer

documentation of the reason for continuing, stopping or amending the prescription. Airedale will be contributing to the ARK research study on the impact of this approach which has shown significant benefits at the Brighton pilot site.

## 8.4 Change to antibiotic pharmacist staffing

Due to a temporary change of role for Kevin Frost (antimicrobial pharmacist from 2005 onwards), Louise Tweddell has been acting as a second antimicrobial pharmacist from February 2019.

## 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 and a number of service level agreements were developed to ensure this continued to provide the level of service that ensures the best outcomes for patients.

In response to an environmental serious incident on Ward 5 the Patient Environment Action Group (PEAG) has had a refresh and members including; Domestic Services, Estates, Matrons and the Infection Prevention Team have worked closely to ensure robust monitoring of standards of cleanliness, including environmental issues raised on inspections of the care environment are progressed and actions completed.

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 change.

A task and finish group has been established in response to a CQC observation on cleanliness of equipment.

PLACE (Patient Led Assessments for the care Environment) is undergoing a national review and the Head of Facilities is part of the review team. Due to the national review the PLACE inspection has been delayed and instruction has been given from NHS Improvement and NHS England to conduct the inspections from September 2019.

Risk assessment completed by AGH Solutions and Infection Prevention in response to alert regarding deaths thought to be related to pigeon dirt exposure in Glasgow

## 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 and a recruitment drive to fill the vacant posts has taken place, this has enabled the department to provide a better standard of service in particular at the evenings.

### 9.1.1 Ward Housekeeper

This role has transferred into the remit of Facilities. When any vacancies arise, the posts will be filled with a new housekeeper role. This role will encompass the cleaning of computers and responsibility for the ringing in of Estates tasks and ensuring their completion.

### 9.3 NHS Framework for Audit (Monits)

The Domestic department has a robust audit plan in place, the aim of which is to ensure compliance with the NHS framework.

The March 2018 to April 2019 percentage score was 95.01%. This is a slight decrease on the 2017-2018 score of 95.76%.

If an audit fails the agreed standards for that ward it is re-audited on a weekly basis for a month.

The Domestic Services have also been a pilot site for the New NHS National standards for Audit which are due to be changed in July 2019.

### 9.4 Catering Hygiene

The bi-annual inspections of the catering facilities were carried out in July 2018 and Oct 2018.

Cleanliness within the catering areas was excellent, although the infrastructure needs attention due to wear and tear and this is being addressed.

Ward kitchens still cause concern as they have been awarded only 4 stars from the Department of Health Environment body. The main reasons are the recording of temperatures not being carried out and the wear and tear of the kitchen which the majority need an upgrade. This is known by the capital group and receives consideration when allocating the limited capital funds.

The main hospital kitchen has been award 5 stars.

The catering contract that is currently managed by Sodexo comes to a close on the 01 June 2019 and the service will then be managed by AGH Solutions.

The final inspection before handover will be completed in May 2019.

## 10.0 Water Safety

The Trust's Water Safety group meets quarterly. The Group ensures that appropriate risk assessments 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.

## 10.1 Legionella

Legionella has been effectively targeted through a programme of work to remove little used water outlets and surveillance; including water testing and temperature monitoring continues, to ensure progress is maintained. In March 2019 very low levels of Legionella were detected in two outlets supplying the Neonatal Unit. Remedial work was undertaken and the problem has been eliminated; enhanced monitoring continues to ensure this is sustained.

## 10.2 Pseudomonas aeruginosa

Pseudomonas testing was carried out in the Haematology Ward (Ward 19), Haematology and Oncology Day Unit, Ward 16 (Intensive Care Unit) and the Neonatal Unit.

Whereas Legionella tends to multiply within dead legs or a water circulation system, Pseudomonas aeruginosa often contaminates a water system via outlets such as taps. Pseudomonas multiplies on wet surfaces and can form a biofilm within the tap and then spreads along pipework. Strategies to control Pseudomonas:

- Correct cleaning of basins
- Wash-hand basins are used only for this purpose, not for cleaning patient care equipment
- Complex taps with thermostatic mixing valves (TVMs) are not used, unless necessary to protect patients from scalding. Hence YMVs are not used on Intensive Care Units.

Monitoring of high-risk areas for Pseudomonas aeruginosa continues. The Intensive Care Unit had *Pseudomonas aeruginosa* isolated from three outlets in the clinical area and a further two in the kitchen and staff change area in Nov 2018, the outlets were put out of use and remedial work carried out. All outlets were retested and put back into use following negative results after completion of work. Regular monitoring continues. *Pseudomonas aeruginosa* risk assessments have been completed for areas identified as high risk.

## 10.3 Waste

A national issue arose with clinical waste disposal in September 2018 this resulted in enactment of contingency plans to safely dispose of Trust waste. The priority being the provision of safe and effective care, whilst providing staff with a safe working

environment. The Infection Prevention Team has provided ongoing support and guidance in the management of the clinical waste contingency plan.

The current situation with waste has improved, but has not reached business as usual. We are receiving regular collections of all waste streams and offensive waste has moved from trailers to the yellow bins. Clinical waste is still being collected in the trailers, this does introduce double handling by the porters and we hope this will be resolved in the coming months. There are also three shipping containers on site as a contingency measure should we encounter similar problems to earlier in 2018, whereby incinerator downtime led to reduced collections and waste accumulating on site. This will create an enhanced risk should it occur in the higher ambient temperatures of the summer months.

Anatomical waste continues to be stored in the refrigerators in the mortuary.

Regular updates have been provided to the Board during these contingency measures.

## 11.0 Guidance implemented in 2018/19

- '*Clostridium difficile* infection objectives for NHS organisations in 2018/19 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.

- Information stand used to promote World Health Organisation Clean Your Hands 2018 and Royal College of Nursing glove awareness week.

- Clinical Review Intravenous Permeable Film Dressings – Part One Securing Peripheral Cannulae in Adults March 2018 reviewed.

- Monkeypox guidance disseminated to relevant clinical teams.

- Estates and Facilities Alert January 2019 - Portable fans pose risk of cross infection – particular concern re bladeless portable fans. Instruction and guidance issued on the use of portable fans.

## 11.1 Progress made with 2018/2019 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 six.
  We achieved this. We had 5 unavoidable cases.

- ***Bacteraemias***

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

- ***Antibiotic stewardship***

  The antimicrobial pharmacist and the consultant microbiologist undertook weekly ward rounds to review antibiotic therapy, focussing on complex and high-risk patients. Ward medical staff receive feedback and education to improve practice.

  Quarterly point-prevalence audits of prescribing of antibiotics continued.

  Antimicrobial guidelines were reviewed to ensure that local guidance complied with national guidance and latest best practice.

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

  These guidelines were reviewed and updated:

  - Tuberculosis
  - Transmissable Spongiform Encephalopathies
  - Surgical Site Infection
  - Asepsis and Management of Patients Undergoing Invasive Procedures
  - Standard Precautions
  - Management of PVL associated *Staphylococcus aureus* infections (PVL-SA)
  - Varicella Zoster Virus

  These Policies were reviewed and updated:

  - Infection Prevention and Control Policy.
  - Notification of Diseases Policy

- ***Update patient information leaflets***

  These leaflets were reviewed and updated:

  - Strep A
  - *Clostridium difficile* Infection
  - Multi-resistant Organisms
  - Reducing the Risk Patients
  - Reducing the Risk Visitors/Carers
  - *Clostridium difficile* colonisation leaflet
  - MRSA Screening
  - MRSA Pre-emptive suppression
  - Isolation
  - Viral Gastroenteritis

- Cryptosporidium
- Campylobacter
- Hand Hygiene
- Respiratory syncytial virus
- E.coli
- PVL-SA
- Shingles
- Salmonella
- CPE Screening
- MRSA
- Chickenpox
- Tuberculosis

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

  Induction, mandatory and junior doctor training sessions continued throughout the year and a clinical workbook was introduced. A non-clinical workbook is in development and external events such as Bradford and Airedale Infection Prevention Study Day promote infection prevention and control principles to a wider audience.
  As of March 2019 training compliance levels are:

  Infection prevention level 1 compliance 94% (non-clinical).
  Infection prevention level 2 compliance 87% (clinical).

  Improvement has already been seen through the introduction of the 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 2018/19 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.

- ***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 CPE, Nebuliser mask care and Norovirus.
  Quality and Safety Newsletter used to feedback on key issues from PIRs
  High visibility of the IPC staff 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.***

  Public Health England issued further information on measles which was circulated to relevant practitioners.

  Information received from PHE on use of unlicensed BCG vaccine to protect against tuberculosis (TB): information for healthcare professionals and prescribers.

## 12. Plans for 2019-20

- 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 with a focus on a 10% or greater reduction of *E.coli* in 2019.
- Monitor multi-resistant organisms e.g. Extended Spectrum Beta-lactamases (ESBLs), Carbapenemase Producing Enterobacteriaceae (CPE)
- Monitor antibiotic prescribing patterns – CQUIN around treatment og urinary tract infections in the over 65 age group
- 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 HCAIs
- 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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