

Date of meeting	17 July 2018
Paper number	I3

Annual Report for Infection Prevention and Control Performance 2017-18

For approval:	☒	For assurance:	☐	To note:	☐
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Accountable Director	Vicky Morris Chief Nursing Officer		
Presented by	Vicky Morris Chief Nursing Officer	Author	Heather Gentry Lead IPC Nurse

Alignment to the Trust's strategic priorities

Deliver safe, high quality, compassionate patient care	x	Design healthcare around the needs of our patients, with our partners	x	Invest and realise the full potential of our staff to provide compassionate and personalised care	
Ensure the Trust is financially viable and makes the best use of resources for our patients		Develop and sustain our business			

Alignment to the Single Oversight Framework

Leadership and Improvement Capability	x	Operational Performance	x	Quality of Care	x
Finance and use of resources		Strategic Change		Stakeholders	x

Report previously reviewed by

Committee/Group	Date	Outcome
Trust Infection Prevention and Control Committee	2 July 2018	For submission to Trust Board following amendments discussed and comments received.
Clinical Governance Group	3 July 2018	Received in Groups papers for comments (received and included)
Quality Governance Committee (virtual)	4 July 2018	Comments received and included

Assurance: Does this report provide assurance in respect of the Board Assurance Framework strategic risks?

Y	BAF number(s)	1.1
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Assurance in respect of: process/outcome/other (please detail)

Significant assurance ☐ <i>High level of confidence in delivery of existing mechanisms/objectives</i>	Moderate assurance ☐ <i>General confidence in delivery of existing mechanisms/objectives</i>	Limited assurance ☒ <i>Some confidence in delivery of existing mechanisms/objectives</i>	No assurance ☐ <i>No confidence in delivery</i>
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Recommendations	The Board is asked to approve the Annual Report 2017-18 including the forward plan for 2018/19.
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Executive Summary

This annual report is to inform the Trust Board of Infection Prevention and Control (IPC) performance during 2017-18 and to present plans for the next 12 months (2018/19).

This paper provides an overview of the nationally required information to highlight key issues of IPC performance and request the Trust Board to accept and approve the Infection Prevention and Control Annual report for 2017-18 for publication.

Background

It is a requirement of the Health and Social Care Act: Code of Practice on the prevention and control of infections (2015) that the Director of Infection Prevention and Control (DIPC) provide an annual report and release it publicly. The report content is recommended to include topics as outlined in *Winning Ways: working together to reduce healthcare associated infection in England (Department of Health 2003)*.

The DIPC for the organisation is the Chief Nursing Officer.

Issues and options

Trust Board are advised the following key issues were identified in 2017-18:

- Clostridium *difficile* Infection (CDI)

The CDI objective for 2017-18 was set at 32 cases. There were a total of 33 trust-attributable cases which exceeded our improvement objective by 1 case. The objective for 2018-19 is 31 cases. During 2017-18 CDI Trust-attributable case reviews identified there were 16 red lapse cases (care contributed to development or acquisition of CDI), 16 amber lapse cases (care did not contribute to development of CDI but aspects did not comply with policy and 1 no lapse in care case.

- *E. coli* bacteraemia

The Secretary of state for Health has launched an important ambition to reduce healthcare associated Gram-negative bloodstream infections by 50% by 2021. During 2017-18 the Trust has seen a reduction of 8.8% in Trust-attributable *E. coli* BSI against an ambition of 10%. There is a health economy wide strategy for reduction of Gram-negative BSI and an associated health economy steering group, which reports to TIPCC, to drive progress against the strategy.

Achievements in 2017-18

- The Trust can report that there have been no cases of Trust-attributable MRSA bacteraemia during 2017/18.
- Areas of compliance noted in CQC reports (2017), led to a continuing focus for improvement in 2017/18 and the Trust was de-escalated from a Red to Green within the NHSI matrix, which cited clear evidence of improvement and effective management of outbreaks.
- From early in 2017/18 TIPCC increased in frequency to monthly meetings to facilitate enhanced monitoring of Infection Prevention and Control Improvement programme.
- Revised Cleaning Framework developed and published providing clarity of responsibility for cleaning by Nursing, Facilities and Estates Teams.

Recommendations

Trust Board is asked to approve the Annual Report 2017-18 for IPC performance within the

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Trust.
Appendices – Infection Control Annual Report References: Department of Health (2003) Winning ways: working together to reduce healthcare associated infection in England. Report from the Chief Medical Officer. London: DH. Available from: http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_4064682 Department of Health (2015) The Health and Social care Act 2008: Code of Practice on the prevention and control of infections and related guidance. Update by Public and International Health Directorate, Health Protection and Emergency Response Division, Infectious Diseases Branch 10200. London: DH. Available from: https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance

Infection Prevention and Control Annual Report 2017-18 And Infection Prevention Plan 2018-19

Vicky Morris
Chief Nursing Officer / Director Infection Prevention & Control

David Shakespeare
Associate Chief Nurse – Infection Prevention & Control

Heather Gentry
Lead Infection Control Nurse

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Foreword

As the Chief Nursing Officer (CNO), I have the responsibility of being the Director of Infection, Prevention and Control and am responsible to the Board for the delivery of the improvements required. I have now been in the Trust since March 2017 making the year 2017-18 my first full year at the Trust. The purpose of this report is to inform the Trust Board of Infection Prevention and Control (IPC) performance during 2017-18 and to present plans for the next twelve months.

Prevention of Healthcare Associated Infection continues to be a key facet of delivering clinical quality and key work streams within infection prevention feature prominently in the Trust's new Quality Improvement Strategy and Patient Safety Plan for 2018-21. The vision of this is that no person is harmed by a preventable infection.

I am pleased to report that there have been no cases of Trust attributable MRSA bacteraemia during 2017-18 and this represents a considerable improvement on the 4 cases reported during 2016-17. Cases of *C. difficile* infection were 33 against a trajectory of no more than 32 cases. This also represents an improvement on the 41 cases reported during 2016-17. However, I am clear (as the teams are) about the improvements required in order to make the required reductions in 2018-19.

Inspections by the Care Quality Commission have raised concern about compliance with hand hygiene at the Trust and this remains a continuing key area of focus for 2018-19. However, progress has been made in 2017-18 and an inspection by NHS Improvement in December 2017 led to de-escalation from Amber to Green in the NHSI Infection Prevention matrix, which cited clear evidence of improvement and the effective management of outbreaks including for carbapenemase-producing Enterobacteriaceae (CPE). The inspection report also cited improvements in the contemporaneous reviews of *C.difficile* infections. This has been achieved by the collective response of the Infection Prevention Nurse Team and Infection Prevention Doctors liaising with Divisional teams to ascertain lessons to improve clinical infection prevention practise. Where we have seen examples of delays in detecting periods of increased incidence of healthcare associated infections, the Infection prevention team have recognised the lessons required and have improved surveillance.

Another aspect of this work has been Antimicrobial Stewardship; and with the leadership of a dedicated Consultant Microbiologist we have seen the re-establishment of an Antimicrobial Stewardship Group which will continue to oversee improvements in compliance with revised Antimicrobial Prescribing Guidelines in 2018-19.

A further work stream, aimed at reducing the number of cases of *C.difficile* and other Healthcare Associated Infection is that of improving and monitoring environmental cleanliness. To this end I am pleased to report that a revised Cleaning Responsibility Framework has been implemented at the Trust, providing clarity of responsibility for cleaning by Nursing Teams, Facilities Teams and Estates. A revised Infection Prevention Programme is now in place to closely monitor both environmental and clinical equipment cleanliness during 2018-19 with clear lines of escalation should deficiencies be reported.

The Infection Prevention Team has faced an extensive agenda of improvement during 2017-18 and this has been monitored by an Infection Prevention & Control Committee that has increased in frequency to monthly meetings. A revised Divisional reporting template has also been developed to ensure that Divisions can describe and account for their infection

prevention activity in their areas and this has led to a strengthening of governance arrangements for infection prevention within the Divisions.

In line with other Trusts, we have experienced a winter with a significant increase in the numbers of influenza cases seen in our hospitals. However, with effective co-ordination and management of cases, including with the establishment of a dedicated cohort ward at Worcestershire Royal Hospital, we effectively managed cases and minimised spread of influenza in our hospitals.

A related success is that 76% of front line staff received their influenza vaccination to help prevent the spread of flu to our patients, visitors and staff.

I look forward to the implementation of the Infection Prevention elements of the Trust Patient Safety Plan in the coming year. Trajectories will remain challenging for infection prevention during 2018-19 but with continued concerted effort I am confident we will be able to achieve success in this endeavour.

Vicky Morris

Chief Nursing Officer and Director Infection Prevention & Control



1. Introduction

This is the annual report from the Director of Infection Prevention and Control (DIPC) providing information on infection prevention and control (IPC) activity across the organisation. The Director of Infection Prevention & Control during 2017-18 was Chief Nursing Officer, Mrs Vicky Morris.

The purpose of this report is to provide detail to our patients, public, staff, Trust Board and Commissioners on the Infection Prevention and Control agenda.

This report covers the period from April 2017 to March 2018 and provides information that includes a plan of key objectives for 2018-19 and an introduction to the Patient Safety Plan 2018-21.

2. An overview of reporting arrangements

The *Trust Board* recognises and agrees their collective responsibility for minimising the risks of infection and agrees and supports the means by which these risks are controlled. The responsibility for Infection Prevention and Control lies with the Director of Infection Prevention & Control (DIPC) who is the *Chief Nurse*. The Chief Nurse is supported in this respect by a Deputy Chief Nurse, an Associate Chief Nurse Infection Control; and by the Consultant Microbiologists and Infection Prevention & Control Nursing Team (IPCT). The *Chief Executive* accepts on behalf of the Trust Board responsibility for all aspects of Infection Prevention & Control within the Trust. This responsibility is delegated to the Chief Nurse as the DIPC. The Chief Nurse reports directly to the Chief Executive and the Board and chairs the Trust Infection Prevention & Control Committee.

The *Consultant Microbiologists* provide expert microbiological and infection prevention advice and provide support for the wider IPCT and fulfil the *Infection Control Doctor* function.

The *Deputy Chief Nursing Officer* provides leadership for the patient safety agenda in the Trust of which IPC is a key element. The Deputy Chief Nursing Officer chairs meetings for any outbreaks of infection or infection control related incidents on behalf of the DIPC and provides support and leadership for the Infection Prevention Nurse Team. The Deputy Chief Nurse deputises for the DIPC whenever required.

The *Associate Chief Nurse Infection Prevention & Control* provides strategic direction and leadership for the IPCT. The Associate Chief Nurse reports professionally to the Deputy Chief Nurse / DIPC and works closely with the Consultant Microbiologists to interpret and incorporate national guidance into local practice.

The *Lead Nurse IPC* is a source of expert clinical advice and is operationally responsible for the development of policies, guidance, infection prevention practice; and education and training for infection prevention Trust wide.

The *Trust Infection Prevention & Control Committee* (TIPCC) is the main forum for governance and monitoring of action around IPC practice at the Trust. The membership of TIPCC includes representation from all Divisions at the Trust, plus the Clinical Commissioning Group IPC Lead Nurse and is chaired by the Chief Nurse. The committee meets monthly. The Chief Nurse takes a report from the committee to the Clinical

Governance Group and then the Quality Governance Group, which is a subcommittee of the Trust Board.

The *Infection Prevention & Control Team* (IPCT) provides expert knowledge, direction and education in infection prevention and control across the Trust and advise on day to day management of IPC related issues. The IPCT liaise regularly with clinicians and managers across the Trust. The remit of the IPCT includes but is not limited to:

- The production and updates of IPC policies and guidelines for the prevention and control of infection across the organisation
- The communication of information relating to incidents of infection and communicable disease to all relevant parties within and beyond the Trust
- The training of all relevant staff in the prevention and control of infection at the Trust
- The provision of appropriate IPC advice in line with national guidance
- Surveillance of trends in infection, taking action to reduce numbers of cases when an increase is seen
- The investigation and control of outbreaks of infection
- Root cause analysis investigation of healthcare associated infection and sharing of lessons with Divisional teams to improve infection prevention practise

Infection prevention *Link Practitioners* are a cornerstone of the IPC infrastructure at Worcestershire Acute Hospitals NHS Trust (WAHT) and are champions of infection prevention by providing enhanced knowledge and education within their clinical areas of practise. Study days are held at least quarterly to ensure Link Practitioners remain involved in IPC activity and are equipped to follow national best practice guidance. There is also a well-attended annual Link Practitioner study day. The role of IPC Link Practitioners includes:

- To act as a local resource of IPC knowledge and be a role model for colleagues
- Supporting ward and departmental managers with accountabilities for IPC
- Acting as a point of liaison, informing their line manager and the IPCT of any infection risks or issues arising in their clinical areas
- To support a programme of IPC audit, in particular hand hygiene and high impact interventions, reporting back to their manager and IPCT
- Supporting staff in their clinical areas to be informed and compliant with IPC policies and guidance

In terms of *Estates*, the Trust receives a monthly report for the Worcestershire Royal Hospital site from the Private Finance Initiative Funder (Special Purposes Company) and monthly reports from service providers Engie with respect to the estate and building fabric; Siemens with respect to equipment management; and ISS comprising chiefly of Housekeeping, Catering, Portering and Security arrangements.

For the Alexandra Hospital and Kidderminster Treatment Centre sites a monthly report is received from the Trust Estates and Facilities Team on the above services; where Housekeeping, Catering, Portering and Security arrangements are also considered at the Trust Patient Environmental Operational Group.

Patient representation is present in Infection Prevention & Control at the Trust via monthly and annual Patient Led Assessments of the Care Environment, otherwise known as PLACE audits. Patient representatives are primarily drawn from the Trust Patient Forum, League of Friends and Worcestershire Health watch.

Reporting of HCAI: WAHT continues to participate in mandatory surveillance of

- Meticillin Resistant *Staphylococcus aureus* (MRSA) blood stream infections (BSI),
- Meticillin Sensitive *Staphylococcus aureus* (MSSA) BSI,
- *Escherichia coli* Blood Stream Infection (BSI), Glycopeptide (or Vancomycin) resistant *Enterococci* (GRE/VRE); and
- *Clostridium difficile* infections.

MRSA, MSSA and *E.coli* BSIs and laboratory detected *Clostridium difficile* toxins are reported monthly via the Public Health England HCAI data capture system. This is signed off on behalf of the Chief Executive and reported to TIPCC. Enhanced surveillance of *E.coli* BSI has also commenced from April 2017.

Infection Prevention & Control Team Nurse and administrative (IPCT) establishment

The team has nurses and administrative staff who are based at and circulate between the Worcestershire Royal and Alexandra Hospital sites. The team also provide a service to Kidderminster Treatment Centre and other Acute Trust services based at Evesham Community Hospital and Princess of Wales Community Hospital, Bromsgrove.

Members of the IPCT also attend and participate in the following groups / committees:

- TIPCC
- Health Economy HCAI Steering Group
- Water Safety Committee
- Decontamination Committee
- Ventilation Safety Group
- Antimicrobial Stewardship Group
- Medical Devices Committee
- Matron / Senior Nurse meeting
- Patient Environment Operational Group
- Winter preparedness Groups
- Occupational Health meetings including for staff influenza vaccination
- Estates liaison meetings for environmental cleaning and building planning

3. Compliance with the Hygiene Code

The Trust is required to demonstrate compliance with The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (The Hygiene Code). The Trust declared full compliance with all ten criteria of the Hygiene Code (listed below) during 2017-18.

The Ten Criteria

- Criterion one: Systems to manage and monitor the prevention & control of infection. These systems use risk assessments and consider the susceptibility of service users and any risks that their environment and other users may pose to them;
- Criterion two: Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections;
- Criterion three: Ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance;
- Criterion four: Provide suitable accurate information on infections to service users, their visitors and any person concerned with providing further support or nursing / medical care in a timely fashion;

- Criterion five: Ensure prompt identification of people who have or are at risk of developing an infection so that they receive timely and appropriate treatment to reduce the risk of transmitting infection to other people;
- Criterion six: Systems to ensure that all care workers (including contractors and volunteers) are aware of and discharge their responsibilities in the process of preventing and controlling infection;
- Criterion seven: Provide or secure adequate isolation facilities;
- Criterion eight: Secure adequate access to laboratory support as appropriate;
- Criterion nine: Have and adhere to policies, designed for the individual's care and provider organisations that will help to prevent and control infections;
- Criterion ten: Providers have a system in place to manage the occupational health needs and obligations of staff in relation to infection.

The Trust collates and regularly updates evidence to demonstrate compliance against these ten criteria. Evidence is stored in an electronic folder with hyperlinks to the specific documents, which are easily accessible as necessary.

4. Care Quality Commission Visit November 2017

The Care Quality Commission (CQC) inspected urgent and Emergency Care and medical care at the Trust during November 2017, with the report being published in January 2018. The report noted that in urgent care at Worcestershire Royal Hospital hand hygiene best practice was followed to prevent the spread of infection. However, this was not always the case for urgent care at the Alexandra Hospital or for medical care at both Worcestershire Royal Hospital and the Alexandra Hospital.

The Trust has responded to this challenge with increased infection prevention nurse team presence in ward areas to challenge non-compliance when it is observed. This is supported by the Trust hand hygiene policy which outlines a clear escalation process for all staff groups leading to Chief Medical Officer and Chief Nurse if required for continued non-compliance. In addition, there are regular walk rounds by the infection prevention team and senior nursing team to observe and challenge practice. The Chief Nurse has also written to all Divisional Directors of Nursing to request improved compliance with completion of hand hygiene audits within each Division.

The CQC re-inspected the Trust during January through to March 2018. The CQC report was published in June 2018. No 'must do's' related to infection prevention and control were identified in the report. There were two 'should do's' identified, the first regarding staff compliance with personal protective equipment, in particular the use of gloves and aprons. The second was to review provision and availability of hand sanitising gel. Overall, the CQC report regarding Infection Prevention Control had improved with several compliments noted throughout the report in relation to good practice and cleanliness.

To respond to concerns raised about hand hygiene in some clinical areas, a Trust-wide hand hygiene week was held during March 2018. This included promotional stands at the Worcester, Redditch and Kidderminster hospital sites with multi-channel communication. An edition of the Chief Executive's weekly brief was also solely devoted to the importance of effective hand hygiene. Hand hygiene week was also featured in the Worcester News in early April 2018.



Linda Connolly, Healthcare Assistant with the Infection Prevention & Control Team supports hand hygiene week

The event made the local 'Worcester News'.

How clean hands can be lifesavers

New campaign at trust hospitals to drive home vital message of regular hygiene

By Cathy Jenkins

A REMINDER not such as washing your hands or using an alcohol-based gel to clean them can save a person's life.

That's the message specialist infection control staff have been hammering home at Worcestershire Acute Hospitals Trust since the beginning of the year.

Hand hygiene is already a well-known fact, but it's vital to giving patients the best chance of fighting their illness and recovery.

The problem with hospitals is that they are full of sick patients and they are also potential breeding grounds for infections.

Infection control is a complex job, but it's vital to giving patients the best chance of fighting their illness and recovery.

Members of the trust's infection control team, together with the trust's clinical governance group, have been visiting the wards on all sites observing staff practices where it comes to hand hygiene and promoting the importance of taking a few seconds between attending to each patient to clean their hands.

The campaign has also extended to non-trust staff too, as senior managers have also been through their paces to make sure they use the right technique to clean their hands. This includes rubbing between the fingers and thumbs as well as on the other surfaces.

The trust's Associate Chief Nurse Infection Control David Shakespeare said: "We have been having a hand hygiene week. It's important that a health professional can do to prevent health care associated infections such as MRSA, Clostridium difficile, Respiratory viruses and C. difficile colitis/dysentery."

He said the trust's observation and audits of the staff use of hand gel and washing their hands between patients had been very good but it is important that staff also ensure patients they are cleaning their hands before attending to them.

Dr Suneil Kapadia, Chief Medical Officer at Worcestershire Acute Hospitals NHS Trust using the Semmelweis machine. Picture: Worcestershire Acute Hospitals Trust

Dr Suneil Kapadia, Chief Medical Officer at Worcestershire Acute Hospitals NHS Trust, is using the Semmelweis machine to demonstrate the importance of hand hygiene. The machine is a hand hygiene competency equipment that provides feedback on the user's hand hygiene technique.

Dr Shakespeare, Associate Chief Nurse Infection Control, is also using the machine to demonstrate the importance of hand hygiene. The machine is a hand hygiene competency equipment that provides feedback on the user's hand hygiene technique.

According to Public Health England (PHE), the West Midlands as a whole has seen an increase in the number of outbreaks of stomach bugs - including norovirus - this winter. Reports show the incidence are significantly higher than this time last year.

PHE West Midlands is urging people with a stomach bug to show before visiting their GP or local A&E department.

In Helen Carter, Deputy Director for PHE West Midlands, said: "At this time of year we see a lot of diarrhoea and stomach bugs, which are very infectious. So if people feeling unwell with a stomach upset decide to visit their GP, a walk in centre, or their local A&E, they could be putting a lot of other people at risk of infection and adding significantly to the seasonal pressures already experienced in healthcare settings."

"Norovirus usually leads to mild diarrhoea, vomiting and abdominal or stomach cramps. People generally recover quite quickly from these bugs and there is no specific treatment, apart from drinking plenty of water to avoid dehydration and avoiding infection with good hand hygiene - especially before eating and after going to the toilet, along with cleaning touch points and communal areas with a bleach-based cleaner."

Laboratory reports of norovirus are considerably higher than this time last year and higher than the five-year seasonal average. People feeling unwell can call their GP or NHS111 for advice.

"One half the outbreaks we're seeing are in care homes - so it's really important that staff in those settings seek advice on the phone from their GP surgery before considering transferring people to hospital."

Dr Karen Ford, Medical Director for NHS England in the West Midlands, said: "We are asking people not to visit hospitals and care homes to see relatives or friends while they have sickness and diarrhoea, or if they have recently experienced these symptoms. This is because people may still carry the virus. People concerned about visiting a relative or friend who may be in hospital or living in a care home should speak to the nurse in charge of the hospital ward or phone the care home beforehand for advice."

Dr Suneil Kapadia, Medical Director trials new hand hygiene competency equipment and David Shakespeare, Associate Chief Nurse Infection Control and Linda Connolly, Healthcare Assistant with the Infection Prevention & Control Team gel their hands in a feature for the Worcester News during hand hygiene week.

5. NHS Improvement visit December 2017

Following a visit from the Head of Infection Prevention & Control at NHS Improvement (Midlands and East) on 19th December 2017 at the Alexandra Hospital site, the Trust has been de-escalated to Green (from Amber) on the NHS Improvement Infection Prevention risk matrix.

Key observations reported included:

- Clear evidence of improvement and further planned IPC improvements
- Thorough management of CPE outbreak which demonstrated learning from previous outbreaks with a well led process and clear engagement
- Contemporaneous reviews of *C.difficile* cases in place
- Good hand hygiene observed
- Hand gel observed at all points of use including bed spaces
- Good compliance with personal protective equipment observed
- Valuable role of the ward-based housekeepers noted
- Good documentation for intravenous devices and urinary catheters seen
- Environment observed to be generally clean and this was supported by patient feedback at the time of the visit
- Assurance given regarding the sign off process for cleaning prior to hydrogen peroxide fogging

6. Infection Prevention and Control Link Practitioner Programme

There are a total of 223 link practitioners across the Trust, with multiple staff in some areas. Those taking on the link practitioner role include registered nurses, midwives, healthcare assistants, therapies staff and ward housekeepers. A significant number of study days were held during the year which included a focus on hand hygiene and audit of hand hygiene. Additional topics included flu vaccine and the role of the flu champion, management of Norovirus, hydration and urinary catheter management and antimicrobial stewardship.

The Trust has provided a range of link practitioner recognition awards for good practice and these were selected based on the following criterion:

Nomination by either a matron, ward manager or IPCN and/or

- Attendance and engagement at link practitioner study days
- Hand hygiene compliance data improvements and Balance Score Card/Gojo app hand hygiene scores
- Commode audit results (if applicable)
- Cleaning 'monit' scores
- IPC practice audit results for the area
- Any other intelligence we have on what has been achieved in the area if applicable.

Link Nurse of the year was awarded to Staff Nurse Chloe Hartles from AEC Unit at the Alexandra site and Staff Nurse Loo Lawson from A&E, Worcestershire Royal Hospital. Link Practitioner of the Year was awarded to Gemma Insall, Ward Housekeeper on Ward 5 at the Alexandra site. They can be seen receiving their certificate, personalised award and flowers from Lisa Miruszenko Deputy Chief Nursing Officer.



Staff Nurse Chloe Hartles AEC
Unit Alexandra site



Staff Nurse Loo Lawson A&E
WRH



Housekeeper Gemma Insall
Ward 5

7. *Clostridium difficile*

The *Clostridium difficile* infection (CDI) objective for 2017-2018 for WAHT was set at 32 cases which remained static from 2016-17. There were a total of 33 trust-attributable cases which exceeded our objective by 1 case.

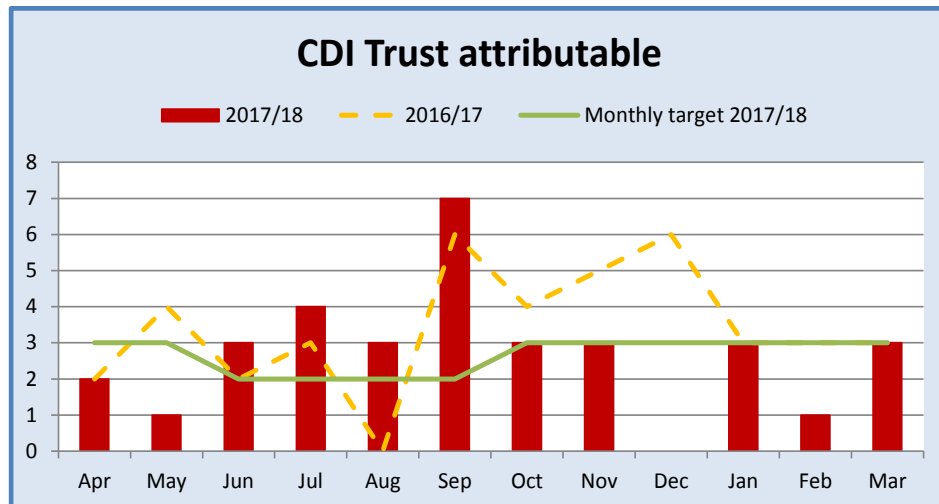


Figure 1: Trust attributable *C.difficile* infections shown monthly for 2017-18 with 2016-17 cases for comparison.

Figure 1 shows the distribution of cases over the year by month and compares to 2016-17 data and monthly trajectory target of cases. Figure 2 displays this as cumulative total over the year. It is evident the distribution of cases has varied with the only similarity being an unexplained peak in both September 2016 and 2017.

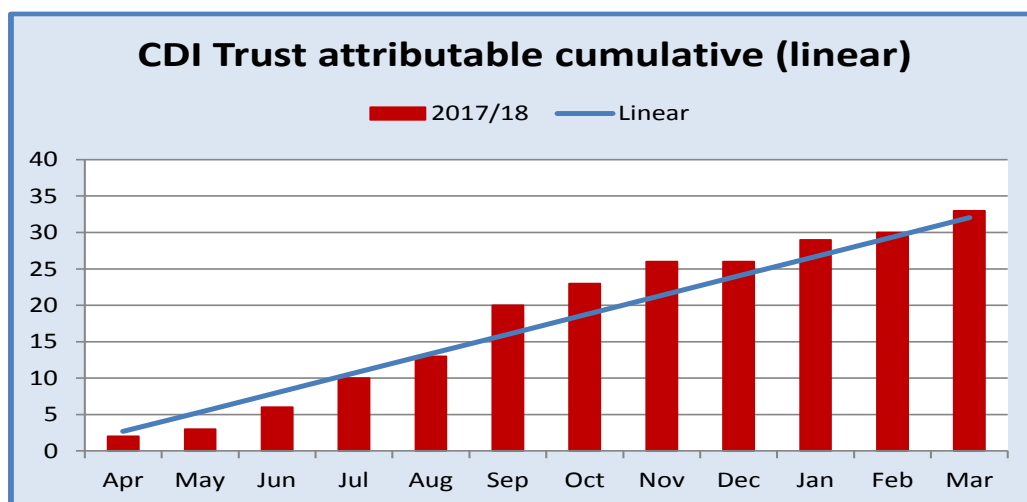


Figure 2: Cumulative trust attributable cases of *C.difficile*

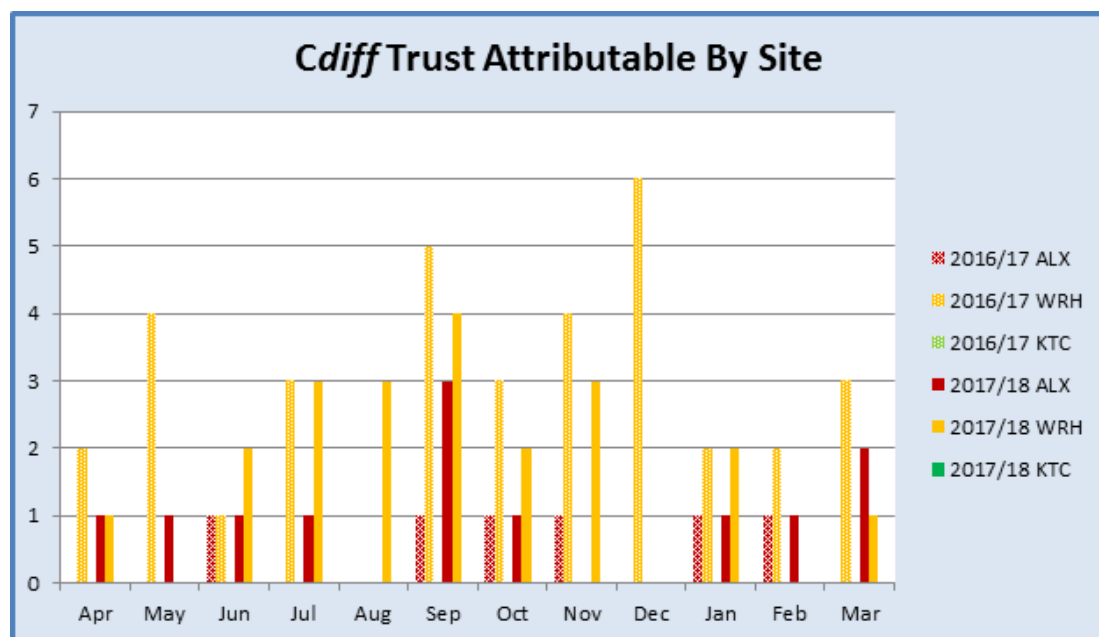


Figure 3: *C. difficile* infections by month and site

Figure 3 shows the distribution of cases is variable at the Worcester site whereas at the Alexandra site at Redditch there is a more consistent low level of cases or no cases in month. Kidderminster has remained at zero cases.

All trust attributable cases of CDI are reviewed by an IPC Nurse who completes an investigation proforma to support a full case review by a Consultant Microbiologist, the CCG Lead IPC Nurse and the Trust Lead IPC Nurse. Each case is then assigned a lapse status.

The distribution of lapses of care for 2017-18 is as follows: (Figure 4)

	No Lapses in Care	Lapse in Care did NOT contribute to development of this case:	Lapse in care contributed to development or acquisition:	Site Total
Alexandra site	0	8	4	12
Kidderminster site	0	0	0	0
WRH site	1	8	12	21
Trust wide Total	1	16	16	33

Figure 4: CDI case review lapse in care assignment 2017-18

Figure 5 below identifies that the Division of Surgery had the highest distribution of cases within the Trust (17), followed by Division of Medicine (12) then Specialised Clinical Services Division (4). Women and children's Division and the Kidderminster inpatient ward had zero cases.

	No Lapses in Care	Lapse in Care did NOT contribute to development of this case:	Lapse in care contributed to development or acquisition:	Total by Division
Division of Surgery	1	6	10	17
Division of Medicine	0	8	4	12
SCS Division	0	2	2	4
Division of Women and Children	0	0	0	0
Total Trust wide	1	16	16	33

Figure 5: CDI case review lapse in care by Division 2017-18

***Clostridium difficile* infection trajectory for 2018-19**

The trajectory for 2018-19 for the Trust has been set by NHS England, at no more than 31 Trust attributable cases. The case review proforma has been developed to capture case outcome and includes new additional case definitions against which to apportion cases which will be effective from 2019. These include:

- Community onset with an acute hospital admission in the preceding 4 weeks and
- Community onset with an acute hospital admission in the weeks 5 to 12 prior to onset

***Clostridium difficile* infection 30 day all-cause mortality**

Clostridium difficile 30 day all-cause mortality is defined as death occurring within 30 days of a specimen testing positive for *C.difficile*. It is important to remember that this is 'all-cause' mortality where a death may have occurred due to a range of co-morbidities and does not mean that *C.difficile* toxin is the cause of death. In addition, these figures are calculated from Trust attributable cases only and reflect only when a sample has been taken beyond day of admission plus two.

A separate calculation is also made for deaths where *C.difficile* is cited as the cause of death on part 1a of a death certificate (the *C.difficile* attributable death rate). Where this happens, such cases are recorded and investigated as serious incidents.

Figure 6 below shows the Trust's *C.difficile* 30 day all-cause mortality for 2017-18.

The all cause *C.difficile* toxin mortality rate for 2017-18 is 7 of 33 cases equating to 21%. This compares to 2016-17 when the all cause *C.difficile* toxin mortality rate was 36.5%. However, this remains higher than expected as the Department of Health (2008) guide '*Clostridium difficile* infection: How to deal with the problem' identified action is required if the 30 day mortality rate approaches 20%. A further analysis of these cases will therefore be completed during July 2018 in order to assure the Trust Infection Prevention & Control Committee with regard to any potential further lessons not already understood from the analysis of cases for 2017-18.

There were no cases during 2017-18 where *C.difficile* toxin was cited on part 1a of the death certificate i.e. main cause of death.

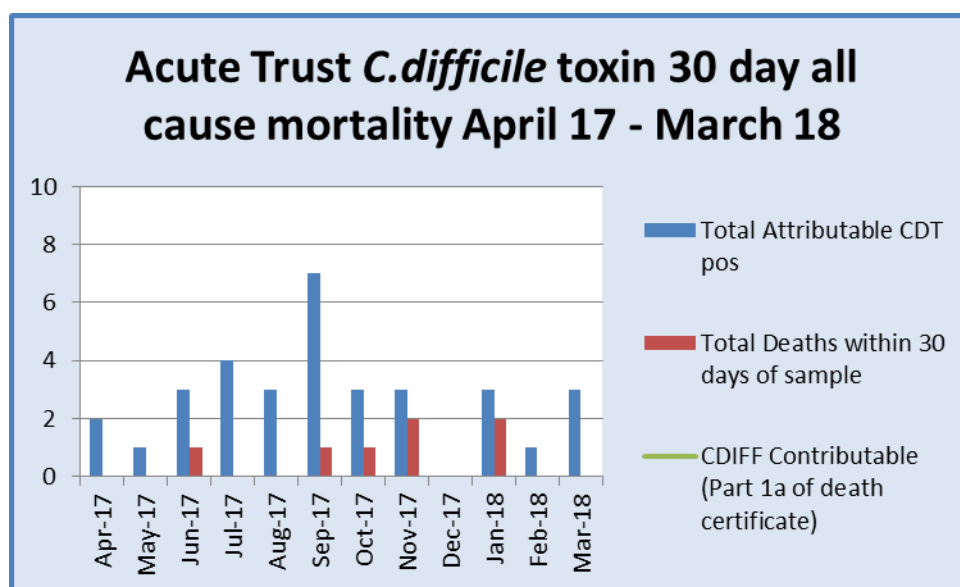


Figure 6: *C.difficile* toxin all-cause mortality 2017-18

***C.difficile* PCR**

C.difficile PCR (defined as carriage) as compared to toxin (infection) is also monitored in accordance with a national 3 step algorithm in accordance with Department of Health (2012) guidance on diagnosis and reporting of *C.difficile*.

Although PCR cases do not count towards any CDI objective set for the Trust, they remain a significant risk factor in potential CDI transmission as symptomatic patients with *C.difficile* PCR positive status represent an additional burden of *Clostridium difficile* in the environment. All patients testing positive for *C.difficile* PCR are treated and managed as per infection if they are symptomatic.

Learning from case reviews of toxin positive cases

Key findings from reviews of toxin positive cases focus on environmental cleaning and antimicrobial prescribing which include:

- Sub optimal choice of antibiotic agent where patient is a known CDI on admission
- Clinical teams could have had earlier interventions with the Consultant Microbiologists to discuss complexity of cases including to avoid prolonged use of broad spectrum agents, multiple agents and continued high use of Co-amoxiclav
- Specimens not always taken to facilitate switch from broad to narrow spectrum agents
- Reluctance to change agents started by the admitting consultant

In addition it is proposed for 2018-19 to improve learning from review of cases of *C.difficile* through:

- Shared organisational learning from post infection review cases with a monthly bulletin of collective case review outcomes via communications to clinical teams

- Divisional reports to TIPCC to demonstrate how review outcomes and learning from *C.difficile* case reviews held in the previous calendar month have been disseminated and what actions are required and have been taken
- The Antimicrobial Pharmacist plans a programme of pharmacy assisted ward rounds in which antimicrobial prescribing will be monitored.

Cleaning Responsibility Framework

In response to concerns about environmental cleanliness raised the Trust has approved and now has in place a revised Cleaning Responsibility Framework in order to ensure clarity of responsibility for Facilities Teams, Nursing Teams and Estates teams regarding the responsibility for cleaning in any Trust environment including clinical areas.

The Trust has reviewed its arrangements for ensuring environmental cleanliness in accordance with the British Standards Institution (2014) PAS 5748: Specification for the planning, application, measurement and review of cleanliness services in hospitals. This document supersedes the National Patient Safety agency (2007) National specifications for cleanliness in the NHS and clearly outlines where responsibility lies for cleaning of the environment and equipment and if this is shared.

8. Meticillin resistant *Staphylococcus aureus* (MRSA)

During 2017-18 a total of 3 MRSA bacteraemia (blood stream infections) were reported. Of these cases, none were attributed on post infection review to the Trust (Figure 7). This represents an improvement on the 2016-17 position when 6 MRSA bacteraemia were reported of which 4 were attributed to the Trust.

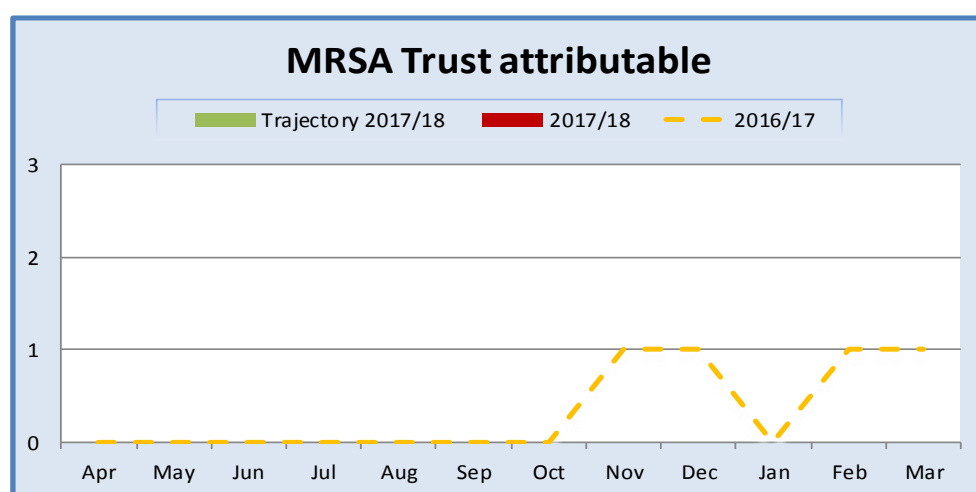


Figure 7: Trust attributable MRSA BSI 2017-18; also showing the 2016-17 cases

For purposes of comparison, published figures by Public Health England indicate that for the financial year 2017-18, of 17 acute Trusts covered by Public Health England in the West Midlands area, there has been one Trust reporting 3 hospital attributable MRSA bacteraemia; one Trust with 2 cases and two Trusts with 1 case.

MRSA screening

Figure 8 shows MRSA screening compliance of high risk elective patients against a target of 95%, which has been met for each month during 2017-18 financial year.

A definition of high risk has been taken from Department of Health (2014) modified MRSA screening guidance. This includes: Vascular, renal/dialysis, neurosurgery, cardiothoracic surgery, haematology/oncology/bone marrow transplant, orthopaedics/trauma, all intensive care units (Adult/paediatric/Neonatal), High Dependency Units, Coronary Care Units and the Neonatal Unit at Worcester Royal Hospital.

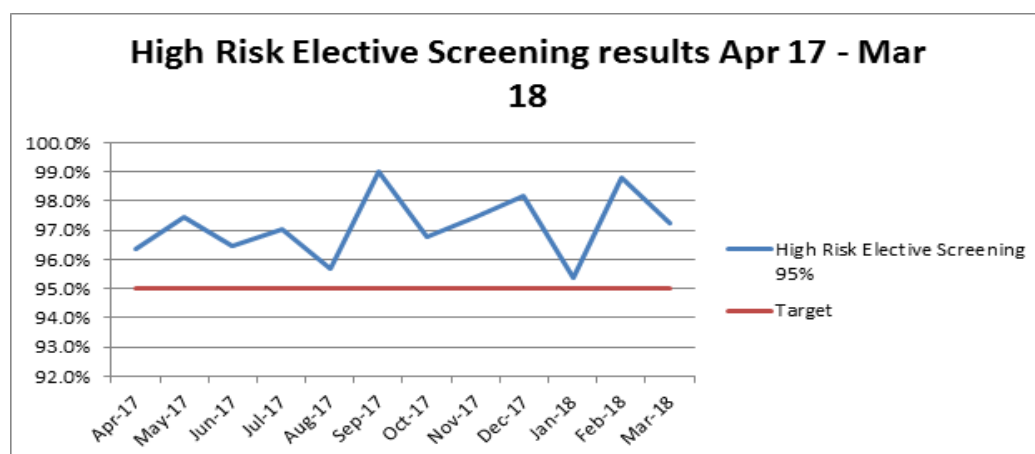


Figure 8: MRSA high risk Elective screening compliance against 95% target

For any incidence of screening non-compliance reported, the information is forwarded to the Division for them to assess if the patient should have been screened and to do so at the earliest next opportunity, or assess if the patient did not in fact require screening.

Despite publishing MRSA screening compliance in accordance with the definition of 'high risk' above, the Trust continues to screen all emergency admissions to the Trust as part of a continued policy of universal screening; and almost all elective admissions are screened with some low risk procedures exempt from MRSA screening in line with Department of Health guidance.

Re-screening for longer term in-patients is undertaken one month post admission. Compliance with this has remained at 100% for 9 months of the year with two dips though these remained at 95% for August 2017 and 96% for September 2017. (Figure 9).

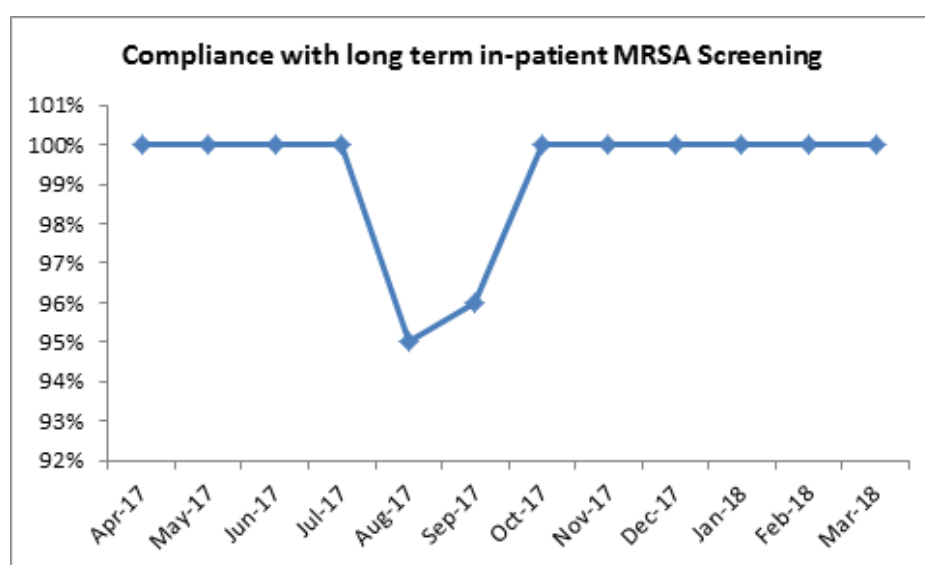


Figure 9: Long term inpatient MRSA re- screening 2017-18

MRSA decolonisation audit

Audit of compliance with MRSA decolonisation regime

A small review was undertaken of 26 patients at the Worcestershire Royal Hospital site between 1st November 2017 and 28th February 2018 into compliance with the MRSA decolonisation regime in patients admitted who were known to be previously positive for MRSA.

77% of patients sampled were found to have been swabbed in the timeframe up to 48 hours after admission. The remaining 23% were swabbed in the following 48 hours.

Compliance with treatment commencing on or before the day of results is 39% (9 out of 23 patients). A total of 4 patients were prescribed treatment on the following day, a further 3 patients were prescribed treatment the day after with 6 patients being prescribed treatment three or more days after results were known.

Key recommendations included:

- Continued support for Post Infection Review (PIR) process.
- Promotion of and support for updating MRSA screening and decolonisation guidance within the Trust to enhance compliance and awareness raising to promote the importance to clinicians of reviewing sensitivity data and previous microbiology results to ensure that management and treatment of infections is managed with optimum agents whilst results are awaited. This is included in clinical mandatory updates. The MRSA policy is currently under review and will be received at a subsequent TIPCC
- Consideration of spot check process linked to IPC ward audits. This will be included in the revised IPC audit programme during 2018-19

9. Meticillin sensitive *Staphylococcus aureus* (MSSA) bacteraemia

Bloodstream infections due to Meticillin sensitive *Staphylococcus aureus* became subject to mandatory reporting in April 2011. During 2017-18 the trust has recorded 95 MSSA BSI, of which 17 occurred in patients beyond the first post-admission day and were therefore classified as hospital attributable for national reporting purposes.

Figure 10 below shows the 17 Trust attributable MSSA BSI reported during 2017-18 and comparison with the 12 cases reported during 2016-17. Of the 17 cases reported 2017-18, 13 were reported in blood cultures from Worcestershire Royal Hospital and 4 from the Alexandra Hospital.

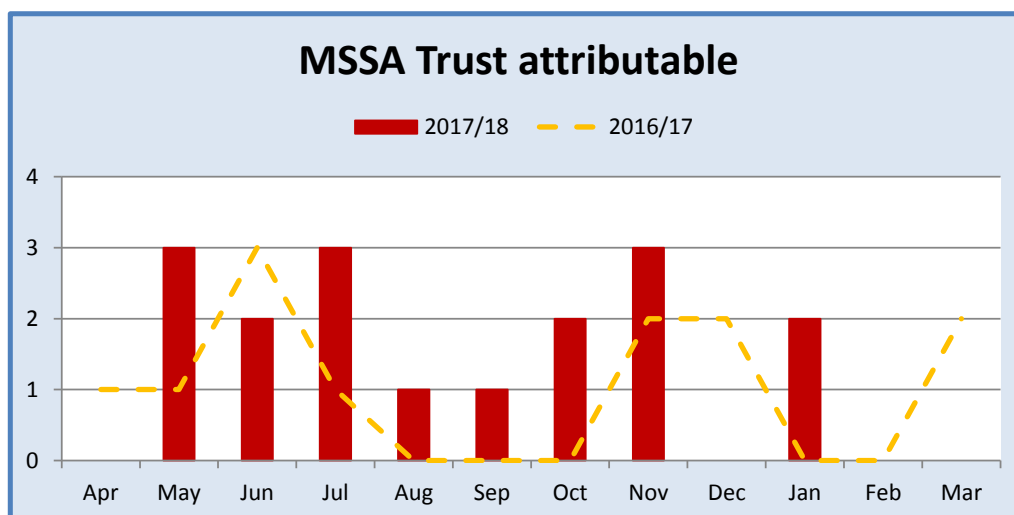


Figure 10: Trust attributable Meticillin sensitive *Staphylococcus aureus* (MSSA) BSI 2017-18.

A recurring theme in reviews of MSSA blood stream infections is around non-compliance with completion of peripheral vascular device (PVD) monitoring forms. A Trust wide audit of PVDs is planned for Quarter 2 of 2018-19 from which to ascertain lessons to improve practice in PVD and intravenous device management.

10. *E.coli* bacteraemia

What is *E. coli* BSI?

E. coli bacteria are frequently found in the intestines of humans and animals and can survive in the environment. There are many different types of *E. coli*, and while some live in the intestine quite harmlessly others may cause a variety of diseases. *E. coli* bacteria can cause a range of infections including urinary tract infection, cystitis and intestinal infection. When primary *E. coli* infection spreads to the blood it is known as *E. coli* blood stream infection (BSI) or bacteraemia.

The initial national focus is to reduce *E. coli* BSI as they represent 55% of all Gram-negative BSI. In addition approximately $\frac{3}{4}$ of *E. coli* BSI occur before people are admitted to hospital. Reduction therefore requires a health economy approach.

Enhanced surveillance of *E. coli* BSI has been mandatory for NHS Acute Trusts since June 2011 with case data for any *E. coli* bacteraemia being reported monthly to Public Health England (PHE) through the national data capture system.

The Secretary of state for Health has launched an important ambition to reduce healthcare associated Gram-negative bloodstream infections by 50% by 2021. Actions to achieve this form part of the Infection Prevention element of the Trust's Patient Safety Plan 2018-21. Actions to achieve this reduction year on year will be monitored at Trust Board by means of the NHS Improvement Single Oversight Framework.

Gram negative BSI health economy steering group

The Trust has participated in a health economy wide steering group looking at Gram-negative BSI which oversees analysis of cases and efforts to reduce *E. coli* BSI. In addition

to the Acute Trust, membership of this group includes representation from Worcestershire Health and Care Trust, Worcestershire CCGs and includes Consultant Microbiologists. The group is co-ordinated by the CCG Infection Control Lead Nurse.

During 2017-18 the Trust has seen a reduction of 8.8% in Trust attributable *E. coli* BSI with 62 cases seen in comparison to the 67 recorded during 2016-17 (Figure 11). Trust attributable cases are defined where the blood culture is taken more than 48 hours after admission to hospital.

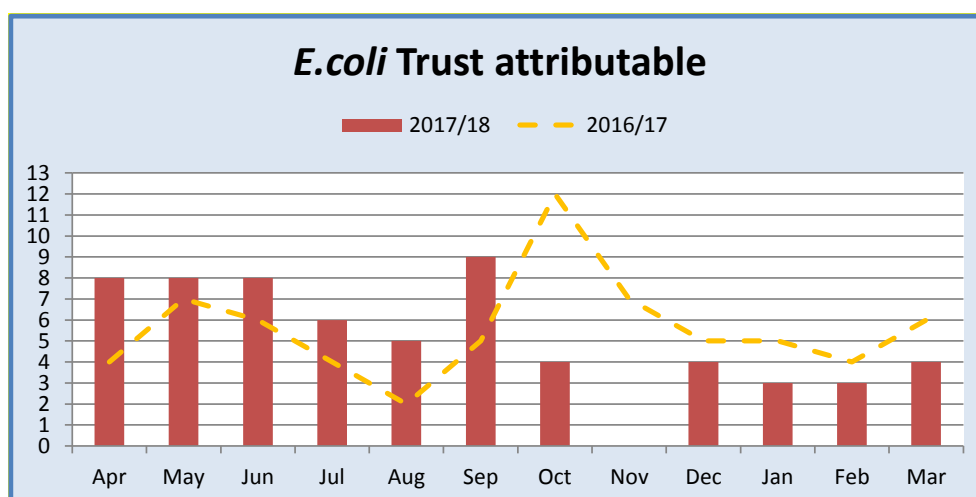


Figure 11: Trust attributable *E.coli* bacteraemia 2017-18 against 2016-17 data

The health economy Gram-negative BSI steering group has overseen the following actions which have helped to achieve this outcome:

- Streamlined data collection from within the Trust to make upload to PHE as seamless as possible
- Collection of data on source of infection and risk factors to enable prompt identification of trends and analysis of risk factors with a view to enhancing practice
- Acute attributable Gram-negative BSI monitored at the Trust Infection Prevention & Control Committee, health economy Gram negative BSI steering group and health economy HCAI steering group
- Introduction of health economy urinary catheter passport to prompt patient knowledge and standardise evidence-based pathway
- Hydration campaign across health economy for vulnerable groups including at the Acute Trust, Worcestershire Health and Care Trust sites and care homes
- Launch of antimicrobial prescribing App with revised prescribing guidelines
- Revision and promotion of cleaning schedules and standards

E. coli BSI by site is shown in Figure 12. The ambition to reduce *E. coli* BSI is also outlined in a dedicated health economy Gram-negative BSI reduction strategy and is also included in the Worcestershire Health and Social Care Infection Prevention Strategy 2018-21.

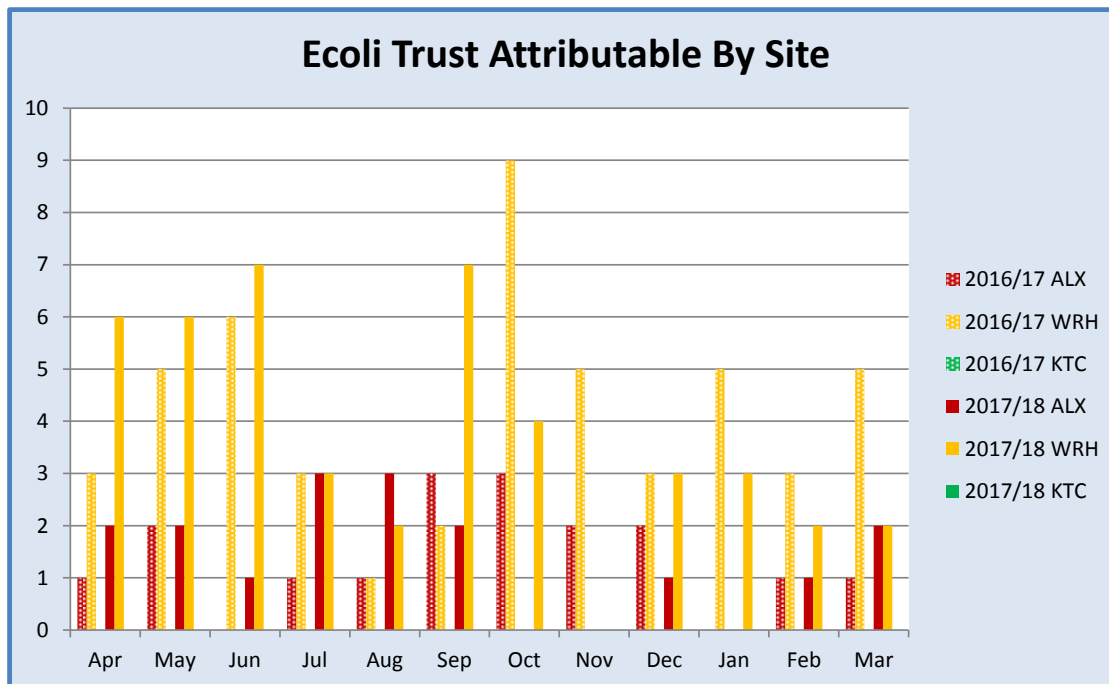


Figure 12: *E.coli* Trust attributable bacteraemia by site at WAHT 2017-18 with 2016-17 comparison

Sources of *E. coli* bacteraemia

Sources of *E. coli* bacteraemia are show in Figure 13 below with the predominant source being lower urinary tract (28 of 62 cases) followed by gastrointestinal source (10 of 62 cases) and hepatobiliary source (8 of 62 cases). 10 cases were of unknown source.

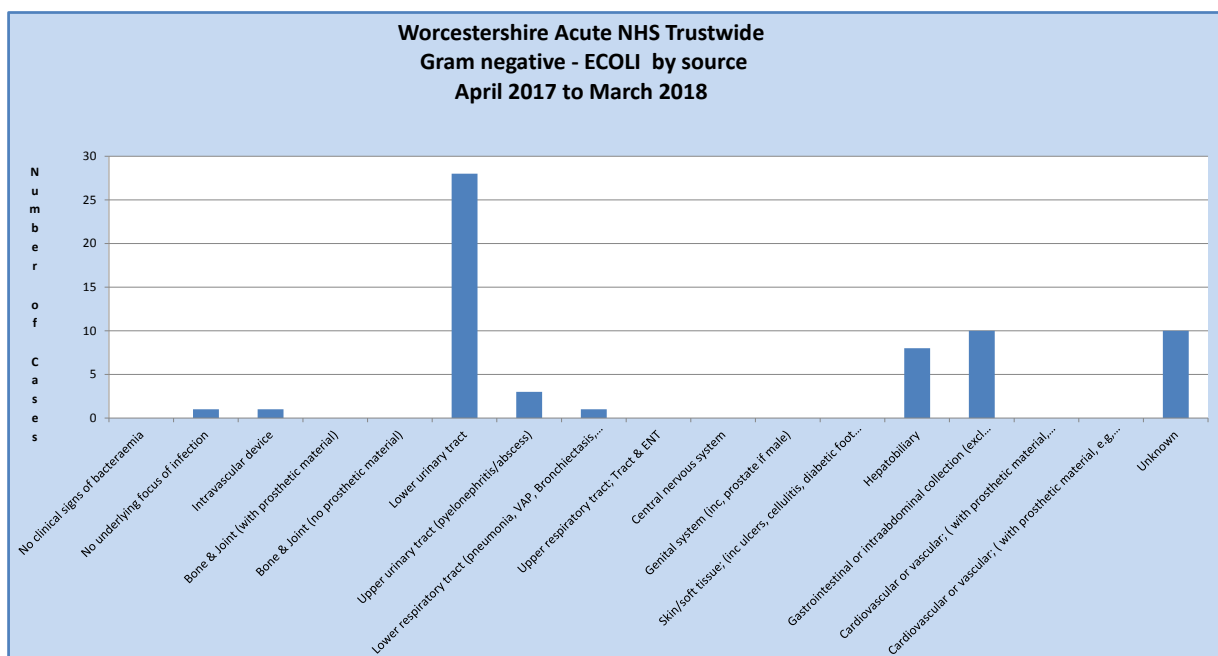


Figure 13 – sources of *E. coli* bacteraemia 2017-18

11. Antimicrobial Stewardship

Antibiotic expenditure for the financial year 2017/18 was £ 990 445.49 (excl. VAT), 2.1% of total Trust drug expenditure.

Antimicrobial Stewardship (AMS) is the organisational and healthcare system wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness. (National Institute of Health and Care Excellence, 2015)

The Trust continued to implement recommendations of NICE guideline [NG15]: Antimicrobial stewardship: systems and processes for effective antimicrobial medicines use. (National Institute of Health and Care Excellence, 2015) These include:

- A dedicated AMS team including doctors, nurses and pharmacists
- Antibiotic ward rounds and prescribing reviews in high risk areas such as intensive care units and wards with patients with C. difficile infections
- Reporting of antimicrobial susceptibilities on culture and sensitivity
- 'Soft stops' on antibiotic prescriptions on inpatient prescription charts to remind prescribers to review antibiotic courses in a timely fashion
- Evidence-based antimicrobial prescribing guidelines including recommendations on antibiotic choice, dose, frequency, course length and intravenous to oral switch options in an easily accessible format
- AMS teaching for junior doctors and specialist infection prevention and control link nurses
- Review of antibiotic prescribing through quarterly point prevalence surveys

The Trust subscribed to national Commissioning for Quality and Innovation (CQUIN) scheme 2 - Reducing the impact of serious infections (Antimicrobial Resistance and Sepsis) targeting timely review of antibiotic prescriptions and reduction in antibiotic consumption.

CQUIN targets for timely review of antibiotic prescriptions for patients presenting with sepsis were met, with 93.3 % of prescriptions showing evidence of review in the audit sample in quarter 4 2017/18.

Overall antibiotic consumption for the Trust increased by 5.3% to 4374 Defined Daily Doses (DDD)/ 1,000 admissions for the financial year compared to 2016/17. This equals to an increase of 14.9% against CQUIN baseline from 2016. Although this year's increase is in line with the national average, the Trust failed to achieve the CQUIN target of a reduction of 1% against baseline in total antibiotic consumption.

Use of ultra-broad spectrum antibiotics piperacillin with tazobactam and carbapenems was reduced by 46.8% to 48 DDD/1,000 admissions and 20.8% to 194 DDD/1,000 admissions, respectively, compared to the previous financial year. The reductions against CQUIN baseline 2016 consumption are 50.8% (target 1%) for piperacillin with tazobactam and 2.3 % (target 2%) for carbapenems.

The reduction in consumption in meropenem and piperacillin with tazobactam has been offset by an increase in alternative broad-spectrum agents including cephalosporins, co-amoxiclav and fluoroquinolones compared to previous years.

In order to further improve antimicrobial prescribing practices within the Trust, AMS has been agreed to form part of the Trust 3-year Patient Safety Strategy 2018 – 2021 with targets set for improvement in carbapenem consumption compared to national benchmarking for non-teaching Trusts, for increase in compliance with antimicrobial prescribing compliance and for structured documented antimicrobial review.

Glossary (Antimicrobial Stewardship)

AMS	Antimicrobial Stewardship
CQUIN	Commissioning for Quality and Innovation
DDD	Defined Daily Dose

References:

National Institute for Health and Care Excellence (2015, August). Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. Available at www.nice.org.

12. Infection Prevention & Control Serious Incidents and outbreaks of infection

Outbreaks of infection, including MRSA bacteraemia or death from *Clostridium difficile* recorded on part 1a on a death certificate, or significant incidents involving other organisms are classified as serious incidents and are reported via the serious incident reporting system STEIS in accordance with the Serious Incident Management Policy and Procedure. Figure 14 below lists the 6 HCAI related serious incidents reported during 2016-17.

Update table:

Incident date	Site	Summary
25/04/17	Alexandra Hospital	<i>C.difficile</i> death Part 1 Ward 6
10/07/17	Worcestershire Royal Hospital	An outbreak of 3 cases of Carbapenemase-producing <i>Enterobacteriaceae</i> (CPE) linked to the same ward
25/08/17	Worcestershire Royal Hospital	Period of increased incidence – <i>C.difficile</i> Beech Wards
06/10/18	Worcestershire Royal Hospital	An outbreak of 5 linked cases of MRSA infection and / or colonisation Maternity areas
19/11/18	Worcestershire Royal Hospital	Outbreak of CPE (linked to Evergreen Ward)
16/03/18	Alexandra Hospital	Period of increased incidence leading to outbreak of <i>C.difficile</i> Ward 12

Figure 14: HCAI serious incidents reported 2016-17

Summary of each of the SIs

Each of these cases were reviewed as a serious incident investigation.

The following key learning points are summarised as:

C.difficile death: A patient died from *C.difficile* colitis having been found to be positive for *C.difficile* by PCR. Findings included that neither an abdominal x-ray nor a stool specimen had been requested in a timely manner. This led to a reminder by IPC Team on importance of obtaining stools samples at the earliest opportunity.

An outbreak of 3 linked cases of Carbapenemase-producing *Enterobacteriaceae* (CPE): 3 isolates of-KPC producing *Klebsiella oxytoca* from 3 individual patients who had been inpatients on the same ward were identified in a 6-month period and an outbreak was confirmed by molecular typing of the isolates. The environment, particularly use of a procedure room as a bed-space, was felt to be the most likely route of transmission. Control measures included decontamination of the entire ward, including the procedure room, with hydrogen peroxide vapour. A programme of 4 weeks of active screening of all inpatients on the implicated ward did not identify any further cases. In addition a revised protocol for cleaning single patient use nebuliser masks was put in place as was the introduction of cleaning records for physiotherapy equipment.

Period of increased incidence of *C.difficile*: A period of increased incidence of *C.difficile* was declared on surgical ward following the identification of two ward-attributable cases of *C. difficile* toxin. Further investigation noted an overall increase in hospital-attributable cases of *C. difficile* infection relating to two adjoining surgical wards. Ribotyping noted strains of *C.difficile* to be largely different, hence excluding an outbreak and making direct cross contamination between patients unlikely. However, cleaning deficiencies were noted which meant that the environment could have been contaminated with multiple strains. In response a programme of cleaning and environmental decontamination was undertaken, including with hydrogen peroxide vapour. Key lessons included the development of a revised Trust Cleaning Responsibility Framework. The IPC Team also took steps to improve the surveillance of *C.difficile* (and other healthcare associated infections).

An outbreak of linked cases of MRSA infection and / or colonisation maternity wards: Five linked cases of MRSA colonisation in the maternity setting were detected between March and July 2017. An index case, who had a history of MRSA and a known exfoliative skin condition, was identified as the likely source.. 3 of the other patients had epidemiological links with this index case. Following identification of the outbreak and implementation of control measures, a programme of prospective screening of all maternity patients for a period of 4 weeks identified no further linked cases and in view of the lack of evidence for ongoing transmission, staff screening was not undertaken. A programme of additional cleaning was implemented, including environmental decontamination using hydrogen peroxide vapour. A Senior Nurse and Facilities Team follow up walk around undertaken in April 2018 revealed a high level of environmental and equipment cleanliness. In order to ensure this high level of environmental and equipment cleanliness is maintained the Infection Prevention & Control Team and Divisional teams agreed to more closely monitor the standard of cleaning and challenge where deficiencies are identified.

Outbreak of CPE (linked to Evergreen Ward): A total of 6 patients were identified as positive for Carbapenemase producing *Enterobacteriaceae* (CPE) following a first case identified in August 2017. This led to the temporary closure of Evergreen Ward to further admissions to allow for a comprehensive programme of contact-screening. Lessons included taking every opportunity to enhance hand hygiene and personal protective equipment practices; and ensuring antimicrobial stewardship programmes are implemented to minimise CPE risk.

Period of increased incidence (PII) leading to outbreak of C.difficile on a medical ward: 3 cases of *C.difficile* toxin were investigated. The area was cleaned and treated with hydrogen peroxide vapour. The key lesson was around sub-optimal antimicrobial prescribing which has been considered by the Division to ensure compliance with Trust Antimicrobial prescribing guidelines.

Outbreaks of infection

Outbreaks of infection are not always reported as serious incidents if the response to them is as expected in line with Trust policy.

The Trust has a standard response to Norovirus outbreaks which includes daily review by the Infection Prevention & Control Team of affected patients, an increase in the frequency of environmental cleaning using a chlorine releasing product and restriction of staff movement to prevent spread. Outbreak meetings are held which receive an overview of the wider community prevalence of Norovirus. This means that where Care Homes are affected, this information is relayed to admitting areas in the Trust to ensure that patients from affected locations in the community can be placed in isolation on admission. When a positive Norovirus case is identified in a ward area, further testing is not always undertaken as patients who are symptomatic are treated as positive in order to prevent spread to other areas. Any patient suspected of being involved in an outbreak or is a contact of a known or symptomatic case is also monitored and assessed for any clinical symptoms as part of preventing further spread.

Cases of flu are also managed by via outbreak meetings, in particular if there is evidence of spread within the hospital and cases are managed using personal protective equipment including full face piece (FFP3) masks when an aerosol generating procedure is to be performed. A quick flu guide is used to provide staff with practical information to support managing cases in their ward areas.

Influenza winter season 2017-18

Seasonal levels of influenza are an unpredictable but recurring pressure that the NHS faces each winter. Vaccination of frontline staff and at-risk patient groups still offers the best protection. Each year the NHS prepares nationally for the unpredictability of flu and relies on individual healthcare organisations to prepare within their own locality. For healthy people, flu is an unpleasant but usually self-limiting illness with recovery occurring generally within a week. However, there is a particular risk of severe illness from catching flu for:

- Older people
- The very young
- Pregnant women
- Those with underlying disease, particularly chronic respiratory or cardiac disease
- Those who are immunosuppressed

Early indicators for this year identified a potential for influenza cases in epidemic proportions and that vaccine compatibility to circulating strains might not be as close as planned.

- Influenza preparedness is included annually in the Trust winter planning process. This year there was also a health economy seasonal flu exercise and planning event on 1st December 2017 including Public Health England (PHE), Worcestershire Clinical Commissioning Groups (CCG), emergency services, emergency planning and primary and social care colleagues.

- PHE had issued information suggesting influenza could reach epidemic proportions this year
- TIPCC received a staff immunisation action plan in September 2017. The programme has been run by the Occupational Health Department and achieved a vaccination uptake of 76% to end February 2018.
- The Trust has been compliant in providing weekly surveillance returns to NHS England for influenza cases requiring high dependency or critical care and deaths within these units since October 2017 until 23rd May 2018 and daily seasonal influenza surveillance data reporting monitored by NHS Improvement since January 2018 until 16th April 2018 when this ceased.

Achievements

WAHT Influenza Management Strategy whilst proactive also had to remain reactive in nature so as to respond to capacity and patient acuity issues. The strategy has included:

- Winter preparedness training with Infection Prevention Link Practitioners in September, November and December 2017
- Updated Seasonal Influenza Quick Guide
- Flu Management Operational group identified within 2 days of initial cases (02/01/2018) impacting upon AEC area at Worcestershire Royal Hospital
- Daily email communication to Flu Management Operational group to ensure good communication for on call teams (manager, matrons and bed capacity teams), clinical leads and executive teams of areas affected and developments.
- Twice daily operational review meeting reduced to once daily in late February, once sustained reduction in new cases and cases later discussed at infection prevention team daily huddle since end of February
- Twice daily influenza test runs including weekends, frequency reduced and based on clinical need
- Additional rapid PCR influenza testing with maximum 1-hour turnaround for clinically significant cases
- Seven-day IPC nurse cover for clinical review of cases and management of new cases
- Compliance with NHSE request for weekly reporting of HDU/ITU cases and daily reporting of influenza cases via NHS Digital Data Collection site
- Compliance with NHSE and Project Management Office (PMO) request for 7-day influenza reporting of all cases via Unify2 and PMO Winter Room submissions
- Issue of influenza assessment flow chart to aid identification and management of suspected and confirmed cases
- Issue of a daily list of inpatient influenza cases and quarantined contacts.

Figure 15 below demonstrates the number of cases of acute Trust influenza A and B cases since October 2017 to April 2018. It is evident there were two initial waves of cases between 02/01/2018 and 30/01/2018 then an additional third wave of cases in early February 2018. After this time the overall background levels of new cases levelled with an occasional spike in positive cases. The Trust was no longer required to submit daily influenza figures to the NHSE Unify system and PMO from 16th April 2018.

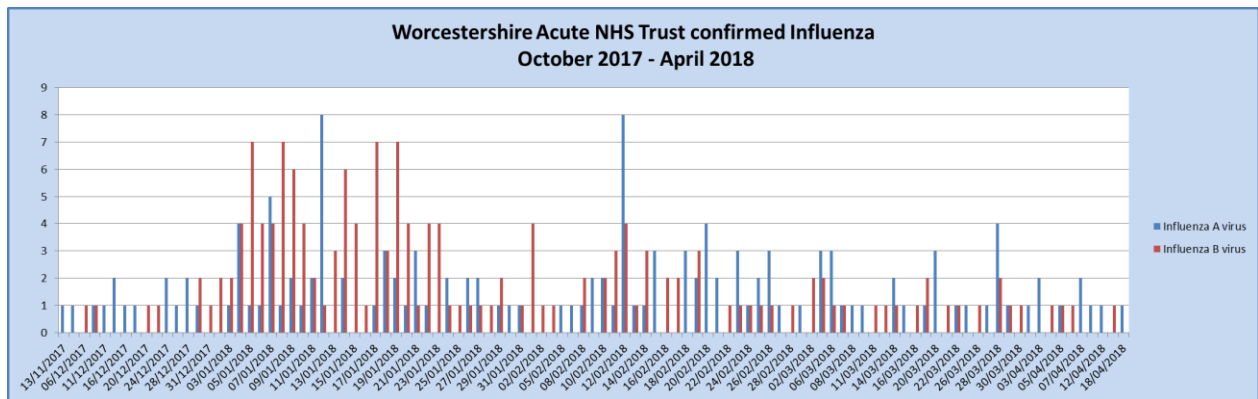


Figure 15 – confirmed influenza cases by type Trust wide October 2017 to April 2018

The graph also demonstrates the overall burden of influenza across the Trust during this influenza season and equates to a total of 297 cases of influenza, consisting of 138 cases of influenza A and 159 cases of influenza B. Further analysis of the data has also suggested there was no difference in case presentation between influenza types. A total of 55% of cases were swabbed on admission and 8% prior to presentation/admission to hospital. It is thought those not screened were due to not meeting criterion for swabbing at the time of admission or clinicians not considering influenza as part of their differential diagnosis. It was felt many cases were atypical in their presentation with complications of influenza rather than primary influenza symptoms.

Likely Hospital attributable cases

A total of 44 of the 297 cases (14.8%) were identified as likely hospital acquisition or hospital attributable based on a definition of acquisition >3 days after admission. The range of days from admission to onset is 3 to 54 days with an average time to onset of 18.5 days. This figure is slightly skewed by one case with a time to onset at 54 days and is better represented by the mean which is 7 – 8 days after admission.

It is noted that the age range of cases affected by influenza B is a much older population ranging from 40 – 96 years whereas influenza A spans a much wider age range from <1 to 88 years.

Figure 16 is the breakdown of hospital attributable cases by site:

Site	Number of hospital attributable cases	% of hospital attributable cases	% of all cases
Alexandra	9/44	20.4%	3%
Kidderminster	1/44	2.2%	0.3%
WRH	34/44	77.2%	11.4%

Figure 16: Influenza cases by site

As anticipated 77.2% of cases were at the WRH site where it proved more challenging to isolate cases.

Morbidity data

Cases were monitored during influenza season to identify if any deaths occurred where influenza was recorded on any part of the death certificate. A total of 14 confirmed influenza cases (2 influenza A and 12 influenza B) died between January and 16th April 2018. It is noticeable that of the 14 influenza cases who died 2 (14%) were influenza A and the remaining 12 (86%) were influenza B cases.

Norovirus Evergreen Wards

An outbreak of Norovirus occurred affecting Evergreen wards 1 and 2.

On Evergreen 1 a total of 5 patients were symptomatic between 20/03/18 and 05/04/18. The ward was closed between 25/03/18 and re-opened on 30/03/18.

On Evergreen 2 a total of 17 patients were symptomatic between 21/03/18 and 31/03/18. The ward was closed on 24/03/18 and fully re-opened on 31/03/18.

A total of 6 positive specimens were obtained during the outbreak. However, this involved some pooled and not individual patient testing. Once it is established that Norovirus is involved, an outbreak is managed on symptoms and patients remain in isolation or cohort until 48 hours symptom free.

It was noted that the ward staff from both wards and ISS Mediclean responded effectively to ensure a team approach to managing and controlling the outbreak.

Trust response to Norovirus

The Trust has a standard response to Norovirus. This includes daily review of affected patients by the Infection Prevention & Control Team (which also takes place prior to Norovirus being confirmed or full ward closure) and an increase in the frequency of environmental cleaning using a chlorine releasing product - Tristel® including touch point cleaning; and restrictions to visitors and movement of staff. Ward closure signage is stationed outside affected ward areas and outbreak meetings are also held. Hydrogen peroxide vapour treatment of affected environments is also undertaken where possible, where the environment allows this to take place.

Closure of a ward indicates no admissions, transfers in or out, or discharges other than to a patient's own home and restriction on visitors. However, discharges to other health care facilities are permitted for asymptomatic patients with the agreement of the receiving organisation so that they can take necessary precautions e.g. identify single rooms for quarantine.

There is no bar on visitors during a Norovirus outbreak but is at the discretion of the nurse in charge. Visitors are asked to perform hand hygiene on entry to and exit from the ward.

Ward closure due to Norovirus is not reported as a serious incident, but would be in the event of non-compliance with the Trust Norovirus policy in the event that the outbreak is not managed as expected.

Group A *Streptococcus* in maternity

Two cases of Group A *Streptococcus* infection were noted in maternity patients in swabs taken on 17th March and 28th March. Following the identification of the first patient, retrospective surveillance was undertaken which did not identify any other cases within the last 6 months. In addition, a programme of prospective surveillance commenced, which resulted in the identification of the second case from whom the swab was taken via the patient's General Practice. The patients were linked by time and place as they were inpatients at same time on Lavender Post-natal ward between March 14-16th 2018 and therefore a period of increased incidence meeting was held. However, subsequent

epidemiological investigation revealed that the patients were in different parts of the ward and would not have shared bathrooms.

At the review meeting held on 13th April 2018, it was noted that the cases did not meet the definition of an outbreak* as although cases were reported within a month of each other, in the second case the swab was taken more than 7 days post discharge and as such was not defined as being hospital-attributable. In addition, at the time of this patient's admission in March and during the week post her discharge, she was not documented as having any symptoms or signs of infection. However, a thorough investigation has taken place which also includes close prospective surveillance for Group A *streptococcus* infection for one month, which did not identify any further cases, and attention to environmental and equipment cleanliness in the Lavender areas.

*Steer et al (2011) Guidelines for prevention & control of group A streptococcal infection in acute healthcare and maternity settings in the UK. Journal of Hospital Infection 64, 1-18.

13. Tuberculosis (TB) and other Mycobacterial infections

Worcestershire continues to be a low incidence area for tuberculosis with an incidence below the national average. Most cases of TB are community based but occasionally admission to hospital is required. Cases are managed by the TB lead physicians, predominantly on an outpatient basis, and supported by the county wide TB nursing team who also screen contacts of each case. If admission to hospital is required, cases of suspected or confirmed pulmonary tuberculosis are admitted to isolation rooms, preferably with negative pressure ventilation.

Occasionally patients are admitted to hospital and a diagnosis of pulmonary TB comes to light after a few days into an admission. In this scenario contacts of such a case are identified and offered advice and screening where appropriate. Between April 2017 and March 2018 there have been two such potential TB exposure incidents at the Trust. The cases were both unexpected diagnoses with atypical presentations and were thought to be of low to medium infectivity. Potential contacts were informed and screening offered where appropriate. No secondary cases have been identified.

14. Staff influenza vaccination campaign

The Trust can report a successful staff influenza campaign for the 2017-18 influenza season with 75.72% of frontline staff being vaccinated. Figure 17 below also details uptake by frontline staff groups. This also meant achievement of the Commissioning for Quality and innovation (CQUIN) target of vaccinating 70% of frontline staff. The successful strategy included flu hubs for a 4-week period in visible locations at the Worcestershire Royal and Alexandra Hospital sites and regular pop up hubs in other Trust locations. There were also planned visits to clinical areas including during the evening and at weekends to maximise the uptake of the vaccine. The target for 2018-19 winter season will be 75% of front line staff and planning for the 2018-19 winter flu season will begin during July 2018.

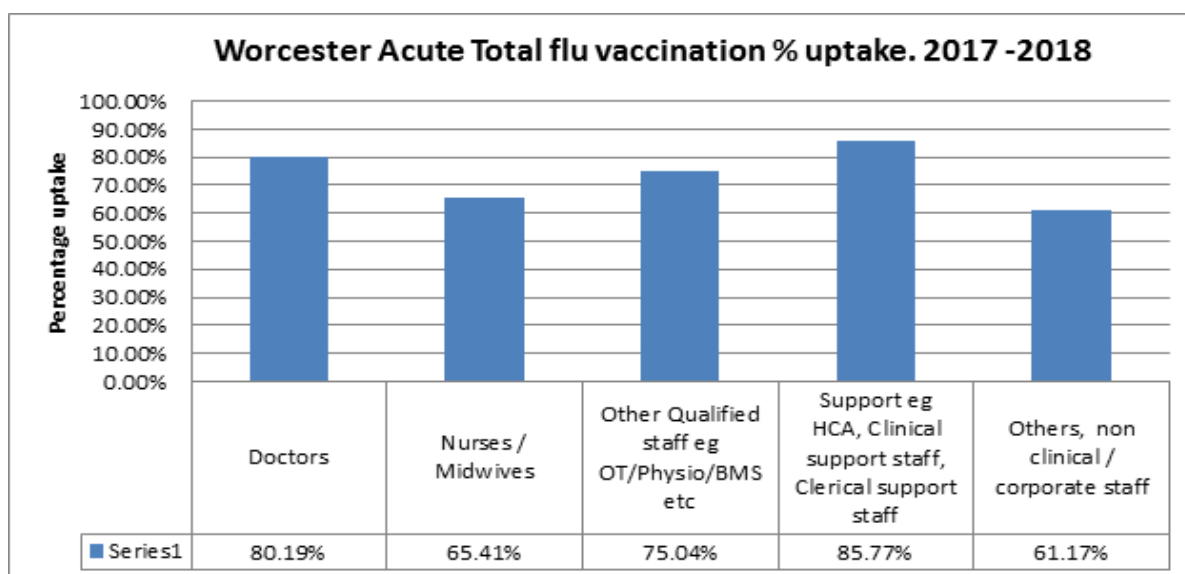


Figure 17: Staff influenza vaccine uptake 2017-18

15. Surgical Site Surveillance

In 2004 it became a mandatory requirement for all Trusts undertaking orthopaedic surgery to conduct surveillance of surgical site infections, using the Surgical Site Infection (SSI) Surveillance Service of Public Health England (PHE). The data set collected as part of the surveillance is forwarded to PHE for analysis and reporting. Surveillance is divided into quarters (Jan-Mar, Apr-Jun, July-Sept and Oct-Dec) and each Trust site is required to participate in at least one surveillance period every 12 Months in at least one orthopaedic category. During 2017-18 the Trust participated in modules for total hip replacement and total knee replacement between January and March 2018.

The process undertaken included:

1. Colour coded data forms are issued to and collated by Theatre Departments to commence data collection in each case.
2. Ward staff then complete the required section on the data form along with a wound assessment form which is held alongside the patient's notes
3. The Infection Prevention Team review pathology results for each patient in the cohort for the duration of their admission to identify any anomalies suggestive of infection
4. The Colour coded forms are continued at ward level and are collected to be matched with the patient and procedure details held by IPCT to verify accuracy of data.

Infections are defined according to a robust case definition. Any infections that are reported using the SSISS data base are investigated by the Orthopaedic team, surveillance nurses, ward manager and IPCT to identify any issues / practices for improvement. Results of the mandatory period are then submitted to Public Health England.

Figure 18 below identifies that there were no infection reported for the surveillance period January to March 2018 for Total Hip and Total Knee replacement surgery at the Trust. For purposes of comparison, figures for April to June 2016 are recorded alongside the England Average.

Site	Procedure	January – March 2018	No procedures (% infections)	April 2016–June 2016 (last period in Trust)	No procedures (% infections)	England Average April–June 2016
Worcestershire Royal Hospital	THR	Jan – Mar 2018	3 (0%)	Apr – Jun 2016	21 (0%)	1.1%
	TKR	Jan – Mar 2018	0 (0%)	Apr – Jun 2016	30 (0%)	1.5%
Alexandra Hospital	THR	Jan – Mar 2018	81 (0%)	Apr – Jun 2016	101 (0%)	1.1%
	TKR	Jan – Mar 2018	95 (0%)	Apr – Jun 2016	107 (0.9%)	1.5%
Kidderminster Treatment Centre	THR	Jan – Mar 2018	4 (0%)	Apr – Jun 2016	16 (0%)	1.1%
	TKR	Jan – Mar 2018	8 (0%)	Apr – Jun 2016	26 (0%)	1.5%

Figure 18: Wound infection rates in hip and knee replacement

Surveillance is planned to continue from Quarter 2 2018-19 between July 1st and 30th September, for elective hip and knee replacements and additionally for 'Repair of fractured neck of femur'. It is also anticipated that for one quarter during 2018-19 an additional non orthopaedic category of surgical site surveillance will be undertaken in order to help the Trust benchmark against other Trusts with a view to ensuring best practice.

16. Water governance

The Water Safety Group (WSG) continues to work to raise awareness of water safety issues throughout the Trust and continues to take steps to improve arrangements for water safety and governance:

Monthly WSG meetings are on-going. Prior to each meeting, a monthly Water Report to a standard format is circulated to all members of the WSG and other stakeholders, which with the expanded agenda forms the basis of meeting discussions. Standardised reporting across all three sites has resulted in improved quality and consistency of reports. Non-microbiology clinical engagement has improved with regular attendance of the Deputy Chief Nurse.

The new electronic flushing system has been in place for nearly a year; the system is creating compliance reports and escalating any non-compliance through an electronic cascade system. As a result of this flushing compliance has improved markedly.

The Trust has implemented the Water Safety Plan (WSP) which satisfies the requirements of HTM 04-01 addendum. The plan covers all existing buildings currently owned or occupied by Trust and new builds / refurbishments. It provides clear recommendations for the management and maintenance of existing water systems and associated equipment in addition to recommendations for the design, build, commissioning and hand over of new projects.

Water quality is now generally very good and we have few adverse results. Any adverse results are now dealt with by issuing an adverse results memo and there is a proven escalation and action pathway.

Over the reporting period the Estates department have now been delivering water hygiene maintenance in house for a year. All maintenance (PPM) and most reactive work are carried out by the team and we have uncovered some sub-optimal quality work carried out by

contractors. We now issue a PPM report monthly demonstrating that we are achieving 100% statutory maintenance.

An annual review of the Trust Legionella and Pseudomonas risk assessments has taken place, good progress has been made on resolving remedial actions and additional work is being planned with this year's capital budget.

The Authorising Engineer has carried out his compliance audit and we have received the report which is very positive and will be issued to Trust Infection Prevention & Control Committee (TIPCC) in July 2018. The Trust Infection Prevention & Control Committee has now recorded substantial assurance of effective and safe systems in place to manage water systems at the Trust.

17. Ventilation governance

A Critical Ventilation Safety Group has been established to oversee the clinical governance around critical ventilation systems. The group meets quarterly and is principally there to ensure that these systems are inspected, tested, maintained and operated safely across all 3 sites, but also to ensure that the clinical staff are aware of any risks these systems may pose to clinical activity. All Ventilation verifications and any resultant actions are presented to the group in a monthly report and this group reports into TIPCC

A Trust ventilation policy has been approved and written and an Authorising Engineer – Ventilation (AE) has been appointed to audit the management of the Trust's ventilation systems and appoint Authorised Persons (APs). Two APs have been trained and appointed by the AE and they are responsible for the day to day safety and management of ventilation systems. Engie, the PFI hard services provider have their own AE and APs. The duty of the APs is to ensure safe day to day operation of Trust's critical ventilation systems and to appoint and supervise suitable competent persons (CPs) to maintain and test the ventilation systems.

The Estates department reviewed all the Trust critical ventilation systems verification reports and a number of longstanding compliance issues were identified. These issues have now been addressed as far as is practicable and where issues will take time to address these were discussed with the department and infection control to identify suitable controls to maintain patient safety.

Trust 'permit to work' and 'hand back' documents are issued whenever critical ventilation systems are taken out of use, staff are clearly informed of the work that has taken place and are assured that the systems are safe to operate.

A ventilation issue that remains outstanding relates to the treatment rooms across all three WAHT sites. HTM 03-01 Appendix 2 (Recommended air change rates) requires that treatment rooms have 10 air changes an hour supplied by mechanical ventilation through an S7 filter. This is required in order to achieve sufficient dilution of the airborne contamination and reduce infection risk. The Estates team, with infection control, carried out a survey of all the rooms in the hospitals where invasive procedures were being undertaken and have determined what procedures are taking place and what the risk is. The departments have been informed of the risk and the Estates team will label all rooms that are treatment rooms,

which defines the air changes and what procedures are permissible. However, it must be stated that responsibility for ensuring that the procedure is carried out in a designated space with the correct environmental conditions, lies with the individual carrying out the procedure. The implications of changing where any procedure is carried out must be carefully considered and confirmation should be sought from the ventilation AP that the ventilation system fitted will support the proposed procedure.

18. Education and training

The IPCT continue to support a variety of educational opportunities across the Trust sites ranging from formal teaching sessions to ward based group and individual training. Sessions include Trust Induction and Mandatory Core Skills update programmes (Levels 1 and 2). Following a change to the clinical skills core programme we are exploring alternative methods of delivery of some content such as antimicrobial stewardship. The IPCT also provide nursing, medical student and doctors induction formal sessions incorporating maintaining asepsis, peripheral cannulation, central vascular device management, blood culture sampling and phlebotomy.

In addition core skills and competency check sessions are run for FFP3 mask fit testing, commode cleaning and hand hygiene. We have been fortunate to work with our new media developer in communications department and Tissue Viability colleagues to produce two training videos on hand hygiene and aseptic technique.

The team have also responded to requests to provide support for specific wards or individual staff development.

Attendance at IPC Mandatory Training

Figure 19 below demonstrates the number of staff who attended either Level 1 or Level 2 infection prevention mandatory core skills training sessions between April 2017 and May 2018. Trust total attendance is 89% (↔) for Level 1 and 68% (↓23%) clinical staff achieving Level 2 attendance in year; against a Trust target of 90%. The drop in compliance is explained following amendments to eligibility criterion for Level 1 and Level 2 training which no longer exclude staff on long term sickness, maternity, career leave or secondment from the overall establishment in order to mirror the model hospital. The benefit of this change is that the data is more accurate and more accurately reflects clinical staff compliance with the introduction of level 2 training criterion.

Metric	Description	TRUST STAFF TOTALS MAY 2018	TRUST STAFF TOTALS APRIL 2018 (retrospectively adjusted)	Asset Management and IT	Corporate	Specialty Medicine	Urgent Care	SCSD	Surgery	Women and Children	Local Target or Model Hospital Benchmark (MHB)	Trend from last month
Establishment	Divisional Establishment for M2	5,884.86	5,672.36	293.12	579.58	1,131.64	582.93	1,816.72	847.69	633.18		212.50
Staff In Post FTE	Contracted SIP (Full-Time Equivalent) M2	5211.93	5,212.41	264.07	484.84	982.62	484.22	1681.13	743.50	571.54	5935.45	-0.48
Mandatory Training Compliance	TOTAL VACANCIES	11%	7%	31.51	76.01	139.62	108.27	133.01	99.53	43.15	7%	3.72%
	TRAINING TOPIC	% COMPLIANCE MAY 2018	% APRIL 2018	Asset Management and IT	Corporate	Specialty Medicine	Urgent Care	SCSD	Surgery	Women and Children	Target	Trend from last month
	OVERALL TRAINING COMPLIANCE %	84%	84%									
	Infection Control L1	89%	88%	92%	92%	96%	96%	79%	90%	95%	90%	1%
	Infection Control L2	68%	68%		47%	60%	60%	72%	66%	67%	90%	0%

Figure 19: Attendance of IPC induction or mandatory training in year

Mandatory training includes hand hygiene theory. Practical assessment is undertaken at ward level by members of the Infection Prevention & Control Team or other staff members trained to undertake hand hygiene competency assessment. Clinical staff need to refresh their competency every two years and non-clinical staff every three years. Other information available for staff includes an induction information booklet, staff leaflet summarising standard infection prevention precautions and a ward based hard copy resource folder holding all IPC related documentation and information posters. The IPC team are currently exploring other methods of delivery of training including use of smart phone apps and video vignettes.

Further Training

The team also provides reactive training for any issues identified during practice audits and bespoke training for departments where it is difficult for staff to attend regular core skills updates and where the training needs to be more reflective of their role within the Trust e.g. housekeeping and portering staff.

A workshop is held for all FY1 and FY2 medical staff joining the Trust in August each year, to ensure they are aware of and skilled in the use of equipment provided to facilitate effective IPC practices. The workshop includes an element of theory and work station based practical skills on antimicrobial stewardship, blood culture collection technique, safety medical devices, faecal management system insertion and management, use of peripheral vascular device insertion packs and needle free connectors, intravenous dressing application and safe removal, skin disinfection and standard IPC practices including use of Personal Protective Equipment (PPE) and hand hygiene competency assessment.

The IPC team are currently developing additional video vignettes for several IPC practices. The following videos are at various stages of development;

- Use of personal protective equipment including donning and doffing masks,
- Use of the Gojo app for hand hygiene audits,
- High impact action audits, use of the balance score card used to document results
- Daily and weekly user checks for bed pan washers
- Peripheral cannula and urinary catheter management.

19. Infection Control audits and key findings

A programme of Infection Prevention audits is undertaken across all sites covering all inpatient and outpatient areas.

Key deficiencies noted during 2017-18 have included:

- High and low dust including ceiling lights and electronic whiteboards
- Dusty emergency trolley covers
- Beverage trolleys (accessed by visitors) not always in consistently clean state
- Pulp boxes stored on floor in sluice areas
- Procedure trays cleaned but not always dried before storage
- Several linen rooms were noted to have items stored on floor

- Lime scale on water outlets noted in several areas
- Peripheral vascular device documentation not always completed
- Non-compliance with Bare below elbow and moments 1 and 5 of World Health Organisation '5 moments of hand hygiene'
- Non-compliance with appropriate use of personal protective equipment

Results of audits are fed back to the ward manager or department head, matron and relevant cleaning teams for their actions. Failures are also followed up by the Infection Prevention & Control Team.

A new programme of audit is being introduced for 2018-19. The main objectives of the audit programme are:

- To monitor and improve local clinical practice by providing data that shows what actually happens and how it compares with a pre-determined standard of evidence based infection prevention and control practices
- The assessment of a number of core standards in order to determine the need for, and measure the effectiveness of preventative or control measures. Standards that are included within the audit relate to the environment, linen handling, sharps handling, decontamination (environment and equipment), waste disposal and adherence to key practices to minimise infection. A separate dedicated hand hygiene audit will also be undertaken by the IPC nurse at the time of the environmental audit is undertaken.

Audits will be undertaken in the following frequency:

- Inpatient units and main hospital departments including ED – three times a year
- Out Patient settings and theatres – twice a year
- Other areas annual review

There is an expectation that Divisions will report IPC audit scores to their Divisional Quality meetings and that deficiencies and rectification actions will be discussed. This same information should also be included in Divisional reports to the Trust Infection Prevention & Control Committee. TIPCC will provide additional support for issues that cannot be resolved within the Division.

The IPC audit programme will build on the revised Cleaning Responsibility Framework and help to provide evidence of the implementation of that by means of evidence of compliance and action taken where deficiencies are identified.

Work with the Facilities Team continues with regard to triangulation of scores with audits undertaken by them including MONIT cleaning and PLACE scores. The outcome of this work will be reported to a subsequent TIPCC. The Deputy Chief Nurse and Associate Chief Nurse IPC continue to undertake unannounced walkabouts which are focused on any locations of concern.

20. Policy reviews

The following Infection Prevention related policies were reviewed during 2017-18:

Date of Approval at TIPCC	Name of Policy	Amendments made
May 2017	Worcestershire Secondary Care Adult Antibiotic Prescribing Guidelines WAHT-PHA-001	Full policy review and re-written for application using
May 2017	Hand Hygiene Policy WAHT-INF-002	Updated hand hygiene observation tool Addition of escalation process
August 2017	Trust Protocol for MRSA Screening Policy – WAHT-INF-006	Review of full protocol, exclusion groups and swabbing procedures
August 2017	Trust Uniform and Dress Code Policy WAHT-HR-078	Full policy review, changes made to uniforms now in use. Guidance on equality and diversity issues included.
September 2017	CVAD Guideline for Insertion and Management WAHT-INF-017	Full policy review by authors and general update against national guidance. Associated documentation updated.
September 2017	Decontamination Policy WAHT-INF-037	Decontamination Policy and Strategy documents merged.
September 2017	Infection Control and Bed Management Guideline WAHT-INF-019	Document reviewed with minor changes only
October 2017	Cleaning, Decontamination & Validation of flexible endoscope WAHT-INF-039	Document reviewed no changes made
October 2017	Protocol for the management of MRSA WAHT-INF-003	Full policy review to ensure consistency between this and WAHT-INF-006 MRSA screening protocol for further amendment
October 2017	Pest control Policy WAHT-CG-495	References to Cofely changed to Engie. No other changes required.
October 2017	Post Exposure Prophylaxis for HIV following sexual exposure WAHT-INF-020	Update to section 3 risks of transmission, Section Recommendations for Prescribing PEPSE, Section 8 follow up and Section 10 Monitoring tool
October 2017	Safe Working Practices Poster	Review no amendments
November 2017	2017/18 Influenza Quick Guide and Seasonal Influenza Policy WAHT-INF-033A and 033	Update to seasonal influenza policy and quick guide to harmonise both documents in line with annual update to national guidance
February 2018	Trust Protocol for MRSA Screening Policy – WAHT INF-006	Addendum due to national shortage of Bactroban (Mupirocin) 2% nasal ointment

21. Patient Safety Plan

The Trust has developed a Patient Safety Plan for 2018-21 which contains an Infection Prevention element. Key foci include:

- Continued zero tolerance of MRSA bacteraemia
- A reduction in cases of MSSA bacteraemia
- Reduction in the number of cases of *C.difficile*
- Reduction in Gram-negative bacteraemia with a focus on *E. coli*
- Sustained improvements in hand hygiene compliance
- Reduction in consumption of carbapenem group of antimicrobials
- Increase in the compliance with antimicrobial stewardship guidelines
- Increase in compliance with antimicrobial prescription senior clinician review

These elements form the basis of the Infection Prevention work plan for 2018-19

22. References

British Standards Institution (2014) PAS 5748:2014 Specification for the planning, application, measurement and review of cleanliness services in hospitals. British Standards Institution.

Department of Health (2014) Implementation of modified admission MRSA screening guidance for NHS. Department of Health expert advisory committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI). Department of Health, London.

Steer et al (2011) Guidelines for prevention & control of group A streptococcal infection in acute healthcare and maternity settings in the UK. Journal of Hospital Infection 64, 1-18.

23. Bibliography

Department of Health (2007) Health Technical Memorandum 03-01 – Specialised ventilation for healthcare premises. Department of Health, London

Department of Health (2008) *Clostridium difficile* infection: How to deal with the problem. Department of Health, London.

Department of Health (2012) Updated Guidance on the diagnosis and reporting of *Clostridium difficile*. Department of Health, London.

Department of Health (2011) Antimicrobial Stewardship - Start Smart then focus. Department of Health, London.

Department of Health (2011) The Health and Social Care Act 2008 Code of practice on the prevention and control of infections and related guidance.

Health Protection Agency (2012) Guidelines for the management of Norovirus outbreaks in acute and community health and social care settings. Health Protection Agency.

H.P. Loveday J.A. Wilson, R.J. Pratt, M. Golsorkhi, A. Tingle, a. Bak, J. Browne, J. Prieto, M. Wilcox (2013) National evidence-based guidelines for preventing hospital-acquired infections in NHS Hospitals in England.(Epic 3)

Department of Health (2016) Health Technical Memorandum 04-01 – Safe water in healthcare premises. Department of Health, London.

Acknowledgements:

Dr M Ashcroft, Consultant Microbiologist and Simon Noon, Principal Engineer: Water governance.

Dr T Gee, Consultant Microbiologist: Tuberculosis.

Dr H Morton, Consultant Microbiologist and Astrid Gerard, Antimicrobial Pharmacist: Antimicrobial Stewardship.

Dr E. Yiannakis, Consultant Microbiologist and Infection Control Doctor

Simon Noon, Principal Engineer: Ventilation Safety.

Heather Gentry, Lead Nurse Infection Prevention & Control: Audit and training summaries, policy reviews.

Vicki Shayler, Data Analyst: HCAI data and graphs.

24. Annual Plan 2018-19 (To be monitored at Infection Prevention & Control Committee)

Key work streams 2018-19	Lead Officers
Sustain zero tolerance of MRSA bacteraemia	
- Trust wide audit of decolonisation regime and implementation of recommendations - Inclusion of management of MRSA cases in routine Infection Prevention audits	Associate Chief Nurse & Lead Nurse Infection Control
Reduction of MSSA bacteraemia demonstrating 25% improvement	
- Trust wide audit of Peripheral Vascular Devices (PVD) to ascertain implications and lessons for practise - Review of each case of MSSA bacteraemia to ascertain if device related and lessons for practise	Associate Chief Nurse & Lead Nurse Infection Control
Reduction of <i>C.difficile</i> cases demonstrating 6% improvement	
- Focus on environmental cleanliness with revised Infection Prevention audit programme for 2018-19 with escalation of concerns and triangulation with Facilities Team audits - Continued implementation of Cleaning Responsibility Framework - Inclusion of <i>C.difficile</i> management of cases in routine Infection Prevention audits	Associate Chief Nurse & Lead Nurse Infection Control Consultant Microbiologists
Reduction in Gram negative bacteraemia with a focus on <i>E. coli</i>, demonstrating 20% improvement	
- Trust wide urinary catheter and urinary tract / catheter associated urinary tract infection audits to establish baseline position with aim to reduce by 10% - Re-launch of health economy urinary catheter passport - Implementation of 'hydration for health' campaign - Exploration of hepatobiliary sources of <i>E. coli</i> bacteraemia to ascertain lessons for practise - Promotion of hygiene messages to reduce the risk of endogenous <i>E. coli</i> infection - Board level monitoring including actions to achieve reduction in <i>E. coli</i> bacteraemia monitored by means of NHS Improvement Single Oversight Framework	Associate Chief Nurse & Lead Nurse Infection Control Consultant Microbiologists
Improve and sustain hand hygiene compliance to ensure 95% compliance in 100% of patient areas	
Link Practitioner audits to ascertain monthly rates of compliance and % areas completing audits	Associate Chief Nurse & Lead Nurse Infection

IPC Team to encourage all Trust clinical teams to strongly challenge any non-compliance with hand hygiene escalating in accordance with Hand Hygiene Policy	
Reduction in Carbapenem consumption benchmarked against other trusts to achieve 75th percentile or below	
- Identify top 5 high consuming wards or departments and target intensively - Further repeat of antibiotic awareness week with emphasis on the Micro Guide prescribing App - Education and training delivered to link practitioners - Divisions now responsible for reducing carbapenem consumption within their own Division with support from AMS team. Results will be presented quarterly.	Consultant Microbiologist & Antimicrobial Pharmacist
Improvement in compliance with antimicrobial stewardship guidelines to above 70% in Trust wide audits	
Divisions now responsible for antimicrobial prescribing within their own Division with support from AMS team. Results will be presented quarterly at Trust Infection Prevention & Control Committee	Consultant Microbiologist & Antimicrobial Pharmacist
Improvement in compliance with antimicrobial prescriptions undergoing a senior clinical Review by a senior clinician 24-72 hours following initiation	
Implementation of structured antimicrobial review documentation with rollout of training to members of medical, nursing and pharmacy	Consultant Microbiologist & Antimicrobial Pharmacist
Strengthening governance around ventilation	
Complete process of assessing ventilation in rooms and risk assessment of procedures undertaken; and provide assurance for compliance to HTM 04-01	Principal Engineer Consultant Microbiologist

25. Trust Infection Prevention & Control Committee 2018-19

Dates of the Trust Infection Prevention & Control Committee 2018-19

Date	Time	Location
Monday 02/07/2018	10.30 – 12.30	Northwick / Claines Meeting Room, Kings Court, WRH
Tuesday 24/07/2018	10.30 – 12.30	Pathology Seminar Room, Alex
Wednesday 22/08/2018	10.30 – 12.30	TBC, WRH
Monday 24/09/2018	15.00 – 17.00	Northwick / Claines Meeting Room, Kings Court, WRH
Wednesday 21/10/2018	14.00 – 16.00	TBC, WRH
Tuesday 27/10/2018	11.00 – 13.00	Pathology Seminar Room, Alex
Wednesday 19/12/2018	14.00 – 16.00	TBC, WRH

Glossary of terms

Bacteraemia - the presence of bacteria in the blood

BSI – Blood stream infection, otherwise known as bacteraemia

C difficile – A bacterium that is one of the most common causes of infection of the colon

Colonisation – Germs can also be in or on the body but not make the person unwell

CPE – Carbapenemase producing Enterobacteriaceae are Gram-negative bacteria that are resistant to the [carbapenem](#) class of antibiotics, considered the [drugs of last resort](#) for such infections

Gram staining - A common technique used to differentiate two large groups of bacteria based on their different cell wall constituents. The **Gram stain** procedure distinguishes between **Gram** positive and **Gram** negative groups by colouring these cells differently, thus affecting treatment options

HCAI – Healthcare Associated Infection

MRSA - Meticillin Resistant Staphylococcus aureus: a bacteria which is resistant to a number of antibiotics

PCR – Polymerase Chain Reaction is a process used in molecular biology to make many copies of (amplify) small sections of DNA. Usually denotes ‘carriage’ of an organism rather than infection by the same