MANCHESTER UNIVERSITY NHS FOUNDATION TRUST

BOARD OF DIRECTORS (PUBLIC)

Report of:	Chief Nurse and Director of Infection Prevention and Control (DIPC) – Professor Cheryl Lenney
Paper prepared by:	Assistant Chief Nurse (ACN) and Clinical Director of Infection Prevention and Control (CDIPC) – Julie Cawthorne
Date of Paper:	April 2018
Subject:	Annual Infection Prevention and Control Report 2017/18
Purpose of Report:	Indicate which by ✓ • Information to note✓ • Support • Resolution • Approval✓
Consideration of Risk against Key Priorities:	Patient Safety and Patient Experience
Recommendations:	The Board of Directors are asked to receive this report for April 2017 to March 2018 and approve for publication
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MANCHESTER UNIVERSITY NHS FOUNDATION TRUST

Infection Prevention and Control (IPC) Annual Report 2017/2018

1. Executive Summary

1.1 In October 2017 The former Central Manchester University Hospitals Foundation Trust (CMFT) and University Hospitals South Manchester (UHSM) merged to form Manchester University NHS Foundation Trust. This annual report covers the period April 1st 2017 – March 31st 2018 for both predecessor organisations.

1.2 The Trust has a statutory responsibility to be compliant with the Health and Social Care Act 2008 (Department of Health, 2010). A requirement of this Act is for the Board of Directors to receive an annual report from the Director of Infection Prevention and Control. This report details Infection Prevention and Control activity from April 2017 to March 2018, outlining our key achievements and an assessment of performance against national targets for the year.

1.3 The prevention and control of infection is a high priority for the Trust. There is a strong commitment to preventing all Healthcare Acquired Infections (HCAI). Since the objective for meticilin resistant *Staphylococcus aureus* (MRSA) bacteraemia was first introduced in 2006 the Oxford Road/Trafford Campus have achieved an 81.3% reduction (from 16 to three) in the number of incidents of attributable MRSA and Wythenshawe Hospital have achieved a 76.5% reduction (from 17 to four). Similarly, the objective for *Clostridium difficile* infection (CDI) was introduced in 2007/8. Since then, there has been a 67% and 82% reduction in the number of attributable incidents of CDI reported by Oxford Road/Trafford Campus and Wythenshawe Hospital, respectively.

1.4 In November 2016 the Health Secretary announced plans to reduce healthcare associated Gram-negative bloodstream infections (GNBSI) by 50%, by March 2021. In 2017/18 the objective was to reduce the number of incidents of *Escherichia.coli* (*E.coli*) bacteraemia, (one of the largest GNBSI groups), by 10% using the 2016 data as the baseline. The actual number of cases reported by the Trust represented a 16.7% decrease. MFT was one of only 59 trusts in England to achieve the objective and were contacted by the Executive Director of Nursing, NHS Improvement)to feedback areas of good practice which have been implemented. Areas of good practice that may have contributed to our success include a focus on the prevention of Catheter Associated Urinary Tract Infection (CAUTI) and a review of antibiotic guidelines for uro-sepsis.

2. Key Achievements and Challenges

2.1 Professor Cheryl Lenney, Chief Nurse, was designated to the post of Director of Infection Prevention and Control (DIPC) from October 2017. Previous to this appointment Professor Lenney was the DIPC at the former CMFT and Mrs Mandy Bailey was the DIPC at the former UHSM.

2.2 The merger of the Infection prevention and Control policies, protocols guidance and practice was overseen by the Post Transaction Integration Programme (PTIP) through the risk and governance sub group. This work programme was monitored by the Joint IPC from January 2018 and the Group IPC Committee from April 2018.

2.3 The MFT objective for the year ending March 2018 was zero incidents of avoidable MRSA bacteraemia. There were seven trust-attributable MRSA bacteraemias reported during 2017/2018 (four at Wythenshawe Hospital and three at Oxford Road/Trafford Campus (one of which was avoidable).

2.4 The objective for incidents of *Clostridium difficile* infection was 105 this equated to 66 for Oxford Road/Trafford Campus and 39 for Wythenshawe Hospital. A total of 138 trust-attributable CDI cases were reported for MFT during 2017/2018 of which 34 were determined to be a lapse in care. The lapses include; failure to send samples in a timely manner and inconsistencies in the recording of indication for and duration of antibiotic therapy (poor antimicrobial stewardship).

2.5 The Trust is required to submit a minimum of one quarter of data per year to comply with mandatory reporting for orthopaedic implant surgery. Data was submitted for both hip and knee replacement surgery.

2.6 The most recent national surgical site infection (SSI) rate for knee replacement surgery is 1.3 % compared to 0.85% for MFT. The last four periods for which data was submitted shows that out of a total of 617 hip replacement procedures performed, five SSI (0.81%) were identified, (none of which were at Wythenshawe Hospital). This is less than the national average of 1%.

2.7 The Infection Control Committee hosted a workshop in September 2017 on Surgical Site Infection Surveillance (SSIS) with the purpose of progressing the Trust's surveillance programme. A SSIS Group chaired by Professor Serracino-Inglott Infection Control Lead for Surgery at the Manchester Royal Infirmary, has been established to take this work forward.

2.8 There were two outbreaks of (un-related) Vancomycin Resistant Enterococci (VRE); one across the Neonatal Intensive Care Unit (NICU) St Mary's Hospital and Special Care Baby Unit (SCBU) at Wythenshawe Hospital, the second outbreak in Manchester Vascular (MVC) Centre and Head and Neck Surgical Unit (HNSU) at Manchester Royal Infirmary. Control measures were implemented to successfully control both incidents. Lessons learned were shared at the Group Infection Control Committee and will be discussed at the Hospital/MCS infection control group meetings.

2.9 Nationally, 2017/18 was the most challenging influenza season since the pandemic of 2010/11. The Policy for the Management of Patients with Influenza and Guidance on Treatment was revised. From January 2018, actions were implemented to support staff in clinical areas including; extending the working hours in the Virology Laboratory and the introduction of a rapid test method to decrease turn-around time for flu test results. In addition the IPC Nurses provided a dedicated flu service that included an on-site presence at week-ends.

2.10 The campaign to vaccinate staff was launched in September 2018 with the aim of achieving 75% uptake amongst frontline staff. The best performing location was Wythenshawe hospitals where there was an 81% uptake. The overall level of compliance was 61.2% (9,698) across all frontline staff.

2.11 The IPC Team were invited to undertake a peer review of the IPC framework at Wirral University Teaching Hospital (WUTH) in September 2017. The Team was led by the Consultant Nurse for IPC from the Oxford Road/Trafford Campus. The IPC Team from WUTH then visited the Oxford Road/Trafford Campus in October to gain further insight. Feedback from the Team at WUTH was very positive and professional links between the two teams have been maintained.

2.12 As previously reported the TRACE (Transmission of Carbapenemase producing Enterobacteriaceae), study investigated the role of the environment in the transmission of Carbapenemase producing Enterobacteriaceae (CPE) and involved taking patient screens and environmental samples for CPE across six wards in the Manchester Royal Infirmary. The field work was completed in January 2017. In January 2018 Professor Derrick Crook, the national lead for infection control, based at the University of Oxford, returned to the Trust to provide feedback on the findings of the TRACE project "Plumbing new depths to TRACE the source of CPE" which was attended by over 150 members of staff.

2.13 Following approval from the Trust Division of Research and Innovation the Trust IPC Team collaborated with Glasgow Caledonian University on a qualitative study on staff and patient perceptions of CPE commissioned by the Scottish Infection Research Network and Health Protection Scotland. The final report was submitted in January 2018.

2.14 The IPC Teams worked in collaboration with staff from a commercial hand gel supplier to engage staff in fun, interactive hand hygiene training sessions. The 'SureWash Hand Hygiene System' (an interactive computer application programme) was used to assess correct hand hygiene compliance.

2.15 The programme of works to upgrade the Trust's endoscopy reprocessing capabilities continued; the Children's Hospital theatres, MRI Out Patients Department and Main Endoscopy have been completed. MRI Elective Treatment Centre and Withington Hospital Units are in progress and the current programme is anticipated to be completed with the Trafford Endoscopy Unit upgrade in October 2018.

2.16 National guidance on antimicrobial stewardship recommends standards are audited on an annual basis. At the Oxford Road/Trafford Campus all patient data was gathered on a single day. There were 353 patients included from all ward areas. The aim of the audit was to assess the level of compliance with the Adult Anti-Infective Prescribing Guidelines. Overall the audit showed good results and improvements in several areas. It also showed an increase in the use of intravenous (IV) antibiotics. Action plan were developed in response to the results focussing on two key areas: IV to oral switch and diagnostics for common infections.

2.17 At Wythenshawe Hospital a monthly point prevalence audit was undertaken. The audit focussed on compliance with the Adult Antimicrobial Formulary Prescribing Guidelines, in particular, the documentation of indication for antibiotic therapy and course length/duration. Data was gathered from every patient at Wythenshawe Hospital receiving antibiotic therapy on a single day each month.

2.18 The IPC Team have gained a significant knowledge and expertise on managing patients with CPE. This year Mrs Julie Cawthorne, Consultant Nurse IPC presented papers on the management and control of CPE at the following conferences during 2017/18:

- 16th October 2017: 'That Sinking Feeling', North West infection Control Practitioners (NORWIC) annual meeting, Wythenshawe Hospital.

- 5th February 2018: 'CPE in an Acute Hospital', 22nd Annual Infection Prevention and Control Conference, Keyll Darree, Nobles Hospital, Isle of Man.

2.19 The Director of Infection Prevention and Control acknowledges the breadth and depth of work undertaken by the wider IPC Team, members of the Infection Control Committees as well as the day to day contribution of all our staff and clinical leaders; working together to reduce the incidence of HCAIs.

Recommendation

The Board of Directors are asked to receive the Infection Prevention and Control Annual Report for 2017/18 and approve for publication.

INFECTION PREVENTION AND CONTROL ANNUAL REPORT 2017/18

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Assistant Chief Nurse / Clinical Director of
Infection Prevention and Control

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SECTION 3: INFECTION PREVENTION and CONTROL ARRANGEMENTS

3.1 The Director of Infection Prevention and Control (DIPC)

Professor Cheryl Lenney, Chief Nurse, was designated to the post of Director of Infection Prevention and Control (DIPC) from October 2017. Previous to this appointment Professor Lenney was the DIPC at the former CMFT and Mrs Mandy Bailey was the DIPC at the former UHSM.

3.2 The Infection Prevention and Control (IPC) Team

The Infection Prevention and Control Nursing Team at the Oxford Road/Trafford Hospital Campus were managed within the Division of Clinical and Scientific Services and in the Corporate Nursing Team at Wythenshawe Hospitals.

3.3 Members of the IPC Team

The senior members of the IPC team can be found below:

Oxford Road/Trafford Campus

- Dr Andrew Dodgson, Infection Prevention & Control Doctor (IPCD)
- Mrs Julie Cawthorne, Consultant Nurse, Infection Prevention & Control (until February 2018). Appointed Assistant Chief Nurse/Clinical DIPC for MFT from March 2018
- Dr Kirsty Dodgson, Deputy Infection Prevention & Control Doctor
- Miss Amanda Pagett, Lead Nurse IPC (from July 2017)
- Mrs Susan Jones, Matron IPC
- Mrs Karen Mathieson - IPC Nurse Specialist
- Mrs Melanie Phillips - IPC Nurse Specialist

Wythenshawe and Withington Hospitals

- Dr Mairi Cullen Infection Prevention & Control Doctor (IPCD) (until July 2017).
- Dr Moira Taylor, Infection Prevention & Control Doctor (IPCD) (from July 2017).
- Mrs Jay Turner-Gardner, Head of Nursing, Infection Prevention.
- Ms Elizabeth Bradshaw – Senior IPC Specialist Nurse.
- Mrs Hopelyn McIntosh - Senior IPC Specialist Nurse (from June 2017).

3.4 Dual Role Specialist Nurses

There were 7.6 whole time equivalents (WTE) nurse practitioners in the IPC nursing team who undertook a dual practitioner role with Tissue Viability (TV) at the Oxford Road/Trafford Campus. There were two band 6 (2.0 WTE) Infection Prevention Specialist Nurses and two band 6 (2.0 WTE) Infection Prevention Audit Educators at Wythenshawe Hospitals.

3.5 Antibiotic Pharmacists

There were two WTE Antibiotic Pharmacists at the Oxford Road/Trafford Campus and one 0.4WTE Antibiotic Pharmacist at Wythenshawe Hospitals.

3.6 Administration Support for Infection Prevention and Control Services Team

Oxford Road/Trafford Campus (WTE unless otherwise indicated)

- Healthcare Associated Infection (HCAI) Surveillance Officer
- Healthcare Associated Infection Data Support Officer
- Personal Assistant and Team Secretary

Wythenshawe and Withington Hospitals (WTE unless otherwise indicated)

- Healthcare Associated Infection (HCAI) Surveillance Officer
- Administration Assistant/Team Co-Ordinator, Healthcare Associated Infection (HCAI)
- Team Secretary

3.7 Provision of IPC Team Services

The IPC teams provided 24-hour advice and support on IPC issues to the staff and patients of the Trust across all sites. At the Oxford Road/Trafford Campus this included an out of hour's telephone on-call service by the IPC nursing team. At Wythenshawe Hospital out of hours IPC advice was provided by the Microbiologist on call.

3.8 The Infection Control Committees (ICC)

The Infection Control Committee (ICC) at Oxford Road/Trafford Hospital had corporate responsibility for overseeing the implementation of infection prevention and control activities. The ICC met six times during the year and was chaired by the DIPC. The Infection Control Committee reported to the Trust Clinical Effectiveness Committee and directly to the Board through the DIPC.

At Wythenshawe Hospital the Infection Prevention Sub-Committee met four times during the year and reported to the Trust Board through the Quality and Assurance Committee. The purpose was to provide assurance and management for infection prevention and control activities.

The ICC Terms of Reference for the above Committee's can be found in **Appendix 1**

The first joint Infection Control Committee meeting was held in November 2017 and again in January 2018 and reported to the Group Board through the DIPC.[1]

3.9 The Infection Control Committees Sub-Groups

The Decontamination and Water Safety Groups at the Oxford Road/Trafford Campus and Wythenshawe Hospital reported to the ICC/ IPC Sub-Group, (please see section 9 for further information).

3.10 The Antimicrobial Stewardship Groups

The Antimicrobial Stewardship Group was a sub-group of the ICC at Oxford Road/Trafford Campus and a sub-group of the Medicines Management Committee at Wythenshawe Hospitals.

[1] The governance for Infection Prevention and Control for 18/19 can be found in **appendix 2**

3.11 Framework for Infection Prevention and Control (IPC)

The Oxford Road/Trafford Campus Strategy for IPC and the Overarching IPC Policy at Wythenshawe Hospitals defined the structure and activities of IPC.

To ensure continued compliance to The Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance, from 1st October 2017 an addendum was added to both these documents as an interim measure to remain in place until the new Trust Strategy/ Policy for Prevention and Control of Healthcare Associated Infections for Manchester University NHS Foundation Trust is ratified.

3.12 Infection Prevention and Control Structure within the Divisions

There was an Infection Control Group within each of the Divisions at the Oxford Road/Trafford Hospital Campus. The Clinical Leads for IPC from Divisional Groups provided and presented a written report to the Infection Control Committee on progress of IPC standards. At Wythenshawe Hospital IPC issues were addressed at the monthly directorate meetings. The Heads of Nursing provided and presented a written report to the IPC Sub-Committee.

3.13 Peer Review of the IPC Service at Wirral University Teaching Hospital Foundation Trust (WUTH)

The IPC Team were invited to undertake a peer review of the IPC framework at WUTH in September 2017. The Team was led by the Consultant Nurse for IPC from the Oxford Road/Trafford Campus. The IPC Team from WUTH then visited the Oxford Road/Trafford Campus in October to gain further insight. Feedback from the Team at WUTH was very positive and professional links between the two teams have been maintained.

3.14 Funding for Infection Prevention and Control Services

The IPC/Tissue Viability nursing teams provided a service to the organisations. Funding for the IPC/TV nursing services was provided within the Division of Clinical and Scientific Services at Oxford Road/Trafford Campus and from the Corporate Division – through the Corporate Nursing budget at Wythenshawe Hospital.

3.15 Microbiology Laboratory Services

Funding for Microbiology services at the Oxford Road/Trafford Campus and Wythenshawe Hospitals was covered by the service level agreement between the Trust and Public Health England (PHE). Financial support for outbreaks of infection (excluding laboratory costs), were sourced locally by the divisions. Screening for carbapenemase producing enterobacteriaceae (CPE) at Wythenshawe Hospitals was funded from the Infection Prevention and Control budget.

3.16 Electronic Surveillance System

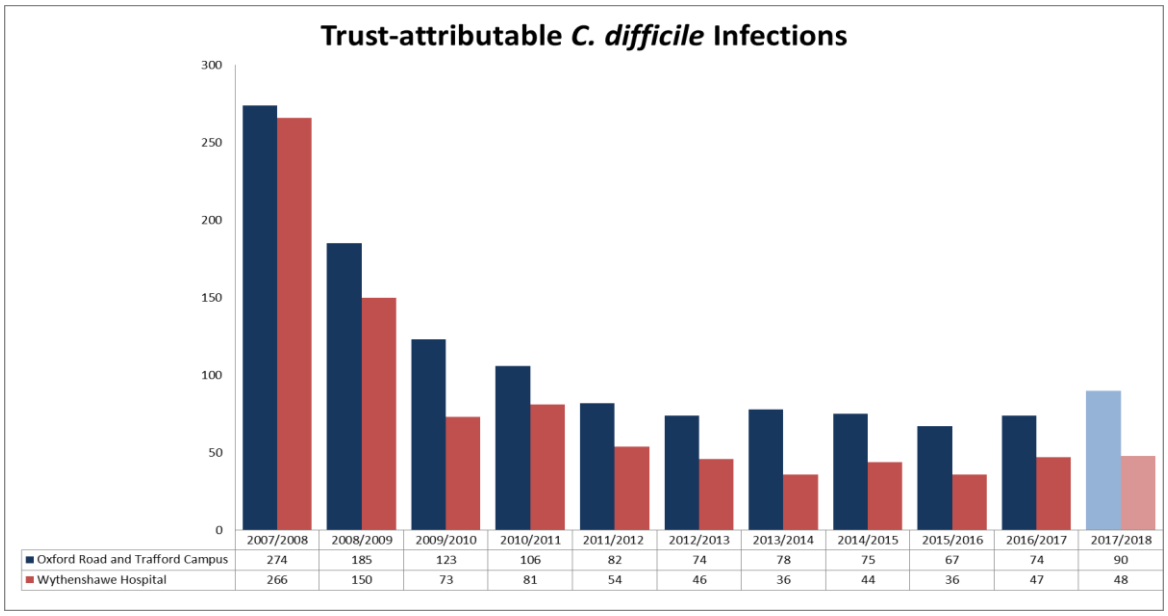
Recurrent funding for ICNet (electronic Infection Prevention & Control surveillance database) was met from the Division of Clinical and Scientific Support at the Oxford Road/Trafford Hospital Campus and from the Infection Prevention and Control budget at Wythenshawe Hospitals.

SECTION 4: HEALTHCARE ASSOCIATED INFECTION (HCAI)

4.1 HCAI Performance Targets

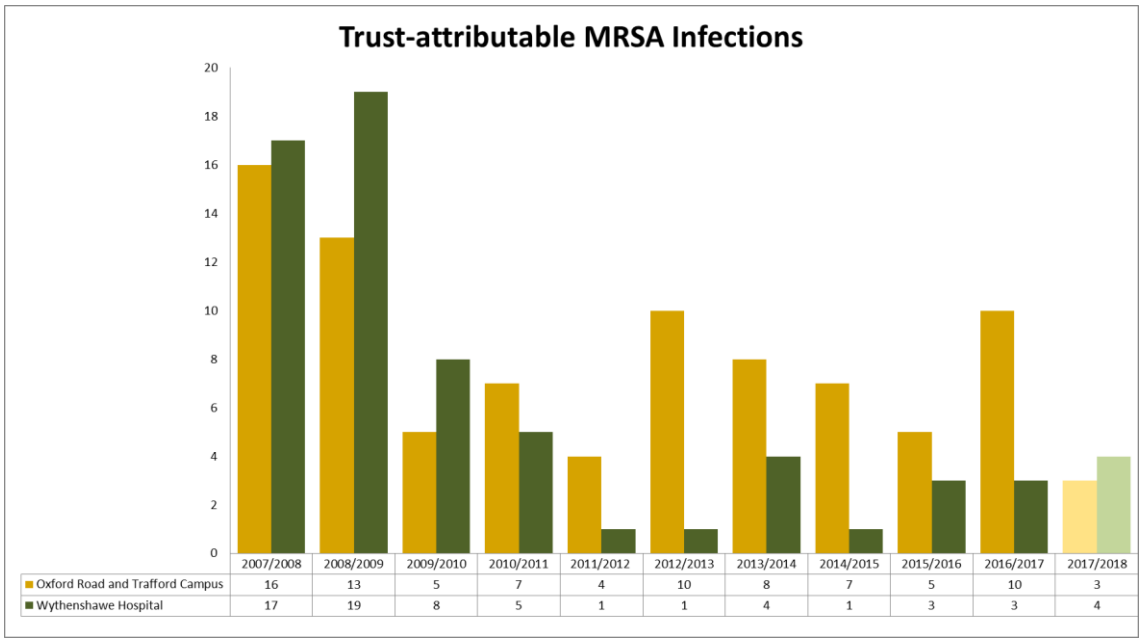
The prevention and control of infection remained a high priority for the Trust. There is a strong commitment to preventing all Healthcare Acquired Infections (HCAI). The Trust's progress in reducing the incidents of HCAI from 2007/8 – 2016/17 is clearly demonstrated below in Fig. 1 & Fig 2. Lighter colours indicate years reported as MFT.[2]

Fig. 1 Trust-Attributable C. difficile infections (2007/8 -2017/18)



	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Oxford Road and Trafford Campus	274	185	123	106	82	74	78	75	67	74	90
Wythenshawe Hospital	266	150	73	81	54	46	36	44	36	47	48

Fig. 2 Trust-Attributable Meticilin resistant Staphylococcus aureus (MRSA) bacteraemia (2007/8 -2017/18)



	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Oxford Road and Trafford Campus	16	13	5	7	4	10	8	7	5	10	3
Wythenshawe Hospital	17	19	8	5	1	1	4	1	3	3	4

[2] The performance of both predecessor organisations is brought together for the whole year as MFT

4.2 Meticillin Resistant *Staphylococcus aureus* (MRSA) Bacteraemia

Since 2007/2008 Oxford Road/Trafford Campus have achieved an 81.3% reduction (from 16 to three) in the number of incidents of attributable MRSA bacteraemia and Wythenshawe Hospital have achieved a 76.5% reduction (from 17 to four).

The MFT objective for the year ending March 2018 was zero incidents of avoidable MRSA bacteraemia. There were seven trust-attributable MRSA bacteraemias reported during 2017/2018 (four at Wythenshawe Hospital and three at Oxford Road/Trafford Campus (one of which was avoidable), and six non-trust-attributable MRSA bacteraemias (two at Wythenshawe Hospital and four at Oxford Road/Trafford Campus).

From April 2013, a Post Infection Review (PIR) for all incidents of MRSA bacteraemia has been undertaken as part of the government strategy of adopting a “zero tolerance” approach. The PIR process was undertaken by a multi-disciplinary team and presented to the DIPC at dedicated meetings.

The PIR process allowed the identification of areas which may require improvement and highlights opportunities for education. Issues identified were addressed through the delivery of local education and creation of detailed action plans which were implemented in the associated clinical areas.

4.3 Meticillin Sensitive *Staphylococcus aureus* (MSSA) and *Escherichia coli* (*E. coli*) Bacteraemias

Mandatory reporting of all MSSA bacteraemia commenced in January 2011. A total of 225 MSSA bacteraemia cases were reported during 2017/2018 for MFT. Of these, 81 (36%) were-trust apportioned (i.e. occurred 48 hours or more after admission). 33.9% of the cases reported by Wythenshawe Hospital were trust-apportioned and 36.8% of cases reported by Oxford Road/Trafford Campus were trust-apportioned. There is currently no target associated with MSSA bacteraemia incidence.

There were 483 incidents of *E. coli* bacteraemia reported to PHE during the current reporting year for MFT. Of these, 119 (24.6%) cases were determined to be trust-attributable and 364 were attributed to the community. Only 14.5% of Wythenshawe Hospital isolates were attributable (33 of 227 cases), compared to 33.5% of cases reported by Oxford Road/Trafford Campus (86 of 256 cases).

The trust are pleased to report that the national reduction objectives for *E. coli* blood stream infections (a 10% reduction based on 2016 figures) were met, with a 16.7% decrease in the number of trust-attributable cases reported during 2017. MFT was one of only 59 trusts in England to achieve the objective and as such were contacted by the Executive Director of Nursing, NHS Improvement to feedback areas of good practice which have been implemented. Areas of good practice that may have contributed to our success include a focus on the prevention of Catheter Associated Urinary Tract Infection (CAUTI) and a review of antibiotic guidelines for uro-sepsis. Detailed analysis of all reported gram negative bacteraemias is undertaken in an attempt to identify risk factors to inform potential intervention strategies for implementation in order to achieve the full 50% reduction by 2021.

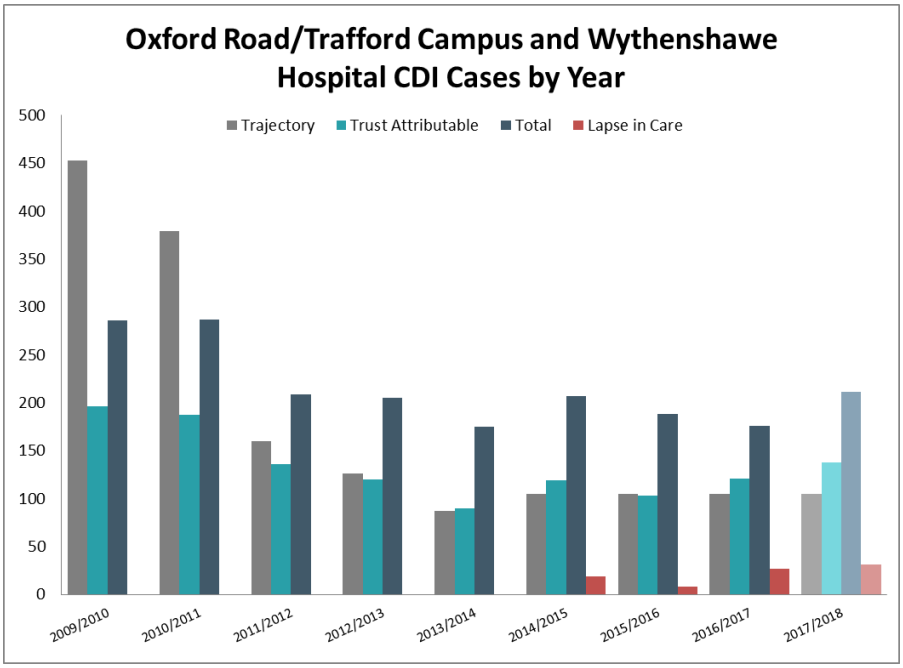
4.4 Clostridium difficile Infection (CDI)

The objective for *Clostridium difficile* infection was introduced in 2007/8. Since then, there has been a 67% and 82% reduction in the number of attributable incidents of *Clostridium difficile* infection reported by Oxford Road/Trafford Campus and Wythenshawe Hospital, respectively.
The objective for incidents of *Clostridium difficile* infection was 105, which equates to 66 for Oxford Road/Trafford Campus and 39 for Wythenshawe Hospital. A total of 211 CDI cases were reported for MFT during 2017/2018 of which 138 (65.4%) were trust-attributable.

In collaboration with the local Clinical Commissioning Group (CCG) and colleagues from local trusts, all cases of CDI were presented for peer-review to determine whether they were associated with a lapse in care, 34 of the 138 trust-attributable cases were agreed as lapses in care. The types of issues which resulted in the infection being considered to be associated with a lapse in care were; failure to send samples in a timely manner and inconsistencies in the recording of indication for and duration of antibiotic therapy (poor antimicrobial stewardship). Other key themes identified during the review of all cases included improvements around the documentation of severity markers and prompt isolation of patients at the onset of diarrhoea. Results were reviewed by the clinical teams and lessons learned discussed at Divisional meetings.

The total number of Trust-attributable CDI and lapse in care figures against set trajectories for previous reporting years can be found in Fig 3 below.

Fig. 3 Cumulative CDI cases (2009/10-2017/18)

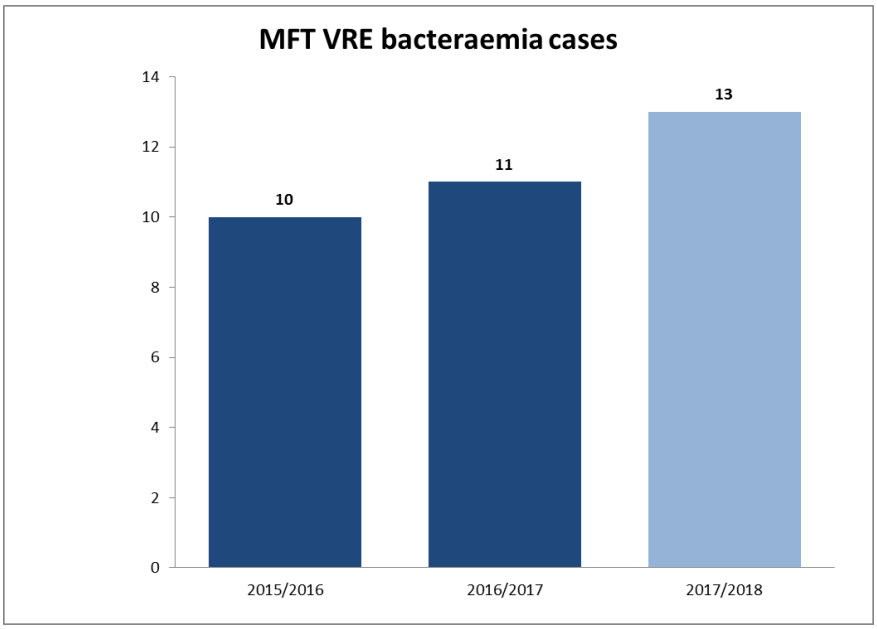


In response to an increase incidence of CDI in Q4 of 2017/2018, a review of the data indicated that the there was a wide distribution of cases across the Oxford Road/Trafford Campus with two periods of increased incidence occurring at MRI and one at Trafford Hospital. All three periods of increased incidents were managed according to Trust Policy and successfully controlled through the control measures implemented: review of hand hygiene practice/use of appropriate use of personal protective equipment, efficient decontamination of the environment and improved antimicrobial stewardship. Enhanced surveillance of CDI is in place to capture any further increases in incidence in a timely manner.

4.5 Vancomycin Resistant Enterococci (VRE)

The VRE bacteraemia reporting cycle runs from 1st October to 30th September each year. To date, there have been a total of 13 VRE bacteraemias reported for the current reporting year (six cases at Wythenshawe Hospital and seven cases for Oxford Road/Trafford Campus). Figure 4 details the numbers of VRE bacteraemias for 2016/2017 (11 cases total), and for previous reporting cycles.

Fig. 4 Cumulative VRE Bacteraemia Incidents (Oct 2015 – March 2018)



4.6 Orthopaedic Surgical Site Infection (SSI) Rates

The Trust is required to submit a minimum of one quarter of data per year to comply with mandatory reporting for orthopaedic implant surgery. Data was submitted for both hip and knee replacement surgery for Oxford Road/Trafford Campus and Wythenshawe Hospital.

The results from knee replacement procedures can be found in Fig. 5 below. The most recent national SSI rate for knee replacement surgery is 1.3 % (based on 321,826 national procedures over the previous 5 years).

***Fig. 5 Trends in SSI Rates for Knee Replacement Surgery from 2015 – 2016 Oxford Road/*Trafford**

Year and Period	No. Operations	All SSI*
2015 Q4	114	2.6%
2016 Q1	114	0.0%
2016 Q3	130	0.8%
2017 Q3	111	0.0%

**All SSI = Inpatient & readmission, post-discharge confirmed and patient reported*

Of a total of 469 knee replacement procedures conducted during the previous four quarters, four patients (0.85%) developed a SSI. This rate of infection is below the national average of 1.3%.
The results from hip replacement procedures performed can be found in Fig. 6A & B below. The previous periods for which data are available are included for comparison. The most recent national SSI rate for hip replacement surgery is 1.0% (based on 300,479 national procedures over the previous five years).

Fig. 6A Oxford Road/Trafford Campus Trends in SSI Rates for Hip Replacement Surgery from 2015 – 2017

Year and Period	No. Operations	All SSI*
2015 Q3	104	1%
2016 Q1	82	1.2%
2016 Q3	107	0.9%
2017 Q3	155	1.29%

** All SSI = Inpatient & readmission, post-discharge confirmed and patient reported*

Fig. 6B Wythenshawe Hospital Trends in SSI Rates for Hip Replacement Surgery 2017 – 2018

Year and Period	No. Operations	All SSI*
2017 Q2	48	0.0%
2017 Q3	38	0.0%
2017 Q4	40	0.0%
2018 Q1	43	0.0%

The last four periods for which data was submitted shows that out of a total of 617 hip replacement procedures performed, five SSI (0.81%) were identified, none of which were at Wythenshawe Hospital. This is less than the national average of 1%.

4.7 Coronary Artery Bypass Graft (CABG) SSI Rates – Oxford Road / Trafford Campus

The Trust has participated in voluntary CABG SSI in Manchester Heart Centre (MHC) since 2011. The results from the last four quarters submitted to PHE can be found in Fig.7.

Fig. 7 SSI Rates for CABG 2014-2016 – Oxford Road / Trafford Campus

Year and Period	No. Operations	All SSI*
2016 Q3	99	5.1%
2017 Q1	100	5.0%
2017 Q2	105	5.6%
2017 Q3	119	5.0%

** All SSI = Inpatient & readmission, post-discharge confirmed and patient reported*

The latest report from PHE identifies a 27% SSI rate for CABG for the last 5 years.

4.8 Progress to Extend the Programme for Surgical Site Infection Surveillance

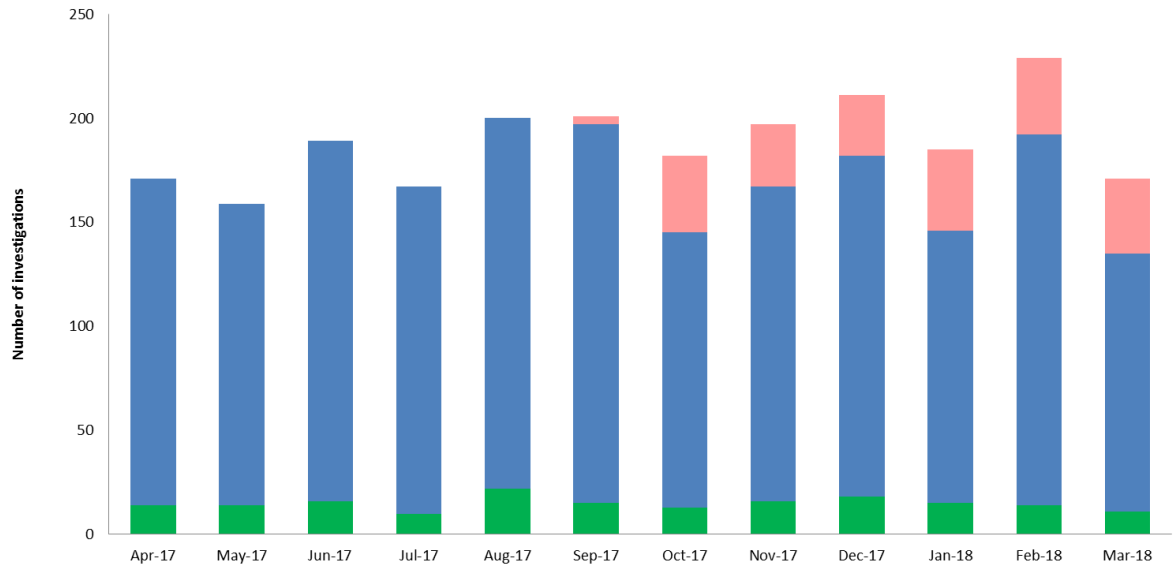
Oxford Road Campus

The Infection Control Committee hosted a workshop in September 2017 on Surgical Site Infection Surveillance (SSIS) with the purpose of progressing the Trust's surveillance programme. A SSIS Group chaired by the Infection Control Lead for Surgery (Professor Serracino-Inglott) was established to take this work forward.

4.9 Enhanced Catheter Associated Urinary Tract Infection (CAUTI) Surveillance at Oxford Road/Trafford Campus

All positive catheter specimens of urine were alerted and investigated on a daily basis by the IPC/TV team and Continence Specialist Nurse. Fig. 8 below details the outcomes of CAUTI investigations for 2017/2018 for Oxford Road and Trafford Campus. There were 2215 positive specimens requiring investigation during this period, of which 168 (7.58%) fulfilled the CAUTI criteria. This surveillance will be extended to Wythenshawe Hospital.

Fig. 8 Distribution of CAUTI across the Divisions at CMFT: April 2017 – March 2018



	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Unknown	0	0	0	0	0	4	37	30	29	39	37	36
Not a CAUTI	157	145	173	157	178	182	132	151	164	131	178	124
CAUTI	14	14	16	10	22	15	13	16	18	15	14	11

4.10 Outbreaks of Diarrhoea and Vomiting

In total, there were 841 lost bed days for 2017/2018 (compared to 2782 during 2016/2017).

A total of 16 wards were closed or partially closed over 27 occasions due to outbreaks of diarrhoea and vomiting during 2017/2018 across Oxford Road/Trafford and Wythenshawe Hospital (Fig. 9 and 10).

Fig. 9 Ward Closures due to Diarrhoea and Vomiting Oxford Road/Trafford Campus (April 2017 - March 2018)

Area	Ward	Date of closure	No. of Days Closed	No. of Patients Affected	No. of Staff Affected	Bed Days Lost
Specialist Medicine	Ward 36	27/07/2017	4	3	0	16
RMCH	Ward 85	15/09/2017	4	9	1	112
Specialist Medicine	Ward 4	21/09/2017	4	3	1	12
RMCH	Ward 85	30/06/2017	4	10	2	112
Medicine and Community	AMU	28/12/2017	5	5	0	25
Medicine and Community	AMU	30/12/2017	6	15	0	42
RMCH	Ward 78	07/01/2018	6			168

Fig. 10 Ward Closures due to Diarrhoea and Vomiting Wythenshawe (April 2017 - March 2018)

Area	Ward	Date of closure	No. of Days Closed	No. of Patients Affected	No. of Staff Affected
Complex Health & Social Care	Opal House	15/05/2017	6	8	0
Complex Health	F14	12/06/2017	11	10	1
Complex Health	F4	22/06/2017	2	2	0
Complex Health	F7 North	19/06/2017	4	3	0
Surgery Head/Neck	A5	29/06/2017	4	1	0
Respiratory	Wilson	01/08/2017	3	2	0
Medical Specialities	F12	14/11/2017	2	1	0
Complex Health & Social Care	F4 North	10/11/2017	7	2	0
Surgery head/neck	A5	22/11/2017	7	2	0
Respiratory	Doyle	07/12/2017	3	2	0
Surgery head/neck	A5	12/12/2017	4	2	0
Respiratory	Wilson	14/12/2017	3	1	0
Complex Health & Social Care	F7 North	18/12/2017	7	3	2
Complex Health & Social Care	Opal House	26/12/2017	3	5	0
Complex Health & Social Care	F4 south	26/12/2017	10	2	0
Respiratory	Wilson Ward	15/01/2018	3	4	0
Complex Health & Social Care	Dermot Murphy	27/02/2018	3	4	0
Complex Health & Social Care	F4 North	20/03/2018	4	2	0
Cardio Thorasic	F6	31/03/2018	2	12	0

4.11 Outbreak of Vancomycin Resistant Enterococci (VRE) across the Neonatal Intensive Care Unit (NICU) St Mary's Hospital and Special Care Baby Unit (SCBU) at Wythenshawe Hospital

There are 59 cot spaces in NICU (Saint Mary's Hospital) and 19 cot spaces at SCBU (Wythenshawe Hospital). The first isolate of VRE was identified from a clinical sample (urine) taken from a baby on NICU on 27th of November 2017. A further 37 babies were identified as being colonised with VRE from rectal screening on NICU.

Twins transferred in vitro and born at Wythenshawe Hospital were repatriated from SCBU to Hull on the 6th of January 2018. Both these babies tested positive for VRE on admission screen (at Hull). A further 18 babies were identified as being colonised with VRE from rectal screening on SCBU.

VRE isolates from both units were sent to the National Reference Centre for typing. Results demonstrated that the organism was the same strain across both site indicating cross infection.

Control Measure Implemented

Outbreak meetings were held regularly on both sites and were attended by representatives from Greater Manchester Health Protection Unit (GMHPU). The outbreak was reported to NHSI and NHSE.

Control measures implemented across both sides are summarised below:

- Cohorting or isolation of VRE positive babies
- Twice weekly screening including review of the need for admission screening
- Evaluation of VRE Polymerase chain reaction**, (**PCR) testing by the Oxford Road Campus laboratory
- Focus on clinical practice; raising awareness around Hand Hygiene, appropriate use of Personal Protective Equipment including bespoke training for staff
- Regular walks around both areas undertaken by the Infection Prevention Control Nurses in conjunction with the Matrons of the Units to review practice and the environment
- Review of the decontamination of patient's shared equipment
- Enhanced decontamination of the environment including the use of hydrogen peroxide vapour
- Review of antibiotic use between microbiology team and clinical teams
- Communication with all staff groups on progress of the outbreak
- Communication with parents; all parents of babies found to be VRE positive were counselled by the Consultant Neonatologist. This was followed up with the provision of written information
- Communication with the Neonatal Network
- Babies transferred out from the Unit were screened for VRE prior to discharge.

Both units remained open during the course of the outbreak.

4.12 Outbreak of VRE across Manchester Vascular (MVC) Centre and Head and Neck Surgical Unit (HNSU) at Manchester Royal Infirmary

Manchester Vascular Centre (MVC) is a 20 bedded unit and there are 24 beds within Head and Neck Surgical Unit (HNSU). From November 2017 – March 2018 there were 43 patients identified as VRE positive from rectal screening (28 from MVC and 15 from HNSU). In total 13 isolates were sent to the National Reference Centre (Colindale) for typing from which five different strains were recognised.

The number of single rooms posed an ongoing challenge which resulted in a number of patients who were VRE positive being cared for in the main bay areas. The specific actions to address this unique situation included; a collaborative review of the expected discharge date of each patient with a positive result, a review of patient complexity and need for specialist vascular care, IPC Team input on risk assessment, and increased environmental decontamination using hydrogen peroxide vapour.

Throughout the outbreak regular meetings were held involving the IPC team and clinical staff, Management Team and GMHPU

Control Measures Implemented
Regular meetings were held throughout the outbreak and Greater Manchester Health Protection Unit (GMHPU) informed in accordance with Trust policy.

Patient Management:
- Patients were screened for VRE twice weekly
- Patients who were VRE positive were isolated or cohorted and cared for by dedicated nursing.
- Daily review of patients who are VRE positive and delays in discharge discussed and expedited.

Review of Clinical Practice:

- Hand hygiene and PPE posters were updated at the ward entrances and patients and staff were encouraged to challenge poor compliance
- Hand Hygiene light box initiatives used to support appropriate technique
- Correspondence sent from the Clinical Lead and Head of Nursing to all staff emphasising the importance of good hand hygiene and clinical practice
- Hand hygiene audits undertaken by both nursing and medical staff. Poor practice challenged and escalation process implemented
- The IPC team observed practice on the MVC 'foot round' and recommended changes to practice
- Environmental walk-around undertaken by the IPC Team and recommendations made to declutter/review environmental /patient shared equipment cleaning
- Enhanced environmental cleaning supported by daily reviews of environmental cleanliness walk-arounds initiated between ward managers and Sodexo
- Hand hygiene amongst patients and relatives/ carers reinforced
- Delivery of ward based teaching sessions to the multi-disciplinary team by the IPC Team
- A letter was circulated to patients and relatives to inform them of the outbreak.

HNSU remained open throughout the outbreak; however MVC was closed 16th November 2017 and reopened on 29th November following a deep clean of the unit.

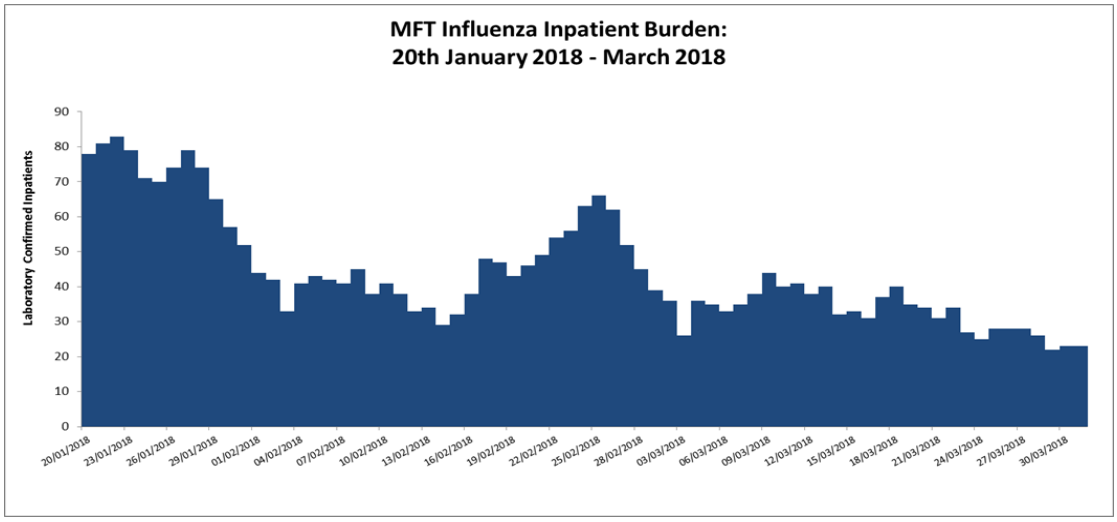
Lessons learned were shared at the Group Infection Control Committee and will be discussed at the Hospital/MCS infection control group meetings.

SECTION 5: INFLUENZA ACTIVITY 2017-2018 SEASON

5.1 Influenza Activity

Fig. 11 below shows the Influenza in-patient burden. Between 20th January and 31st March 2018, there were 590 confirmed cases at Oxford Road/Trafford and 310 cases at Wythenshawe Hospital representing a significant increase from last year's Influenza season with greater than a 660% increase over both sites.

Fig.11 MFT Influenza In-patient Burden January – March 2018



5.2 Implementation of the Influenza Action Plan January 2018

Nationally, 2017/18 was the most challenging influenza season since the pandemic of 2010/11. In anticipation of this the Policy for the Management of Patients with Influenza and Guidance on Treatment was revised and ratified at the Trust Infection Control Committee in November 2017. From January, when the number of cases began to rise, the following additional actions were implemented to support staff in clinical areas;

- Daily meetings to manage the response across the Group led by the Director of Infection Prevention and Control.
- Extended working hours in Virology and the introduction of a rapid test method to decrease turn-around time for flu test results (as an interim measure). This information was included in poster as a quick guide for staff and circulated to the Hospitals Senior Management Teams.
- An IPC nurse was designated as the 'flu nurse' on a daily basis. The IPC nurses also came in at weekends to support management of patients with influenza.
- An algorithm for management of in-patients/admissions with suspected Influenza was circulated to the Hospitals Senior Management Teams.
- Communication, using a range of posters /telephone holding messages to visitors to the Trust asking them not to visit if they had flu-like symptoms.
- A daily Situation Report (Sit-Rep) was sent to NHS England

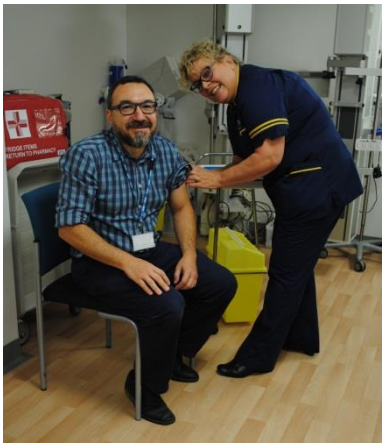
5.3 Staff Influenza Vaccination Campaign

The campaign to vaccinate staff was launched in September 2018 with the aim of achieving 75% uptake amongst frontline staff. The Trust achieved an overall level of compliance of 61.2% (9,698) across all members of frontline staff. Fig. 12 shows the breakdown by site and staff group.

Fig. 12 Staff Influenza Vaccination Uptake

Staff Group	Wythenshawe Hospital	Oxford Road Campus
Doctor	79%	80%
Nurse/Midwife	66%	49%
Professionally Qualified Clinical Staff	93%	63%
Support to Clinical Staff	99%	42%
Total	**81%**	**54%**

From January there was a focus on increasing vaccination amongst frontline staff by undertaking 'roving clinics' in targeted areas where there were high numbers of patients with Influenza. The Chief Nurse also sent a letter to all registered nurses and midwives (who are e-mail account holders) advising them of the benefits of vaccination.

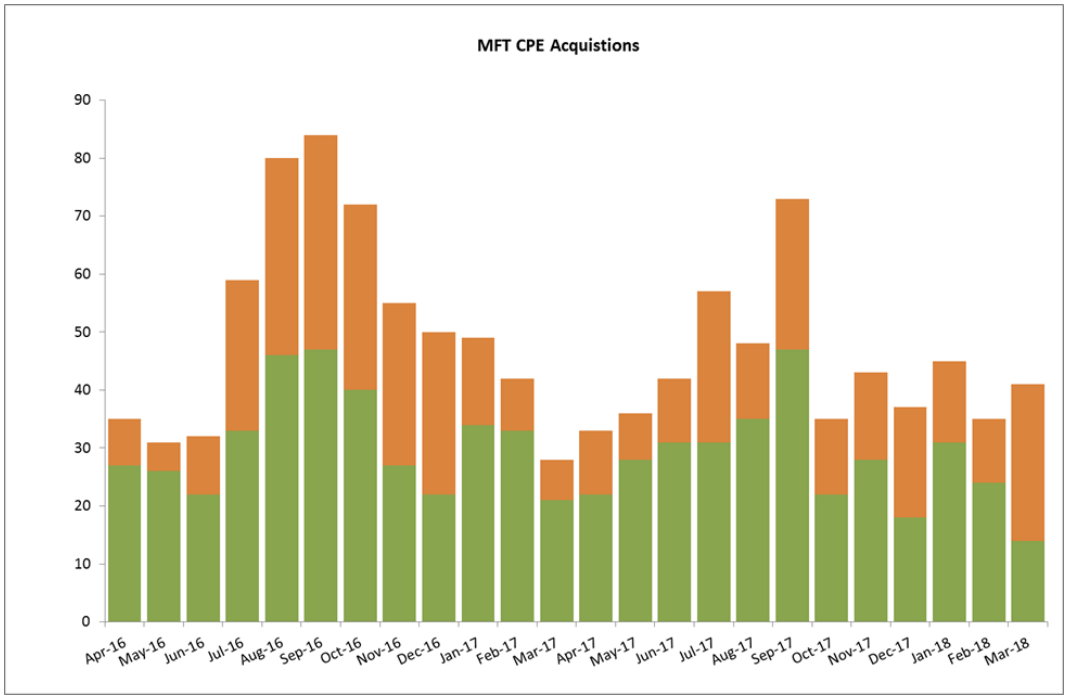


There have been lessons learned from this year's Influenza season that will be carried forward into the infection prevention and control action plan for 2018/19.

SECTION SIX: CARBAPENEMASE PRODUCING ENTEROBACTERIACEAE (CPE)

The number of new isolates of CPE from April 2017 – March 2018 can be found in Fig. 13 below.

Fig. 13 MFT CPE Acquisitions – April 2017 - March 2018



6.1 CPE Screening Policy at Oxford Road/Trafford Campus

Following consultation with the Trust Infection Control Committee and PHE, a risk based operational/working approach to screening was adopted at the Oxford road/Trafford Campus across the Manchester Royal Infirmary from April 2016.

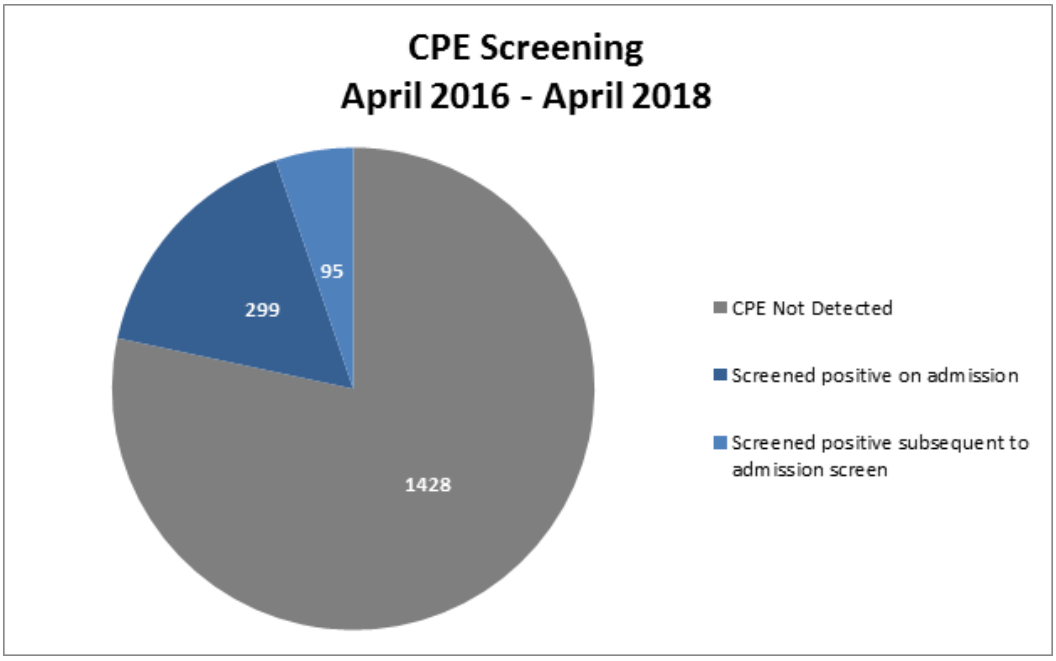
All previously CPE positive patients were re-screened on admission, using a rapid PCR test. Those who screened CPE negative (subsequently referred to as CPE not detected*), were admitted into the general ward population following risk assessment and were closely monitored during their admission (i.e. re-screened every 72 hours). Data on relevant risk factors was collected by the IPC Team on all patients on the pathway during their in-patient stay (see Fig. 14 for results of screening since the change to the policy in 2016).

6.2 CPE Screening Policy at Wythenshawe Hospitals

All patients who were admitted to another hospital in the UK or abroad within the last 12 months were screened for CPE on admission. Data on screening compliance was available from February 2018. Results indicated 35.3% compliance for February and 39.1% compliance for March. The results were discussed at the Hospital Infection Control Committee and an action plan has been implemented to improve compliance.

**no longer had detectable levels of CPE on re-screening and therefore did not represent a significant risk of onward transmission of CPE to other patients.*

Fig. 14 Results of CPE Screening Oxford Road /Trafford Campus from April 2016 – April 2018



6.3 Outbreaks of CPE

There were four ward closures at Wythenshawe Hospital due to CPE (please see Fig 15 below) and none at the Oxford Road/Trafford Campus.

Fig. 15 Outbreaks of CPE at Wythenshawe Hospital April 2017 – March 2018

Ward	Division	Hospital	Date of closure	Date re-opened	Number of Days Closed	Number of patients affected	Number of staff affected
Burns Unit	Specialist Surgery	Wythenshawe	12/07/2017	16/08/2017	35	4	0
Wilson	Respiratory	Wythenshawe	16/08/2017	22/09/2017	37	17	0
Burns Unit	Specialist Surgery	Wythenshawe	09/01/2018	05/02/2018	27	2	0
Doyle	Respiratory	Wythenshawe	19/03/2018		Remains closed (31/03/18)	24	0

6.4 Transmission of Carbapenemase Producing Enterobacteriaceae (TRACE) Project

The Trust is at the forefront of developing national as well as local policy for the management and control of patients with CPE and continued to liaise with PHE at a local and national level throughout the year on the TRACE project. The investigation was undertaken by the IPC Team in collaboration with PHE and the National Institute for Health Research (NIHR), Public Health Research Unit (PHRU) and the national Lead for Infection Control Professor Derrick Crook, based at the University of Oxford.

This study investigated the role of the environment in the transmission of CPE and involved taking patient screens and environmental samples for CPE across six wards in the Manchester Royal Infirmary. The field work was completed in January 2017.

In January 2018, Professor Crook returned to the Trust to provide feedback on the findings of the TRACE project "Plumbing new depths to TRACE the source of CPE" which was attended by over 150 members of staff.

In March 2018 the Trust hosted a one day workshop to discuss the national strategy for the management of CPE. The event was chaired by Professor Crook and attended by representatives from the Department and the national PHE Team as well as the IPC Team.

6.5 Isolation Facilities

The Trust is pleased to report a further reduction in isolation beds from 27 to 20 due to the continued management and prevent of CPE.

6.6 Factors Affecting the Implementation and Acceptability of Hospital Screening Policies for Antimicrobial Resistant Organisms (including CPE)

Following approval from the Trust Division of Research and Innovation the Trust IPC Team collaborated with Glasgow Caledonian University on a qualitative study about staff and patient perceptions of CPE commissioned by the Scottish Infection Research Network and Health Protection Scotland**.** The final report was submitted in January 2018.

6.7 Presentations at Conference

The IPC Team have a wealth of knowledge and expertise on managing patients with CPE. This year Mrs Julie Cawthorne, Consultant Nurse IPC presented papers on the management and control of CPE at the following conferences during 2017/18:

16th October 2017: 'That Sinking Feeling', North West infection Control Practitioners (NORWIC) annual meeting, Wythenshawe Hospital.

5th February 2018:'CPE in an Acute Hospital', 22nd Annual Infection Prevention and Control Conference, Keyll Darree, Nobles Hospital, Isle of Man.

SECTION 7: DEVELOPMENTS IN CLINICAL PRACTICE

7.1 Updated Infection Prevention and Control (IPC) Policies

To ensure continued compliance to The Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance, an addendum to each sites Strategy/Overarching Policy for Prevention and Control of Healthcare Associated Infections was agreed by the Integration Oversight Group.

Site specific infection prevention and control policies and procedures were available on the Intranets for the Oxford Road /Trafford Campus and the Wythenshawe Hospitals.

7.2 International Hand Hygiene Day (May 2017) and International Infection Control Week (October 2017) Oxford Road/Trafford Campus

To support the work undertaken at the Oxford Road/Trafford Campus the hospitals participated in the World Health Organisation (WHO) Saves Lives: 'Clean your hands campaign' in May 2017 which focussed on correct hand hygiene technique.

As part of International Infection Control week (October 2017), the IPC Team set up stands in the hospital atriums to raise awareness of hand hygiene and decontamination of patient shared equipment. The campaign was well received by both staff and members of the general public who participated.

7.3 Raising Awareness of Good IPC Practice

At Oxford Road/ Trafford Campus and Wythenshawe Hospitals, the IPC Teams worked in collaboration with a commercial alcohol hand gel supplier, to engage staff in fun, interactive hand hygiene training sessions. The 'SureWash Hand Hygiene System' (an interactive computer application programme) was utilised to assess correct hand hygiene compliance and support improved staff knowledge and competence in performing the seven stage hand hygiene technique and promoting good skin integrity.

In collaboration with Health and Safety and Waste Management, the IPC Team at Wythenshawe Hospitals provided training sessions focussed on safety in handling and disposal of sharps. As part of the 'Keep Me Safe' Campaign, the Sharps Safety Group, led by the IPC Team, developed information leaflets, a screen saver and staffed an educational display to assist in raising awareness of reducing the risks of needle stick/sharps injuries.

7.4 CDI outbreak management within the Renal Transplant Wards at Oxford Road Campus

Following a period of increased incidence of *Clostridium difficile* infection amongst patients within the Renal Transplant Ward at Oxford Road campus, a novel joint outbreak/ Transplant Consultants multidisciplinary team meeting was undertaken as part of the control measures. This provided a forum where senior and junior clinicians were apprised of the situation and involved in the agreement of corrective actions to address the issue. Work streams included; an emphasis on good practice in relation to antibiotic prescribing documentation, review of surgical antibiotic prophylaxis guidance and the importance of the principles of infection control. The process endorsed the need to take ownership for practice and was enthusiastically received by staff that attended.

7.5 Review of Decontamination of Non-Invasive Ultrasound Probes

The IPC Team reviewed the method of decontamination of non- invasive ultrasound probes and replaced multi-use disinfection foam with a single use disinfectant wipe. This method is specifically designed for the cleaning and disinfection of skin surface ultrasound probes, provides a broad spectrum of micro-organisms kill and is a cost effective, quick and easy process.

SECTION 8: TRAINING AND EDUCATION

All training and educational programmes were developed and updated in accordance with changes to national policies and guidance, requirements of the service and local need.

8.1 Induction and Mandatory Training

The IPC Teams at Oxford Road/Trafford Campus and Wythenshawe Hospitals delivered face-to-face training on the key principles of infection prevention and control to all new starters at corporate induction. The Team at Oxford Road/Trafford Campus also contributed to induction sessions on Aseptic Non-Touch Technique (ANTT) theory, MRSA, *Clostridium difficile* infection and CPE for all Nursing and Midwifery staff. The IPC Team at Wythenshawe Hospital supported clinical teams with the delivery of ANTT training by providing an e learning module accessible via the Intranet Learning Hub.

Annual competency assessment was undertaken across each hospital for all staff that practice ANTT procedures. Compliance was monitored through the divisions and reported to the Group Infection Control Committee.

Each hospital received mandatory training attendance reports through the online management system to enable monitoring of training compliance.

8.2 Link Worker Training at Wythenshawe Hospitals

The IPC Team at Wythenshawe Hospital provided study days on a quarterly basis for the Infection Prevention link workers. Each ward/department had an identified link worker that acted as the infection prevention and control champion. The role included raising awareness on current infection prevention and control practices and supporting the implementation of policies, guidelines and best practice. Lectures and practical sessions were delivered at the study days by microbiologists, guest speakers and members of the IPC Team. Evidence of shared learning and the identification of a named IPC link worker, for each ward/department, contributed to the ward accreditation process.

8.3 Infection Prevention and Control Training for Medical Staff

The IPC Team delivered the theoretical component of ANTT training for all medical staff new to the organisation at Oxford Road/Trafford Campus and Wythenshawe Hospitals.

In addition, the IPC Team at Oxford Road Campus supported sessions for Medical Students in year one, three and five on placement in the Trust; and Wythenshawe Hospitals Team delivered sessions for medical students in year three and facilitated sessions for students in year four and five. These sessions included the key principles of infection prevention and control and ANTT theory.
The IPC Team at Wythenshawe Hospital provided a bespoke training session for a number of areas, for example: at the Induction for Medical Staff on the Surgical Rota.

8.4 Student Nurse Education

During the last year the IPC Team at Oxford Road/Trafford Campus welcomed nursing students on spoke placements to spend dedicated time with the IPC Team. The feedback was positive and enabled the students to gain a valuable insight into the principles of infection prevention and control nursing.

The IPC Team at Wythenshawe Hospital provided 8-12 week placements for 1st and 2nd year nursing students. The team received positive feedback from students and the training programme has been re-accredited in March 2018.

The IPC Team at Oxford Road/ Trafford Campus, in conjunction with the Professional Development and Education Team, organised a multi professional learning workshop comprising formal presentations on the topic of “CPE outbreak management”. The feedback was very positive with 40 team members attending.

In February, the Trust in collaboration with the University of Bolton welcomed a further cohort of the non-commissioned BSc (Hons) Adult Programme for Nurse training. The IPC Team at Oxford Road/ Trafford Campus were invited to devise and deliver the infection prevention and control teaching sessions.

8.5 Additional Training Sessions

In addition, the IPC Teams delivered a range of training /education sessions to;

- International Nurses recruited to the Oxford Road/Trafford Campus
- Staff working in areas where there was an outbreak of infection
- Hospital Volunteers
- Work Experience Students
- Annual Young Peoples Open Day
- Pharmacists
- Trainee Nurse Associates

The IPC Team at Oxford Road/Trafford Campus hosted colleagues from both China and Holland and shared good practice in relation to accountability arrangements, clinical practice, documentation and education.

8.6 Training Programmes

A summary of the training sessions conducted, excluding induction and mandatory training sessions, can be found below in Fig. 16 and 17.

Fig. 16 Teaching Sessions undertaken by the IPC Team at Oxford Road Campus (April 2017 – 2018)

Teaching Sessions	Number of sessions	Total Staff attended
IPC – Medical Staff	3	13+
Medical Students – IPC and ANTT	5	245
ANTT – Medical staff	9	98
ANTT – Nursing Staff	31	676
BSc University of Bolton Students	1	20
International Nurses	7	48
Clinical Staff – General IPC	46	413
Work experience students	10	82

Fig. 17 Teaching Sessions undertaken by the IPC Team at Wythenshawe Campus (April 2017 – 2018)

Teaching Sessions	Number of sessions	Total Staff attended
IPC – Medical Staff	2	12+
Medical Students (3 Year) – ANTT	1	124
Physician Associates	1	14
IPC Link Worker Study Days	3	152
ANTT – Medical staff	43	231
Hand Hygiene	4	146
ANTT – Trainee Nurse Associates	1	21
Fit testing Medical Staff	13	19
Clinical Skills Programme for HCSWs	10	tbc
Partners-General IPC	5	53
Clinical Staff – General IPC	10	10+ each session

SECTION 9: MAINTAINING A CLEAN ENVIRONMENT

9.1 DECONTAMINATION SERVICES

Sterilisation of re-useable surgical devices was undertaken centrally on site at the Oxford Road/Trafford Campus in the Decontamination Services Department. The Department was accredited to ISO 13485:2016 and was also assessed and certified as meeting the requirements of Directive 93/42/EEC on medical devices, Annex V.

Wythenshawe and Withington Hospitals continued in Partnership with Trafford, Christies and North Cheshire to receive sterile services from Steris; there was a detailed action plan in place to ensure that the out sourced service was effective and responsive to support the provision of high quality patient care. This was monitored by the Decontamination High Risk Group.

Decontamination of flexible endoscopes was undertaken on the Oxford Road Campus in satellite units in the associated clinical areas. The Endoscopy Department at Trafford Hospital was accredited by the Joint Advisory Group (JAG). JAG accreditation for the Manchester Royal Infirmary (MRI) Endoscopy Unit was sought following the recommissioning of the unit in February 2018 but was deferred at the request of the JAG team. A subsequent visit has confirmed JAG Accreditation of this upgraded unit.

Decontamination of flexible endoscopes was undertaken in centralised units on the Wythenshawe and Withington Sites. The Wythenshawe unit was JAG accredited.

The programme of works to upgrade the Trust's endoscopy reprocessing capabilities continued; the Children's Hospital theatres, MRI Out Patients Department and Main Endoscopy have been completed. MRI Elective Treatment Centre and Withington Hospital Units are in progress and the current programme is anticipated to be completed with the Trafford Endoscopy Unit upgrade in October 2018.

Decontamination of contaminated consumables within the Microbiology Departments at Wythenshawe and Oxford Road Campus was carried out in accordance with Health Technical Memorandum (HTM) 2010.

9.2 Decontamination Monitoring Groups

There were four Decontamination Groups across the Oxford Road/Trafford and Wythenshawe Campus;

- The Trust Decontamination Monitoring Group (Oxford Road/Trafford Campus), sub–group of the former CMFT Infection Control Committee.
- Decontamination Group: Low Risk Devices / Patient Shared Equipment (Wythenshawe Campus), sub–group of the former UHSM Infection Prevention Committee.
- Decontamination Group: High Risk Devices (Wythenshawe Campus), sub–group of the former UHSM Infection Prevention Committee.
- The Decontamination of Endoscope Working Group (Oxford Road/Trafford Campus), sub group of the Trust Decontamination Monitoring Group (Oxford Road/Trafford Campus).

Each of these groups met every two months. The integration of the Decontamination Groups has been authorised by the Director of Infection Prevention and Control.

9.3 Decontamination Leads

- The Interim Compliance Manager was the designated Decontamination Lead for the Oxford Road/Trafford Campus and the Head of Nursing for Clinical and Scientific Services was the designated Decontamination Lead for Wythenshawe Hospital. Both worked together to ensure consistency and collaboration across the merged Trust.

- Dr J A Kerry was the Authorised Engineer for Decontamination (AED) for the Oxford Road/Trafford Campus and Wayne Spencer for Wythenshawe Hospital.

9.4 Decontamination of Endoscopes

All flexible endoscopes were decontaminated using the Automated Endoscope Reprocessors across MFT with the exception of nasendoscopes used in the Ear Nose and Throat (ENT) Department at Trafford and Altrincham. The process for decontamination for these nasendoscopes was a manual wash followed by use of the Tristel Wipe System, (this standard meets the Essential Quality requirements (EQR) in CFPP 106 NHS Guidance document). Spot audits were carried out on the process and service improvements implemented through the year to maintain the standard.

9.5 Rinse Water Testing

Routine rinse water sampling was undertaken by Getinge at the Oxford Road/Trafford Campus and in house at Wythenshawe Hospital. Additional parallel sampling continued at the Oxford Road/Trafford Campus following a high level incident (previously reported) in 2016.

9.6 Validation of Automated Washer Reprocessors (AER's)

It is a national requirement to have all AER's validated. Getinge and Cantel continued to service the units in accordance with the testing standards. All units were fully compliant and the annual validation was signed off by the Authorised Engineer(s) for Decontamination as appropriate.

9.7 Audits of the Trust-wide Satellite Endoscope Decontamination Units

In accordance with national guidance there was a complete programme of annual audit for all decontamination facilities. At the Oxford Road Campus the annual audit was undertaken at the same time as the upgraded units were commissioned. The Working Group established in 2015 continued to meet bi-monthly to oversee the implementation of the programme. The Working Group included relevant Trust experts as well as service representatives according to the needs of the Group.

9.8 Management of Water Quality

The management of Water Quality across the Trust Estate was undertaken in accordance with relevant guidance and legislation (L8 and HTM-04) and reported into the Trust Water Safety Groups (WSG) in accordance with guidance in the new HTM04).

9.9 Trust Water Safety Groups

- The Interim Compliance Manager was the designated Water Safety Lead for the Oxford Road/Trafford Campus and the Estates Manager was the designated Water Safety Lead at Wythenshawe Hospital.

- The Trust appointed Dr T Makin as Authorising Engineer for Water (AEW) for the Oxford Road Campus and Paul Nolan as AEW at Wythenshawe Hospital.

The Trust Water Safety Groups (WSG) reported to the respective Trust Infection Control Committee. The Groups met bi-monthly (Oxford Road/Trafford Campus) and monthly (Wythenshawe Hospital) to review the Trust's compliance associated with the national regulations; L8 and HTM-04. The integration of the Water Safety Groups has been authorised by the Director of Infection Prevention and Control.

9.10 Trust Water Policy and WSG Terms of Reference

The Trust Water Policy (Oxford Road/Trafford Campus) was re-written to reflect the changes in the new HTM04 (2016) along with revised Terms of Reference to reflect these changes and was approved by the WSG and Estates and Facilities Management Board in year. Work has commenced on a new merged Trust Policy.

9.11 Management of Risk for *Legionella*

Water sampling for *Legionella* was undertaken in accordance with L8 and HTM-04. Remedial action was successfully undertaken on outlets that did not meet the required standard. All building and engineering projects were required to provide additional testing if they included modification or connection to the existing water system including the need to undertake Water Risk Assessments in line with the new HTM.

9.12 Management of *Pseudomonas aeruginosa* from Water Outlets in High Risk Clinical Areas

The list of Augmented Care Units was constantly reviewed and managed by the Trust Water Safety Groups. Sampling for *Pseudomonas* continued in accordance with the addendum to HTM 04.

9.13 Individual Site Audits

There was an on-going programme of site audits, water action plans from the audits were implemented with actions monitored and reported back to the respective WSGs along with sign off by the Trust AE(W). Each action plan was reviewed and risk assessed in line with the Trust's Risk Assessment Matrix by the Compliance Team, AEW and appropriate operational staff.

9.14 Ventilation Safety Groups

The multidisciplinary Ventilation Safety Group (VSG), a sub group of the Infection Control Committee at Wythenshawe Hospital, met monthly. The Electrical, Heating and Ventilation Committee, a sub-group of the Strategic Health and Safety Committee, at the Oxford Road/Trafford Campus, met quarterly. The role of these groups was to monitor the legal and mandatory requirements of ventilation systems in healthcare premises; this includes the design, maintenance and the operation of ventilation systems.

CLEANING SERVICES:

9.15 Contracting Arrangements

The Trust cleaning services were provided by both internal and external contractors/teams.

- Sodexo Healthcare was the main contractor for the provision of cleaning services across the Oxford Road/Trafford Campus, including the Dental Hospital and Old Saint Mary's building and Wythenshawe Hospital.

- Withington, Trafford and Altrincham Hospitals and the Intermediate Care Units all had services provided by in-house teams.

9.16 Monitoring Arrangements

As part of the contracts Sodexo were required to self-monitor the performance of cleaning services against key performance indicators. These were reported to the Trust on a monthly basis for analysis and challenged where appropriate by the Estates and Facilities Team.

The services at Withington, Trafford and Altrincham Hospitals and the Intermediate Care Units were managed and monitored through internal in-house arrangements with the service managers and local users.

In addition, the standards of cleanliness were monitored and reported for all sites through the monthly Quality of Care Rounds, the Ward Accreditation Process and the Patient Experience Tracker, (Oxford Road Campus/Trafford Hospital). These results informed areas of best practice and areas where additional focus was required.

9.17 The Role of the Infection Prevention and Control Team

The Infection Prevention and Control Team worked in conjunction with the Trust Estates and Facilities Teams, Clinical Divisions, Sodexo and internal providers to ensure cleaning standards were met across the Trust.

9.18 Cleaning Schedules

Which provided users with information on what services should be delivered and how to escalate non-compliance; and, a cleaning matters/log book process which required clinical and cleaning staff to record the completion of tasks and log additional or amended requirements.

9.19 Infection Prevention and Control Training for Domestic Staff

All new employees attended a generic induction which included the principles of Infection Prevention and Control.

9.20 Patient Led Assessment of the Care Environment (PLACE)

The annual Patient Led Assessments of the Care Environment (PLACE Assessments) were carried out at the Oxford Road Campus from 24th to 28th April 2017; at the Trafford and Altrincham Hospital on 2nd and 3rd May 2017; and at the Wythenshawe and Withington Hospitals on 20th to 23rd March 2017. The assessors visited wards, outpatient departments and emergency departments, carried out food assessments, and undertook a review of the external and internal public areas on all sites. PLACE Assessment teams comprised of Patient Assessors (who are required to make up 50% of each Assessment team), together with representatives from Nursing, Infection Prevention and Control Team and Estates and Facilities. The scores for each of the five assessment categories are shown in Fig 18:

Fig. 18 PLACE Assessments 2017

Category	Oxford Road Campus	Trafford & Altrincham	Wythenshawe & Withington
Clean	98.39%	99.41%	98.92%
Food	89.11%	84.98%	91.53%
Organisation Food	88.68%	86.95%	86.96%
Ward Food	89.21%	83.75%	92.97%
Privacy, Dignity & Wellbeing	78.99%	83.24%	90.91%
Condition, Appearance & Maintenance	95.61%	96.51%	97.03%
Dementia	76.36%	76.70%	80.92%
Disability	84.89%	81.54%	87.01%

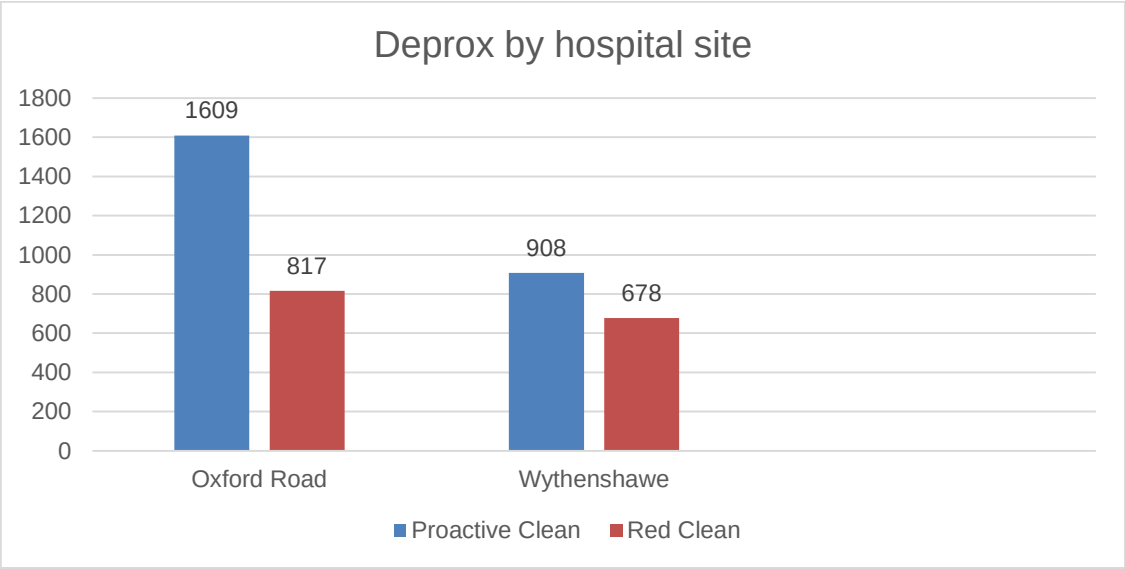
9.20 Contract for the use of Hydrogen Peroxide Vapour (HPV) with Hygiene Solutions (Deprox)

Hygiene Solutions provided a contract for a managed service for the Oxford Road/Trafford Campus and Wythenshawe Hospitals. This enabled a timelier and proactive service for the use of HPV as well as bringing significant cost savings to the Trust. Fig. 19 demonstrates HPV usage by site;

- Reactively (red clean) to decontaminate an area following discharge of a patient with infection
- Proactively (proactive clean) to decontaminate ‘high risk’ zones in clinical areas such as bathrooms/toilets where there were in-patients with infection

The IPC team also worked with Hygiene Solutions to develop the use of Ultra – violet technology (UV-C), as an adjunct to cleaning in areas where it is difficult to use HPV.

Fig. 19 Total Number of Deprox Cycles Deployed at Oxford Road/Trafford Campus and Wythenshawe Hospitals



SECTION 10: AUDIT

In accordance with the Health Act (2008) all NHS organisations are required to audit key policies and procedures for infection prevention and control to provide assurance that practice is effective in the prevention of Health Care Associated Infections (HCAI's).

10.1 The Quality Care Round (QCR) – Oxford Road/Trafford Campus and the Ward Accreditation Process at Wythenshawe Hospitals

The QCR and Ward Accreditation Process led by an Accreditation Team were undertaken by the ward Manager/Matron to monitor compliance against standards across the clinical areas. This included standards related to infection control practice in the patient environment. Adverse results are addressed at the time of the audit.

10.2 Hand Hygiene Compliance Audit - Oxford Road/ Trafford Campus

All clinical areas undertook local audits of compliance with the Hand Hygiene Policy regularly throughout the year. Results were discussed and actioned at divisional infection prevention and control groups and reported to the Trust Infection Control Committee. In addition in October 2017 an annual audit of hand hygiene practice was undertaken across all divisions within the Oxford Road/Trafford Campus. The results were measured against previous audits which were carried out in July 2014, May 2015, July and December 2016.

The standards measured were defined as: when entering a clinical area, exiting a clinical area, entering a side-room/bay, exiting a side-room/bay, before patient contact and after patient contact. A total of 2,000 observations were submitted. Overall compliance was 88%, demonstrating an improving picture since the first audit in July 2014 which showed 82% compliance (see Fig. *20* below). The results were distributed to the Heads of Nursing for action through the divisional Infection Control groups.

Fig. 20 Hand Hygiene Audit Compliance Rates Oxford Road/Trafford Campus July 2014 – October 2017

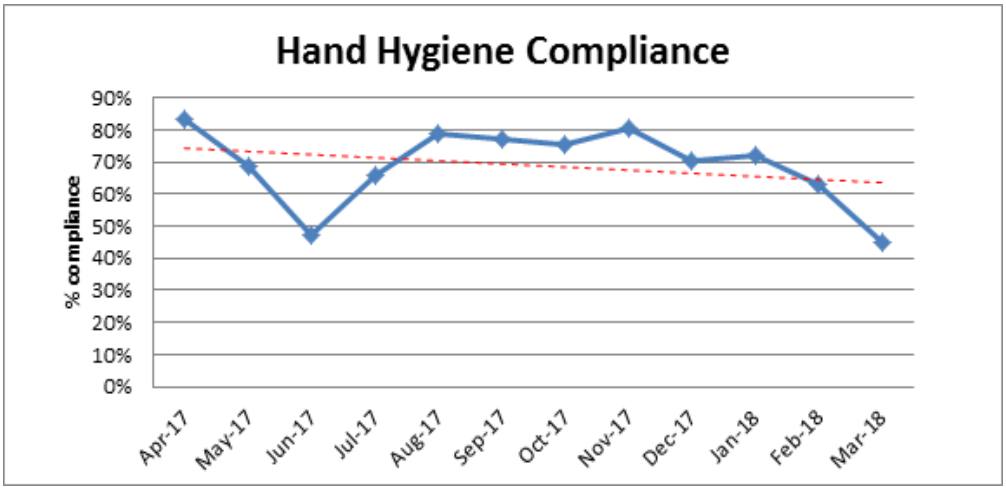
Area	Compliance July 2014 (%)	Compliance May 2015 (%)	Compliance July 2016 (%)	Compliance Dec 2016 (%)	Compliance Oct 2017 (%)	Change
Total	**82%** (1497/1830)	**83%** (1204/1455)	**86%** (1216/1418)	**87%** (1310/1510)	**88%** (1750/1998)	↑
CSS	**78%** (60/70)	**94%** (61/65)	**88%** (49/56)	**92%** (46/50)	**67%** (42/63)	↓
Dental	**84%** (113/135)	**97%** (70/72)	**97%** (70/72)	**93%** (95/102)	**90%** (57/63)	↓
Medicine	**84%** (121/144)	**79%** (166/210)	**82%** (112/136)	**89%** (93/105)	**92%** (152/166)	↑
Eye	**71%** (68/139)	**83%** (124/149)	**90%** (159/177)	**88%** (198/226)	**93%** (346/373)	↑
RMCH	Not reported	Not reported	**86%** (268/311)	**83%** (198/226)	**82%** (258/316)	↓
St Mary's	**84%** (303/539)	**84%** (150/179)	**95%** (176/186)	**75%** (192/257)	**95%** (484/511)	↑
Specialist Medicine	**84%** (129/153)	**89%** (153/172)	**66%** (175/265)	Not Audited	**76%** (195/255)	↑
Surgery	**80%** (198/248)	**68%** (159/233)	**96%** (207/215)	**87%** (230/263)	**76%** (83/109)	↓
Trafford	**92%** (249/271)	**81%** (128/158)	**96%** (207/215)	**87%** (230/263)	**76%** (83/109)	↓

10.3 Hand Hygiene Compliance Audit – Wythenshawe Hospitals

The audit measured compliance across all clinical areas and all staff disciplines against the '5 Moments' of hand hygiene. These were defined as before and after patient contact, before an aseptic procedure, after contact with potential contamination, after contact with the patients surroundings or when leaving the 'patient zone'.

The audit was undertaken by each ward every month as part of the Ward Audit Programme. Staff were challenged at the time of the audit, the results were also discussed at directorate governance meetings to identify any further action required. (*See Fig. 21 below*)

Fig. 21 Hand Hygiene Compliance Rates Wythenshawe Hospitals



10.4 Audit of Urinary Catheterisation and Catheter Care Integrated Care Pathway (ICP) Oxford Road/ Trafford Campus

This aim of the audit was to assess compliance with the Integrated Care Pathway (ICP) for urinary catheterisation and catheter care. All patients who were admitted with a urinary catheter or who had a urinary catheter inserted as part of their care whilst in hospital require an ICP for catheterisation and catheter care commenced. The risk assessment and insertion proforma must be completed at the time of insertion and the catheter care bundle completed daily.

A total of 112 patients notes were reviewed across six of the adult divisions where the ICP was in use (The Children's Hospital use bespoke documentation and the Division of Eye and Dental had no patients with urinary catheters in-situ at the time of the audit). Results of the audit were distributed to the Heads of Nursing for review at divisional Infection Control Meetings. The Standards that were measured are detailed in the results table below (see Fig. 22 below**)**

Fig. 22 Results of the Audit of Urinary Catheterisation and Catheter Care Integrated Care Pathway (ICP) Oxford Road/ Trafford Campus

Standards		Total	CSS	Medicine	SMH	SMS	Surgery	TGH
1	The leg bag or drainage bag should be on a stand	97% (94/97)	100% (2/2)	92% (23/25)	100% (12/12)	100% (23/23)	94% (17/18)	100% (17/17)
2	If reason for insertion is "acute urinary retention", "non-acute urinary retention" or "failed TWOC" a bladder scan should be been completed	61% (14/23)	100% (1/1)	57% (4/7)	100% (2/2)	0% (0/3)	40% (2/5)	100% (5/5)
3	Catheter insertion should be documented	76% (90/119)	71% (10/14)	83% (25/30)	100% (14/14)	39% (9/23)	89% (17/19)	79% (15/19)
4	Catheter insertion documentation should be signed	71% (85/119)	64% (9/14)	80% (24/30)	86% (12/14)	39% (9/23)	84% (16/19)	79% (15/19)
5	Catheter insertion documentation should be dated	75% (89/119)	79% (11/14)	83% (25/30)	100% (14/14)	39% (9/23)	79% (15/19)	79% (15/19)
6	Catheter batch details should be present on the ICP	75% (89/119)	64% (9/14)	70% (24/30)	86% (12/14)	61% (14/23)	84% (16/19)	74% (14/19)
7	There should be documented evidence of ANTT practice during the procedure	70% (75/107)	54% (7/13)	92% (24/26)	73% (8/11)	41% (9/22)	79% (15/19)	75% (12/16)
8	The catheter review date should be clearly documented on the ICP	55% (62/112)	57% (8/14)	74% (20/27)	42% (5/12)	35% (8/23)	37% (7/19)	82% (14/17)
9	There should be a catheter fixation device insitu	59% (66/112)	92% (12/13)	58% (15/26)	42% (5/12)	61% (14/23)	26% (5/19)	79% (15/19)
10	The catheter care bundle should be completed in full	68% (72/106)	100% (12/12)	80% (24/30)	0% (0/3)	52% (12/23)	74% (14/19)	53% (10/19)
11	If UTI treatment, the catheter should be changed on diagnosis	40% (6/15)	N/A	43% (3/7)	0% (0/3)	50% (1/2)	100% (1/1)	25% (1/4)

10.5 Inpatient Indwelling Urinary Catheter Risk Assessment Documentation Audit- Wythenshawe Hospitals

The audit was undertaken by the Continence Team who visited a total of 31 wards/departments within scheduled and unscheduled care (Scheduled Care- 17 wards, Unscheduled Care- 14 wards), twice weekly for the month of August and September and daily for the month of October 2017.

A total of 667 patients with a urinary catheter were included in the audit of which; 140 (20%) were patients admitted from a community setting with the catheter already in situ. The aim of the audit was to;

- Identify the number of patients with an indwelling urinary catheter.
- Identify if the urinary catheter placement was appropriate / inappropriate.
- Ascertain if the urinary catheterisation documentation was being completed and maintained.
- Review if the need for a urinary catheter was appropriate for each patient.

The findings can be found in Fig. 23 and Fig. 24 below

Fig. 23 Reason for Urinary Catheterisation

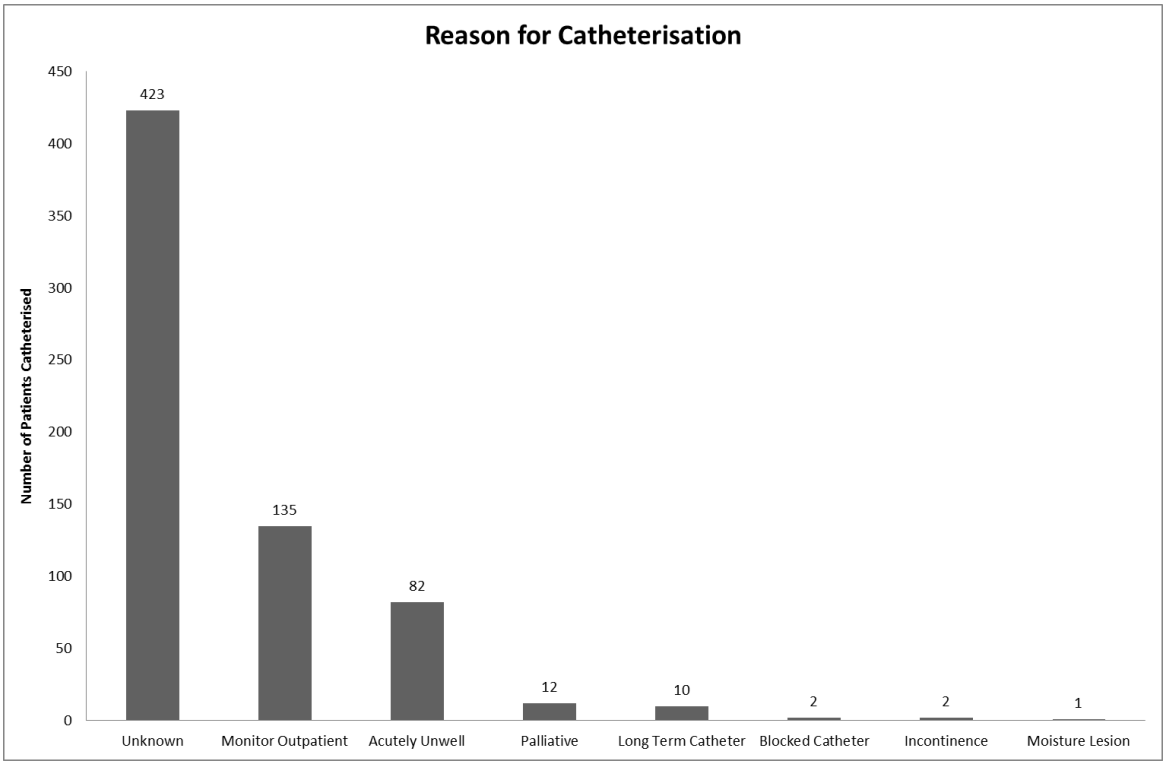


Fig. 24 Urinary Catheterisation Documentation

Standard	Number / percentage
Catheter risk assessment within their notes.	**365 (64%)**
Daily review	**498 (75%)**
Approved fixation device used	**97 (15 %)**
Catheters that could have potentially been removed	**38 (6%)**
Planned removal date	**68 (10%)**
Documented CAUTI	**14 (2%)**

Staff were challenged at the time of the audit, the results were also discussed at directorate governance meetings to identify any further action required.

The findings from the audit suggested gaps in healthcare professional's knowledge, skills and training. This was addressed by the development and delivery of an on-line training package for staff who were unable to attend a face to face training session.

10.6 High Impact interventions Compliance Audit – Wythenshawe Hospitals Department of Health *'Saving Lives': reducing infection, delivering clean and safe care* programme

The High Impact Interventions Tools were used across Wythenshawe Hospital to monitor compliance with the following standards for insertion/maintenance of invasive devices;

Staff were challenged at the time of the audit, the results were discussed at directorate governance meetings and further action taken as required. (Compliance results can be found in Fig. 25 below).

Invasive device	Standard (Observed)
Central venous catheters	Correct method of insertion including - Catheter type, Insertion site, use of personal protective equipment (PPE), Skin preparation, Aseptic non touch technique (ANTT), hand hygiene (H/H), Dressing selection, disposal of sharp and documentation.
Peripheral cannulas	Correct method of insertion including ANTT, H/H, PPE, Skin prep, Dressing selection and documentation.
Renal catheters	Correct method of insertion including Dialysis catheter type, insertion site, skin preparation, ANTT, PPE, H/H, Dressing selection, disposal of sharp and documentation.
Ventilated patients	Correct care, including Elevation of the head of the bed, Sedation level assessment, Oral hygiene, Subglottic aspiration, Tracheal tube cuff pressure, Ventilator tubing management, Stress tubing management, H/H and PPE
Urinary catheter	Correct care including H/H, Catheter hygiene. Sampling, Drainage bag position, Catheter manipulation, continued need for urinary catheter documented

Fig. 25 Overall monthly compliance to High impact interventions/Care bundles April 2017 – March 2018

	Compliance (%)											
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb-	Mar
Central venous catheters Insertion	100	100	94	100	60	100	85	100	100	103	89	86
Central venous catheters maintenance	97	97	100	98	98	98	100	25	98	100	94	93
Peripheral cannulas - Insertion	86	98	95	97	97	97	96	95	99	97	99	67
Peripheral cannulas maintenance	99	96	95	96	95	93	90	95	97	96	91	82
Renal catheters - Insertion	-	-	-	-	-	-	100	100	100	-	100	-
Renal catheters maintenance	100	100	-	-	-	-	95	25	-	-	100	100
ventilated patients or tracheostomies - maintenance	100	100	100	100	100	100	100	100	100	100	100	100
HII 6a Urinary catheters - Insertion	100	100	95	96	100	92	92	95	100	100	99	82
HII 6b Urinary maintenance catheters -	25	50	95	95	97	95	83	99	100	100	100	100

10.7 Blood Culture Contamination Audit - the Oxford Road/ Trafford Campus

There is no national UK standard for blood culture contamination rates, but these should be below 3%, aiming for zero. Peripheral blood culture contamination data was collected from 1st April to 31st March. Fig. 26 and 27 represent peripheral blood culture contamination trends for Oxford Road/Trafford campus: the average contamination rate for 2017/2018 in adults (>16 yrs) was **2.7%** and for children (<16 yrs) was **2.2%.**

Fig. 26 Peripheral Blood Culture Contamination Rates (>16 years)

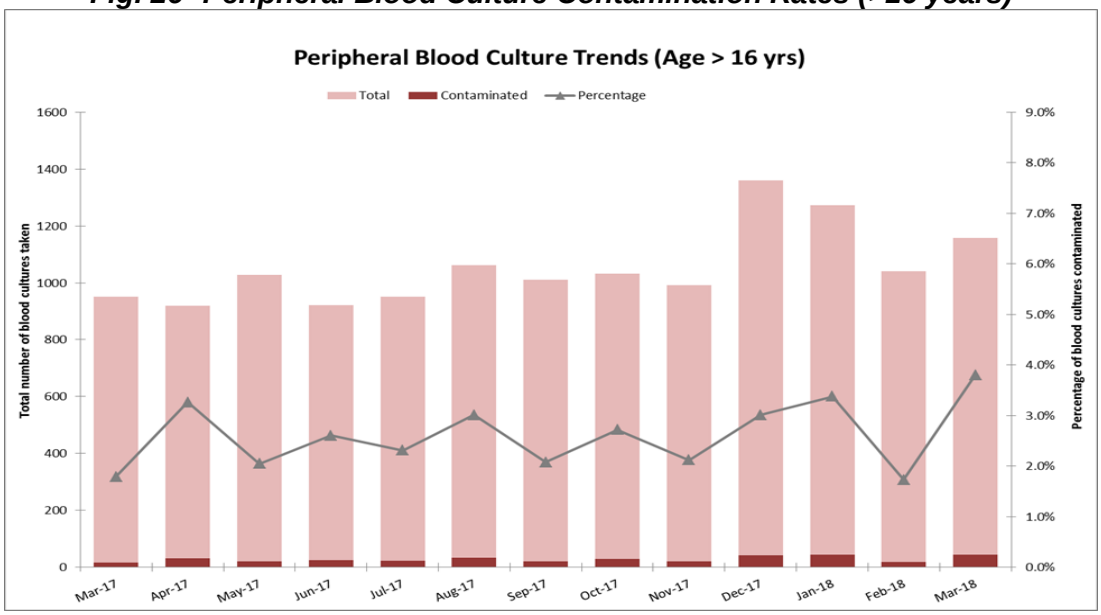
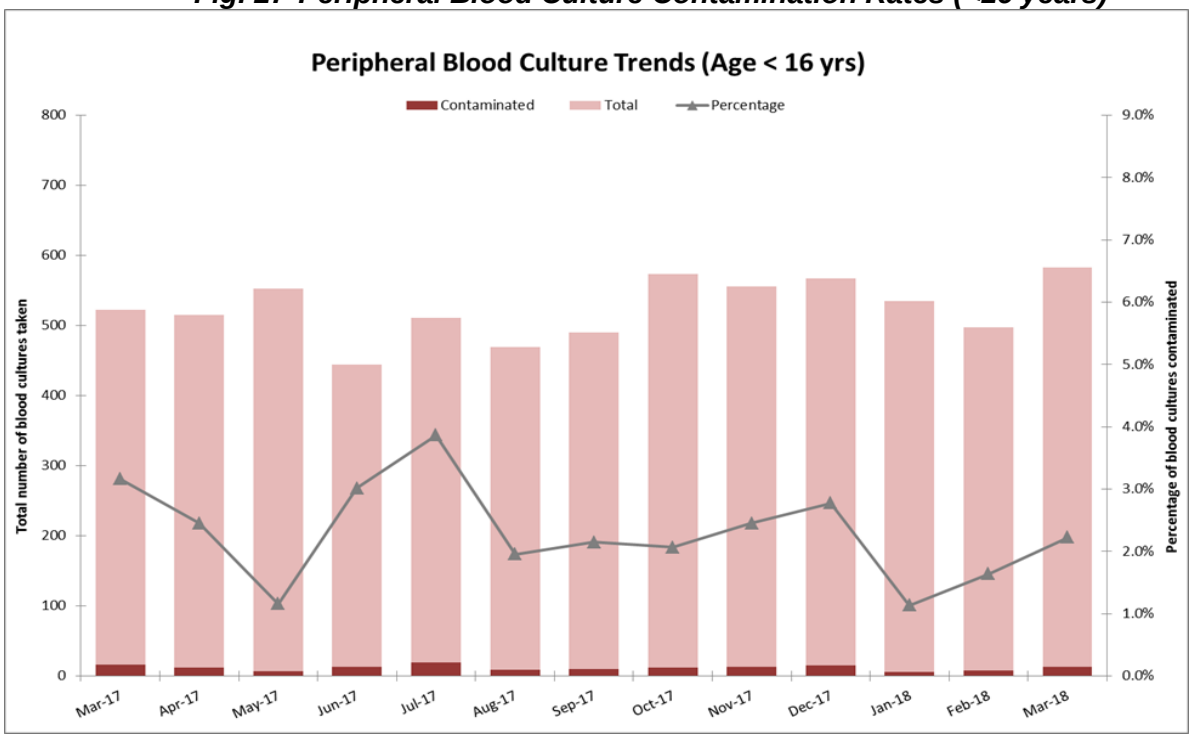


Fig. 27 Peripheral Blood Culture Contamination Rates (<16 years)

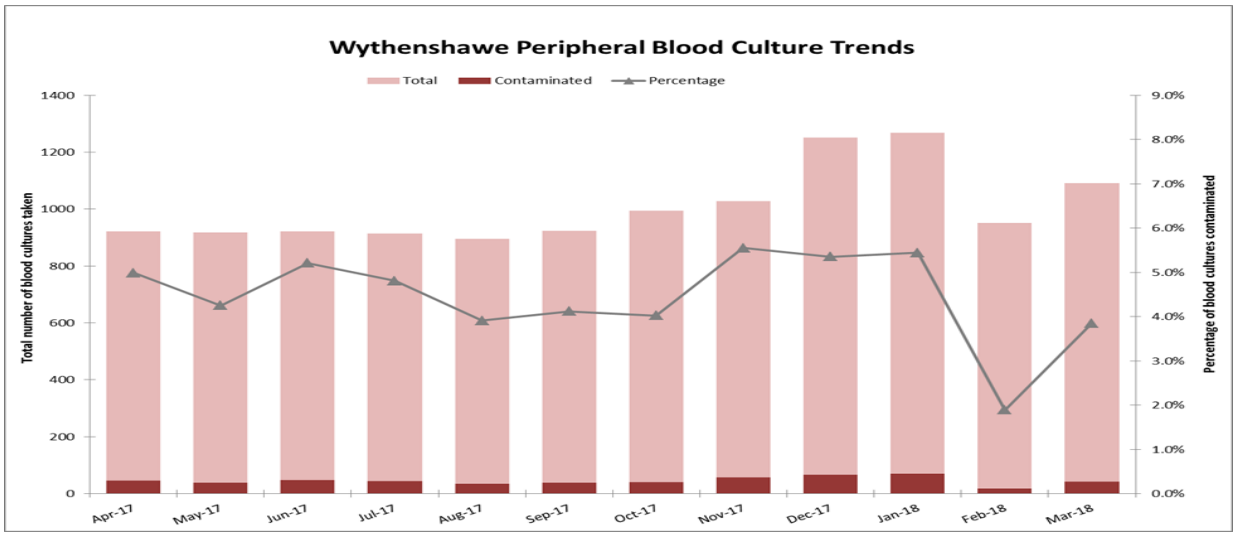


10.8 Blood Culture Contamination Audit – Wythenshawe Hospitals

The definition of blood culture contamination was ascertained by a microbiologist based on clinical data obtained during management of the episode of bacteraemia. Wythenshawe Hospital average contamination rate was 4.42%, (please see Fig. 28 below).

There was a significant reduction in contamination rates from February 2018. At that time Wythenshawe Hospital moved over to the new BACTEC-FX blood culture machine. This decrease may be associated with staff re training as the new machine used a different type of blood culture collection bottle and collection kit. The new equipment was easier for staff to use, also it was not as easy to contaminate the sample during collection.

Fig. 28 Blood Culture Contamination Rates – Wythenshawe Hospitals



10.9 Audit of Diagnosis and Management of Influenza in Patients Admitted to the Oxford Road/ Trafford Campus (2016/17)

The audit measured diagnosis and management of patients admitted to the Trust with suspected and confirmed Influenza virus infection against existing standards. Fig. 29 below shows the results.

The audit included all patients admitted between 1st September 2016 and 11th March 2017 with laboratory confirmed Influenza A and B infection. As the data capture period extends in to March it was not possible to include this audit in the Annual Report for 2016/17.

An action plan was developed in response to the audit to raise staff awareness of current Trust and National guidance, improving communication with clinical leads and pharmacists particularly during the Influenza season and to review laboratory confirmed cases including treatment and isolation status.

Fig. 29 Diagnosis and Management of Influenza in Patients Admitted to the Oxford Road/ Trafford Campus (2016/17)

Standard	Compliance (%)
Patients with respiratory illness with symptoms suggestive of influenza should be tested on admission (PHE Guidance, Trust Influenza Policy).	**75.5%**
Complicated cases (including those requiring hospital admission) of any age should be treated with a neuraminidase inhibitor (PHE Guidance).	**42% (52/124)**
All admissions with suspected Influenza infection should start treatment on admission, pending virology results (Trust Influenza Policy).	**12% (12/100)**
Patients with either suspected or confirmed Influenza must be isolated in a single room with en suite facilities (Trust Infection control policy- Management of Suspected or Confirmed Influenza patients)	**32% (34/105)**

10.10 Antibiotic Prescribing Point Prevalence Audit - Oxford Road/ Trafford Campus

National guidance on antimicrobial stewardship recommends standards are audited on an annual basis. Compliance has been audited annually since 2006. All patient data was gathered on a single day. There were 353 patients included from all ward areas at the Oxford Road and Trafford Campus. The results of the audit can be found in Fig. 30 below

The aim of the audit was to assess the level of compliance with the Adult Anti-Infective Prescribing Guidelines version 10 (October 2016) and the Antibiotic Prescribing Guidelines for Paediatric and Neonatal Patients version 9 (August 2016).

Overall the audit showed good results and improvements in several areas. It also showed an increase in the use of intravenous (IV) antibiotics. An action plan has been developed in response to the results focussing on two key areas: IV to oral switch and diagnostics for common infections. A pilot project has commenced looking at the potential of using an algorithm to aid the IV to oral switch decision which will continue over the next 12 months.

Fig. 30 Antibiotic Prescribing Point Prevalence Audit Oxford Road/ Trafford Campus

	Standard	Compliance (%) 2015/16	Compliance (%) 2016/17	Compliance (%) 2017/18	Change
1	Antibiotics should only be prescribed for indications outlined in the guidelines	**100%** (343/343)	**99%** (350/351)	**99%** (396/398)	↔
2	Empiric antibiotic therapy should be in accordance with the Trust Anti-infective guidelines, micro advice or C and S (unless clinically justified).	**95%** (326/343)	**97%** (337/349)	**97%** (375/385)	↔
3	Allergy status should be documented on all medication charts	**100%** (309/309)	**99%** (337/339)	**99%** (350/352)	↔
4	Patients should not be prescribed antibiotics that they have a documented allergy to	**94%** (44/47)	**92%** (45/49)	**98%** (58/59)	↑
5	The indication for antibiotic therapy should be documented in the medical notes	**95%** (325/344)	**94%** (330/350)	**91%** (359/393)	↓
6	The indication for antibiotic therapy should be documented on the medication chart	**75%** (258/355)	**77%** (273/353)	**80%** (314/393)	↑

7	Dose and frequency should be appropriate for age, weight, renal and hepatic function	**98%** (416/427)	**97%** (433/446)	**98%** (512/521)	↔
8	All prescriptions should have the review date / duration documented in the medical notes or the prescription chart	**68%** (221/324)	**78%** (243/310)	**80%** (283/355)	↔
8a	All prescriptions should have the review date / duration documented in the medical notes	**52%** (164/318)	**60%** (187/310)	**57%** (203/354)	↔
8b	All prescriptions should have the review date / duration documented on the prescription chart	**56%** (180/320)	**61%** (185/303)	**72%** (253/351)	↑
9	IV antibiotics should only be continued beyond 48 hours if clinically justified	**92%** (141/153)	**94%** (130/139)	**96%** (193/202)	↑
10	Antibiotic therapy should not be extended without clear clinical justification	**99%** (340/344)	**98%** (342/350)	**99%** (355/360)	↔
11	For patients on antibiotic therapy for >72 hours there should be evidence of a review of therapy and a prescribing decision made and documented.	**85%** (93/111)	**75%** (119/158)	**91%** (136/149)	↑

10.11 Antibiotic Prevalence Audit - Wythenshawe Hospitals

Since 2015 a monthly point prevalence audit has been undertaken. The audit focussed on compliance with the Adult Antimicrobial Formulary Prescribing Guidelines, in particular, the documentation of indication for antibiotic therapy and course length/duration. Data was gathered from every patient at the Oxford Road/ Trafford Campus receiving antibiotic therapy on a single day each month. Results of the audit can be seen in Fig. 31 below.

Since the monthly point prevalence audit began there has been a significant improvement in documentation of indication and course length/review date however; comparison of 2016/17 results to that of 2017/18 showed that the improvements have now plateaued.

Fig. 31 Antibiotic Prevalence Audit Wythenshawe Hospitals

Standard	Compliance (%) 2016/17	Compliance (%) 2017/18
The indication for antibiotic therapy should be documented on the prescription chart	**93**	**93**
All prescriptions should have the review date / duration documented in the medical notes or the prescription chart	**87**	**86**

10.12 Meropenem Prescribing in Critically ill Patients Audit Wythenshawe Hospitals

The aim of this audit was to assess the rationale for escalation to meropenem in critically ill patients. There were 21 patients included in the audit and only one patient was considered to have been appropriately escalated to meropenem, (please see Fig. 32 for results).

Analysis of the cases suggests that in a number of patients the broader use of a surveillance approach, either waiting longer for improvement or deterioration on current therapy could substantially reduce the number of prescriptions for meropenem. Key actions from the audit were to repeat in non-critically ill patients and to discuss the findings with clinicians.

Fig. 32 Meropenem Prescribing in Critically ill Patients Audit Wythenshawe Hospitals

Category	Number
Appropriate	1
Likely appropriate	5
Likely inappropriate	13

10.13 Antimicrobial sub group

Both predecessor organisations had a Antimicrobial sub groups led by senior clinicians; these groups will merge under the stewardship of a consultant clinician from April 2018. This will enable best practice to be shared across the Group and will report into the Group Infection Prevention and Control committee.

SECTION 11: CONCLUSION

The content of this report establishes the broad spectrum of activity associated with Infection Prevention and Control across the Group. The outcomes of the practice and process described are evidence of the hard work and commitment of staff working across the organisation.

Since the establishment of MFT in October 2017 the IPC Teams have been working to bring together policies and processes to provide the best standards of care for our patients. This was evidenced by the joint approach to managing the activity during the influenza season.

The Trust is at the forefront of developing national as well as local policy for the management and control of patients with CPE and has continued to liaise with PHE at a local and national level throughout the year. In addition there have been opportunities to showcase some of the hard work and lessons learned with other organisations.

The Trust is not complacent and the content of this report reflects the enthusiasm for striving to develop new and innovative means of improving patient care. Moreover, this report demonstrates that we operate in an open and transparent manner and accept and welcome feedback from our peers.

The Board of Directors are asked to receive this report for April 2016 to March 2017 and approve for publication.

Julie Cawthorne
Assistant Chief Nurse/Clinical Director of Infection Prevention and Control
April 2018

Appendix 1

CMFT INFECTION CONTROL COMMITTEE TERMS OF REFERENCE

1. CONSTITUTION

The Infection Control Committee is a sub-committee of the Clinical Effectiveness Committee. The Infection Control Committee is chaired by the Director of Infection Prevention and Control who is the Chief Nurse.

2. CORE MEMBERSHIP

- Director of Infection Prevention and Control Chief Nurse (Chair)
- Director of Nursing
- Consultant Microbiologist/Infection Control Doctor
- Consultant Nurse, Infection Prevention and Control (IPC)
- Head of Clinical Audit
- Consultant in Communicable Disease Control (PHE)
- PCT Infection Control Lead
- Antimicrobial Pharmacist
- Director of Estates and Facilities

CLINICAL LEADS FROM DIVISION

- CSS Representative
- Acute Medicine and Community Division representative
- Specialist Medicine Division representative
- Surgery Division representative
- Children's Hospital representative
- Eye/Dental Division representative
- Saint Mary's Division representative
- Trafford Hospitals Representative

A quorum shall be eight members including the Director of Infection Prevention and Control (or a nominated deputy) and the Infection Control Doctor and Consultant Nurse, Infection Prevention and Control (or nominated deputies).

3. ATTENDANCE AT MEETINGS

The Infection Control Committee may require from time to time, the attendance of any Trust employee (or agent of the Trust) to attend the committee at the request of the Chair.

4. FREQUENCY OF MEETINGS

The Infection Control Committee will meet every two months (six times a year).

5. OVERVIEW

The Infection Control Committee develops and monitors the core Infection prevention and control strategic objectives. The core objectives are agreed by the Trust Board and are based on CMFT organizational priorities. The Trust ICC will oversee and monitor the operational IPC programme.

The Infection Control Committee is authorised to formulate recommendations for Infection Prevention and Control within the Trust and to convey these to the Trust Board.

6. SCOPE AND DUTIES

- To ensure the infection control strategic objectives are defined and progressed throughout the Trust. At a corporate level this will be through the IPC Team and at a local level by the divisional representative.
- To provide advice and support on the implementation of the strategic objectives and make recommendations for action.
- To receive reports from the Infection, Prevention and Control teams on progress of the Trust's operational IPC annual plan and any serious or untoward incidents related to IPC.
- To receive reports from the Divisional representatives on progress of Infection prevention and control divisional action plans.
- To receive the DIPC's Annual Infection Control Board Report.
- To draw the attention of the Chief Executive, through to the Director of Infection Prevention and Control to any serious problems or hazards relating to infection prevention and control.
- To describe, review and monitor the principle and significant risks related to infection control on behalf of the Trust and present these with the plan of controls to the Trust Significant Risk Review Group and Risk Advisory Committee at least annually.
- Members will disseminate relevant information to their clinical areas.

7. AUTHORITY

The Infection Control Committee is empowered to examine and investigate any activity within the Trust pursuant to the above scope and duties.

8. REPORTING

The Infection Control Committee reports to the Clinical Effectiveness Committee

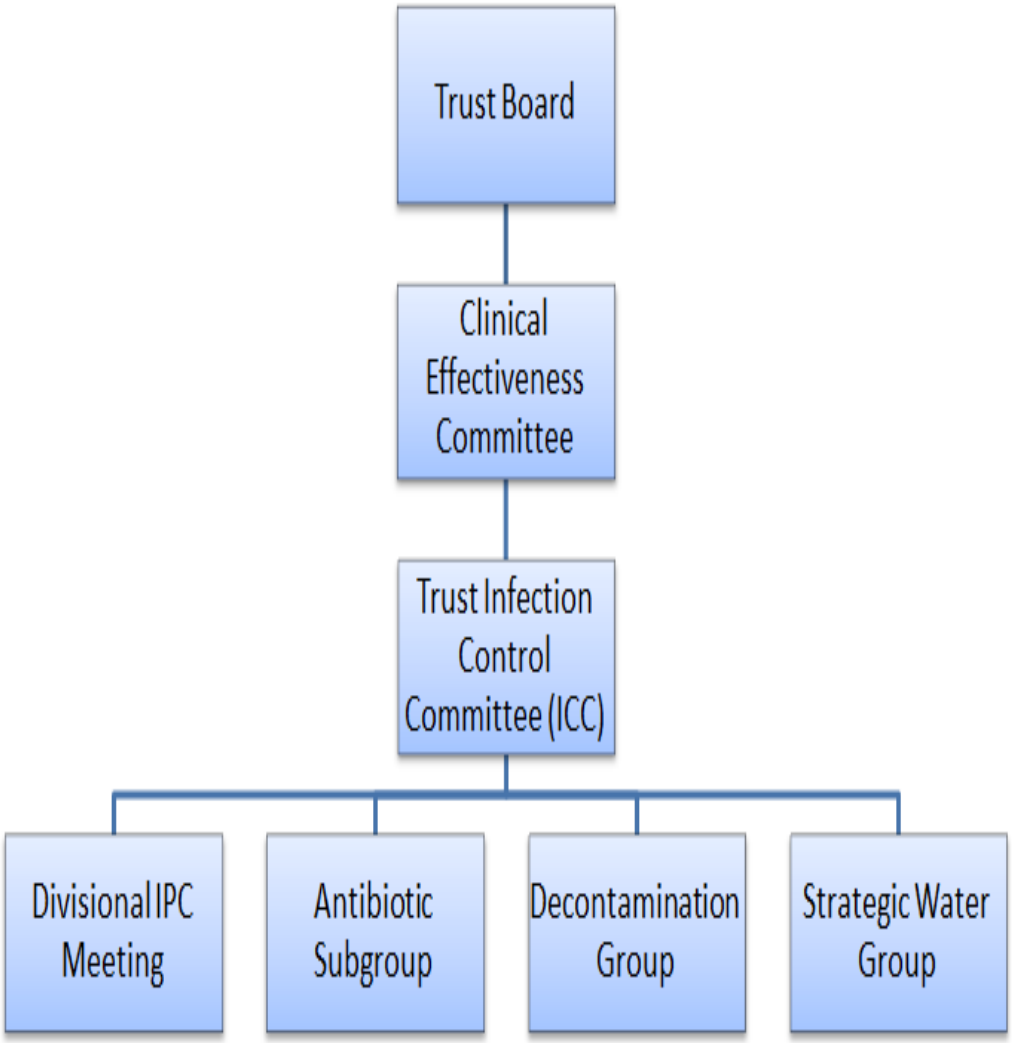
9. REVIEW

These Terms of Reference will be reviewed before April 2016.

KEY PERFORMANCE INDICATORS

- Attendance of the Infection Control Committee will be monitored on an on-going basis and reported for information at each meeting. Members are expected to attend (or send a nominated, named Deputy) to a minimum of four out of six meeting per year.
- Minutes and reports of the Infection Control Committee
- Care Quality Commission annual assessment of compliance against the Health and Social Care Act (2008)
- Terms of Reference for Infection Control Committee reviewed annually

Framework for IPC Committee / Group Structure



UHSM INFECTION PREVENTION & CONTROL SUB COMMITTEE (IPC)

TERMS OF REFERENCE

1.0 MAIN AUTHORITY / LIMITATIONS

1.1 Accountable to the Chief Executive

1.2 Reports to the Board of Directors via the Quality and Assurance Committee

2.0 MAIN PRIORITY AND OBJECTIVE

2.1 The Trust Infection Prevention and Control Sub Committee is a standing Committee of the Trust that has a responsibility to report relevant matters in relation to infection prevention and control to the Board of Directors via the Quality and Assurance Committee.

3.0 MAIN DUTIES AND RESPONSIBILITIES

3.1 Oversee and directs all Infection Prevention and Control activity within the Trust and provide the Chief Executive with relevant information and advice.

3.2 Interpret and advise on national Infection Prevention and Control policy, relating it to the local situation.

Ensure NHS core standards and Department of Health recommendations on infection prevention and control are implemented

3.4 Review infection surveillance data, monitor performance and make recommendations for further action

3.5 Introduce, maintain and approve infection prevention and control policies and guidelines that promote a safe quality patient experience

3.6 Advise the Trust on its statutory requirements in relation to Infection Prevention and Control and the decontamination of medical and surgical equipment, eg Health Act 2008.

3.7 Ensure that training and supervision systems are in place for all staff and contractors working within the Trust and that those systems are regularly monitored

3.8 Recommend an annual infection prevention and control programme; monitor and review the progress of the programme and produce an annual report

3.9 Members of the subcommittee are expected to actively participate in

Discussions pertaining to IPCC ensuring that solutions and action plans have multidisciplinary perspectives and have considered the impact across all of the directorates and departments.

3.10 Members have a responsibility to disseminate the minutes from this meeting within the relevant departments and organisations and inform them of issues discussed.

3.11 Members have a responsibility to share the learning gained from IPCC within their divisions and departments to ensure that organisational learning occurs.

3.12 Members have a responsibility to Communicate to the IPCC risk issues and solutions discussed in the departments/organisational meetings to support the organisational learning.

3.13 Members have a responsibility to Present to the IPCC divisional/departmental progress with reducing directorate/ departmental risks.

4.0 CONSTITUTION

4.1 The IPCC will meet at least 4 times per year.

4.2 The duration of the meeting will be at least 2 hours.

4.3 The Chief Nurse will be the chair and the Head of Nursing Infection Prevention &Tissue Viability the deputy chair.

4.4 The committee membership will be

Director of Infection Prevention and Control (Chair)
Deputy Director of Nursing (Deputy Chair)
Head of Nursing Infection Prevention and Control & Tissue Viability
Infection Prevention and Control Doctor
Infection Prevention Surveillance Officer
Consultant in Occupational Health
Antimicrobial Pharmacist
Head of Risk, Governance and Assurance
Corporate division Representative
Unscheduled care division representative
Scheduled care division representative
Director of Estates and Facilities
Sodexo Lead
Trust Decontamination lead
Pennine care Ft - Trafford representation
Consultant in Public Health
Consultant for Communicable Disease Control

The Quality & Assurance Committee will review membership of the Infection Prevention and Control Committee bi-annually.

Each person, if unable to attend, must send a deputy.

Other service users/associated professionals may be invited to attend on an individual basis

In the event that the chair and deputy chair are not available subcommittee members will be asked to nominate/agree a chair.

5.0 QUORUM

5.1 In order for decisions taken by the committee to be valid, the meeting must be quorate. This will consist of a minimum of 6 members comprising of at least 2 corporate members and at 1 representative from each division and at least 1 PFI partner
Chair or deputy (Corporate)
Infection Prevention Doctor or Consultant Microbiologist (Clinical support)
Head of Nursing for Infection Prevention or deputy (Corporate)
Scheduled care Division representation
Unscheduled care Division representation
Sodexo representative

6.0 ORGANISATION

6.1 The IPCC is serviced by the Chief Nurse's PA who organises the meetings

6.2 The Head of Nursing Infection Prevention & Tissue Viability will on behalf of the DIPC be responsible for the compilation of an agenda prior to each meeting.

6.3 The Minutes of the Decontamination groups, Antimicrobial committee and Monthly Chief Nurse Infection Prevention performance meeting will be considered at each meeting.

6.4 Estates & Facilities will provide Quarterly summaries regarding activities as Stated in the Health Act 2008.

7.0 Version control

Version Control	Date	Comments
V0.1	13 August 2009	For consultation.
V0.2	24th May 2010	For consultation
V0.3	1st December 2010	For consultation
V0.4	29th September 2013	For consultation
VO.5	27th July 2015	For consultation

APPENDIX 2

MFT GROUP INFECTION CONTROL COMMITTEE
TERMS OF REFERENCE

1. CONSTITUTION

1.1 The Group Management Board has established a Committee to be known as the Infection Prevention and Control Committee. The committee is an executive committee and holds the powers delegated to it in these terms of reference. The Infection Control Committee is chaired by the Chief Nurse/ Director of Infection Prevention and Control.

2. MEMBERSHIP

2.1 Membership shall consist of:

Chief Nurse/DIPC (CHAIR)
Consultant Microbiologist/Infection Control Doctors (Vice-Chair)
Deputy Infection Control Doctor
Directors of Nursing
Assistant Chief Nurse Clinical DIPC
Lead Nurses Infection Prevention and Control
Hospital/MCS Clinical Leads for Infection Control
Consultant in Communicable Disease (Public Health England)
MHCC Infection Control Lead
Antimicrobial Pharmacist
Director of Estates and Facilities
Clinical Audit representative
Director of Clinical Governance
LCO representative

All group executives have an open invitation to and may attend committee meetings

2.2 No business should be transacted at the meeting unless a minimum of ten members are present, which must include the Chair or Deputy Chair, four Hospital Clinical Leads, and either the Director of Nursing (Corporate) or the Assistant Chief Nurse/Clinical DIPC

3. ATTENDANCE AT MEETINGS

3.1 The Infection Control Committee may require the attendance of any Trust employee (or agent of the Trust)

4. FREQUENCY OF MEETING

4.1 The Committee will meet every three months (four times a year), but may be convened at other times as deemed necessary.

5. OVERVIEW

5.1 The Committee will set the strategic direction for infection prevention and control and seek assurance on an exception or as required basis

5.2 The Committee is responsible for developing the group organisational strategy and clinical standards for infection prevention and control in line with national/international evidence based practice and standards.

6. SCOPE AND DUTIES

6.1 Provide strategic leadership for infection prevention and control, including identifying priorities and setting performance targets.

6.2 Develop the strategy and agree the clinical standards for infection prevention and control across all the Trust sites.

6.3 Approve the programme of work of the Trust Clinical Infection Control committee.

6.4 Receive Hospital/MCS ICC performance and exception reports

6.5 Receive, review and ratify group policies, clinical pathways and reports, including the Annual Infection Control Report.

6.6 Approve the annual audit calendar to provide assurance that standards are met and any required changes to practice, systems and processes are delivered.

6.7 To report to the Group Management Board on performance against infection control indicators and audits, including actions taken to address any areas for improvement.

6.8 To determine and commission programmes of work required to deliver the work programme of the Infection Control Committee

6.9 Oversee the Trust's involvement in and response to, internal and external assessments and inspections.

6.10 Agree the education and training framework for infection prevention and control for the Trust, ensuring compliance with infection prevention and control standards.

6.11 Approve the Trust's Annual Infection Control Report.

6.12 To describe, review and monitor the principle and significant risks related to infection control on behalf of the Trust and present these with the plan of controls to the Group Management Board and Risk Management Committee.

6.13 The Infection Control Committee will receive exception reports from the Hospital/MCS Infection Control leads where performance is out with the standards set out in the IPC strategy

6.14. The Infection Control Committee will receive at each meeting a report from the Trust Infection Control Group to include:

1. Policy and pathway development
2. Infection Control Group activity
3. Changes to national or local strategy
4. Trust wide themes identified from adverse events

7. AUTHORITY

7.1 The Infection Control Committee is empowered to examine and investigate any activity within the Trust pursuant to the above scope and duties.

8. REPORTING

8.1 The Committee will report to the Group Management Board.

8.2 The Committee will work closely with relevant Group Committees and the Clinical Advisory Committee and will provide assurance to the Board of Directors in relation to infection prevention and control

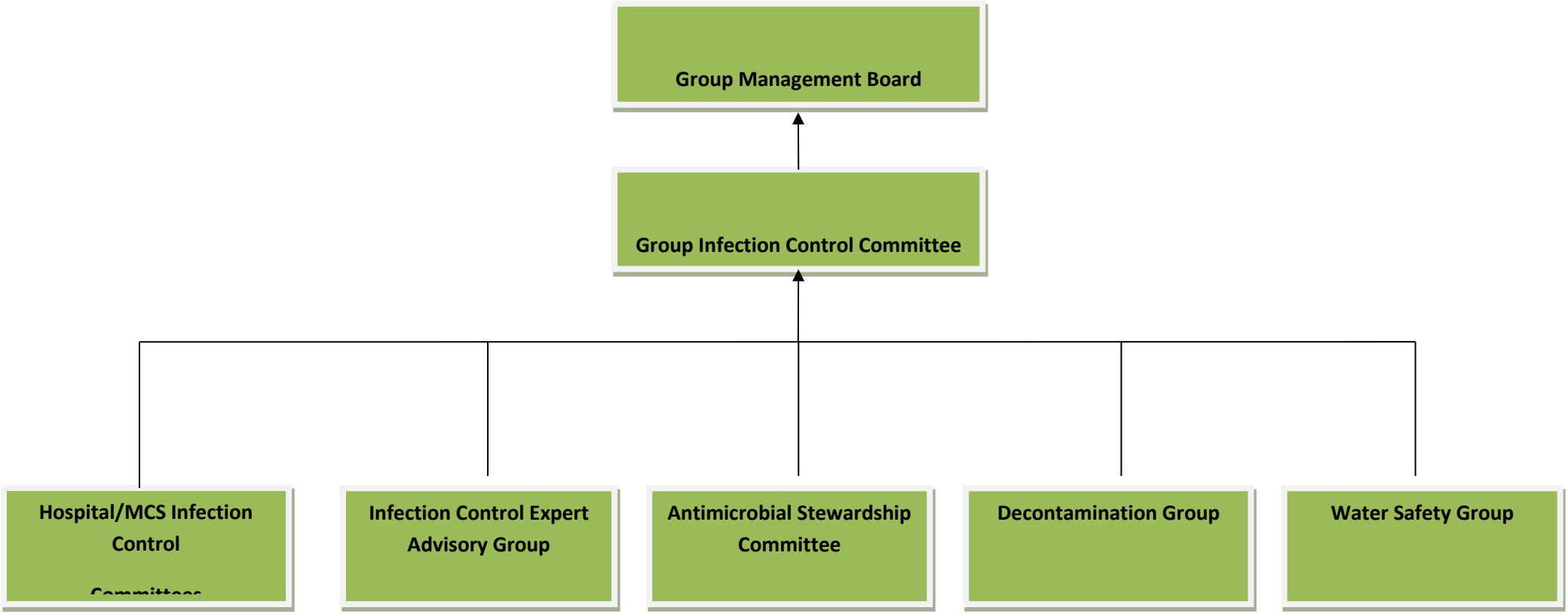
8.3 The minutes and exception report (as required) will be considered at the next Risk Management Committee and Quality and Performance Scrutiny Committee

9. REVIEW

9.1 These terms of reference will be reviewed annually.

10. KEY PERFORMANCE INDICATORS

10.1 These Terms of Reference will be measured against the following key performance indicators:

1. 75% attendance of all listed members or nominated deputy
2. Presentation of the Annual Infection Control Report.

Reporting Framework for Infection Prevention and Control Group Structure 2018/19