Western Health and Social Care Trust

INFECTION PREVENTION AND CONTROL ANNUAL REPORT

OF THE

CHIEF EXECUTIVE HCAI ACCOUNTABILITY FORUM

FOR

APRIL 2017 TO MARCH 2018

PREPARED BY: The Infection Prevention and Control Team

CONTENTS

1.0 GLOSSARY OF TERMS

AMHDS	Adult Mental Health and Disability Services
AMT	Antimicrobial Management Team
AMU	Acute Medical Unit
ANTT	Aseptic Non-Touch Technique
Augmented Care Areas	Defined by DoHNI as ICU, NNICU, Renal and Oncology/ Haematology
CAUTI	Catheter-associated urinary tract infection
C. difficile	*Clostridium difficile*
CEC	Clinical Education Centre
CLABSI	Central line-associated blood stream infection
CMO	Chief Medical Officer
CMT	Corporate Management Team
C-section	Caesarean section
DDD	Defined Daily Dose
DoHNI	Department of Health Northern Ireland
EOU	Elective Orthopaedic Unit
ESP	Enhanced Support Programme
ESU	Emergency Surgical Unit
FM	Facilities Management
GDH	Glutamate Dehydrogenase
GP	General Practitioner
HAI	Hospital-Acquired Infection
HAI-SCRIBE	Healthcare-Associated Infection System for Controlling Risk In the Built Environment
HAP	Hospital-Acquired Pneumonia
HCAI	Healthcare-Associated Infection
HDU	High Dependency Unit
HII	High Impact Intervention
HSC	Health and Social Care
ICU	Intensive Care Unit
IP&C	Infection Prevention and Control
IPCD	Infection Prevention and Control Doctor
IPCLP	Infection Prevention and Control Link Personnel
IPCN	Infection Prevention and Control Nurse
IPCT	Infection Prevention and Control Team
IPS	Infection Prevention Society
IT	Information Technology
IUC	Indwelling Urinary Catheter
IV	Intravenous
KPI	Key Performance Indicator
MRSA	Meticillin-Resistant *Staphylococcus aureus*
MSSA	Meticillin-Sensitive *Staphylococcus aureus*
NI	Northern Ireland
NICE	National Institute for Health and Care Excellence
NICPLD	Northern Ireland Centre for Pharmacy Learning and Development
NNICU	Neonatal Intensive Care Unit
NNU	Neonatal Unit

OHPCC	Omagh Hospital and Primary Care Complex
PCOPS	Primary Care and Older People's Services
PHA	Public Health Agency
PIRU	Policy Innovation Research Unit
PPS	Point Prevalence Survey
RCA	Root Cause Analysis
RQIA	Regulation and Quality Improvement Authority
SANDS	Stillbirth and Neonatal Deaths Charity
SSI	Surgical Site Infection
SWAH	South West Acute Hospital
TB	Tuberculosis
TOU	Trauma Orthopaedic Unit
UK	United Kingdom
VAP	Ventilator-Associated Pneumonia
W&C	Women's and Children's Services
WHSCT	Western Health and Social Care Trust
WSG	Water Safety Group
WTE	Whole Time Equivalent

2.0 FOREWORD

This document details the developments and performance related to Infection Prevention and Control (IP&C) during 2017-18 and also includes the broad plan of work for 2018-19 to reduce the risk of healthcare-associated infections (HCAIs). The report outlines the challenges faced in-year and the Trust's approach to reducing the risk of HCAI for patients.

A zero tolerance approach continues to be taken by the Trust towards all avoidable HCAIs. Good IP&C practice is essential to ensure that people who use the Trust's services receive safe and effective care. Effective IP&C practices must be part of everyday activity and be applied consistently by everyone. The publication of this IP&C Annual Report is a requirement to demonstrate good governance and public accountability.

The Annual Report outlines the Trust's IP&C activity in 2017-18. In addition, it highlights the role, function and reporting arrangements with regards to the IP&C Service.

The report acknowledges the hard work and diligence of all grades of staff, clinical and non-clinical, who play a vital role in improving the quality of patient and stakeholder experience, as well as helping to reduce the risk of infections. Additionally, the Trust continues to work collaboratively with a number of outside agencies as part of its IP&C and governance arrangements, e.g. the Regional HCAI and Antimicrobial Resistance Improvement Board, Public Health Agency (PHA), etc.

3.0 MANAGEMENT ARRANGEMENTS

3.1 Introduction

IP&C in the delivery of healthcare is widely recognised as an important component in the safety and quality of patients' experience.

In the year of this report the Trust achieved the regional reduction target for Meticillin-Resistant *Staphylococcus aureus* (MRSA) bacteraemia; one of three trusts to do so. The Trust did not, however, meet the target set for reduction in the number of *Clostridium difficile* (*C. difficile*) associated disease cases. This was the same situation for all trusts, with none meeting their target.

Predisposing factors for *C. difficile* continue to be antimicrobial prescribing in primary and secondary care and the use of proton pump inhibitors. In addition, independent audit of compliance with the *C. difficile* care bundle remains a challenge; in particular, antimicrobial prescribing and environmental decontamination. Care bundle compliance is discussed monthly at the Safe and Effective Patient Care Meetings with Heads of Service/ Lead Nurses. Lead Nurses discuss findings with individual Ward Managers and escalate cumulative challenges with performance through their directorate governance structures. Issues are also raised via the IP&C Surveillance Sub-Group. In addition, Ward Managers whose wards consistently underperform may be invited to the Chief Executive HCAI Accountability Forum to discuss their performance with regards infection reduction; although, this was not deemed necessary during 2017-18.

MRSA bacteraemia risk factors are related to pre-existing colonisation and the insertion and ongoing care of peripheral intravenous (IV) lines.

Clinical care related to water safety in augmented care areas continued to require significant scrutiny and monitoring by the IP&C Team (IPCT) at management, surveillance and clinical levels.

Planning and building work related to completion of the new Omagh Hospital and Primary Care Complex (OHPCC) and development of the new North Wing at Altnagelvin Hospital, along with other smaller scale works throughout the Trust, resulted in significant IP&C input, scrutiny and monitoring.

The Trust's IP&C Service is overseen at a strategic level by the Chief Executive HCAI Accountability Forum, which reports to the Governance Committee. Accountability systems are in place through every management layer of the Trust from ward/ facility to Chief Executive and, in turn, on to the Trust Board. Executive level support is crucial to the success of the current infection prevention strategy.

The IPCT, IP&C Link Personnel (IPCLP) and every member of healthcare staff deliver the service at an operational level. This is achieved by a combination of the following:

- Adherence to and implementation of evidence based care bundles
- Antimicrobial stewardship
- Policy/ guideline production
- Training and education
- Environmental cleanliness audit
- Pre-outbreak/ increased incidence investigation and management
- Outbreak management
- Root cause analysis (RCA)
- Audit and improvement work related to clinical practice
- Surveillance
- Research
- Construction controls and input to the planning process
- Monitoring of water safety

As in previous years, the purpose of this report is to highlight the excellent work that has been undertaken in the Trust in the above areas and to identify risks, which remain and will require action within the next one to three years.

3.2 Role of the Chief Executive HCAI Accountability Forum

The main role of the Chief Executive HCAI Accountability Forum is to oversee the strategic planning for infection detection and management to ensure that there are effective arrangements for prevention and control throughout the Trust. It provides assurance to the Governance Committee that appropriate systems are in place to set and monitor the standards relating to infection prevention. The Chairperson of the Forum is its representative on the Governance Committee.

The Forum met five times during the year of this report. See *Appendix 1* for the Forum's current Terms of Reference and *Appendix 2* for the Governance Reporting Structure.

In addition to the Chief Executive HCAI Accountability Forum, the Trust monitors infection prevention arrangements through a variety of other fora, including:

- Trust Board
- Governance Committee
- Risk Management Sub-Committee
- Directorate Governance Committees
- Divisional Governance Committees
- IP&C Surveillance Sub-Group
- IP&C Policies and Guidelines Working Group
- Antimicrobial Management Team (AMT)
- Safe and Effective Patient Care Meetings
- Clinical Reference Group for Pandemic Flu (ad hoc)
- Seasonal Flu Group (ad hoc)

The Working Groups, Directorate/ Divisional Governance Committees and Safe and Effective Patient Care Meetings scrutinise the operational application and learning related to infection prevention. Key infection related issues not resolved are escalated through the Trust governance systems. Intractable issues, which require high level engagement, are referred to the Chief Executive HCAI Accountability Forum.

3.3 Membership of the Chief Executive HCAI Accountability Forum

The membership of the Forum is intended to reflect the diversity of services delivered within the Trust. Membership during the year 2017-18 included the Chief Executive, a Non-Executive Director, the Medical Director, Divisional Clinical Directors, Service Directors and Assistant Directors, Lead Nurses, members of the IPCT, Pharmacy, Facilities Management, Support Services and Occupational Health representatives. The membership is kept under regular review and amended as necessary.

3.4 Role and Composition of the Infection Prevention and Control Team

The IPCT provides expert advice, both verbal and written, surveillance of alert organisms and conditions, support for RCA, examination of potential pre-outbreak information in order to prevent actual outbreaks, education, auditing and production of policies, guidelines and protocols to support staff in the Trust to ensure patient/ client safety and minimise infection risks.

The Team consists of:

- Head of IP&C x 1 whole time equivalent (WTE)
- Consultant Microbiologists/ IP&C Doctors (IPCDs) x 2 WTE
- Antimicrobial Pharmacists x 1.7 WTE
- IP&C Nurses (IPCNs) Band 7 x 3 WTE
- IPCNs Band 6 x 6.36 WTE (reduced to 5.36 WTE from mid-June 2017)
- Surveillance Officer Band 5 x 0.93 WTE
- Administrative staff
    - Band 4 x 1 WTE
    - Band 3 x 1 WTE

During the year of this report the Nursing Team continued to experience high levels of short staffing due to long term sick leave. This equated to an absence rate of 8.55% for 2017-18, which was in excess of both the Trust and Medical Directorate absence targets (7.02% and 7.13% respectively), but below the IP&C Team target of 9.20%. The absence rate was also an

improvement in comparison to the previous year (9.68%). This, in conjunction with the significant number of suspected/ confirmed Norovirus outbreaks and increased incidences, reduced the capacity of the IPCNs to carry out independent audits and also impacted on the timely review of some policies and guidelines as a substantial component of IPCT workload was taken up with the management of these outbreaks and providing enhanced support programmes (ESPs) to wards and departments.

Water Safety

The IPCN resource continues to support all aspects of water safety, associated surveillance and monitoring in conjunction with the Trust Water Safety Group (WSG) and the Trust Water Safety Plan. IPCN participation in the provision of support, advice and monitoring following relocation of the Donor Milk Bank to the South West Acute Hospital (SWAH) was significant from February 2018 onwards. A full review of current surveillance and new surveillance programmes will be included in future business case development to support this ongoing work.

Planning

IPCN participation in planning remained significant during 2017-18, including the following:

- Participation on all planning teams for new builds and significant minor capital works
- Planning and inspection of existing premises for Aspergillus control whilst building/ refurbishment work was underway
- Planning and advice related to water safety

This input is essential if buildings and developments are to be planned safely and to ensure patients in existing facilities close to building works are protected from potential infection risks, such as Aspergillus and Legionella, during construction.

3.5 Controls Assurance

Controls Assurance remained a Department of Health Northern Ireland (DoHNI) requirement for 2017-18; although it will be discontinued from April 2018 onwards. The Trust was required to achieve substantive compliance of 75% or above. The self-assessment score achieved by the IP&C Service was 93%. An action plan has been developed for 2018-19 to address the outstanding issues.

4.0 REVIEW OF PROGRAMME OF WORK FOR 2017-18

4.1 Policies, Guidelines, Protocols, Leaflets and Care Pathways

(a) Infection Prevention and Control Guidance

Regional guidelines are available relating to IP&C issues, which can be accessed via a Western Health and Social Care Trust (WHSCT) intranet link and via the web address: www.niinfectioncontrolmanual.net

Where regional guidelines do not exist, or where the Trust's IPCT are of the opinion that more detail specific to the Trust is required, local guidance is developed.

To ensure that the views of as large a variety of staff as possible are taken into consideration, policies, guidelines, care pathways and leaflets are updated by the IPCNs and then circulated for comment to members of the Chief Executive HCAI Accountability Forum and other relevant staff depending on the subject covered. Following consultation, the guidance is amended and ratified by the Forum. Policies are forwarded to the Corporate Management Team (CMT) and Trust Board for final approval. Ratified policies, guidelines, protocols, leaflets and care pathways are then made available to staff on the Trust intranet.

The IP&C Policies and Guidelines Working Group continue to oversee the production of all guidance issued by the Forum. The current Terms of Reference for the Working Group are included in *Appendix 3*.

In the year of this report a total of six pieces of guidance were reviewed and updated. There follows a summary of the topics reviewed, circulated to the Forum, ratified and made available to staff.

Topics	Year Reviewed	To Be Reviewed Next
Guidelines for the Prevention and Control of Viral Hepatitis	November 2017	November 2020
Guidelines on the Management and Collection of Specimens	November 2017	November 2020
Guidelines for the Management of Suspected/ Confirmed Norovirus in Acute and Community Facilities Within the Western Health & Social Care Trust	November 2017	November 2020
Infection Prevention & Control Advice for Western Health & Social Care Trust Students and Volunteers Leaflet	November 2017	November 2021
Infection Prevention & Control Policy for Management of *Clostridium difficile* Associated Infection	December 2017	December 2021
Guidelines for the Management of Suspected/ Confirmed Beta Haemolytic Group A Streptococcal (GAS) Infection, Including Invasive Group A Streptococcal (iGAS) Infection	January 2018	January 2022

(b) Antimicrobial Guidance

In 2009-10 the Trust's Consultant Microbiologists and Antimicrobial Pharmacist worked with a regional group to develop a revised regional antimicrobial prescribing framework. This sought to harmonise antimicrobial prescribing across the region, but allowed local variance depending on resistance data. Within the WHSCT the Secondary Care Antimicrobial Guidelines are reviewed and updated every two years, or more frequently if necessary. During 2017-18 the following antimicrobial guidelines were updated:

- Respiratory Tract Infections, including Community-Acquired Pneumonia, Hospital-Acquired Pneumonia (HAP), Non-Pneumonic Lower Respiratory Tract Infection
- *C. difficile* Associated Infection
- Cellulitis
- Eye, Ear, Nose and Oropharynx Infections

4.2 Audit and High Impact Interventions

(a) Environmental Cleanliness Audits

All areas where patient/ client care is delivered across the Trust have a managerial environmental cleanliness audit completed annually. Increased workloads and long term sick leave during the year of this report meant the IPCNs were unable to participate in as many of these audits as they might have wished. However, they did risk assess in relation to which areas most necessitated their participation and they focused on those that were high-risk or had limited IPCT input via other mechanisms.

(b) Hand Hygiene Audits

All wards and departments participate in hand hygiene compliance audits using a standardised tool. The normal audit frequency is two-monthly; although this can be increased or reduced depending on previous compliance and independent audit results conducted by the Lead Nurse or the IPCT. Areas scoring below 95% compliance must immediately implement improvement measures.

Scores are examined every month at the Safe and Effective Patient Care Meetings and any persistently poor scores are escalated to Directorate Governance meetings and the Chief Executive HCAI Accountability Forum. A traffic light system is used to monitor results. The range of scores are indicated by the colours Green (95-100%), Amber (90-94%), Red (80–89%) and Black (79% and below).

During 2017-18 scores for individual wards ranged from 0% (where scores are not submitted an automatic 0% score is applied) to 100%, and whole Trust average scores ranged from 84% to 97%. However, when the Trust average scores are adjusted to discount non-submission areas they improve to 100%. Average scores for the various hospital sites and directorates are shown in *Appendix 4*.

Lone workers and small teams use a variation of the audit tool, which enables them to be audited by another staff member or at staff meetings, and then signed off as competent.

The hand hygiene audit tool for augmented care areas differs from the standard audit tool by including the need for staff to decontaminate their hands using alcohol gel, following soap and water.

The IPCT conducts a small number of independent hand hygiene audits throughout the year. The average score attained during 2017-18 was 92%.

(c) High Impact Interventions (HIIs) (Evidence Based Care Bundles)

There are ten evidence based care bundles related to IP&C. They are:

- Ventilator associated pneumonia (VAP)
- Peripheral IV cannulae (insertion and ongoing care)
- *C. difficile*
- Renal dialysis catheters (insertion and ongoing care)
- Central venous catheters (insertion and ongoing care)
- Surgical site infection (SSI) (pre-, intra- and post-operative)
- Urinary catheters (insertion and ongoing care)

- Cleaning and decontamination
- Chronic wounds (wound care and patient management)
- Enteral feeding

All elements of the decontamination care bundle are included in the Trust environmental cleanliness audit tool. The chronic wounds and enteral feeding care bundles were added during 2011 and according to monitoring report feedback from directorates have been implemented where applicable across the Trust. Care bundles for VAP, SSI (Caesarean section [C-section] and orthopaedic surgery) and central line care in the Trust Intensive Care Units (ICUs) are monitored at individual department level.

The IPCNs also use the *C. difficile* care bundle for Glutamate Dehydrogenase (GDH) cases. This improvement work regarding GDH is aimed at reducing the likelihood of *C. difficile* bacteria starting to produce toxins, leading to *C. difficile* infection.

Care Bundle	Trust Areas Implemented
Hand hygiene	All areas
VAP	ICUs, Altnagelvin and SWAH
Peripheral IV cannulae	All applicable facilities
C. difficile	All applicable facilities
Renal dialysis catheters	Renal Units, Altnagelvin and OHPCC
Central venous catheters	Both ICUs, Surgical wards, Interventional Radiology Altnagelvin
SSI	C-section and orthopaedic surgery
Urinary catheters	All wards in Altnagelvin, SWAH and Waterside Hospital, community facilities and district nursing teams
Cleaning and decontamination	Part of environmental cleanliness audits
Chronic wounds	Not yet implemented by IPCT
Enteral feeding	Not yet implemented by IPCT

Work to further embed the care bundles in everyday practice is ongoing and compliance with the evidence base has continued to develop throughout the year. Consistent adherence to the *C. difficile* care bundle remains a challenge.

Independent audit of practice is completed by the IPCNs on a continuous basis as agreed with Lead Nurses at quarterly IP&C Surveillance Sub-Group meetings and as part of the ESP and Augmented Care Monitoring Programme.

For the results of independent audits completed by the IPCNs, see *Appendix 5*.

(d) Antimicrobial Prescribing Audits

Multi-disciplinary Microbiologist-led ward rounds were carried out in several wards across the Trust, as follows:

- Acute Services Directorate
    - Ward 2 Trauma Orthopaedic Unit (TOU), Altnagelvin
    - Ward 31 and Ward 32 Emergency Surgical Unit (ESU), Altnagelvin
    - Ward 1 Medical and Surgical Assessment Unit, SWAH
    - Ward 3, SWAH
- Primary Care & Older People's Services (PCOPS) Directorate
    - Ward 40, Altnagelvin
    - Ward 42, Altnagelvin

These involved the Antimicrobial Pharmacist and the ward teams. Antimicrobial prescribing audits were completed as part of the ward rounds. The audits comprised two elements; the first looking at adherence to guidelines and the second looking at whether there was a stop date or review date on the medicines kardex.

A number of other antimicrobial prescribing audits and quality improvement projects were also performed during the year as follows:

- Appropriateness of Prescribing Benzylpenicillin and Gentamicin for Early Onset Sepsis in Neonates (see *Appendix 6*)
- Audit of Dosing of Gentamicin for Early Onset Sepsis (*Appendix 7*)
- Point Prevalence Survey (PPS) of HCAIs and Antimicrobial Use in NI
- Audit of Piperacillin-Tazobactam Prescription (*Appendix 8*)
- IV to Oral Switch Quality Improvement Project, SWAH (*Appendix 9*)

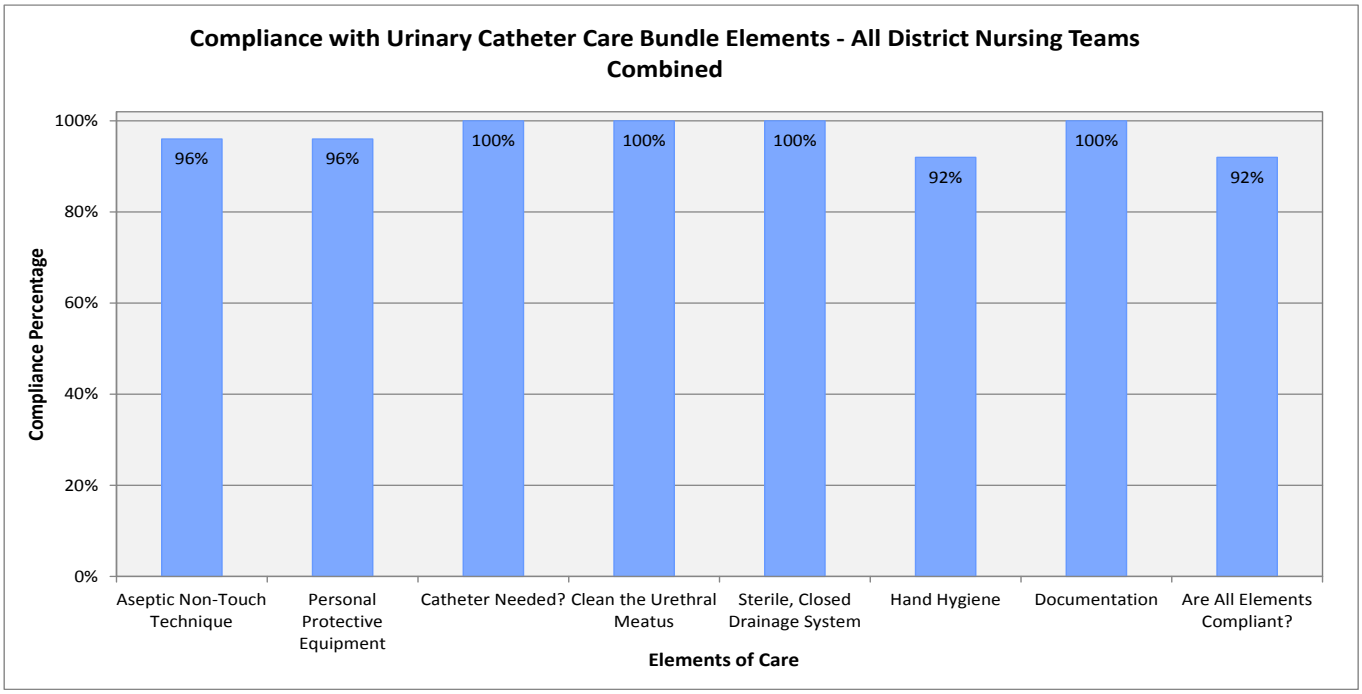
(e) Audit of Urinary Catheter Insertion in the Community

There is a link between urinary catheter use and the occurrence of sequential urinary tract infections (UTIs). Two HII care bundles are specific to urinary catheter care, aiming to reduce the risk of catheter-associated urinary tract infection (CAUTI) by promoting adherence to standardised elements of care for the insertion and ongoing management of a catheter. The risk of infection reduces when all elements within the clinical process are performed every time for every patient. The risk of infection increases when one or more of the elements are excluded or not performed appropriately.

Between October and December 2017 the IPCT conducted an audit of urinary catheter insertion practice amongst district nursing teams. The objective was to establish the level of compliance with the HII care bundle for insertion of a urinary catheter, including aseptic non-touch technique (ANTT), and to make recommendations for improvement where applicable. Each IPCN was allocated a number of district nursing teams to audit. The audit was performed through direct observation of practice whilst the district nurses visited patients to change their catheters. After each audit a verbal report on the outcome was discussed with the individual district nurses.

23 district nursing teams were audited in total. Overall, a rate of 92% compliance was found with all elements of the care bundle, providing good assurance as to the standards being employed. However, a small number of failings were observed in relation to three care elements; ANTT, personal protective equipment and hand hygiene. The IPCT recommended

that the district nursing teams focus their improvement efforts on these elements, in particular the regular assessment of staffs' ANTT competency. Consideration should also be given to the standardisation of documentation and equipment.



4.3 Antimicrobial Management Team

The AMT met four times during the period of this report. The current structure, membership and Terms of Reference for the AMT are set out in *Appendix 10.*

The AMT have overseen the audits described above at 4.2 (d), and also review the usage of antibiotics as described below.

Antibiotic Usage in the WHSCT in Terms of Defined Daily Dose (DDD)/ Occupied Bed Days

Data on ward usage of antibiotics is obtained from the electronic pharmacy stock control system. This data includes all antibiotics issued to each ward as stock and any antibiotics issued to patients being discharged. It is assumed that all antibiotics supplied to the ward are administered to patients. The unit of measurement for antibiotic use is the DDD, which is the assumed average maintenance dose per day for a drug used for its main indication in adults. The DDD is a unit of measurement and does not necessarily reflect the recommended or prescribed daily dose. Drug consumption expressed in numbers of DDDs will only give a rough estimate of consumption and not an exact indication of drug use. Additionally, drug use may change when the report is run at a later date due to drugs being returned to the pharmacy system and the record being amended retrospectively. However, it does allow comparison of antibiotic use across health and social care (HSC) trusts in NI and the rest of the United Kingdom (UK). In order to adjust for bed occupancy, antibiotic use is expressed as the number of DDDs per 100 occupied bed days. Bed occupancy data was obtained from the Information Department.

See *Appendix 11* for details of the WHSCT's antibiotic usage in 2017-18.

4.4 Education and Training

(a) Trust Induction Training

The IPCNs deliver a two-hour PowerPoint training session as part of the Trust Induction programme for new staff. This occurs five times per year in both the Northern and Southern Sectors. During the year of this report there were 11 sessions and 626 staff were trained.

Induction Training covers staff for their first two years of employment. Thereafter, relevant staff must attend Mandatory Training every two years to have their knowledge refreshed and updated.

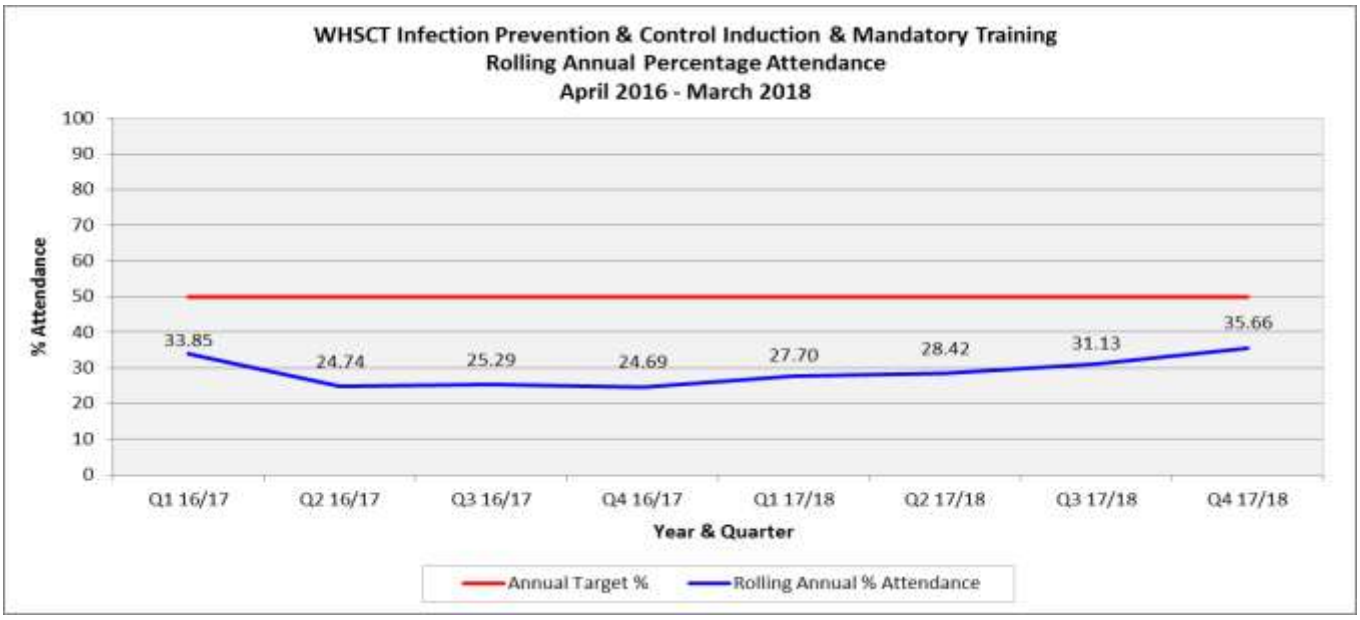
(b) Mandatory Training

The IPCNs continue to provide an opportunity for biennial update of all clinical staff using directly led sessions. Twice a year the IPCNs also contribute to the HSC Clinical Education Centre's (CEC) Combined Mandatory Training sessions, which include IP&C. A total of 84 sessions were delivered between April 2017 and March 2018. That is an average of 1.75 two-hour sessions per week across the Trust.

Mandatory Training sessions involve the use of a PowerPoint presentation, including video clips on hand hygiene and breaking the chain of infection, followed by a quiz on infection control principles. This format is designed to facilitate staff involvement and testing of knowledge with regard to IP&C. An evaluation form was used to measure and assess user feedback during September 2017. See *Appendix 12* for a summary of the findings.

As of the end of March, 2776 staff had attended Mandatory Training (1756 in the Northern Sector and 1019 in the Southern Sector). Attendance by nursing and midwifery staff is monitored through the accountability systems and non-attenders tend to be those on long term sick leave or maternity leave.

The level of attendance required each year, for Induction and Mandatory Training together, is 50% of the total number of staff who require training (i.e. 4769.5 out of 9539 applicable staff). Attendance for the year of this report was 35.66%, which is 14.34% less than required. Although it was an improvement on the previous year's performance of 24.69%.



Next year the IPCT plan to implement a number of changes to the structure of IP&C training within the Trust. The changes are based on recommendations from a review by the Infection Prevention Society's (IPS) NI Regional Branch Training and Education Sub-Group. They include:

- The introduction of a tiered system approach, whereby content is tailored to specific staff groups relevant to their level of patient/ client contact
- Regional standardisation of indicative content and learning outcomes
- Sharing of training delivery methods across the region, such as e-learning programmes, TigerPage applications, face-to-face training and DVDs
- The use of written materials for staff less familiar with Information Technology (IT) or who had limited IT access.

It is envisaged that the revised training programme will be ready to commence in September 2018.

(c) Aseptic Non-Touch Technique Training

Since the framework for ANTT was launched Trust-wide in October 2011, the IPCT have provided a number of training sessions each year for key trainers, whose responsibility it then becomes to cascade that training to the other staff in their ward and/ or in their clinical team.

11 ANTT training sessions took place across both Sectors during 2017-18. These were designed to help build further capacity and provide cascade trainers for those areas where trainers were no longer on staff, as well as refreshing the knowledge of existing cascade trainers. Focused education and support also took place to help improve junior doctors' and other medical staff's ANTT compliance. The first half of each session consisted of an introduction to and overview of the theory underpinning ANTT, while the second half focused on practical demonstration and learning using skills stations. A total of 147 attendees took part, including participants from a range of community and hospital specialties.

Monitoring of compliance is carried out as indicated by clinical surveillance and as part of the ESP.

(d) Enhanced Support Programme

Ward Managers oversee an ongoing improvement programme related to infection control key performance indicators (KPI) and input self-reported audit findings via the Nursing KPI dashboards. In addition, Lead Nurses provide an ongoing independent audit function in conjunction with agreed improvement plans.

The ESP provides a targeted approach by the IPCT to specific clinical areas in need of additional help to achieve compliance with evidenced based practice. The areas are identified by a working partnership of Divisional Lead Nurses, Heads of Service, Consultant Microbiologists and the IPCT. The trigger to provide support is based on a combination of infection and colonisation surveillance data and self-reported audit compliance, accompanied in some cases by independent IPCT audit. It is a very dynamic process and is designed to be flexible and responsive to the particular challenges identified in a clinical area. Support may also be provided as part of a planned programme of education/ improvement work on a specific subject.

ESPs/ improvement work was provided to 14 wards/ departments during 2017-18. This involved on-the-spot education of staff, as well as ward-based training sessions. The enhanced support occurred in response to periods of increased incidence of HCAIs and was delivered in collaboration with Lead Nurses and the multidisciplinary teams. Following the interventions, Ward Managers and their senior team, with the support of the Lead Nurses and senior medical staff, were expected to increase/ sustain improvements.

Wards and departments in receipt of enhanced support were as follows:

- Ward 1, Altnagelvin
- Ward 2 TOU, Altnagelvin
- Ward 3, Altnagelvin
- Ward 5 Elective Orthopaedic Unit (EOU), Altnagelvin
- Ward 7, Altnagelvin
- Ward 20 (including Renal Dialysis Room), Altnagelvin
- Ward 31, Altnagelvin
- Ward 32 ESU, Altnagelvin
- Ward 41 Acute Medical Unit (AMU), Altnagelvin
- Ward 50, Altnagelvin
- ICU, Altnagelvin
- High Dependency Unit (HDU), Altnagelvin
- Ward 3, Waterside
- Ward 4, Waterside

(e) Augmented Care Monitoring Programme

Augmented care areas within the Trust include the following:

- ICU/ HDU, Altnagelvin
- ICU/HDU, SWAH
- Renal Unit, Altnagelvin
- Renal Unit, OHPCC
- Oncology/ Haematology, Altnagelvin
- Neonatal ICU (NNICU), Altnagelvin
- Neonatal Unit (NNU), SWAH

The IPCT continued to provide an additional monitoring programme for these areas in response to the requirement for independent audit as part of the Troop Report recommendations.

The IPCT are also assisting augmented care areas to develop mechanisms for auditing blood culture collection practice, monitoring and reviewing contamination rates and devising action plans to improve compliance. This work is based upon requirements outlined in the Regional IP&C Clinical Practices Audit Tool for Augmented Care Areas and recommendations from previous Regulation and Quality Improvement Authority (RQIA) inspections.

This work is ongoing, with different areas at different points along the implementation process. Some areas have a good system in place for the receipt of contamination data, discussion of same at multidisciplinary meetings and auditing of practice. Other areas discuss their results but are not yet auditing, while others have started auditing but do not have a formal procedure

for reviewing their contamination rates. One area (Ward 50, Altnagelvin) is yet to commence this piece of work.

(f) Antimicrobial Stewardship Training

Training related to antimicrobial prescribing and stewardship was provided by the Antimicrobial Pharmacists and Consultant Microbiologists.

Type of Training	Number of Sessions
Pharmacist	13
Technician	6
Doctors	9
Nurses	9
Other Staff	2

In November 2017 the AMT confirmed they had chosen the NI Centre for Pharmacy Learning and Development's (NICPLD) e-learning module for use in the WHSCT. This is available to all healthcare professionals via the Medicines NI Portal. The AMT are developing a communication and implementation plan for roll-out of the new e-learning module, with the aim being to commence use in April 2018.

(g) Miscellaneous

The IPCNs also provide sessions on IP&C issues for the following education programmes:

- Ward-based lunchtime training
- Junior Doctors' Induction
- Departmental Equipment Controllers
- C4C Environmental Cleanliness Auditing
- Pre-Registration Nursing Students (Ulster University, Magee)
- Return to Nursing (Ulster University, Magee)

4.5 Hand Hygiene Campaign

Each year the Save Lives: Clean Your Hands campaign aims to progress the goal of maintaining a global profile on the importance of hand hygiene in healthcare and to bring people together in support of hand hygiene improvement globally.

In 2017 the World Health Organisation urged the focus to be on the fight against antibiotic resistance in the context of hand hygiene. Hand hygiene is at the core of effective IP&C to combat antibiotic resistance, and campaigning each year on or around World Hand Hygiene Day (5th May) is one important part of improving behaviour towards IP&C best practices. This year the campaign materials were all co-branded with the slogan "Antibiotics, handle with care" to demonstrate unity between antimicrobial resistance and IP&C efforts.

The Trust supported this work by participating on 5th May 2017. Two days of ANTT Refresher Training took place on 4th and 5th May in the SWAH and Altnagelvin. These focused on the importance of hand hygiene as a key component of ANTT. Also, new posters were available regarding the importance of the 5 Moments for Hand Hygiene in reducing antimicrobial resistance and various media platforms were utilised for raising this important message.

In addition, hand hygiene is a fundamental component of all IP&C training programmes. Throughout the year the IPCT continued to promote the 7 step hand hygiene technique and 5 Moments for Hand Hygiene at Induction Training, Mandatory Training and as part of the ward/ department-based ESP. They also provided individual on-the-spot education for any staff who failed an independent hand hygiene audit.

4.6 Surveillance

The IP&C Surveillance Sub-Group of the Chief Executive HCAI Accountability Forum examines both local and regional surveillance data to identify trends and areas for improvement. The Sub-Group meet on a quarterly basis and include Divisional representatives and members of the IPCT. The Sub-Group examines a range of information and makes recommendations for action and support to specific wards/ facilities. Minutes from these meetings are circulated to members of the wider Chief Executive HCAI Accountability Forum, who can request more detailed information/ discussion at the Forum meetings should they feel this is required. Surveillance results causing concern are escalated for discussion by the Forum.

(a) Laboratory-Based Ward Liaison Surveillance

The IPCT carry out laboratory-based ward liaison surveillance on all alert organisms isolated from clinical specimens and on all alert conditions. Monday to Friday the IPCN will either visit or phone ward/ facility staff and give verbal advice, followed by written advice, on the precautions and control measures that are essential for the specific disease and infecting agent. At weekends key organisms are reported directly by laboratory personnel to ward staff. The IPCDs provide an on-call service for any urgent clinical enquiries.

As a result of Chief Medical Officer (CMO) letters, various DoHNI reports and communications issued in previous years, the IPCT also provide additional or more detailed surveillance and/ or contact tracing related to the following organisms:

- Pertussis
- Invasive group A streptococcus
- Tuberculosis (TB)

Further Trust-based surveillance programmes are desirable; however, funding for such initiatives is difficult to access in the current financial climate.

(b) National and Regional Surveillance Initiatives

The Trust is required to participate in the DoHNI's mandatory regional programme for surveillance of HCAIs. Annual reports are produced by the PHA, which contain trust specific trends enabling trusts to examine their own results in comparison with others and take action where there are areas for concern.

The IPCT contribute to the following surveillance programmes:

National Surveillance

- Haemophilus Influenzae Type B
- Scalded Skin Syndrome
- Enhanced Pertussis surveillance
- Pneumocystis carinii

- Pneumococci
- Beta haemolytic streptococcus group A

Regional Surveillance

- Enhanced Meningococcal surveillance
- MRSA/ Meticillin-Sensitive Staphylococcus aureus (MSSA) bacteraemia
- *C. difficile*
- TB
- Orthopaedic SSI
- C-section SSI
- Critical care device-associated infection
- *Pseudomonas aeruginosa* in augmented care areas

A pilot surveillance programme regarding breast SSI commenced in the WHSCT in July 2016. The Trust has not yet received its 2017-18 results for this surveillance from the PHA. However, work continues with the multidisciplinary team regarding surveillance of SSIs and the implementation of improvement measures.

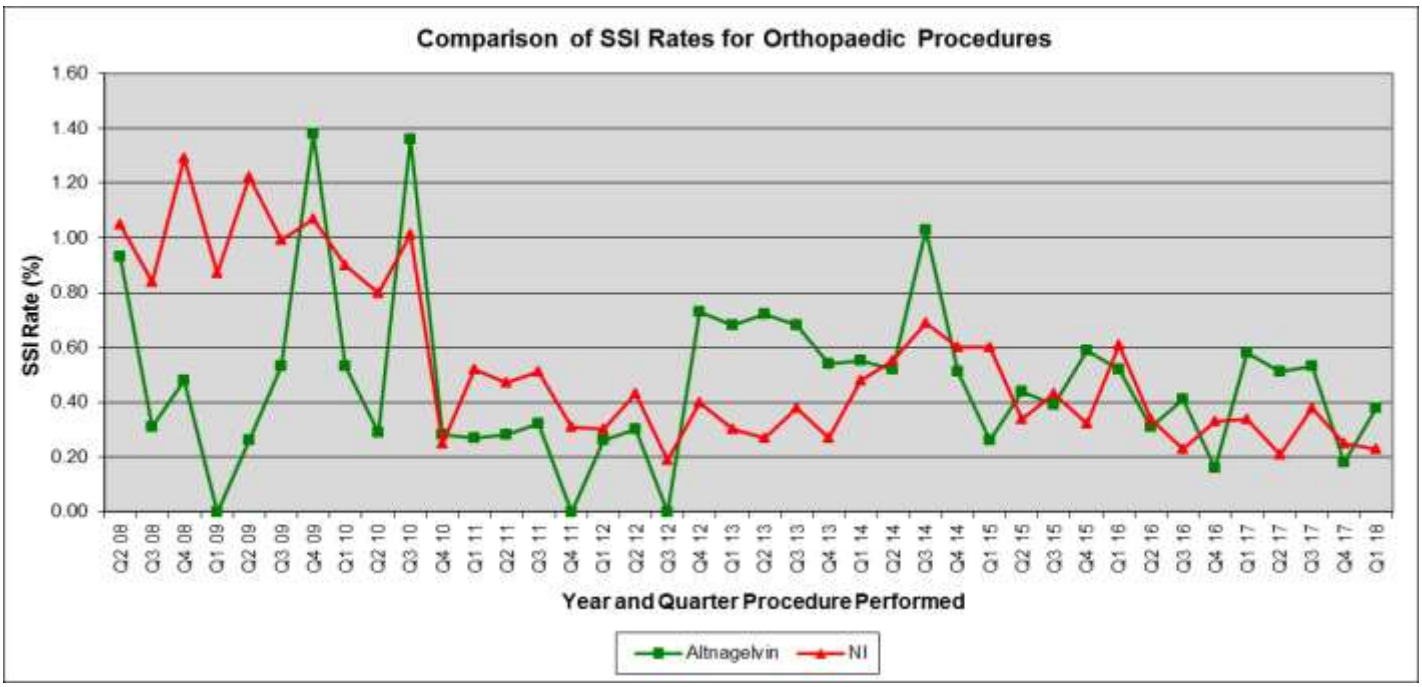
(c) Orthopaedic Surgical Site Infection Surveillance

Regional surveillance of orthopaedic post-operative infection has been continuous since 1st July 2002. The PHA provides data analysis and support. The SSI rate in orthopaedic surgery has routinely been below 1% since surveillance commenced. The chart below illustrates the SSI reductions achieved since surveillance began.

The Trust has been commended for its high compliance rate for completion of both orthopaedic and C-section surveillance data.

Evidence based care bundles are in place for orthopaedic surgery.

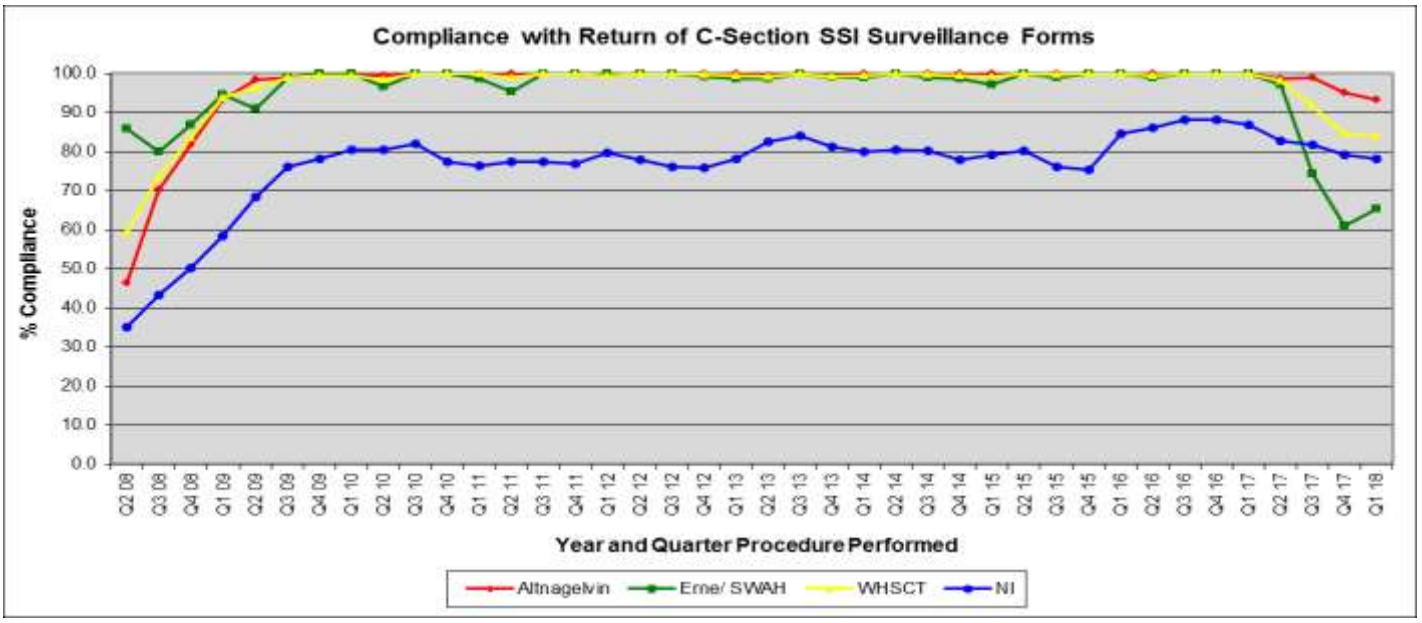
		Year and Quarter Procedure Performed															
		Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18
Number of Procedures/ SSI Rate	Altnagelvin	387	292	392	379	689	515	505	574	651	490	613	519	584	569	550	531
		0.52	*1.03*	*0.51*	*0.26*	*0.44*	*0.39*	*0.59*	*0.52*	*0.31*	*0.41*	*0.16*	*0.58*	*0.51*	*0.53*	*0.18*	*0.38*
	NI	2011	2161	2003	2180	2954	3015	3131	3284	3243	3010	3332	3240	3274	3176	3214	3029
		0.55	*0.69*	*0.60*	*0.60*	*0.34*	*0.43*	*0.32*	*0.61*	*0.34*	*0.23*	*0.33*	*0.34*	*0.21*	*0.38*	*0.25*	*0.23*



(d) Caesarean Section Surgical Site Infection Surveillance

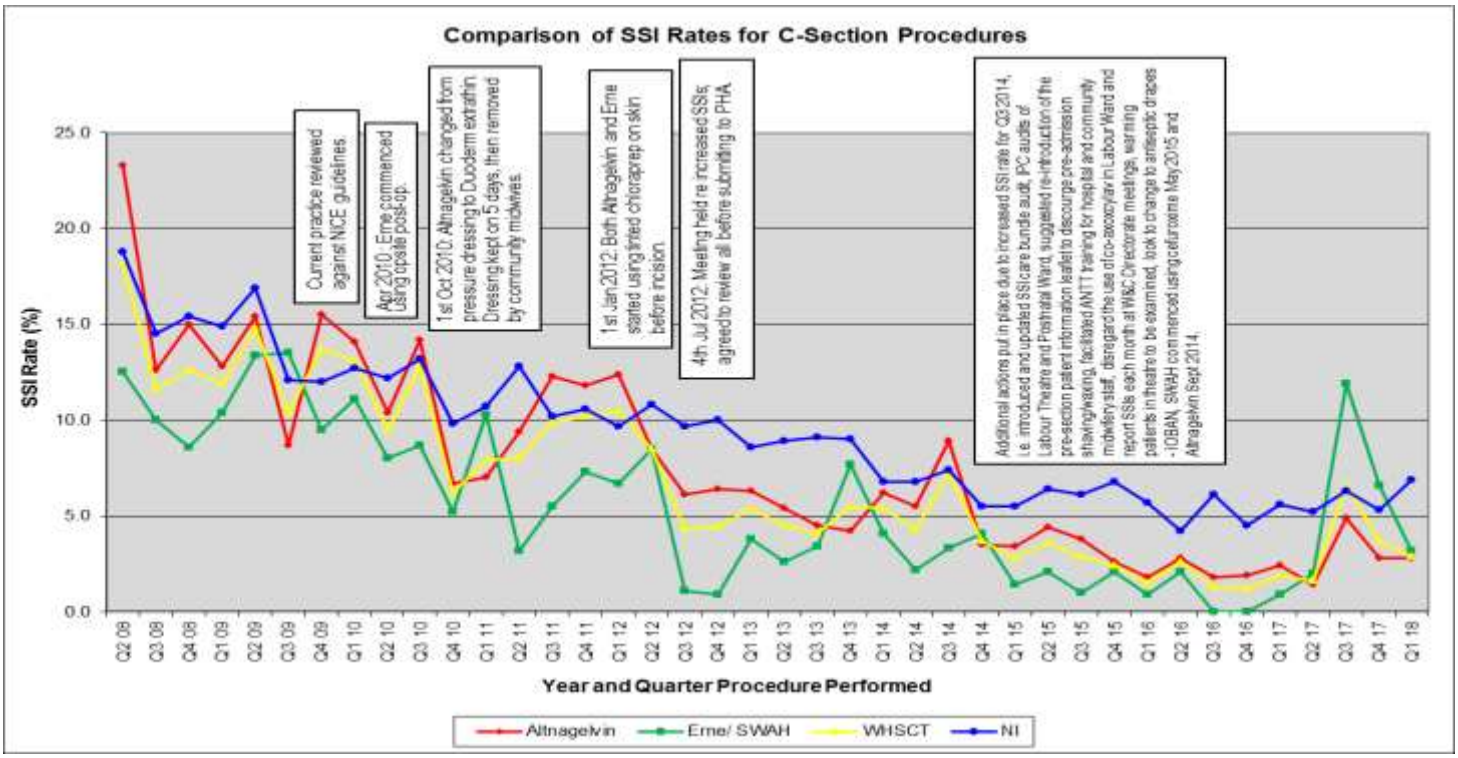
Post-operative C-section SSI surveillance commenced across NI in January 2008. The WHSCT has been contributing to this surveillance since February 2008. The Trust performs well compared with the NI average.

		Year and Quarter Procedure Performed															
		Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18
% Compliance with Return of Forms	Altnagelvin	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.6	99.0	95.1	93.3
	Erne/ SWAH	100.0	98.9	98.7	97.3	100.0	99.0	100.0	100.0	99.0	100.0	100.0	100.0	97.1	74.4	61.0	65.3
	WHSCT	100.0	99.7	99.6	99.2	100.0	99.7	100.0	100.0	99.6	100.0	100.0	100.0	98.1	91.6	84.6	84.0
	NI	80.6	80.3	77.9	79.1	80.2	76.2	75.4	84.6	86.1	88.3	88.2	86.9	82.8	81.8	79.2	78.3



High compliance with the return of surveillance forms gives the resulting data reliability. Over the course of 2017-18, the compliance rate for submission of data by the WHSCT reduced from 98% to 84%. This was a consequence of the IP&C Surveillance Officer's remit being extended to include new surveillance initiatives, which meant she had to step back from routine follow-up of data submission for existing surveillance programmes. The subject has been addressed with Lead Midwives and they are to put additional checks in place to ensure all forms are completed and submitted as required. Despite the reduction in compliance, the WHSCT remains above the NI average of between 78% and 83%.

		Year and Quarter Procedure Performed															
		Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18
Number of Procedures/ SSI Rate (%)	Altnagelvin	165	226	198	179	182	212	193	165	177	220	216	207	212	206	213	180
		5.5	*8.9*	*3.5*	*3.4*	*4.4*	*3.8*	*2.6*	*1.8*	*2.8*	*1.8*	*1.9*	*2.4*	*1.4*	*4.9*	*2.8*	*2.8*
	Erne/ SWAH	90	92	74	73	96	99	97	111	97	101	111	108	99	67	61	62
		2.2	*3.3*	*4.1*	*1.4*	*2.1*	*1.0*	*2.1*	*0.9*	*2.1*	*0.0*	*0.0*	*0.9*	*2.0*	*11.9*	*6.6*	*3.2*
	WHSCT	255	318	272	252	278	311	290	276	274	321	327	315	311	273	274	242
		4.3	*7.2*	*3.7*	*2.8*	*3.6*	*2.9*	*2.4*	*1.5*	*2.6*	*1.3*	*1.2*	*1.9*	*1.6*	*6.6*	*3.7*	*2.9*
	NI	1393	1546	1409	1316	1407	1479	1376	1395	1509	1629	1658	1581	1442	1482	1425	1282
		6.8	*7.4*	*5.5*	*5.5*	*6.4*	*6.1*	*6.8*	*5.7*	*4.2*	*6.1*	*4.5*	*5.6*	*5.2*	*6.3*	*5.3*	*6.9*



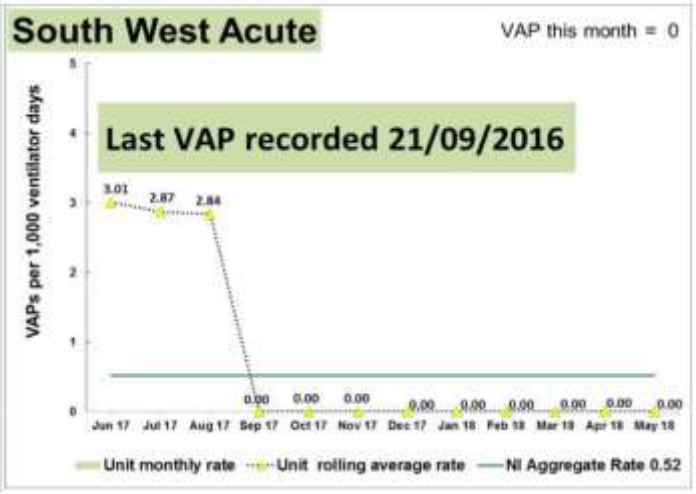
Evidence based care bundles to reduce SSIs are in place for C-section surgery.

(e) Critical Care Device-Associated Infection Surveillance

Critical care device-associated infection surveillance commenced in June 2011. The most recent infection recorded was a VAP diagnosed in ICU, SWAH, in September 2016. This was the first device-related infection to have occurred in the Trust since April 2014. None occurred during 2017-18.

VAP

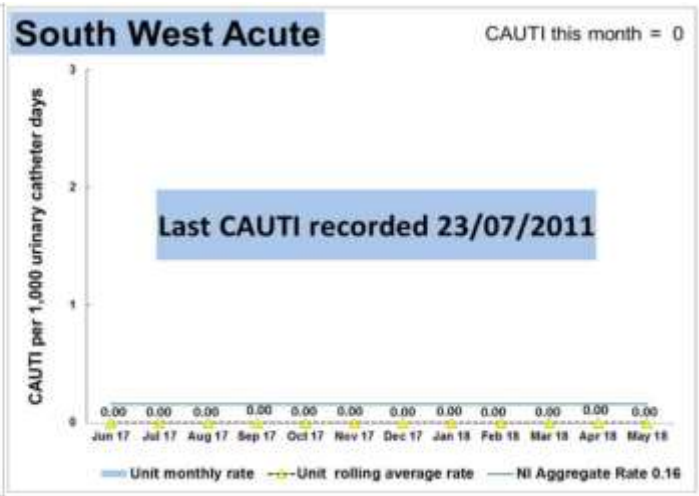

Altnagelvin Hospital
VAP this month = 0
Last VAP recorded 18/04/2014
VAPs per 1,000 ventilator days
Jun 17 Jul 17 Aug 17 Sep 17 Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18
Unit monthly rate
Unit rolling average rate
NI Aggregate Rate 0.52

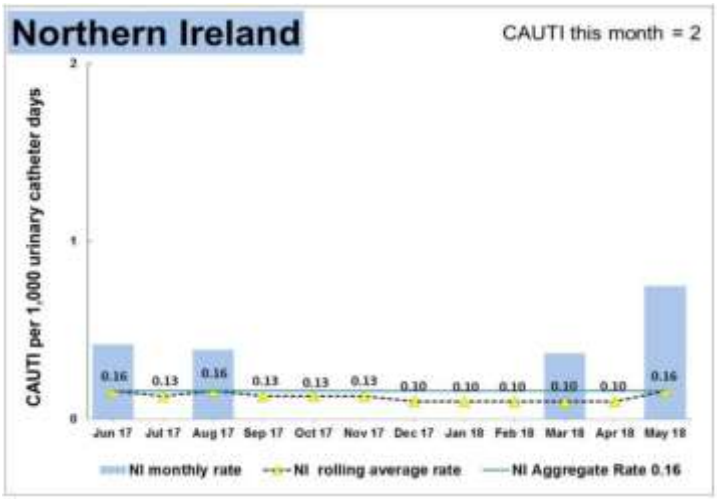

South West Acute
VAP this month = 0
Last VAP recorded 21/09/2016
VAPs per 1,000 ventilator days
3.01
2.87
2.84
Jun 17 Jul 17 Aug 17 Sep 17 Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18
Unit monthly rate
Unit rolling average rate
NI Aggregate Rate 0.52


Northern Ireland
VAP this month = 0
VAPs per 1,000 ventilator days
1.09
1.08
0.95
0.89
0.83
0.61
0.60
0.67
0.53
0.46
0.53
0.52
Jun 17 Jul 17 Aug 17 Sep 17 Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18
NI monthly rate
NI rolling average rate
NI Aggregate Rate 0.52

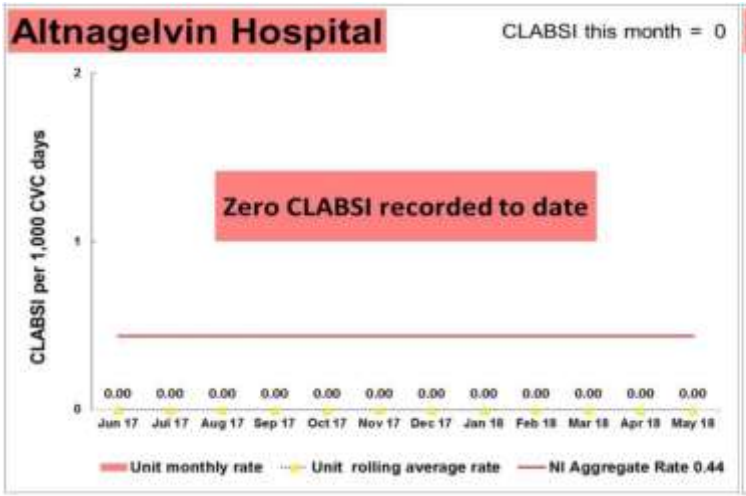
CAUTI

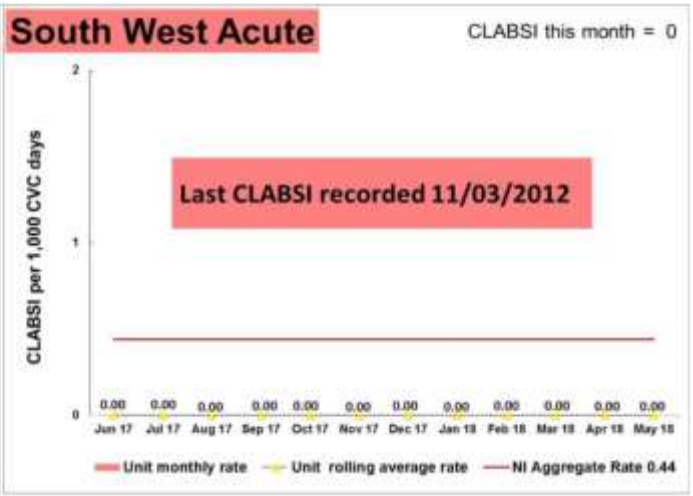

Altnagelvin Hospital
CAUTI this month = 0
Zero CAUTI recorded to date
CAUTI per 1,000 urinary catheter days
Jun 17 Jul 17 Aug 17 Sep 17 Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18
Unit monthly rate
Unit rolling average rate
NI Aggregate Rate 0.16

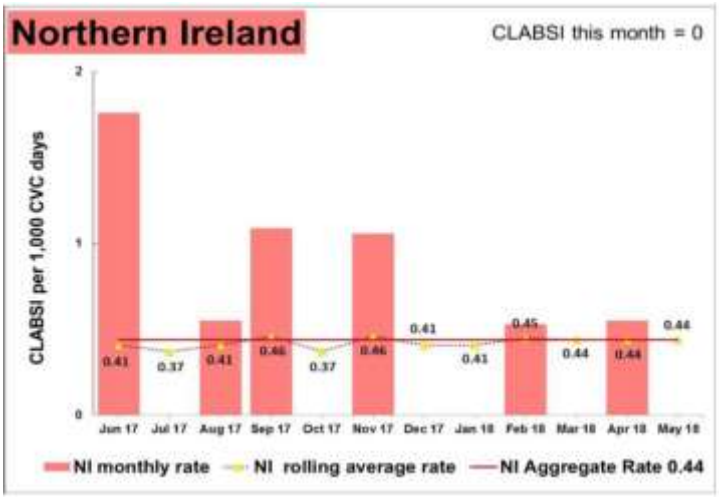

South West Acute
CAUTI this month = 0
Last CAUTI recorded 23/07/2011
CAUTI per 1,000 urinary catheter days
Jun 17 Jul 17 Aug 17 Sep 17 Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18
Unit monthly rate
Unit rolling average rate
NI Aggregate Rate 0.16



Central Line-Associated Blood Stream Infection (CLABSI)







(f) *Pseudomonas* Surveillance

Pseudomonas aeruginosa is an opportunistic pathogen or coloniser, well known in the hospital environment. *Pseudomonas* is predominantly an environmental organism and is highly attracted to water sources. *Pseudomonas* is ubiquitous in the alimentary tract of humans and, therefore, carriage is normal and its presence is not indicative of infection. The term 'colonisation' is used to describe the identification of any organism without signs of infection.

Specific groups of patients who are immunocompromised are at a higher risk of colonisation or infection than the normal population. The Trust has stringent measures in place regarding the surveillance and management of *Pseudomonas* in augmented care areas and participates in the PHA surveillance as detailed below.

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2014-15	0	1	0	0	0	1	3	0	1	0	0	0	6
2015-16	0	0	0	0	0	0	0	0	0	1	0	0	1
2016-17	0	0	0	0	0	0	0	1	1	1	0	0	3
2017-18	0	1	0	0	1	0	0	1	0	0	0	0	3

All three cases reported during 2017-18 were categorised as healthcare-associated. Two of them were positive blood cultures occurring in augmented care areas – ICU, Altnagelvin, in August 2017 and Ward 50, Altnagelvin, in November 2017. Prior to that, there had been no positive blood cultures since December 2016.

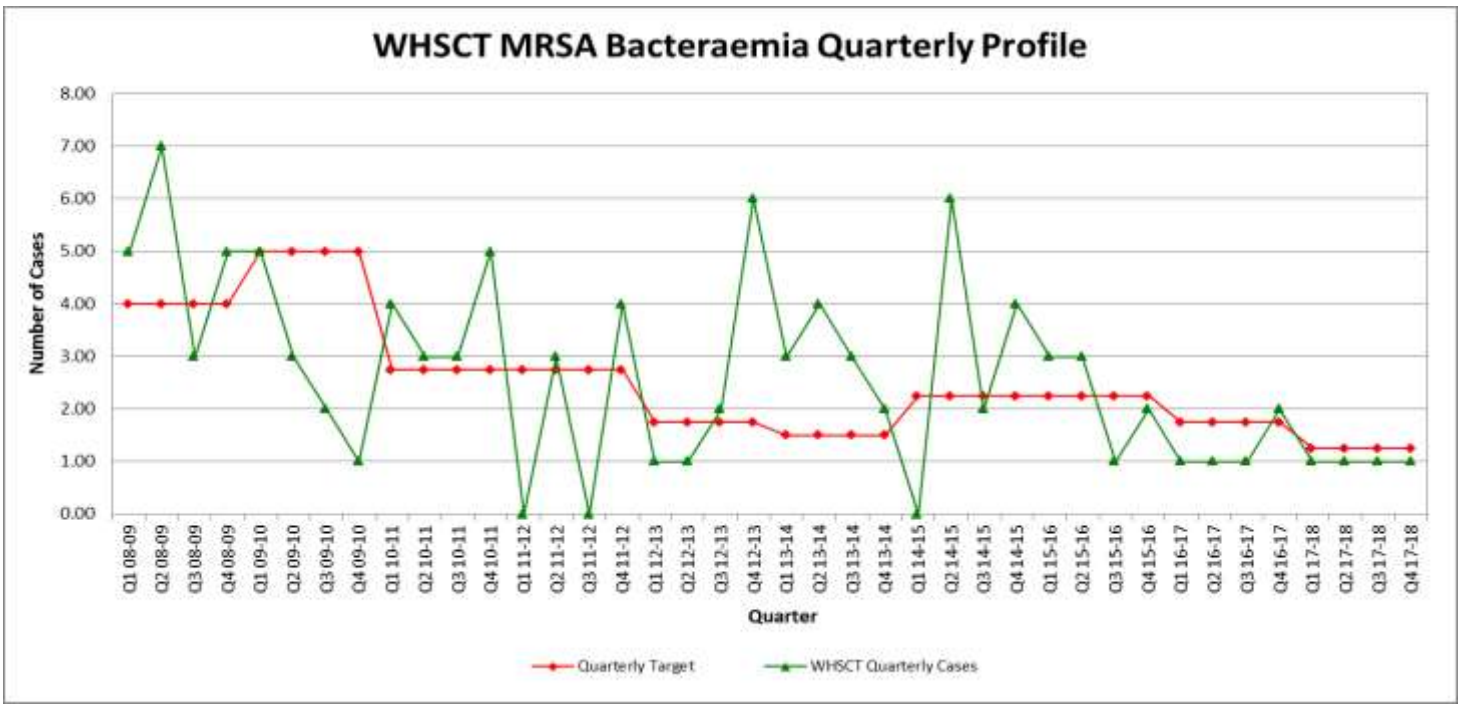
(g) MRSA/ MSSA Bacteraemia and *Clostridium difficile* Surveillance

Reduction targets for HCAIs came into effect from 1st April 2008. Performance is reported monthly and circulated to:

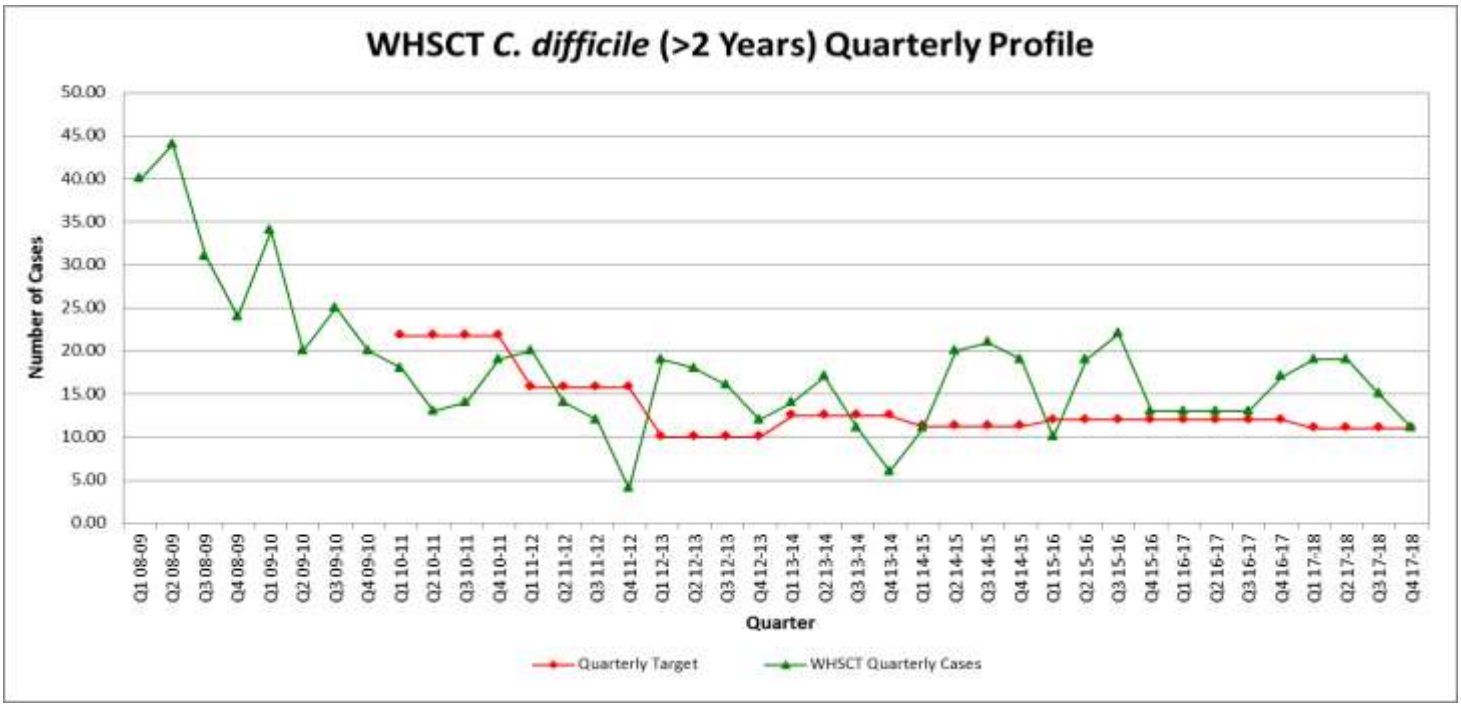
- The Chief Executive
- Chief Executive HCAI Accountability Forum
- IP&C Surveillance Sub-Group
- All consultants
- Ward Managers
- Risk Management

The DoHNI has set reduction targets for HCAIs based on the surveillance data reported to the PHA. The baseline for MRSA bacteraemias is the number of infections reported during the period 1st April 2016 to 31st March 2017 (five cases). The Trust was expected to maintain this level of reduction in 2017-18, giving a target of five. This target was met and in the year to the end of March 2018 four MRSA bacteraemias were reported, a reduction of 20%. The Trust's performance is joint best within the region and must be commended.

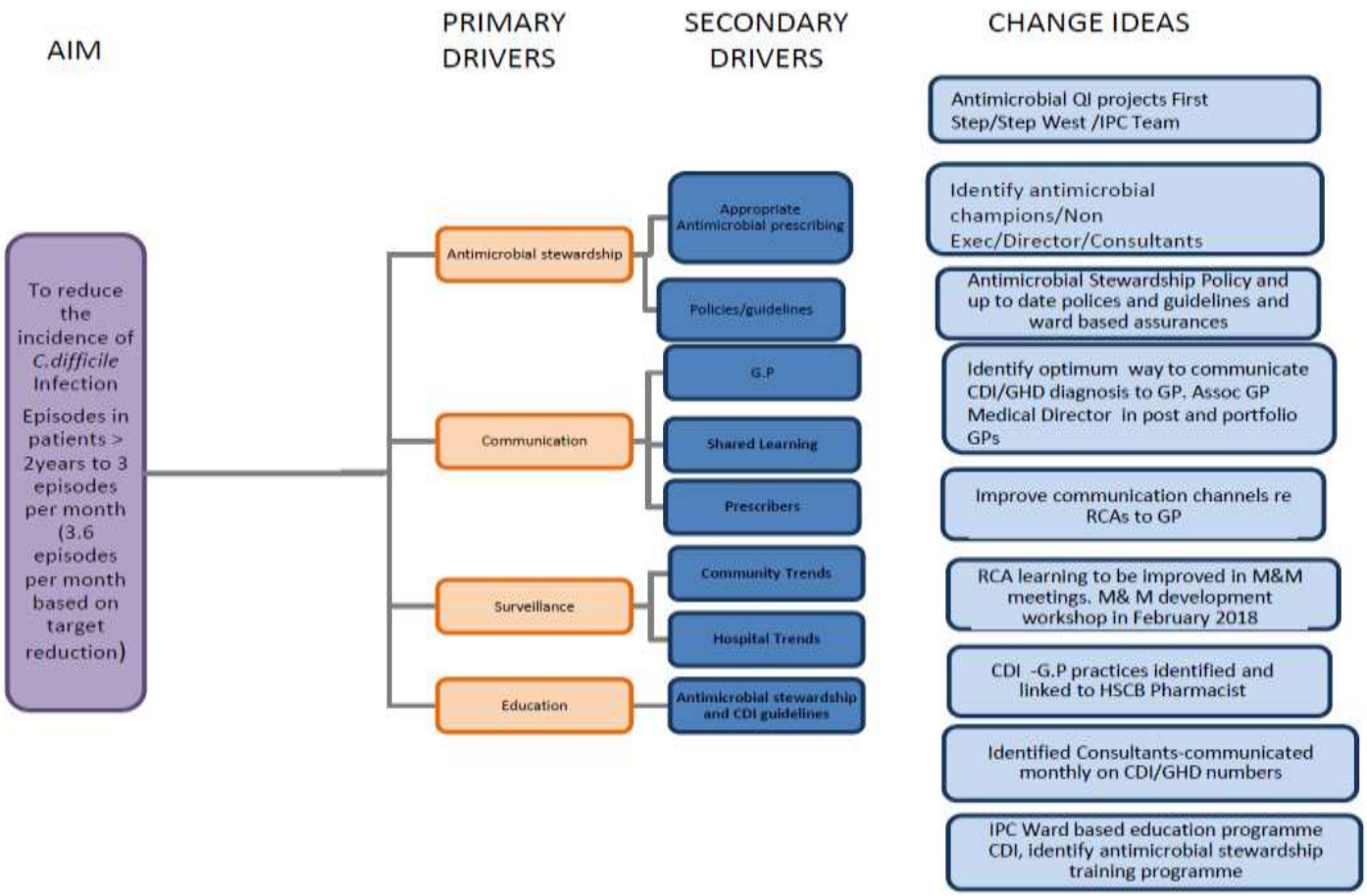
The reports include positive results from patients who were already infected prior to admission to the Trust. The proportion of cases which can be attributed to the Trust was zero, as all four cases were categorised as community-associated. All community-acquired cases are, however, reviewed to ensure there has not been any healthcare intervention within the previous two weeks, e.g. district nursing, podiatry, Rapid Response, etc., which might possibly have contributed to the development of infection.



The baseline for *C. difficile* was the number of infections reported during the period 1st April 2016 to 31st March 2017 for inpatients aged two years and over (56 cases). In the year to the end of March 2018, the Trust was expected to achieve a 21.43% reduction on the previous year (44 cases). This target was not met as the Trust actually reported 64 cases. Across the province it was the same outcome for all trusts as none achieved their target.



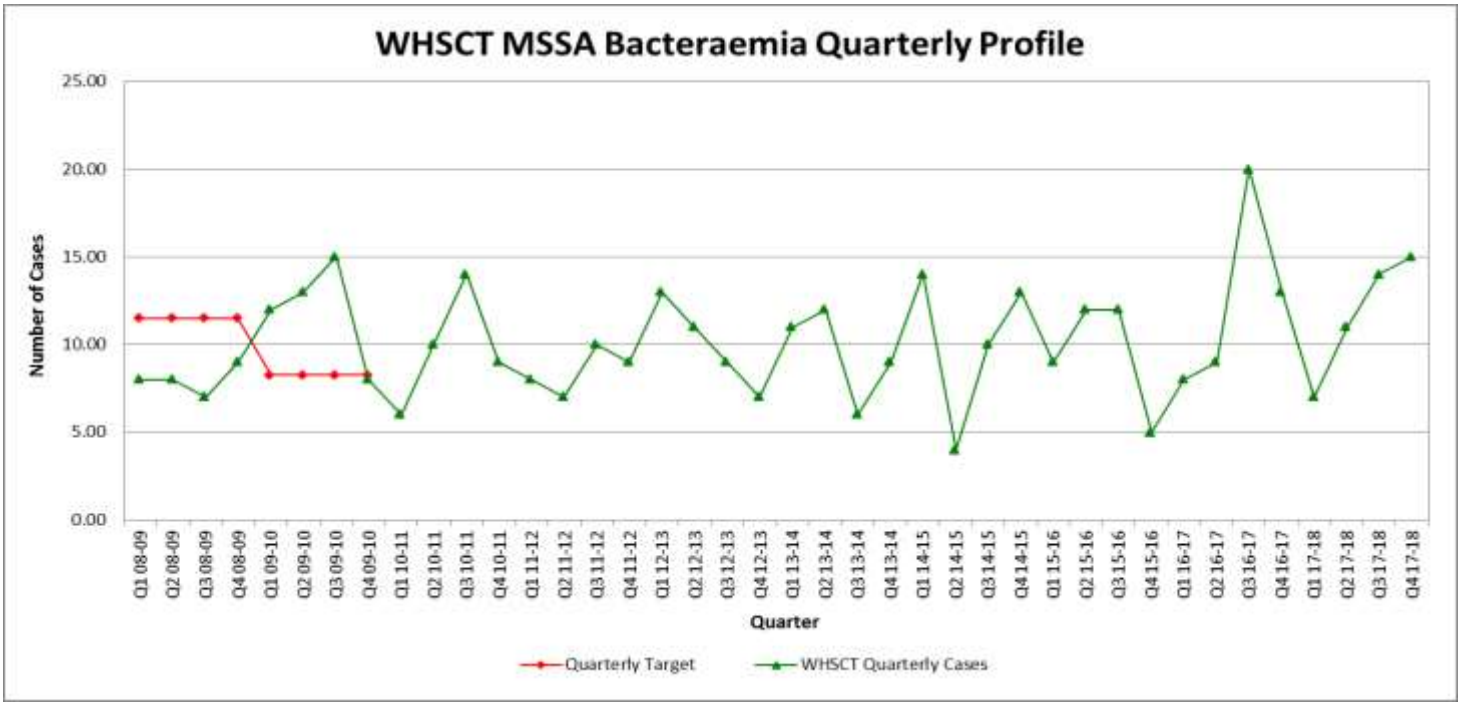
The increase in *C. difficile* cases and likelihood that the reduction target would not be met was recognised early in 2017-18. This was recorded and reported as a corporate risk. To address the situation a driver diagram was produced to identify change ideas, actions already in place were strengthened and new ones were introduced, as follows:



- Audit of the HII care bundle for *C. difficile* by ward staff
- Weekly IPCN review of affected patients, including independent audit of compliance with the HII care bundle for *C. difficile*
- Weekly multidisciplinary *C. difficile* ward rounds
- Antimicrobial ward rounds in specific wards
- Development of an Antimicrobial Stewardship Policy
- Ensuring the availability of up-to-date antimicrobial prescribing guidance and ward-based assurance of compliance
- Independent antimicrobial prescribing audits
- Development of a multidisciplinary quality improvement programme looking at antibiotic use for all patients in wards where there had been cases of *C. difficile*
- RCA of all healthcare-associated *C. difficile* cases, plus cases where there had been healthcare interventions during the previous 12 weeks
- Tabling RCA findings at Mortality and Morbidity meetings for cases deemed to have been preventable or where there was significant learning
- Survey of the RCA process to determine participants' views on how useful it was and how it might be improved
- Increased focus on the prevention and control of *C. difficile* at IP&C Mandatory Training
- Shared learning events for Ward Managers and Lead Nurses
- Ward Managers to join the AMT to support and utilise the drug administration and challenge roles of nursing staff
- Improved medical staff engagement and the identification of Antimicrobial Champions
- An improvement programme with district nursing teams regarding urinary catheter management

- Liaison between the IPCT, Antimicrobial Pharmacist and Associate Medical Director for General Practitioners (GPs) to open new communication channels with primary care colleagues
- Triangulation of *C. difficile* cases with GP prescribing practices and sharing this information with the pharmacist at the HSC Board and GPs
- Introduction of a GP newsletter

Although no reduction target was set for the year of this report, surveillance of MSSA bacteraemias also remained mandatory. The number of cases fell by three, from 50 in 2016-17 to 47 in 2017-18.



(h) Root Cause Analysis

The Trust has aimed to carry out RCAs on all healthcare-associated *C. difficile* positive patients and those with healthcare-associated MRSA and MSSA bacteraemia (with the exception of relapse cases) since February 2009. This involves a meeting with relevant staff who review where, when, how and why the patient developed an infection to identify areas for improvement. Recommendations and sustainable solutions are agreed to minimise the risk of recurrence of a similar incident in the future. The process to date has provided invaluable information to inform clinical teams and the IPCT where to target resources for improvement.

Key Trends 2017-18

HCAI	Key Trends Identified
MSSA Bacteraemia (healthcare-associated)	11 cases were investigated through the RCA process and 5 were deemed to be avoidable HCAIs. 3 of the cases cited poor compliance with the insertion or ongoing care of a medical device/ IV line as the root cause. 2 others were believed to be contaminants and not genuine bacteraemias.
MRSA Bacteraemia (healthcare-	No cases were investigated via RCA as all were community-associated.

associated)	
C. difficile associated disease (healthcare-associated)	A total of 44 cases were investigated through the RCA process. The main root causes were history of *C. difficile*/ GDH, underlying infection (e.g. UTI, HAP, sepsis) requiring treatment with appropriate antibiotics, underlying bowel conditions and exposure to other patients with *C. difficile* during an outbreak situation. It was decided that 6 of the cases were preventable.

(i) Point Prevalence Survey

The NI phase of the PPS of hospital-acquired infection (HAI) and antimicrobial use took place in June 2017. This was a Europe-wide survey run by the European Centre for Disease Control every five years and co-ordinated in NI by the PHA. Within the WHSCT, Altnagelvin and the SWAH were surveyed. The aims and objectives of the PPS were:

- To estimate the total burden of HAI and antimicrobial use in acute care hospitals.
- Measure the prevalence of antimicrobial prescribing and the types of antimicrobials prescribed, as well as compliance with local policy.
- Identify priority areas for future interventions to prevent and control HAI, for antimicrobial stewardship and for future targeted incidence surveillance of HAI.
- Disseminate the PPS results to those who need to know at local, regional, national and European level to identify problems and set up priorities accordingly.

Key findings to emerge in relation to the WHSCT include:

- More patients were surveyed in 2017 than during the previous PPS in 2012 (15 more), with the majority of patients (384) in Altnagelvin and 187 in SWAH
- The Trust's HCAI prevalence rate had increased from 3.42% in 2012 to 6.13%, just below the NI average (6.14%)
- The top three HCAIs were pneumonia, SSI and skin and soft tissue infection. In 2012 they were UTI, pneumonia and systemic infection
- The highest percentage of HCAIs were in Surgery (21.23%)
- 25.7% of HCAIs were positive on admission and 85.7% were of current hospital origin
- There was a general increase in the use of all medical devices. For all types of devices included in the PPS, the prevalence of HAI was greater when a device was present
- The proportion of patients receiving antimicrobials in the Trust (40.11%; 28.96% in 2012) was higher than NI (36.32%; 29.51% in 2012). SWAH was 40.64% and Altnagelvin 39.84%
- Non-compliance with antimicrobial prescribing guidelines was 17.7% (17% in 2012)
- Treatment of HCAIs was the indication for antimicrobials in 18.9% of cases in Altnagelvin and 28.6% of SWAH cases
- Only 8.6% of antimicrobials were being reviewed within 72 hours

More detailed findings of the survey are summarised in *Appendix 13*. A final regional report for NI is yet to be published by the PHA.

In order to address the findings the Trust has implemented a number of actions and will introduce more over the coming year. These include:

- Reinforcing use of the NICPLD antimicrobial stewardship e-learning module. Also reinforcement of Public Health England's Antibiotic Guardian campaign and the Royal College of Physicians' top ten tips for effective antibiotic prescribing

- Development of an antimicrobial stewardship educational workbook
- Reviewing the membership of the AMT and identifying champions
- Antimicrobial stewardship quality improvement projects
- Reviewing and updating Trust antimicrobial prescribing guidelines
- WHSCT participated in an evaluation of the UK Antimicrobial Resistance Strategy by the Policy Innovation Research Unit (PIRU) at the London School of Hygiene & Tropical Medicine
- Participation in the Antimicrobial Resistance Kit.
- Reviewing HAI data and interrogating further to identify additional patient risk factors.
- Enhanced ward-based support on the use and management of peripheral venous catheters
- Focused work on the diagnosis and prevention of HAP and investigating the possible development of a care bundle
- Further embedding the SSI prevention care bundle for all types of surgery
- Commencement of enhanced gram-negative bacteraemia surveillance
- Ongoing development of the Trust Cleaning Plans to improve and streamline the current process for discharge and terminal cleans

4.7 Planning and Water Safety

(a) Risk Assessment Prior to Strategic/ New Build/ Refurbishment Planning

An IPCN is involved in all aspects of planning across the Trust. The main objective is to ensure that all WHSCT premises are designed and built to facilitate the prevention and control of infection. This involves a review of the risk assessment process used during planning and renovation/ construction. The emphasis is on establishing a timely collaboration between clinical staff, Estates and the IPCT with regard to any new build, renovation or maintenance repairs of any Trust building.

In each situation where there is to be construction, refurbishment or repair work the Infection Control Risk Assessment Form is completed and forwarded to the IPCT. This provides information regarding the following:

- New building work to be undertaken
- Refurbishment work to be carried out
- Alterations to the use of rooms/ premises
- Maintenance requests
- Any IPCT monitoring required

On receipt of this information, depending on the size and complexity of the project, controls are agreed with clinical staff, Estates and, where applicable, private contractors.

As a means of enhancing the IP&C input into planning in the WHSCT, a strategy/ framework developed by Health Facilities Scotland has been adapted for use in all planning projects. The documents all relate to HAI-SCRIBE, which is an acronym for **H**ealthcare **A**ssociated **I**nfection **S**ystem for **C**ontrolling **R**isk **I**n the **B**uilt **E**nvironment. The procedures contained within HAI-SCRIBE form a framework for all groups to work together to identify, manage and mitigate issues in the built environment impacting on IP&C risks, ultimately reducing the risks to patients whilst any works are underway.

During the year of this report IPCT involvement included:

- Door replacement in Radiotherapy Unit, Altnagelvin
- North Wing, Altnagelvin
- Ward 1, Waterside
- Ward 2, Waterside
- OHPCC
- Emergency Department, SWAH
- Refurbishment of Old Endoscopy/ Day Case, Altnagelvin
- Ward 43, Altnagelvin
- Ward 6, Altnagelvin
- Outpatients Department, Altnagelvin
- Plumbing works in the Tower Block, Altnagelvin
- Refurbishment of Clinical Decisions Unit, Altnagelvin
- Macmillan Support Centre, Altnagelvin
- Scanner accommodation and office refurbishment in Radiology, Altnagelvin
- Refurbishment of Dedicated Elective Surgical Unit, Altnagelvin
- Refurbishment of Emergency Department/ Resuscitation/ Triage, Altnagelvin
- SANDS/ Lavender Bereavement Suite, Altnagelvin
- Water works in the Treatment Wing, Altnagelvin
- Ward 9, Altnagelvin
- Door works in NNICU, Altnagelvin
- Sanitary ware replacement in ICU/ HDU, SWAH
- Relocation of the Milk Bank, SWAH
- Pre-Operative Assessment Unit, Altnagelvin
- Emergency lighting replacement in the Tower Block, Altnagelvin
- Refurbishment of Physiotherapy, Altnagelvin
- Review of all submitted Infection Control Risk Assessment Forms and scheduling IPCT input, including dust monitoring for Aspergillus control
- Available for advice and/ or consultation throughout any Trust projects

(b) Water Safety

Water Safety Plan

The Trust Water Safety Plan was reviewed during the year of this report in order to incorporate the updated Health Technical Memorandum 04-01: Safe Water in Healthcare Premises Part A, Part B and Part C. Risk assessments for both Legionella and *Pseudomonas* were also reviewed and amended. The updated document was ratified by the CMT and Trust Board.

Water Sampling Regime

Water testing continues throughout key Trust owned facilities. A range of mitigating actions are in place to deal with any positive results, ranging from increased flushing, chlorination and placement of PAL filters to the removal of dead legs and replacement of pipework.

A planned water testing programme is also in place for Private Finance Initiative buildings, including the SWAH and the Labs & Pharmacy Building, Altnagelvin. The process is managed by Interserve Facilities Management (FM) and Integral FM respectively. All positive results and proposed actions are reported to core members of the Trust WSG on an ongoing basis. Exceptions are discussed at the WSG meetings.

The Trust has produced a significant amount of information on water sampling over the years and is, therefore, in a more informed position with regard to the efficacy of its water systems. A risk based review of the water sampling regime took place in late 2017, with a view to ensuring the efficiency and effectiveness of the current arrangements. Following this a risk matrix of all areas in the Trust was completed showing which ones had clear results and the length of time since facilities last tested positive. It was agreed that testing would cease in low risk areas so that resources could be more beneficially deployed to high risk areas.

Independent Water Safety Audit

Recommendations from an independent water safety audit (originally carried out in October 2016) continued to be implemented throughout 2017-18. Progress is monitored as a standing item by the WSG and the deadline for completion is the end of 2018. So far 77% of the recommendations have been completed.

Tower Block, Altnagelvin

Substantial plumbing improvement work took place in the Tower Block, Altnagelvin, during 2017. There has been a significant reduction in the number of positive Legionella samples since then, but during December 2017 and January 2018 14 positives (out of a total 44) occurred in the Tower Block. This has been attributed to balancing issues and a specialist firm carried out re-balancing work to address it.

Treatment Wing, Altnagelvin

Legionella continued to be a challenge to manage in the Treatment Wing, Altnagelvin, with 105 out of a total 141 positive Legionella samples on the Altnagelvin site. Upgrade work commenced in late 2017. This work comprised a minimalist plumbing upgrade given the proposed limited life span for delivering clinical services within this building.

Nucleus Building, Anderson House and Nurses Home, Altnagelvin, and Greenfield Residential Home, Strabane

Legionella positives were recorded in these areas during 2017-18 through routine water sampling. Investigations identified a number of plumbing installation defects and circulation issues which Estate Services are working to rectify. The safety of the system is managed by an increased water flushing regime, chlorination and the employment of point of use water filters, which allow affected outlets to remain operational. An upgrade of the Nucleus Building's water system has been prioritised within the 2018-19 capital works plan.

Milk Bank, SWAH

At the beginning of 2018 the Milk Bank transferred from community premises in Irvinestown to the Laboratory at the SWAH. Following the move substantial support has been provided to ensure that safe processes are in place regarding the pasteurisation of donor breast milk. The situation remains ongoing and is being managed by a Trust Incident Group, with a Task and Finish Group taking forward a detailed improvement plan. The Milk Bank continues to await a response from Environmental Health and the Food Standards Agency regarding its appropriate registration. No decision has yet been made on a timeframe for the Milk Bank to become operational again.

Suspension of Chlorine Dioxide Dosing

A review of the decision to stop the use of chlorine dioxide on the water systems was undertaken to ascertain the effectiveness of chlorine in the past with regard to historical problem areas. Reports on water sampling for these areas, including detailed actions and outcomes on positives samples, were examined. No adverse impact was identified and the evidence suggested that proper water flow and temperature were most effective for water safety. As such, the WSG agreed to suspend chlorine dioxide dosing; although monitoring of water samples would continue to assess the impact of this.

Water sampling monitoring subsequently indicated that previous chlorine dosing had been effective in the Nucleus Building, Altnagelvin, as there was an increase in Legionella positive results during October and November 2017. The decision was, therefore, taken to recommence the use of chlorine dioxide dosing in this area and monitoring continues.

4.8 Research

Guidance Production

The IPCT ensure all up to date available evidence is used when writing and reviewing Trust guidelines, policies, protocols, patient leaflets and care pathways. They have also contributed to evidence-based guideline production at a regional level, e.g. the NI Regional IP&C Manual and a regional study of local MRSA screening practices. A new regional policy on screening adult inpatients for MRSA, based on the study findings, was issued by the CMO in January 2018. The IPCT have begun the process of comparing this to the Trust's current MRSA guidelines and implementing any recommendations where there is variance.

Evaluation of the UK Antimicrobial Resistance Strategy

In October 2017 the Department of Health (England) commissioned the PIRU at the London School of Hygiene & Tropical Medicine to evaluate the UK Antimicrobial Resistance Strategy. The focus of the evaluation was on how the Strategy was being implemented at a local level and how it could be improved. The WHSCT was selected as a location for the evaluation, with Derry being the focus of the case study. A small number of Trust staff, including IPCT members, participated in interviews with researchers. They discussed subjects such as Trust antimicrobial policy, work on antimicrobial prescribing and IP&C practice.

Community Catheter Management Study

Between November and December 2017 the IPCT and district nursing teams participated in a PPS organised by the IPS and the University of West London. The study was focused on patients with indwelling urinary catheters (IUCs) who were managed by the District Nursing Service of organisations providing community healthcare services. The objectives were to determine the prevalence of IUCs managed in the community and to capture detailed data on patients with newly inserted IUCs, including whether they had an indication for use and a management plan for continuation or removal. The WHSCT submitted data relating to 25 district nursing teams. Preliminary findings are expected in early 2018-19, with final results to be disseminated via a peer-reviewed journal and at conferences later in the year.

4.9 Infection Prevention and Control Link Personnel

IPCLP provide a link between their own clinical areas and the IPCT. They play an important part in supporting the IPCT in their position as expert advisors and facilitators. Their role is to increase awareness of relevant new policies, procedures, guidelines and protocols and motivate staff to improve practice. Furthermore, they participate in the audit of infection-related clinical practices and, where appropriate, instigate improvement programmes.

Staff who undertake the IPCLP role are encouraged to participate in the Infection Control in Clinical Practice course. The course is organised by staff from the HSC CEC and IPCNs are involved with planning and facilitating the training, in particular the ANTT skills stations and RCA workshop. IPCNs also provide mentorship to course participants. Unfortunately, as a result of poor uptake, the course did not run in 2017-18. The usual programme of meetings and education for IPCLP was also significantly reduced due to staffing constraints within the IPCT.

The IPCLP SharePoint Site, available via the Trust Intranet, remained in place throughout the year. While primarily aimed at IPCLP, it is accessible to all Trust staff. The site is a key resource to help support staff in both hospital and community settings. It includes features such as discussion boards, useful website links, journal articles, access to IP&C audit tools and posters, and information on past and upcoming IPCLP meetings.

4.10 Patient and Public Involvement/ Experience

Work to examine patients' and clients' experience of healthcare services is conducted using a three-way process, which includes survey, observation and patient stories, i.e. 10,000 Voices. The process is completed as part of a quarterly rolling programme. The Trust is advised by the PHA which service areas are to be targeted. Elements examined relate to the five regional patient standards which are privacy, dignity, communication, attitude and behaviour. The Trust reports its findings to the PHA. In addition, the Trust uses this opportunity to include questions related to infection prevention and environmental cleanliness. Where concerns were expressed, measures have been taken to improve practice and to ensure the best possible experience for patients and clients.

The IPCT continue to participate in weekly ward rounds of symptomatic patients who are positive for *C. difficile*. During 2017-18 patients with GDH were also seen on the ward rounds. Part of the visit includes a direct interaction with the patient (and carers, if in attendance) to ensure they understand their condition and to allow them to question the Team.

A new Norovirus Communications Plan was launched in October 2017. It was based upon a Scottish document and was informed by the learning and feedback from the unprecedented number of outbreaks in the previous winter. It outlined the principal communication objectives for the 2017-18 Norovirus season and identified the key messages, stakeholders and audiences to be involved and targeted in order to achieve better outcomes. During October a digital video promoting patient/ visitor policies was created and was shared on the relevant digital platforms by the Trust's Communications Department.

5.0 CLINICAL INCIDENTS

A total of 207 IP&C related incidents were reported through the Trust's clinical incident reporting system, Datix, during the year 2017-18. This equates to 1.91% of all incidents

reported. The following table illustrates the number and type of incidents reported broken down by month.

The most prevalent incidents relate to needlestick/ sharps injuries and actions to address this are overseen by the Trust's Sharps Group and the Health and Safety Committee, both of which have an IPCN as part of the membership.

	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Total
No side rooms available	0	0	0	0	0	0	0	0	0	2	0	0	2
Appropriate policy not adhered to	0	0	0	0	0	2	4	0	0	1	2	0	9
HCAI	5	7	9	2	2	5	4	2	3	4	3	1	47
Infection status not/ incorrectly communicated	2	0	1		5	2	1	3	3	2	1	3	23
Needlestick/ sharps injury	7	11	6	4	8	9	4	9	11	12	7	9	97
Blood/ body fluid exposure	0	1	0	2	2	0	1	2	2	1	0	1	12
Incorrect/ delayed Lab result	0	0	0	0	0	0	0	0	0	0	0	0	0
Increased incidence of MRSA/ C. difficile	0	0	0	0	0	0	0	0	0	1	0	0	1
Outbreak	0	0	0	0	1	0	0	0	0	1	0	0	2
No Eurobin available	0	0	0	0	0	0	0	0	0	0	0	0	0
Increased incidence of diarhoea/ vomiting	0	0	0	0	0	0	0	0	0	0	0	1	1
Increased incidence - other	0	1	0	0	0	0	0	0	0	0	0	0	1
Other	1	3	2	2	0	0	2	0	1	1	0	0	12
Total	15	23	18	10	18	18	16	16	20	25	13	15	207

6.0 INCIDENTS, OUTBREAKS AND CONTACT TRACING

During the year of this report the IPCT oversaw and advised on a total of 27 outbreaks and incident investigations.

Type of Incident/ Outbreak	Number of Occurrences	Areas Affected
Increased incidence of GDH	2	ICU, Altnagelvin HDU, Altnagelvin
C. difficile trigger	2	Ward 1, Altnagelvin
C. difficile outbreak	2	Ward 1, Altnagelvin Ward 3, Waterside
Increased incidence of diarrhoea and vomiting (causative organism not identified)	5	Ward 2 TOU, Altnagelvin Ward 5 EOU, Altnagelvin Ward 7, Altnagelvin Ward 41 AMU, Altnagelvin Ward 4, Waterside
Norovirus outbreak	1	Ward 3, Altnagelvin
Glycopeptide-resistant enterococci (GRE) outbreak	9	ICU, Altnagelvin HDU, Altnagelvin Ward 2 TOU, Altnagelvin Ward 20, including Renal Dialysis Room, Altnagelvin Ward 31, Altnagelvin Ward 32 ESU, Altnagelvin Ward 50, Altnagelvin
Scabies outbreak	2	Avoca Lodge, Gransha

		Ward 1, Waterside Ward 2, Waterside
Increased incidence of MRSA	1	Ward 1, Altnagelvin
Investigation of clinical isolate of MRSA	1	NNICU, Altnagelvin
Investigation of clinical isolate of *Pseudomonas aeruginosa*	2	Ward 50, Altnagelvin

7.0 REVIEW OF DIVISIONAL INFECTION PREVENTION AND CONTROL ANNUAL IMPROVEMENT PLANS 2017-18

While the IP&C Strategic Plan outlines the overarching aims and objectives for IP&C in the Trust over a three-year period, the Annual Improvement Plans break these down into the specific details for and actions required by each Division over one year of the Strategic Plan. Each Division has an individual set of actions dependent upon their patient/ client population and the services they provide. The table below indicates how the Divisions performed against their Annual IP&C Improvement Plans for 2017-18.

Achievability Status Key:

Green	Achievable – On course to achieve target
Amber	Doubtful – Effort required to achieve target
Red	Not Achievable – Target not achievable or serious concern/ major effort required to achieve
Green	Achieved – Target achieved

Division	Total Number of Actions	Achievability Status of Actions		
		Green	Amber	Red
Emergency Care & Medicine	41	34	7	0
Surgery & Anaesthetics	42	30	11	1
Diagnostics	25	18	7	0
Cancer Services	41	26	15	0
Secondary Care – Acute and Rehabilitation	38	38	0	0
Secondary Care – Older People's Mental Health	23	23	0	0
Intermediate Care & Rehabilitation	28	27	0	1
Primary Care	29	29	0	0
Women's & Children's Services	41	34	7	0
Adult Mental Health & Disability Services – Learning Disability	32	22	10	0
IP&C Team	54	54	0	0

Overall, out of a total 394 actions, 85% were green, 14.5% were amber and 0.5% were red.

8.0 EXTERNAL INSPECTIONS

The RQIA is the independent body responsible for regulating and inspecting the quality and availability of health and social care services in NI, and encouraging improvements in the quality of those services.

The RQIA undertakes a rolling programme of announced and unannounced infection prevention/ hygiene inspections across the HSC. Unannounced inspections focus on

cleanliness, IP&C, clinical practice, the fabric of the environment and facilities. Announced inspections examine the governance arrangements and systems in place to ensure hygiene and IP&C policies and procedures are working in practice. Reports of the inspections highlight both good practice and areas of concern.

In 2017-18 the RQIA carried out two unannounced augmented care inspections within the WHSCT; one in June 2017 at the NNICU, Altnagelvin, and one in January 2018 at the NNU, SWAH. Both were the third inspection of a three year inspection cycle.

With regard to the NNICU, Altnagelvin, the inspection team found evidence that the unit had continued to improve and implement regionally agreed standards. A compliance rate of 95% was achieved in relation to patient equipment (the only outstanding area of practice from previous inspections). There were improvements in the management of patient equipment and issues previously identified as requiring action had been addressed. Processes were in place to ensure rigorous cleaning procedures, including a weekly audit by senior staff. The inspection team also commented on positive quality improvement initiatives within the unit, e.g. development of a blood culture guideline, implementation of a specialised audit tool and surveillance of blood culture contaminants, which had resulted in a sustained reduction below the accepted 3% contamination rate over the past four years. No new recommendations arose from this inspection.

With regard to the NNU, SWAH, six areas of practice were assessed and achieved the following compliance rates:

Area Inspected	Compliance
General Environment – Environmental Cleaning	100%
Preparation, Storage and Use of Breast Milk and Specialised Powdered Infant Formula	98%
Invasive Devices	98%
Taking Blood Cultures	95%
Antimicrobial Prescribing	85%
Enteral Feeding	100%

The inspection team noted the environment to be clean, tidy and in good repair, cleaning staff were knowledgeable about the standards required and audits were carried out regularly. Unit staff were also aware of the policy and procedures relating to the storage and use of breast milk. However, there was no evidence that the temperature of frozen breast milk was taken and recorded upon receipt from the donor Milk Bank.

Good ANTT practice was observed during the insertion, management and removal of invasive devices. Staff knowledge was in line with Trust guidelines, documentation was generally well completed and devices were seen to be labelled to prevent wrong route administration. Improvements were identified in staff training, assessment and analysis of blood cultures. A system was in place to monitor the incidence of positive and contaminated blood cultures within the unit.

Up-to-date antimicrobial guidelines were in place and staff confirmed that they were aware of how to access them. There was also good access to Pharmacy and Microbiology support when required. The inspection team, however, found no evidence that antimicrobial usage was routinely audited.

Nursing staff had good knowledge on the management of enteral feeding systems; administration, set up and care. A system was also in place to assess staff competence and monitor compliance with enteral feeding guidance.

Based on this inspection the RQIA made two recommendations for improvement:

- Staff should ensure that temperature checks are carried out on receipt of the frozen donor milk to identify any failures in the cold chain
- Antimicrobial usage within the unit should be routinely audited in line with antimicrobial prescribing guidance

9.0 PROPOSED ANNUAL INFECTION PREVENTION AND CONTROL PROGRAMME 2018-19

The IP&C Strategic Plan has been developed to support the work taken forward in previous years and to maintain the Trust's focus on preventing and reducing avoidable HCAIs, as well as to achieve/ sustain compliance with all best practice IP&C standards across the organisation.

The plan is derived from RCA findings, regional requirements, local surveillance, implementation of evidence based care bundles and experience with existing assurance mechanisms.

The objectives set for the next two years identify the ways in which the Trust will continue to prioritise reducing HCAIs by informing, promoting and sustaining expert IP&C policy and practice in the pursuit of service user and staff safety wherever care is delivered. Existing initiatives will be further enhanced and new projects introduced in order to reduce avoidable infections, to share learning and improve the quality of patient care. The Trust will work with other agencies and key stakeholders to contribute to reducing trends in antimicrobial resistance. As part of the commitment to improving the quality of Trust services, the Trust will continue to monitor compliance and will enhance surveillance systems within available resources.

The overall aims of the strategy are:

- To ensure that IP&C is embedded at every level of the organisation. All staff, visitors, patients, service users and the public will be aware of their responsibility and the part that they need to play in preventing avoidable HCAIs.
- The Trust Board, CMT and senior leaders will have assurance that all efforts are being taken to prevent HCAIs.

The plan is in the second year of a three-year cycle and will undergo adaptations and changes to ensure emerging priorities and issues are incorporated.

Key:

ALL	All Directorates
ACUTE	Acute Services Directorate
PCOP	Primary Care and Older People's Services Directorate
W&C	Women's and Children's Services Directorate
AMHD	Adult Mental Health and Disability Services Directorate
IPCT	Infection Prevention & Control Team

1. Zero tolerance to preventable healthcare-associated infections (HCAIs)

- Meet Department of Health (DoHNI) reduction targets (adopt zero tolerance to avoidable MRSA infections and contribute to reducing *C. difficile* rates) **(ALL)**
- Monitor surgical site infections in Orthopaedics and Breast Surgery **(ACUTE/ IPCT)**
- Monitor Caesarean section site infections **(W&C/ IPCT)**
- Continue with Critical Care infection surveillance **(ACUTE/ IPCT)**
- Work with the Public Health Agency (PHA) and trusts regionally to agree any additional surveillance initiatives **(ALL/ Patient Safety/ IPCT)**
- Staff are fully aware of the Policy on Zero Tolerance to Preventable HCAIs **(ALL)**

2. Review and improve internal processes and systems to enhance surveillance of infection to efficiently monitor microbiologically significant bacteria and emerging resistance patterns

Surveillance data will be available at ward/ department level to use in conjunction with a variety of audit findings to inform and improve practice

- Work with the PHA in the development of regional Electronic Alert/ Surveillance Systems **(ICT/ IPCT)**
- Electronic and timely sharing of surveillance data with clinical teams **(ICT/ IPCT)**
  - Short Term: Enhance IPC related information within NIECR and Patient ”Flow” Board
  - Long Term: Contribute to regional surveillance/ alert system to monitor emerging resistance/ prescribing patterns
    - Meticillin-Resistant *Staphylococcus aureus* (MRSA)/ Extended-spectrum beta-lactamases (ESBLs)
    - Carbapenemase-Producing Enterobacteriaceae (CPE)
- Continue with mandatory reporting of specific micro-organisms **(ALL/ IPCT)**
  - Beta Haemolytic Streptococcus Group B infections in newborns **(W&C)**
  - *Pseudomonas aeruginosa* in augmented care settings **(ACUTE/ W&C/ IPCT)**
  - Invasive Group A Streptococcal (GAS) infections (**All/ IPCT)**
- Implement the Strategy for Tackling Antimicrobial Resistance (STAR) recommendations. Antimicrobial audit of adherence to guidelines target **(ALL)**
- Continue to provide antimicrobial resistance trends feedback **(Consultant Microbiologists/ Antimicrobial Pharmacists)**

3. Review and agree IPC key performance indicators across the organisation

- Hand hygiene compliance with standards **(ALL/ IPCT)**
- Review methods used to monitor High Impact Interventions (HIIs) for urinary catheter, peripheral venous cannulae and other vascular devices as relevant **(ALL/ IPCT)**
- Aseptic non-touch technique (ANTT) compliance with standards **(ALL)**
- Environmental cleanliness scores **(ALL/ Executive Director of Nursing)**
- Blood culture contamination rates **(ACUTE/ W&C/ Consultant Microbiologists)**
- Antimicrobial prescribing audits **(ALL/ Consultant Microbiologists/ Antimicrobial Pharmacists)**
- *Clostridium difficile* HII audits **(ALL/ IPCT)**
- Staff uptake of seasonal flu vaccine **(ALL)**
- Attendance at IPC Mandatory Training **(ALL)**

4. Governance and continuous improvement

Continued commitment to an approach whereby IPC is considered as an integral part of service delivery and development, taking account of all best practice guidelines. Continue to monitor gaps in assurance and work towards achieving and sustaining compliance in the following:

- Controls Assurance Standard **(IPCT)**
- Continue compliance with the recommendations within the Troop Report for NICU **(W&C/ IPCT)**
- Ensure that the Trust NNICU Escalation Plan incorporates the content of the Regional Neonatal Network Escalation Plan **(W&C)**
- Ensure compliance against the Regulation and Quality Improvement Authority's (RQIA) IPC Governance Tool for management and hospitals (linked to the National Institute for Health and Care Excellence (NICE) Standards PH 36 Hospital: Prevention and Control of Healthcare-Associated Infections Quality Improvement Guide) **(ALL/ IPCT)**
- Ensure compliance with RQIA inspections (Infection Prevention and Hygiene, Augmented Care and the new Hospital Inspection Programmes) **(ALL)**
- Focus on achieving compliance with NICE Clinical Guidelines 139 Infection: Prevention and Control of Healthcare-Associated Infections in Primary and Community Care **(All Directorates across Community/ IPCT)**
- Ensure compliance with NICE (NG 33) Tuberculosis **(ACUTE/ PCOP/ W&C/ IPCT)**
- Compliance with RCA Guidelines and evidence shared learning **(ALL)**

5. Practice development and IPC

Develop a programme of quality improvement and research to underpin the delivery of high quality IPC practice with the potential to make improvements in experience, safety and effectiveness of patient care

- Embedding of existing evidence based care bundles (HIIs), including ANTT, and introduction of further applicable bundles **(ALL)**
- Develop an improvement plan in conjunction with the Trust Quality Improvement Programme **(ALL)**
- Continue to further develop and implement enhanced support programmes to make improvements in experience, safety and effectiveness of patient care **(IPCT)**
- Collaborative involvement in research/ evaluation of products/ equipment to support tendering processes and ensure quality and value for money **(ALL)**
- Continue to undertake IPC trials of new product initiatives and evaluate before tenders are awarded **(ALL)**
- Participate in the 2017 Point Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use in Trust Hospitals in Northern Ireland **(ALL)**
- Participate in the 2017 Point Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use in Long Term Care Facilities (HALT) in Northern Ireland **(PCOP/ IPCT)**
- Review evidence base and consider the implementation of Luer lok syringes and pre-filled saline flushes **(IPCT/ ALL)**
- Shared learning mechanisms across augmented care areas **(ACUTE/ W&C)**
- Review and measure compliance with the MRSA Screening and Treatment Guidelines **(ACUTE/ PCOP/ IPCT)**
- Review the protocol for MRSA tagging of neonates **(W&C/ IPCT)**
- The ongoing audit of compliance with Trust policies/ guidelines in relation to IPC **(ALL)**

6. Ensure multidisciplinary collaborative working within the Trust to maintain a clean and appropriate environment across Trust managed facilities

- Implement the Trust Cleanliness Strategy and continue to enhance cleanliness within Trust facilities **(PCOP/ ALL)**
- Participate in the development and review of Trust Cleaning Plans **(IPCT)**
- Participate in environmental cleanliness managerial audits using a risk-based approach **(IPCT)**

7. Ensure building risks are managed appropriately, protecting the most vulnerable by the active involvement of Directorates, Estates, Capital Development and the IPCT in all aspects of capital development and renovation of buildings within Trust facilities, ensuring that buildings, fixtures and fittings are fit for purpose and that IPC is considered from design to commissioning stages

- Continue to implement Estates plans and Capital Development programmes, including:
  - New building design/ commissioning
  - Improving isolation capacity
  - Refurbishments
  - Water safety
  - Aspergillus controls

  (Estates/ Capital Development/ IPCT)

8. Medical devices will be managed to reduce infection risks to an absolute minimum

- Continue to review decontamination processes with the vision of centralising all decontamination services across the Trust **(ALL/ PCOP [Decontamination Lead]/ IPCT)**
- Review decontamination processes for community equipment **(PCOP)**

9. Promote the key message that 'Infection Prevention and Control is everyone's business'

a. Continued commitment to working with other healthcare providers and stakeholders
b. Enhance patient and public involvement in IPC in order to improve the patient experience
c. Continued delivery of education and training on IPC and prudent antimicrobial prescribing so that staff understand their responsibilities

- Ensure appropriate information relating to infection risks is communicated to relevant parties as follows:
  - Public – internet/ media, etc.
  - GPs – developing liaison re IPC
  - Other Health and Social Care (HSC) trusts
  - PHA/ DoH/ HSC Board
- Ensure Trust representation on regional groups which shape IPC initiatives across the province **(Communications/ Directors/ Clinical Teams/ IPCT)**
- Engage/ communicate with the public/ patients **(IPCT/ Communications)**
- Participate in public awareness initiatives such as World Hand Hygiene Day, International Infection Prevention Week, etc. **(IPCT/ Communications)**
- Review patient access to IPC information via technology at the bedside and patient information leaflets **(IPCT)**
- Continue to provide updates on HCAIs and IPC for the Trust Board **(IPCT)**

10. Staff

Continued delivery of education and training on IPC and prudent antimicrobial prescribing so that staff understand their responsibilities and will take appropriate action to minimise the risk of infection to service users, themselves and other staff

- Ensure policies/ guidelines are in place and are reviewed when required (develop guidance with key elements contained, the 'one page policy' concept) **(IPCT/ ALL)**
- Work with key Trust personnel and outside agencies to review and enhance Escalation and Emergency Plans **(ALL)**
- Work to develop education material, e-learning materials, virtual reality training, etc. **(IPCT/ ALL)**
- Review methods of delivering training and education to staff across the organisation **(IPCT)**
- Development of antimicrobial education programme **(Consultant Microbiologists/ Antimicrobial Pharmacists)**

- Continue to provide timely and up to date IPC advice to staff and colleagues across the organisation and other agencies as necessary **(IPCT)**
- All staff will have an annual appraisal which will include an appropriate level of IPC **(ALL)**
- IPC link staff will be able to avail of protected time **(ALL)**
- Continue with the programme of Leadership walk-arounds (Directors/ Senior Managers) to collate staff views on IPC and patient safety issues **(CMT)**
- A review of IPC staffing will be completed and business cases for IPC and Surveillance staff will be further developed **(IPCT)**

Appendix 1

CHIEF EXECUTIVE (CE) HEALTHCARE-ASSOCIATED INFECTION (HCAI) ACCOUNTABILITY FORUM
INCORPORATING THE INFECTION PREVENTION & CONTROL COMMITTEE (IPCC)

Prepared June 2014
Reviewed July 2016
Next review July 2017 (Extended to March 2018)

TERMS OF REFERENCE

1. OVERALL OBJECTIVE

1.1 The overall objective of the CE HCAI Accountability Forum is to oversee the strategic planning for infection detection and management to ensure that there are effective arrangements for prevention and control throughout the Trust and provide an assurance to the Governance Committee that appropriate systems are in place to set and monitor the standards relating to infection prevention.

2. CONSTITUTION

2.1 The CE HCAI Accountability Forum is responsible for:

- Production and monitoring of the Infection Prevention & Control Three-Year Strategic Plan
- Overseeing a variety of infection prevention related action plans
- Endorsing all infection prevention and control policies, guidelines, procedures, protocols and care plans
- Providing support on the implementation of written guidance
- Collaborating with the Infection Prevention & Control Team to develop the annual infection control programme and monitoring its progress
- Identifying and prioritising significant infection risks to the Trust's clients, patients, visitors and staff for inclusion in the Trust Risk Register and bringing them to the attention of the Corporate Management Team (CMT), Risk Management Sub-Committee and Trust Board
- Overseeing the implementation and monitoring of an evidence based programme of infection prevention interventions and audits
- Reporting on the lessons learned from root cause analysis of infections
- Promotion of training and education for all appropriate grades of Trust staff in infection prevention and control guidelines, policies and procedures
- Promotion of prudent antimicrobial prescribing and stewardship
- Monitoring the Trust's progress against the "Changing the Culture 2010: Strategic Regional Action Plan for the Prevention and Control of Healthcare-Associated Infections in Northern Ireland".

2.2 Sub-groups reporting to the CE HCAI Accountability Forum are:

- IP&C Surveillance Sub-Group
- IP&C Policies and Guidelines Working Group
- Antimicrobial Management Team

2.3 Committees/ Groups closely associated with and providing information to the CE HCAI Accountability Forum are:

- Safe and Effective Patient Care meetings
- Clinical Reference Group for Pandemic Flu
- Water Safety Group

2.4 Reports to be circulated other than those already generated from the above named Groups/ Committees:

- Monthly IP&C Report to Trust Board

3. MEMBERSHIP

3.1 The membership of the CE HCAI Accountability Forum is intended to reflect the diversity of services delivered within the Trust and will include the following:

- Chief Executive (Chairperson)
- Non-Executive Director with infection prevention and control remit
- Medical Director/ Infection Prevention & Control Director
- Divisional Clinical Directors
- Director of Acute Services
- Director of Primary Care & Older People's Services/ Executive Director of Nursing
- Director of Adult Mental Health & Disability Services
- Director of Women's & Children's Services/ Executive Director of Social Work
- Divisional Assistant Directors
- Assistant Director of Nursing
- Assistant Director of Facilities Management
- Head of Infection Prevention & Control
- Surveillance Lead
- Consultant Microbiologists/ Infection Prevention & Control Doctors
- Head of Pharmacy
- Antimicrobial Pharmacists
- Head of Support Services
- Occupational Health Physician

3.2 The Forum may invite any employee to attend the meetings.

3.3 Attendance of a representative is required should a member be unable to attend.

3.4 Non-Executive Directors have an open invitation to attend.

4. FREQUENCY OF MEETINGS

4.1 The Forum will meet every two months.

5. QUORUM

5.1 A quorum will consist of the following:

- Chief Executive (or a representative)

- Medical Director/ Infection Prevention & Control Director (or a representative)
- Directors (or their respective representatives)
- Divisional Clinical Directors (or their respective representatives)
- Head of Infection Prevention & Control
- One Consultant Microbiologist/ IPCD
- Head of Pharmacy (or a representative)

6. AUTHORITY

6.1 The Forum is authorised by the Trust Board/ CMT to investigate any activity within its Terms of Reference. It is authorised to seek any information it requires from any employee of the Trust.

6.2 The Forum will oversee the Trust's compliance against the relevant risk management and safety standards of external bodies.

7. REPORTING MECHANISM

7.1 The minutes of each meeting of the Forum will be formally recorded and submitted to the Governance Committee. The Chief Executive/ Chairperson is responsible for reporting key issues to the Risk Management Sub-Committee, which in turn will escalate any relevant information to the Governance Committee.

7.2 IP&C Reports will be provided to the Trust Board each time Trust Board meet.

7.3 An Annual Report will be produced and approved by the CMT and Trust Board.

8. PROCESS

8.1 The Forum is responsible for the coordination and prioritisation of infection related risk and safety issues, enabling recommendations to be made and reported as necessary to the CMT and Trust Board (Trust Board Priority Risk Assessment).

8.2 Oversees the development of local prevention and control of infection guidelines/ policies and their implementation.

8.3 Has the authority to challenge a lack of evidence base for elements of care and antimicrobial prescribing decisions.

8.4 Considers the implications of root cause analysis, risk assessments and performance data informing infection prevention action plans and guidance.

8.5 Assesses the impact of all existing and new guidance and plans on infection and makes recommendations for change.

8.6 Produces regular reports on the state of healthcare-associated infection in the Trust and progress against the objectives of the Infection Prevention & Control Three-Year Strategic Plan and releases it publicly.

8.7 Brings significant risk issues to the attention of the Risk Management Sub-Committee for inclusion in the Trust's Risk Register and Assurance Framework and where appropriate escalates to the Governance Committee.

8.8 Monitors Trust surveillance rates via the Surveillance Sub-Group and provides statistical information on infection rates to directorates.

8.9 Monitors other significant infection issues reported through other fora.

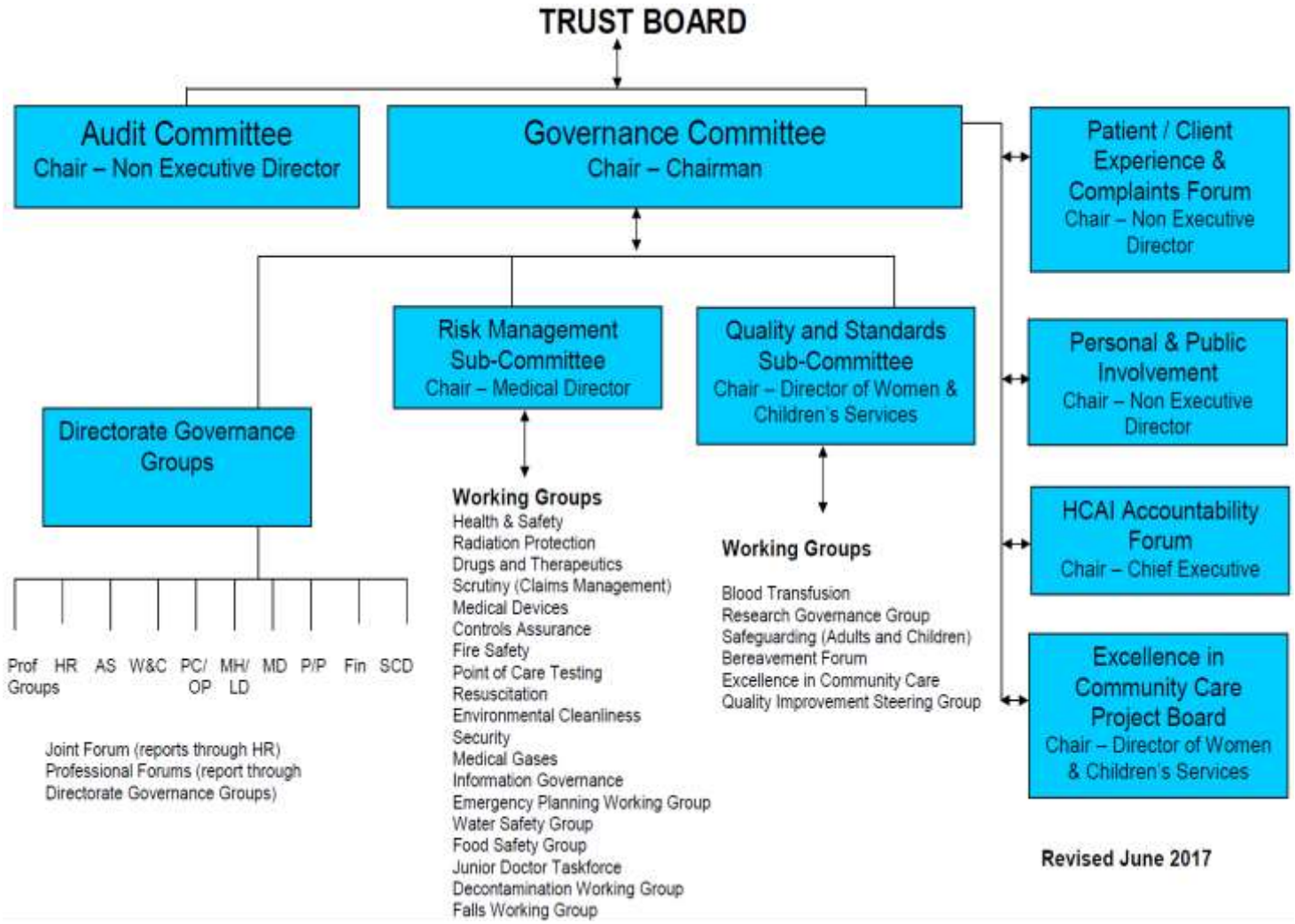
8.10 Monitors directorate and divisional infection prevention related action plans.

9. REVIEW

9.1 These Terms of Reference will be reviewed annually.

Appendix 2

GOVERNANCE REPORTING STRUCTURE



Appendix 3

INFECTION PREVENTION & CONTROL POLICIES & GUIDELINES WORKING GROUP

Prepared: March 2010
Previously reviewed: July 2011, November 2013 & March 2016
Next review due: March 2018

TERMS OF REFERENCE

1. OVERALL OBJECTIVE

1.1 It is the responsibility of the Chief Executive (CE) Healthcare-Associated Infection (HCAI) Accountability Forum to ensure the provision and implementation of relevant and up to date guidance related to infection prevention and control (IP&C). The process to achieve this is outlined in *Appendix A*.

1.2 The overall objective of the IP&C Policies & Guidelines Working Group is to oversee the production and approval of up to date relevant guidance on behalf of the CE HCAI Accountability Forum.

2. CONSTITUTION

2.1 The IP&C Policies & Guidelines Working Group is responsible for:

- Ensuring that all key IP&C policies and guidelines are in place as per the Controls Assurance Standard for Infection Control;
- The development of new IP&C guidance as need arises, e.g. in relation to new and emergent organisms;
- The regular reviewing and updating of existing IP&C guidance;
- Ensuring that new/ updated guidance takes account of regional and national requirements, regulations and guidance, including the most up to date information available;
- Ensuring that new/ updated guidance is widely consulted upon and that there is input and buy-in by clinical staff;
- Ensuring that equality screening is carried out on all IP&C guidance, and that remedial action is taken to address any guidance deemed to have an adverse impact on service users and/ or staff;
- Ensuring the final ratification of all new/ updated IP&C guidance at the appropriate authority level, i.e. the CE HCAI Accountability Forum or Trust Board.

3. MEMBERSHIP

3.1 The membership of the Working Group is intended to reflect the diversity of services delivered within the Trust and will include the following:

- Infection Prevention & Control Nurse (IPCN) with lead responsibility for policy/ guideline production (Chairperson)
- Medical Director
- Head of IP&C
- Consultant Microbiologists/ IP&C Doctors
- Antimicrobial Pharmacist

- Assistant Nursing Service Manager, General & Specialist Medicine
- Assistant Nursing Service Manager, Anaesthetics, Theatres & Intensive Care
- Lead Nurse, Cancer Services
- Head of Secondary Care Services
- Head of Midwifery & Gynaecology
- Assistant Director of Adult Mental Health & Disability Services (Physical & Sensory Disability & Autism)
- Ward Manager, Physical & Sensory Disability Division
- Consultant Physician
- Consultant Surgeon
- Education Manager, HSC Clinical Education Centre

3.2 Attendance of a substitute representative is required should a member be unable to attend.

3.3 Ad hoc attendance at meetings is required by the IPCNs responsible for the writing/ review of any guidance due for discussion.

4. FREQUENCY OF MEETINGS

4.1 The Working Group will meet three times per year at four-monthly intervals.

4.2 Meetings will take place approximately three weeks prior to alternate CE HCAI Accountability Forum meetings.

5. QUORUM

5.1 A quorum will consist of at least four members of the Working Group, to include two clinical representatives and two others. One of the two clinical representatives must be a doctor.

5.2 Where a quorum is not reached, the Working Group meeting will be cancelled and all guidance will be referred directly to the CE HCAI Accountability Forum for agreement and ratification.

6. AUTHORITY

6.1 The Working Group is authorised by the CE HCAI Accountability Forum to carry out any activity within its Terms of Reference.

7. REPORTING MECHANISM

7.1 The minutes of each meeting of the Working Group will be formally recorded and submitted to the CE HCAI Accountability Forum for information.

7.2 The Head of IP&C is responsible for reporting any key issues to the CE HCAI Accountability Forum, which in turn will escalate any relevant information to the Governance Committee.

7.3 A list of guidance approved each quarter will be submitted to the Quality & Standards Sub-Committee.

7.4 Details of guidance approved will be included, at regular intervals, in the monthly IP&C Report provided to the Trust Board.

7.5 Details of guidance approved each year will be included in the Annual IP&C Report. This will be approved by the CE HCAI Accountability Forum, and subsequently by the Corporate Management Team (CMT) and Trust Board.

8. PROCESS

8.1 All existing IP&C guidance is reviewed on an annual basis to ensure it is dated and to determine when an update is required. This informs the planning process for the IP&C Team (see *Appendix B* for the review).

8.2 All draft guidance will be circulated to members of the Working Group and the CE HCAI Accountability Forum (plus any relevant others) for comment prior to discussion and approval at a Working Group meeting (*Appendix A*).

8.3 The Working Group will make the final decision on any contentious issues. Where an issue cannot be agreed by the Working Group it will be referred back to the CE HCAI Accountability Forum for final agreement.

8.4 The Working Group will make a decision as to whether a piece of guidance will be called a Guideline, Policy, Protocol or Procedure. In the event of a disagreement, the decision will be escalated to the CE HCAI Accountability Forum.

8.5 The Working Group will agree when each piece of guidance will next be due for review. This will range between one and five years depending upon the particular guidance involved.

8.6 The Chairperson of the Working Group will be responsible for submitting equality screening in relation to all guidance produced by the IP&C Team.

8.7 All finalised guidance will be circulated to the CE HCAI Accountability Forum for final ratification at the next Forum meeting. Where a member of the CE HCAI Accountability Forum is unhappy with the contents or categorisation of a particular piece of guidance this must be raised for discussion when the guidance is about to be ratified.

8.8 Where it has been agreed that a piece of guidance should become a Policy, the Working Group will ensure referral to the CMT and Trust Board for ultimate approval.

9. REVIEW

9.1 These Terms of Reference will be reviewed every two years.

Appendix 4

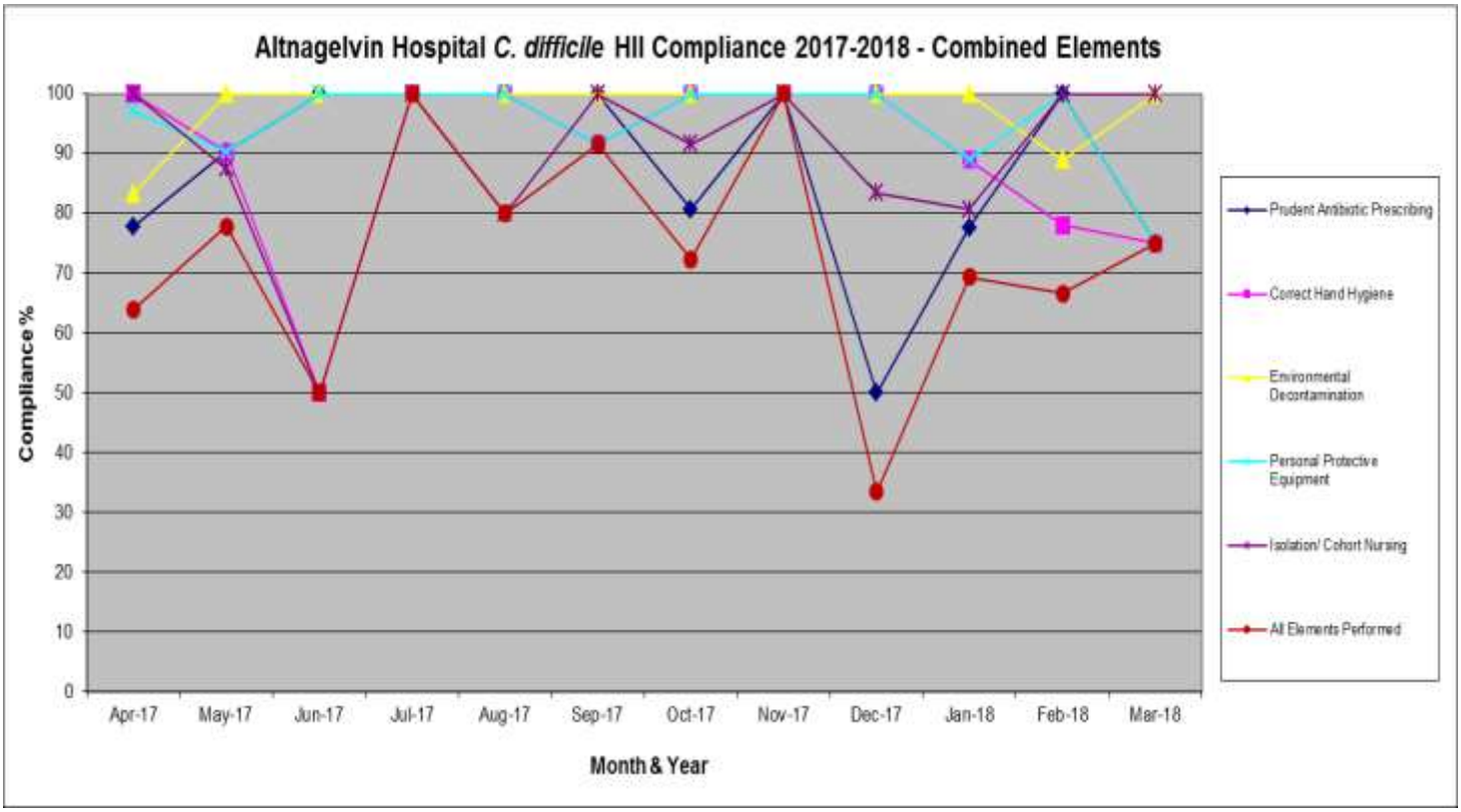
RESULTS OF HAND HYGIENE AUDITS

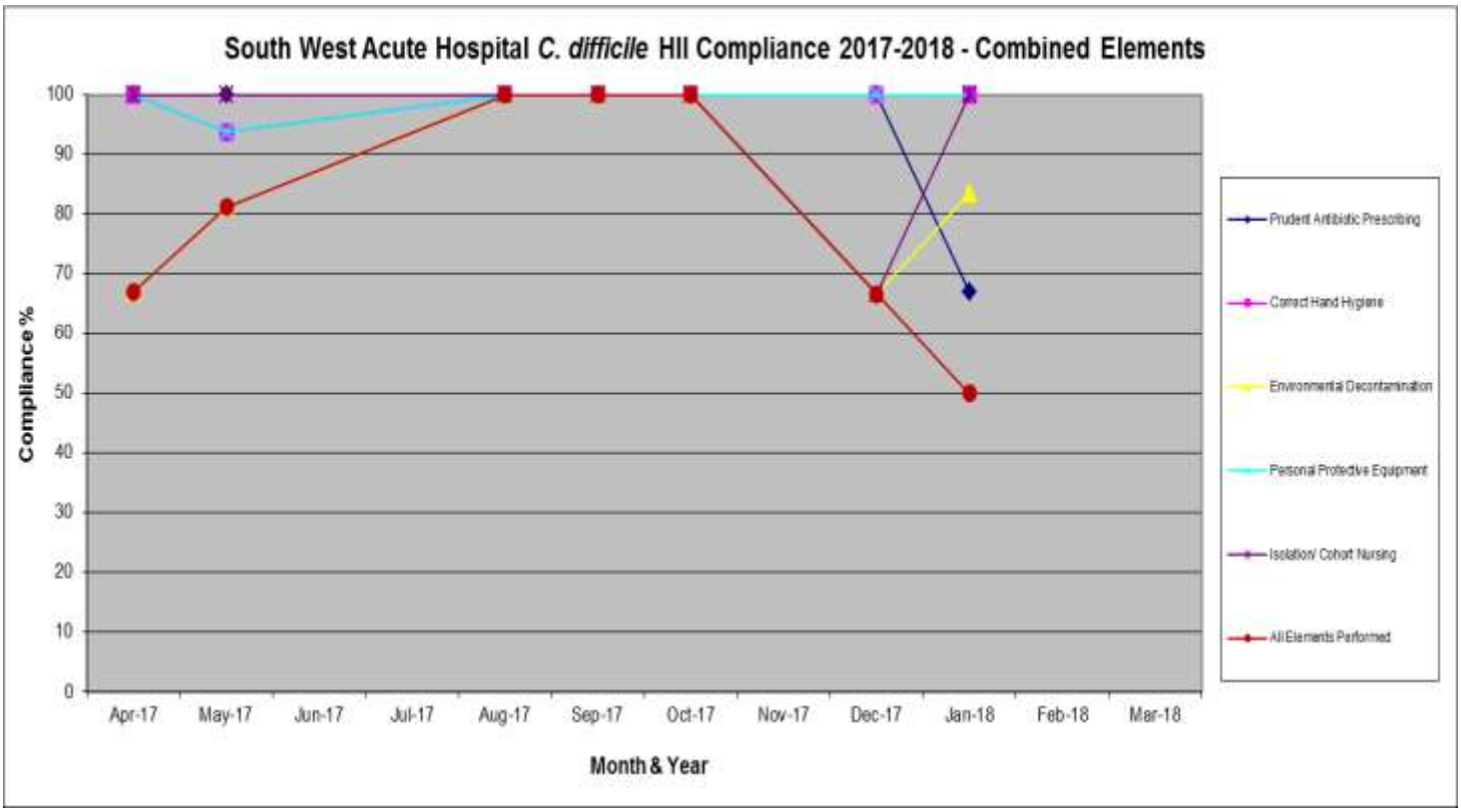
Hospital/ Directorate	Apr 17		May 17		Jun 17		Jul 17		Aug 17		Sep 17		Oct 17		Nov 17		Dec 17		Jan 18		Feb 18		Mar 18	
	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3	Wk 1	Wk 3
ALT Average (%)	92	97	92	94	90	97	94	98	92	96	96	98	97	94	98	94	90	87	85	82	93	97	94	91
ALT IPCN Average (%)	*95*	*91*	*83*	*100*	*84*	*100*		*67*	*91*	*94*	*97*	*94*	*97*	*94*	*100*	*100*	*100*	*89*	*100*	*97*	*100*	*88*	*100*	*73*
SWAH Average (%)	100	100	95	93	100	67	100	99	94	80	96	89	100	85	100	88	95	56	100	84	100	93	100	86
SWAH IPCN Average (%)	*100*																							*67*
TCH/ OHPCC Average (%)	99	87	100	100	100	100	92	100	80	86	100	100	100	100	99	100	88	86	93	86	100	88	93	100
TCH/ OHPCC IPCN Average (%)																								
T&F Average (%)	100	99	100	99	67	83	100	100		100	100	100		99	100	99	0	99	100	99		99	100	99
T&F IPCN Average (%)																								
WATERSIDE Average (%)	100	100	100	100	100	75	100	100	100	100	100	100	100	100	100	100	100	100	100	50	100	0	75	50
Waterside IPCN Average (%)																				*100*				
LAKEVIEW Average (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Lakeview IPCN Average (%)																								
GRANSHA Average (%)		100		100		100		100		100		100		100		100		100		100		100		100
Gransha IPCN Average (%)																								
RHEs Average (%)	80	100	80	100	80	100	80	100	80	100	80	100	80	100	80	100	80	80	80	80	80	100	80	100
RHEs IPCN Average (%)																								
TREATMENT ROOMS Average (%)									100												100	100		
Treatment Rooms IPCN Average (%)																								
DAY CARE Average (%)	91	91	86	86	73	73	86	86	73	73	86	86	86	86	77	77	100	100	91	91	100	100	86	86
Day Care IPCN Average (%)																								
OTHER COMMUNITY Average (%)	100	100	100	100	100	100	100	100	90	97	100	100	100	100	80	80	60	50	75	67	100	100	60	50
Other Community IPCN Average (%)																								
AS Average (%)	96	97	97	95	95	95	95	98	91	87	98	95	98	97	100	95	94	89	89	78	96	96	96	92
AS IPCN Average (%)	*95*	*91*	*83*	*100*	*67*	*100*		*67*	*91*	*94*	*97*	*92*	*97*	*94*	*100*	*100*	*100*	*89*	*100*	*97*	*100*	*88*	*100*	*77*
WCS Average (%)	100	100	94	93	100	77	100	99	93	92	100	100	100	100	94	87	88	64	90	90	94	93	85	84
WCS IPCN Average (%)	*100*				*100*							*100*								*100*				*40*
PCOPS Average (%)	86	90	78	89	72	70	82	89	83	91	80	90	83	76	78	81	84	72	87	83	98	98	81	78
PCOPS IPCN Average (%)																				*100*				
AMHDS Average (%)	100	100	100	100	94	100	100	100	93	95	100	100	100	100	100	100	94	100	100	100	100	100	100	100
AMHDS IPCN Average (%)																								
WHSCT Average (%)	94	96	93	94	89	87	94	96	88	91	95	95	95	93	94	91	91	84	90	84	97	97	91	89
WHSCT IPCN Average (%)	*96*	*91*	*83*	*100*	*84*	*100*		*67*	*91*	*94*	*97*	*94*	*97*	*94*	*100*	*100*	*100*	*89*	*100*	*98*	*100*	*88*	*100*	*72*

Appendix 5

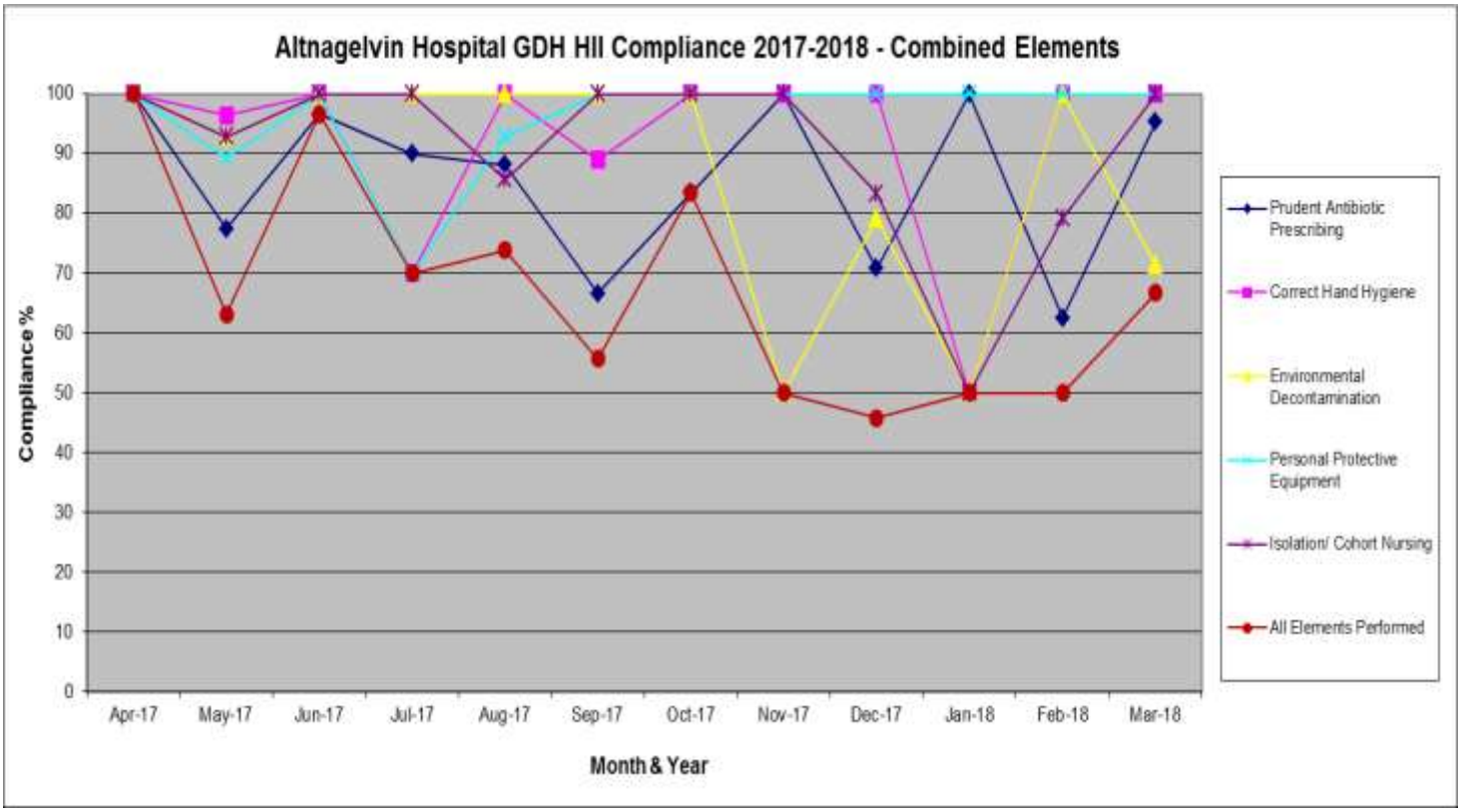
RESULTS OF HIGH IMPACT INTERVENTIONS

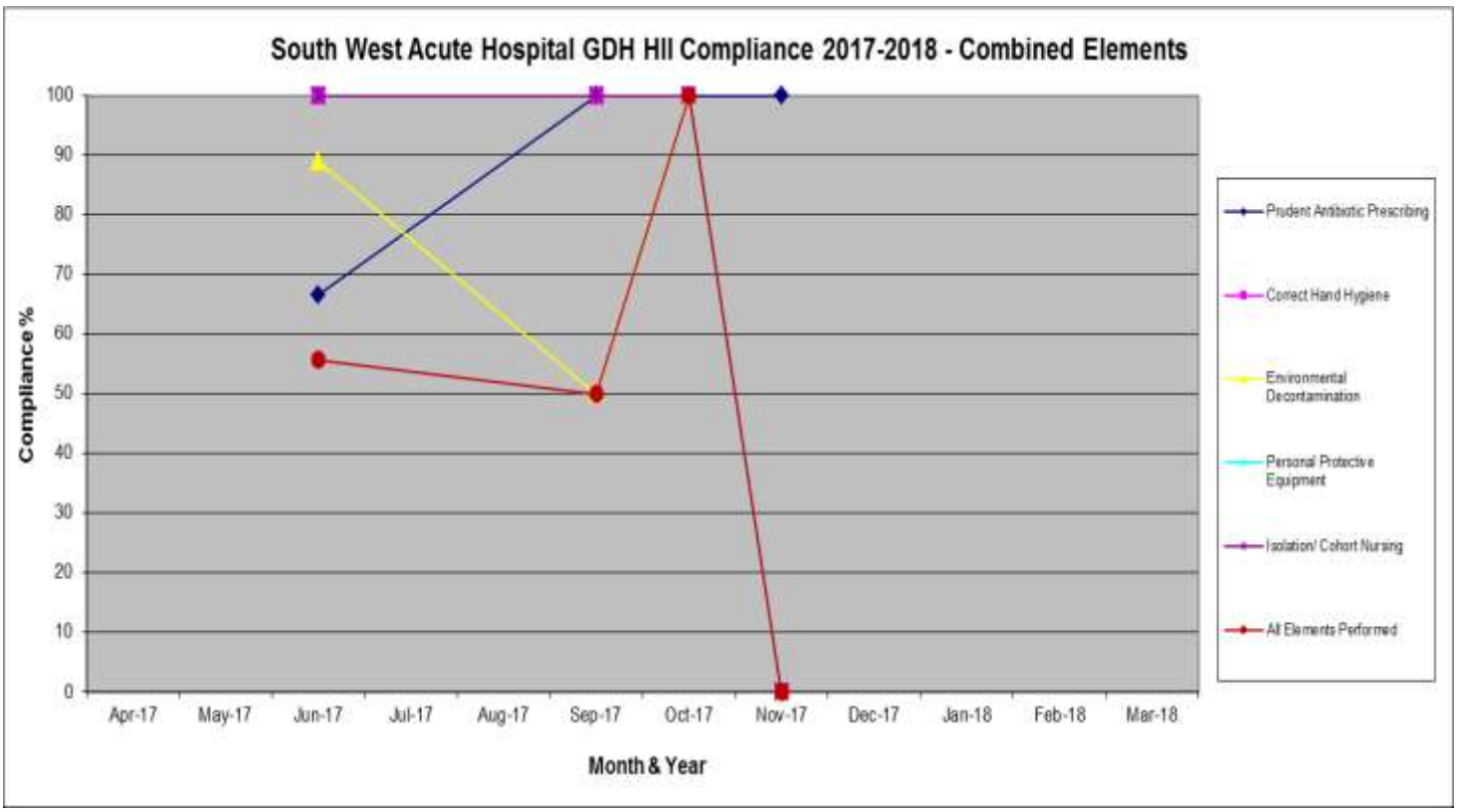
C. difficile



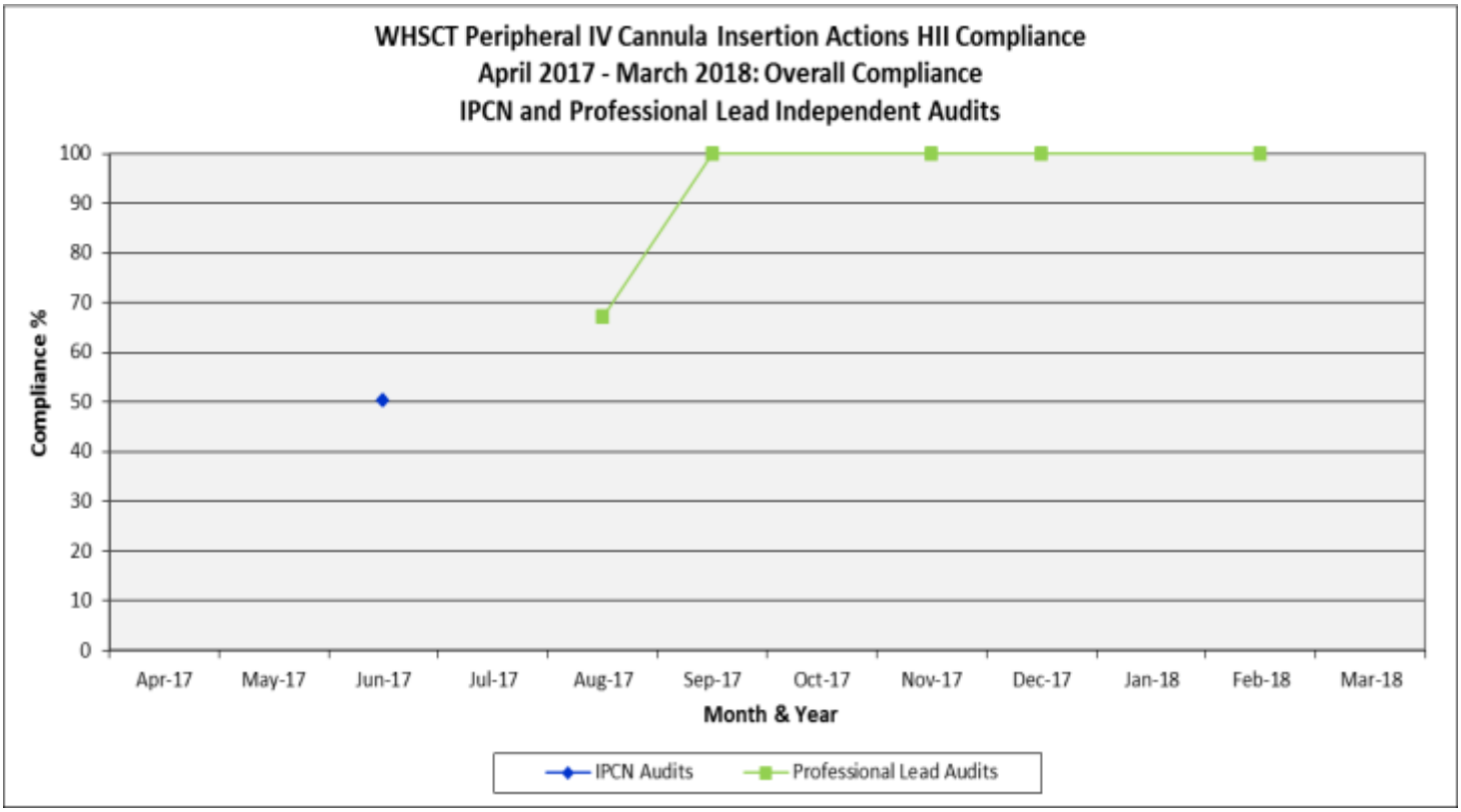


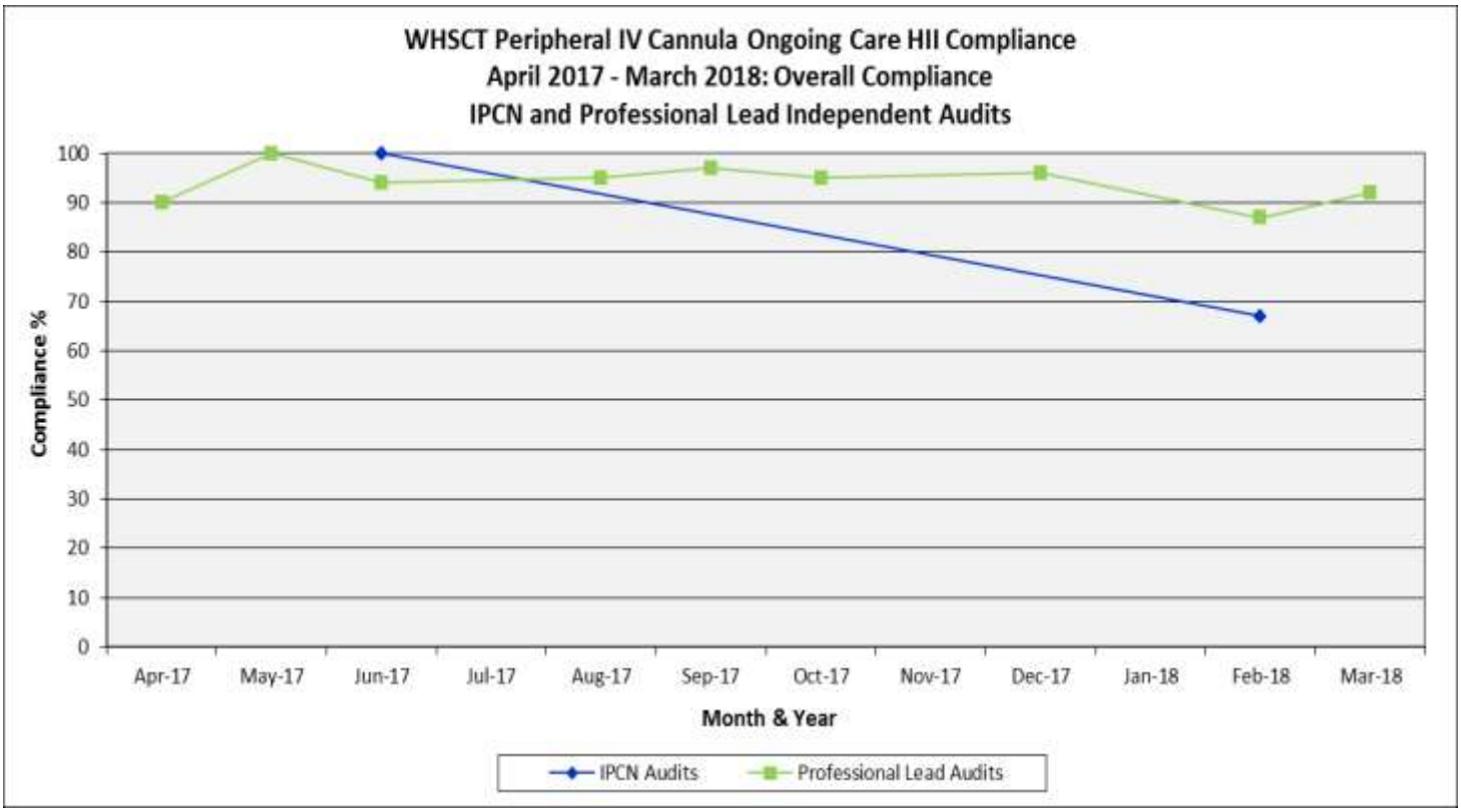
GDH


Altnagelvin Hospital GDH HII Compliance 2017-2018 - Combined Elements
Compliance %
100
90
80
70
60
50
40
30
20
10
0
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Month & Year
Prudent Antibiotic Prescribing
Correct Hand Hygiene
Environmental Decontamination
Personal Protective Equipment
Isolation/ Cohort Nursing
All Elements Performed


South West Acute Hospital GDH HII Compliance 2017-2018 - Combined Elements
Compliance %
100
90
80
70
60
50
40
30
20
10
0
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Month & Year
Prudent Antibiotic Prescribing
Correct Hand Hygiene
Environmental Decontamination
Personal Protective Equipment
Isolation/ Cohort Nursing
All Elements Performed

Peripheral IV Cannula





Appendix 6

SUMMARY OF AUDIT ON APPROPRIATENESS OF PRESCRIBING BENZYLPENICILLIN AND GENTAMICIN FOR EARLY ONSET SEPSIS IN NEONATES

Introduction

Babies with suspected early onset neonatal infection should be treated as quickly as possible with benzylpenicillin and gentamicin.

Antibiotic exposure should be minimised in babies who do not have early onset neonatal infection, i.e. stopping after 36-48 hours with negative blood culture.

Method

- Identified patients with blood cultures taken in both Altnagelvin and SWAH during May-June 2017.
- Audit Department proposal form completed.
- 60 patient notes requested (15 each for NNICU and Ward 46 Postnatal, Altnagelvin, and 30 for SWAH).
- Altnagelvin notes were audited retrospectively by 4th year Queen's University Belfast (QUB) pharmacy students.
- SWAH notes were audited retrospectively by the Antimicrobial Pharmacist.
- Medical Team double checked the risk factors/ clinical indicators.
- Data was collated on each hospital site using Microsoft Excel.

Results

All patients in Altnagelvin had one red flag or two or more clinical indicator/ risk factors at the outset of treatment. Seven patients in SWAH did not meet the recommendations.

Recommended antibiotics were prescribed at the correct dose and frequency as per the Neonatal Network NI (NNNI) guidelines in all patients audited in Altnagelvin. SWAH patients were prescribed 50mg/kg benzylpenicillin.

All patients audited had negative blood cultures at five days.

Conclusion

Altnagelvin – Overall, most standards were met. Improvements could be made with identification and documentation of risk factors when making the decision to commence antibiotics and reasons for stopping or continuing antibiotics recorded in patients' medical notes.

SWAH – Consider establishing hospital systems to provide blood culture results 36-48 hours after starting antibiotics to facilitate timely discontinuation of treatment and discharge from hospital. Benzylpenicillin should be dosed as per NNNI guidelines.

Appendix 7

SUMMARY OF AUDIT ON DOSING OF GENTAMICIN FOR EARLY ONSET SEPSIS

Aims

- To determine if the gentamicin dose for early onset sepsis is following the NNNI formulary.
- To identify areas for improvement in antibiotic prescribing for neonates.

Method

- Identified patients with blood cultures taken in both Altnagelvin and SWAH during May-June 2017.
- Audit Department proposal form completed.
- 21 NNICU, Altnagelvin, patients were audited retrospectively by 4th year QUB pharmacy students.
- 7 Ward 46 Postnatal, Altnagelvin, patients were audited retrospectively by an FY2 doctor.
- 23 SWAH patients were audited retrospectively by the Antimicrobial Pharmacist.
- Data was collated on each site using Microsoft Excel.

Results

- Recording of date and time when sample was due was poor in Altnagelvin.
- A gentamicin level was recorded on the chart for all patients who had samples taken.
- The checklist was not completed for all of the patients audited on both sites.

Conclusion

All babies received the first dose of gentamicin within 72 hours of birth and received the correct dose of gentamicin. The following are areas for improvement:

- Gentamicin dose should not be prescribed on the kardex – only on the gentamicin chart.
- Circling frequency of prescription, planned duration and the date and time when gentamicin sample is due.
- Documentation of day of week and the time dose is due.
- Recording of time in 24 hour clock for both prescription and administration.
- Completion of the checklist for each dose of gentamicin.

Appendix 8

SUMMARY OF AUDIT OF PIPERACILLIN-TAZOBACTAM PRESCRIPTION

Introduction

Piperacillin-Tazobactam is a β-lactam/ β-lactamase inhibitor combination with a broad spectrum of antibacterial activity that includes gram-positive and gram-negative aerobic and anaerobic bacteria.

Due to its versatility it is commonly prescribed for many infections when perhaps other agents would be more appropriate; consequently resistance to this antimicrobial is increasing.

The European Centre for Disease Prevention and Control reports that the UK percentage of isolates of *Pseudomonas aeruginosa* displaying resistance to Piperacillin-Tazobactam increased from 1.3% (311 isolates sampled) in 2006 to 3.1% (636 isolates sampled) in 2012 to 10.3% (493 isolates sampled) in 2015.

Although this percentage of resistance may seem low, there are currently only a limited number of antimicrobials available for the treatment of *Pseudomonas aeruginosa* infections, meaning prudent antimicrobial stewardship of this antibiotic through actions such as auditing is imperative to ensure its effectiveness in future years.

Aims/ Objectives

- To determine the prevalence of Piperacillin-Tazobactam prescribing across the WHSCT.
- To determine if indication for commencing Piperacillin-Tazobactam is being documented in medical notes and on the kardex.
- To determine if the indication for commencing Piperacillin-Tazobactam is in line with WHSCT guidelines.
- If the indication is not in line with guidelines, to try to determine the reason why.
- To determine if a review date or stop date was documented on either the medical notes or kardex for ongoing therapy.

Key Results

- Altnagelvin proportionally had a smaller percentage of inpatients receiving Piperacillin-Tazobactam (6.5%) and demonstrated greater adherence to guidelines (73%) in comparison to the SWAH which had 11% of inpatients prescribed Piperacillin-Tazobactam, with an adherence rate of 50%.
- The 10% of medical notes without an indication recorded were all located in the SWAH. 100% of medical notes at Altnagelvin had an indication for Piperacillin-Tazobactam documented.
- The SWAH demonstrated the greatest recording of stop dates on kardexes (45%).

For instances of non-adherence across both sites, 63% were recorded as due to consultant/ medical decision, 19% were due to microbiology, 6% were due to laboratory results, 6% were due to appropriate escalation of therapy and 6% were non-adherent due to indeterminable reasons.

Appendix 9

SUMMARY OF IV TO ORAL SWITCH QUALITY IMPROVEMENT PROJECT, SWAH

Background

The Point Prevalence Survey of HCAIs and Antimicrobial Use carried out in the SWAH in June 2017 highlighted that 54% of inpatients were receiving intravenous (IV) antimicrobials, while 46% were receiving oral (PO) therapy. Switching from IV to PO therapy as soon as patients are clinically stable can reduce the length of hospitalisation and lower associated costs.

A baseline audit conducted on 24 patients revealed that 62 extra days of IV antibiotics were prescribed, i.e. an average of 2.5 extra days per patient. The appropriate time to switch was determined based on the WHSCT guidelines for IV to Oral switch for adults.

Method

Retrospective study of patients in Ward 3, SWAH, who had received antimicrobial therapy during their admission.

A table was designed to aid data collection which included indication for antibiotics and the clinical parameters needed to determine if patients were suitable for oral switch.

Each patient was granted a ‘grace period’ of 24 hours of IV antibiotics initially.

The change process included:

- Questionnaire and teaching session
- Education session
- Guideline promotion
- Multidisciplinary involvement

Results

The results were displayed on a run chart and interventions were plotted. The average number of inappropriate days of IV antibiotics prescribed per patient ranged from 0.2 days to 3.2 days with a target of 1 day.

Conclusion

Reducing the number of inappropriate days of IV antibiotics has potential to:

- Reduce the length of hospital stay for patients
- Reduce costs
- Reduce the number of cannulas and cannula site infections
- Be less labour intensive

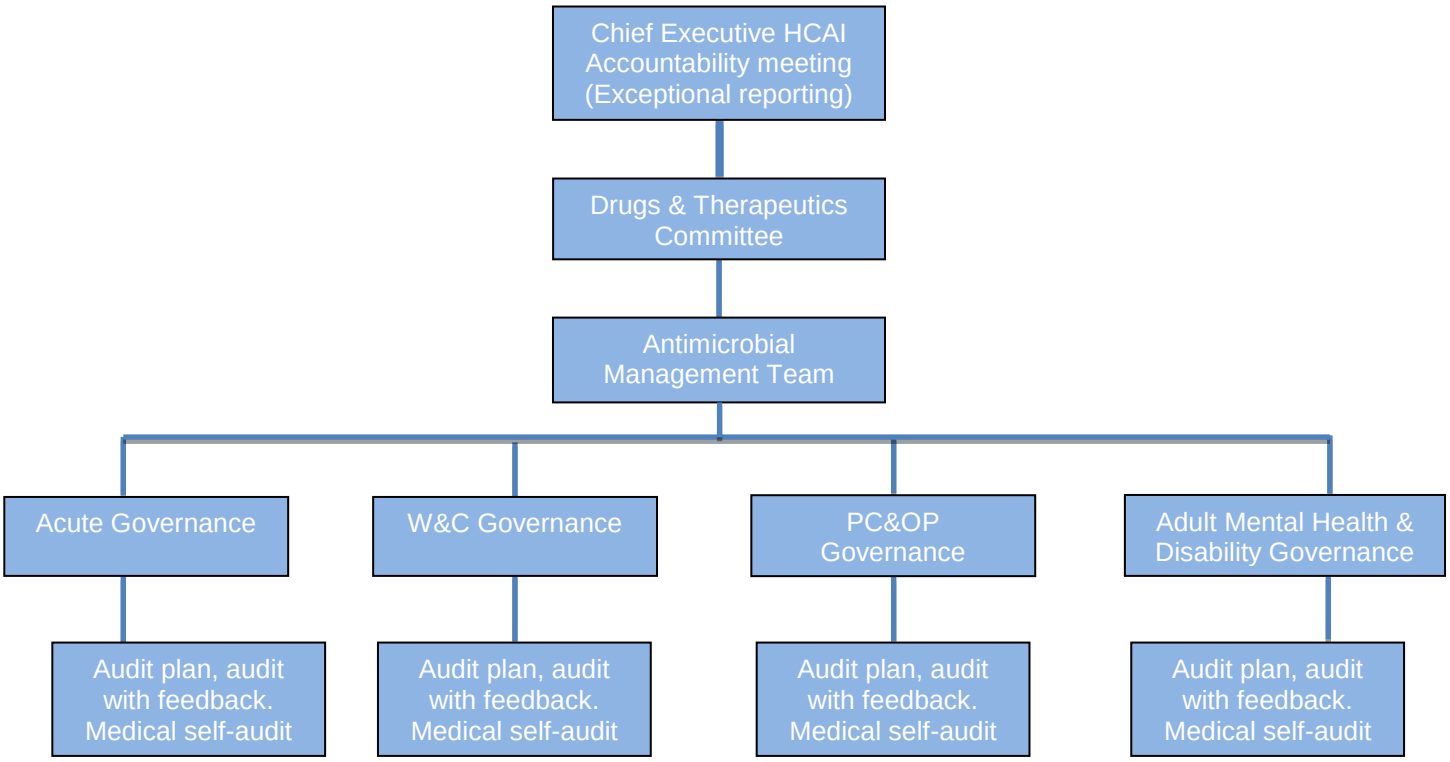
However, whilst education had some impact on improving the extent of prolonged inappropriate IV antibiotic prescription, further interventions, in the form of additional engagement and prompts to consider switch, are needed to ensure continued improvement in results.

Appendix 10

ANTIMICROBIAL MANAGEMENT TEAM STRUCTURE, MEMBERSHIP AND TERMS OF REFERENCE

Reviewed December 2014

Structure



Members of Antimicrobial Management Team

- Consultant Microbiologist(s)
- Antimicrobial Pharmacist(s)
- Information Technology Specialist
- Head of Infection Prevention & Control
- DCD for Medicine/ Surgery/ W&C/ PC&OP

Terms of Reference

1. Improve standards of antimicrobial use by supporting staff education and clinical governance.
2. Promoting application of hospital antimicrobial guidelines.
3. Enable audit and feedback regarding antimicrobial guidelines.
4. Report local and national trends on antimicrobial resistance and antimicrobial utilisation.

Appendix 11

ANTIBIOTIC USAGE TRENDS

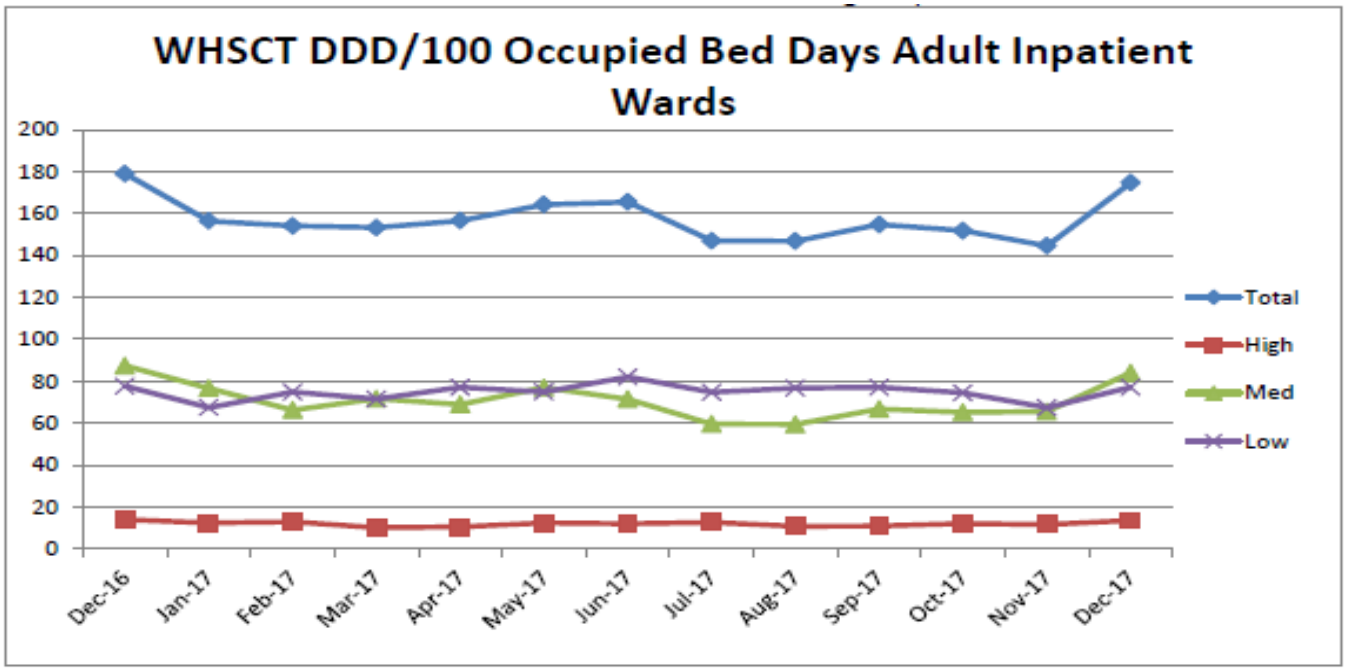


Figure 1: Use of High, Medium and Low Risk Antibiotics in WHSCT

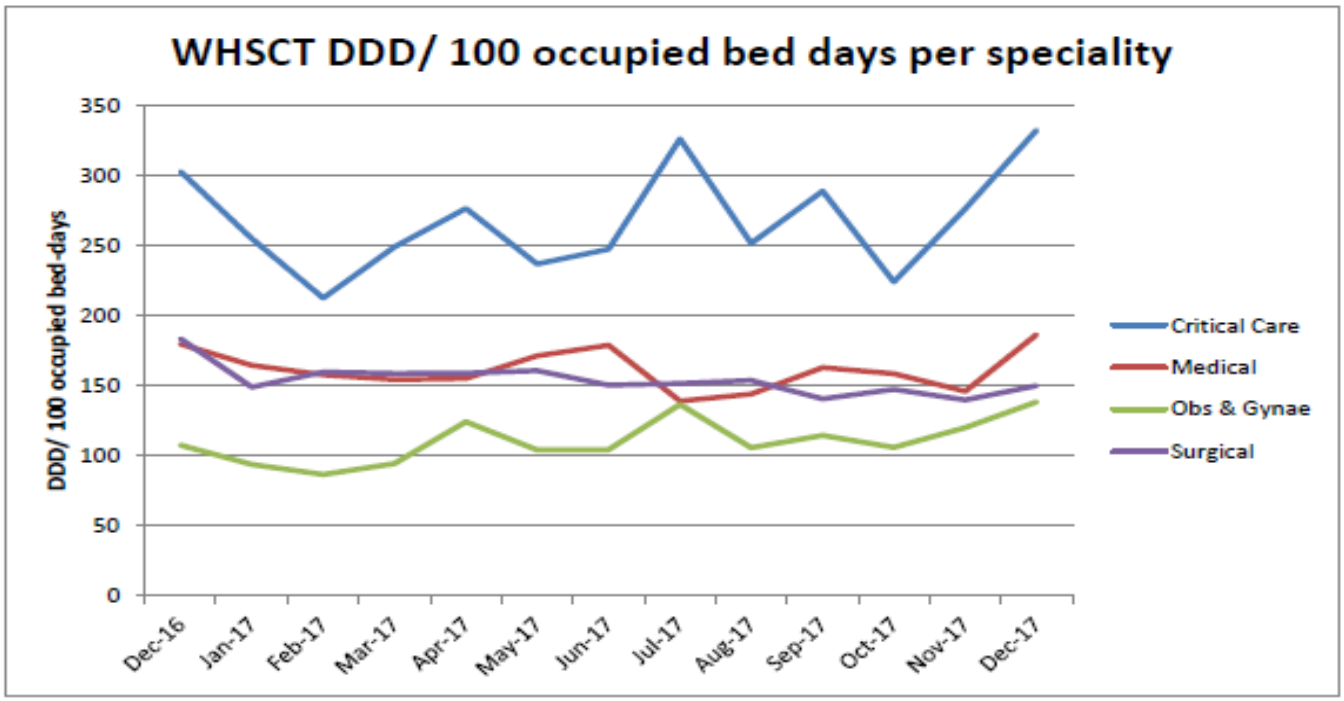
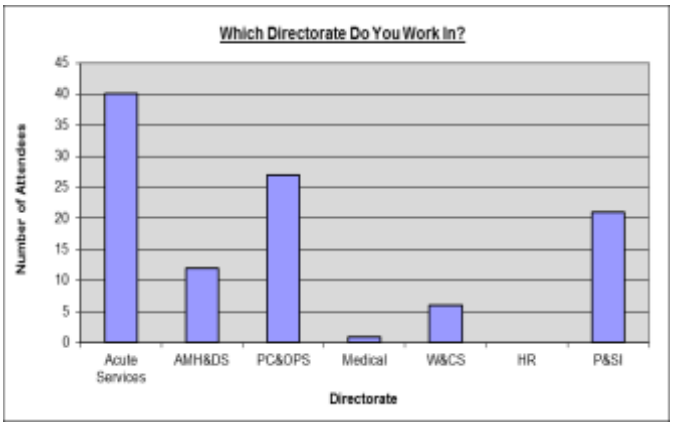
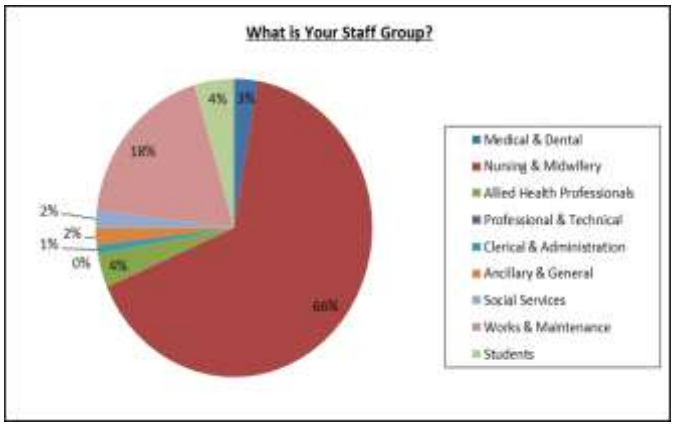


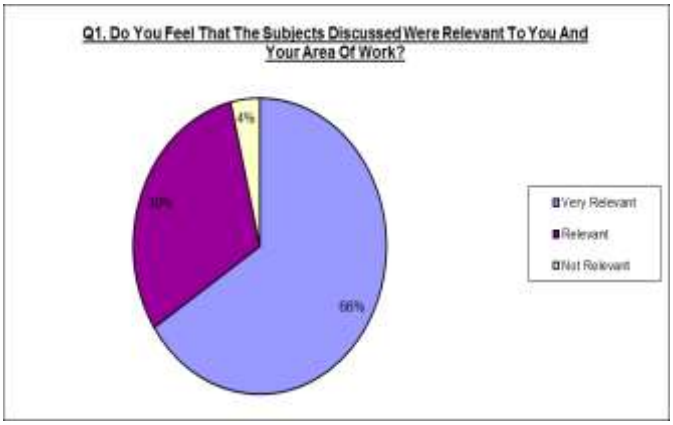
Figure 2: Use of High, Medium and Low Risk Antibiotics per Speciality within WHSCT

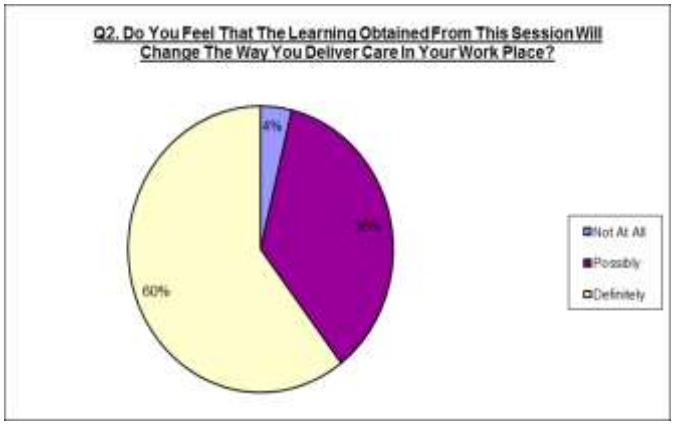
Appendix 12

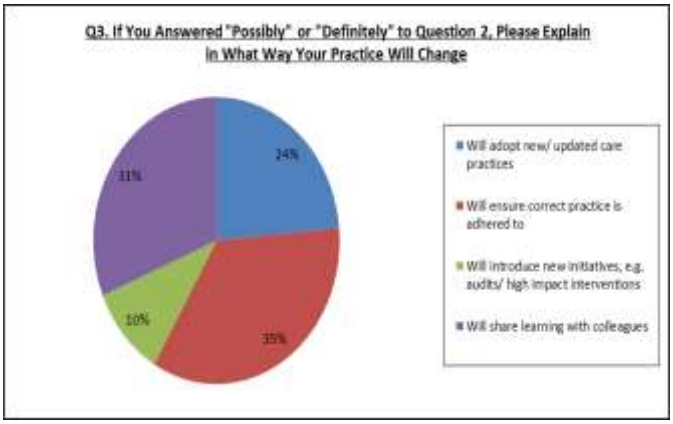
FINDINGS FROM MANDATORY TRAINING EVALUATION FORMS

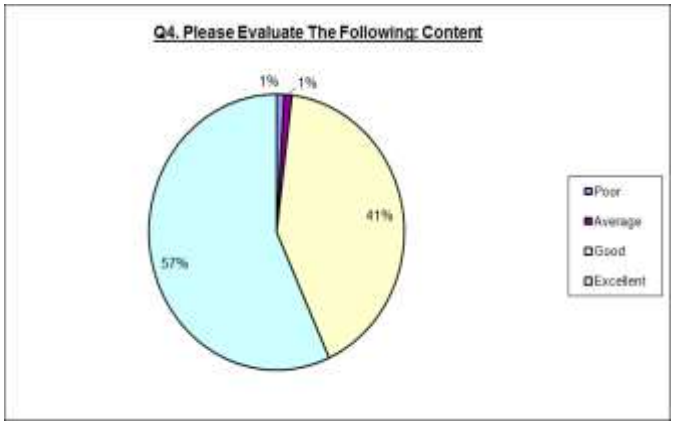


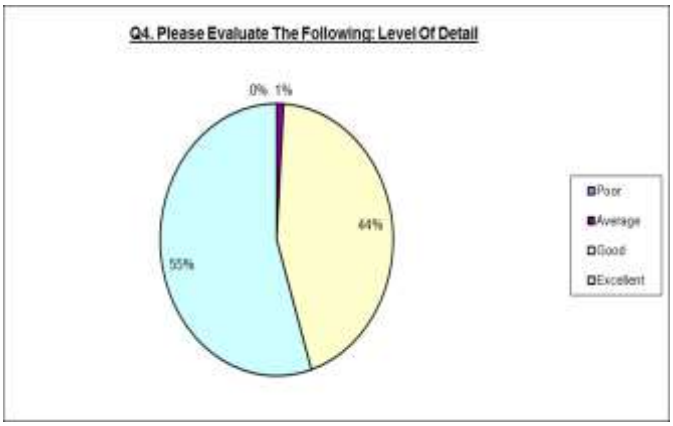


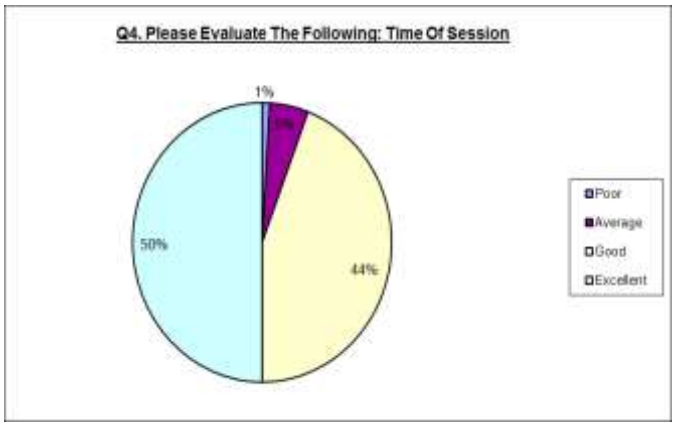


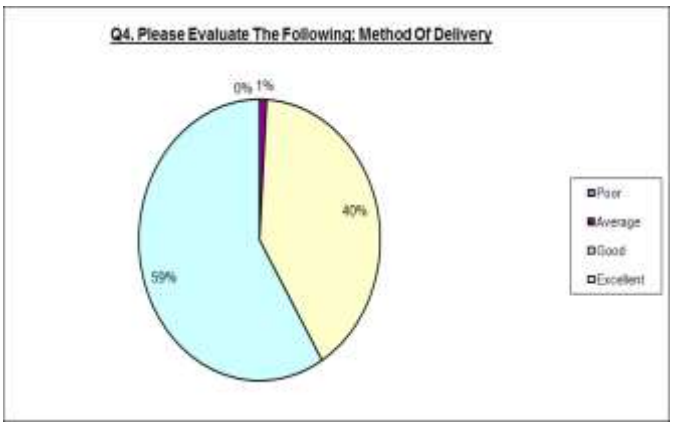


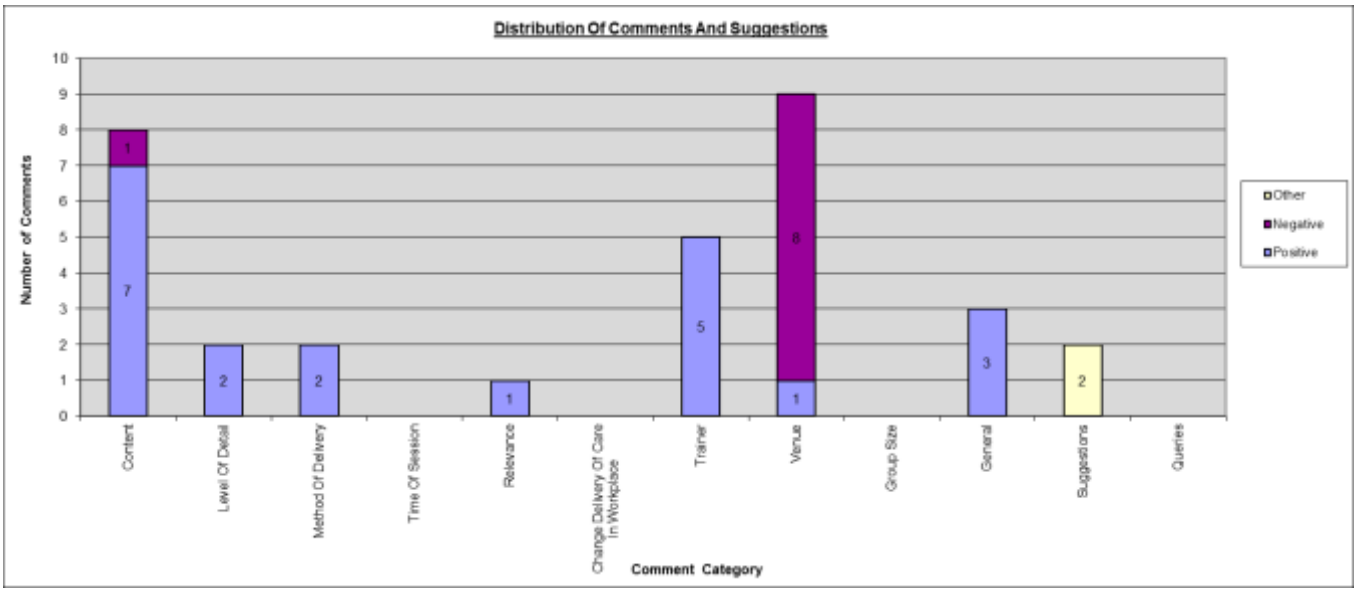









Q4. Please Evaluate The Following: Method Of Delivery
0%
1%
40%
59%
Poor
Average
Good
Excellent

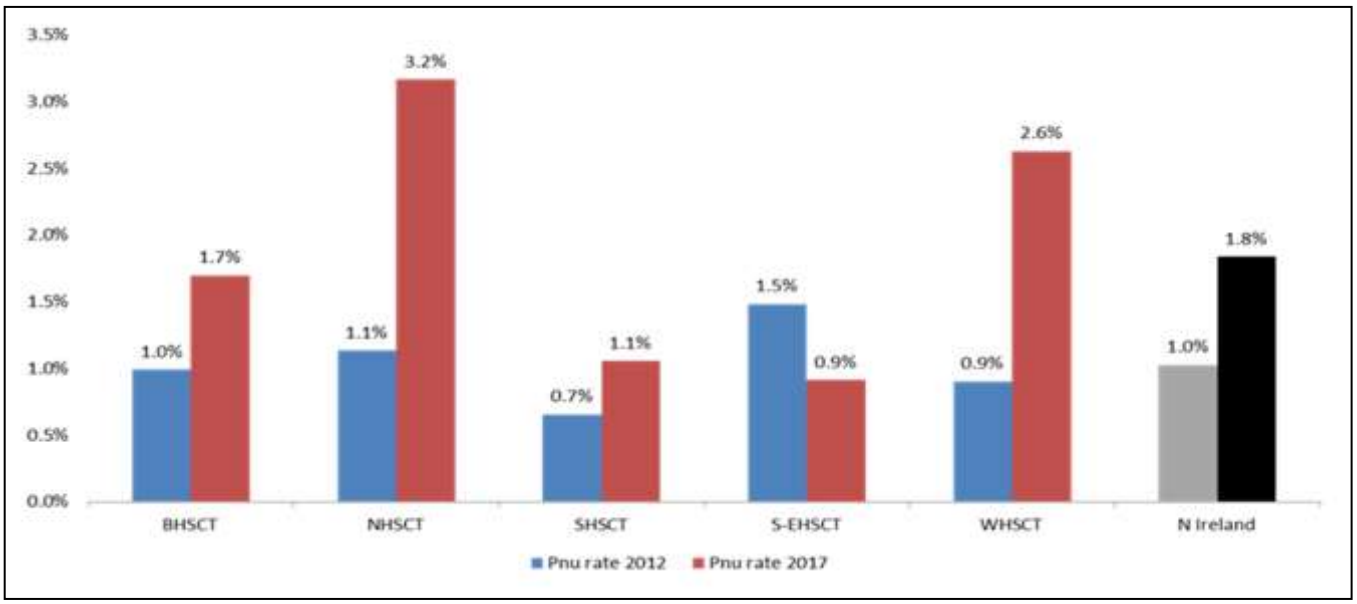

Distribution Of Comments And Suggestions
Number of Comments
Comment Category
Other
Negative
Positive
Content
Level Of Detail
Method Of Delivery
Time Of Session
Relevance
Change Delivery Of Care In Workplace
Trainer
Venue
Group Size
General
Suggestions
Queries

Appendix 13

SUMMARY FINDINGS OF THE POINT PREVALENCE SURVEY 2017

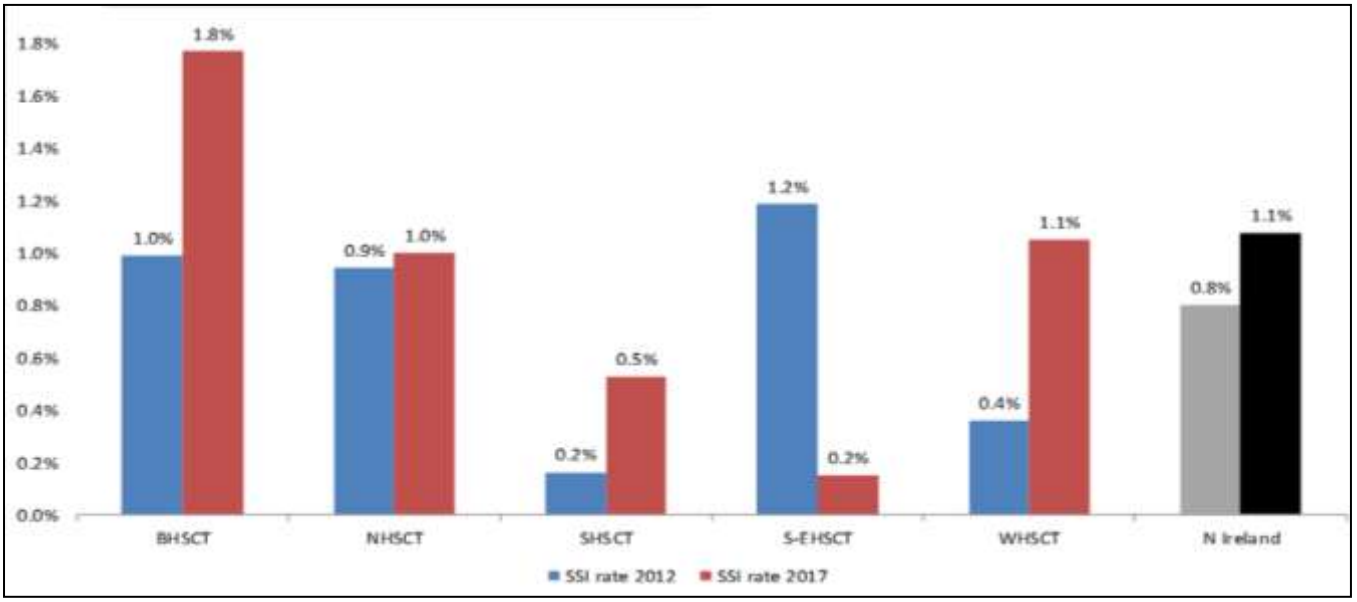
Comparable rates of hospital acquired infections in Europe and UK		
Country	**HAI prevalence 2011/12**	**HAI prevalence 2016/17**
Europe – ECDC PPS	6.2 (6.1 – 6.3)	To be published
England (Acute) (3)	6.5 (4.8 – 8.8)	To be published
Scotland (Acute) (4) (5)	4.9 (4.4 – 5.4)	4.5 (4.0 – 5.0)
Wales (Acute) (6) (7)	4.3 (3.8 – 4.8)	5.5 (5.0 – 6.1)
Northern Ireland	4.2 (3.6 – 4.8)	6.1 (5.4 – 6.9)

More Pneumonia HAI



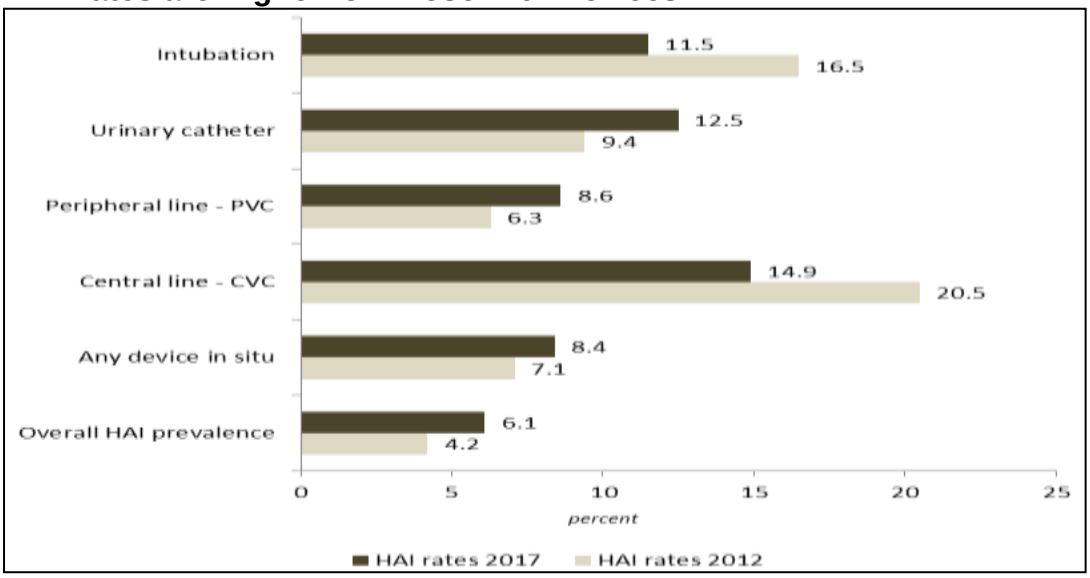
2017 – PN1 (n = 1), PN4 (n = 6), PN5 (n = 63)
2012 – PN1 (n = 1), PN4 (n = 12), PN5 (n = 28)

More SSIs

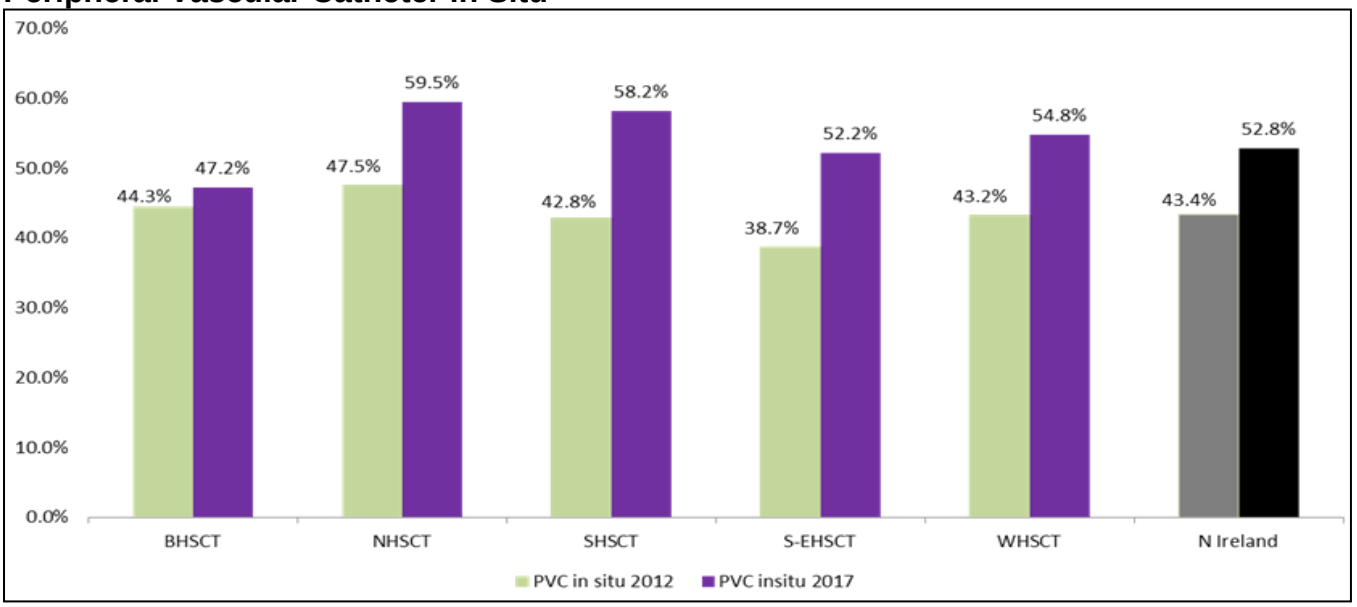


2017 – Superficial incisional = 11, Deep incisional = 10, Organ/ space = 20
2012 – Superficial incisional = 10, Deep incisional = 14, Organ/ space = 8

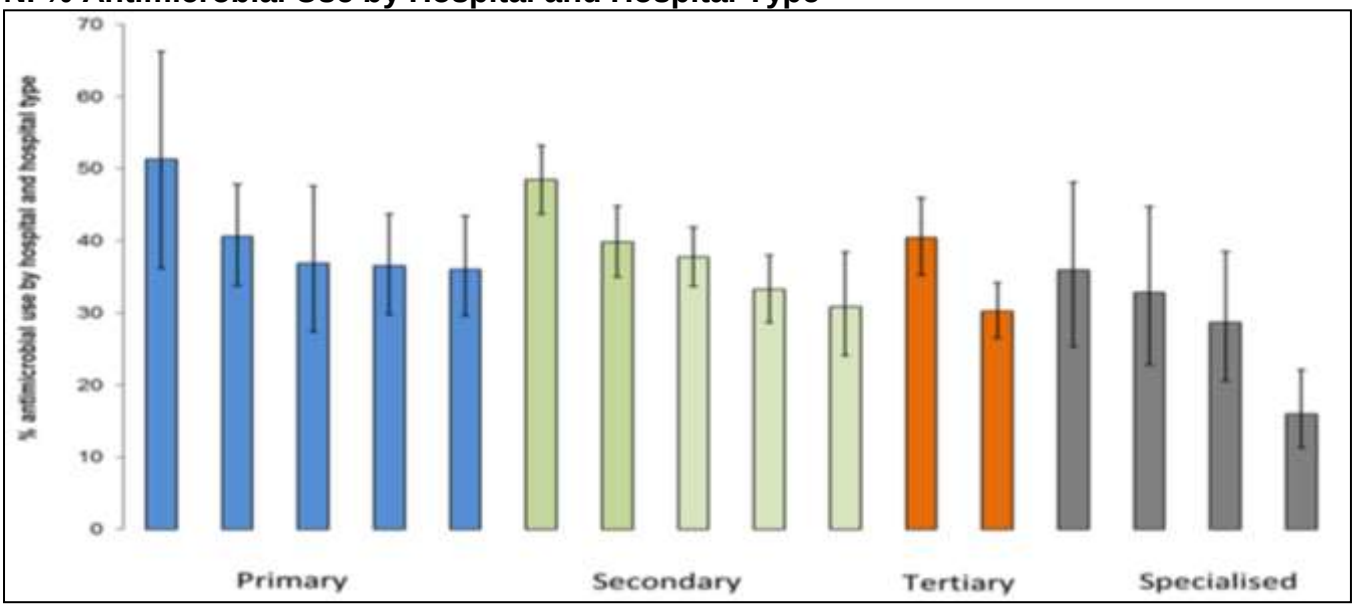
HAI Rates are Higher for Those with Devices



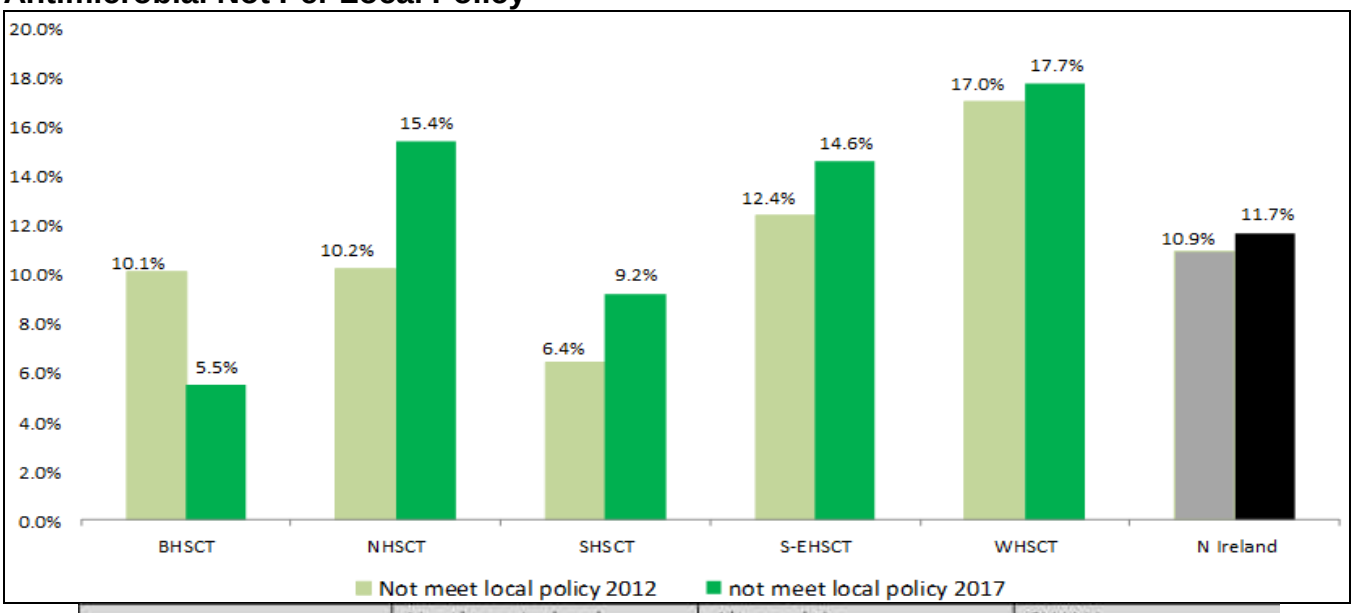
Peripheral Vascular Catheter in Situ



NI % Antimicrobial Use by Hospital and Hospital Type

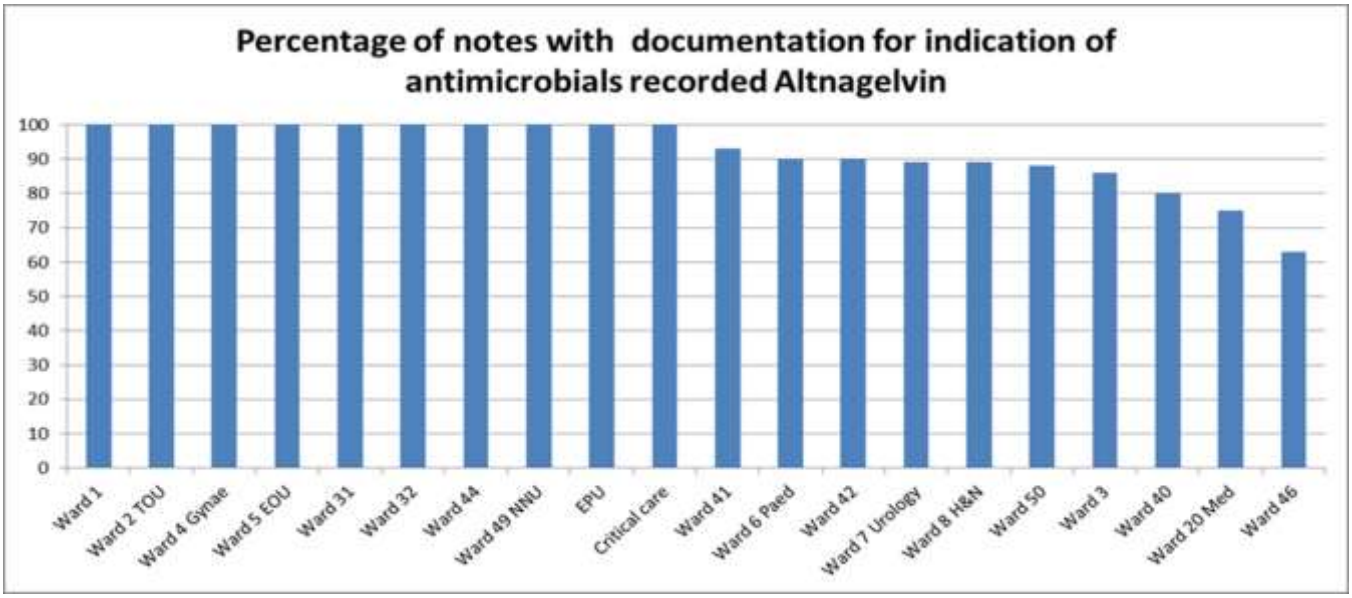


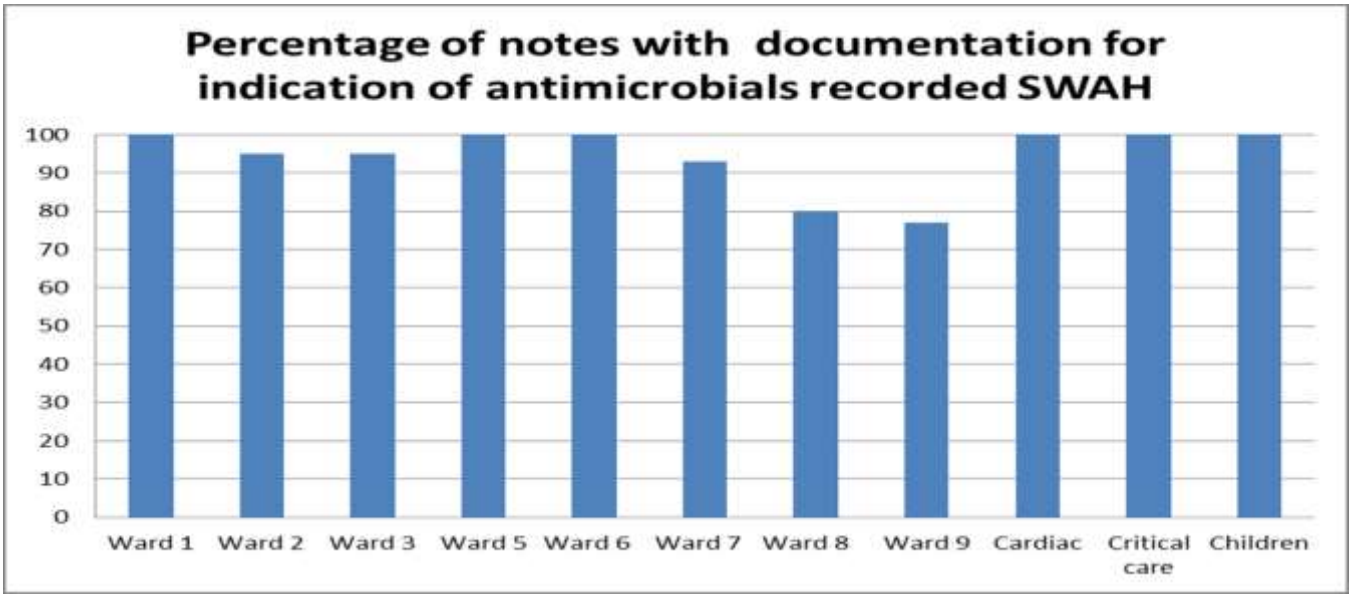
Antimicrobial Not Per Local Policy



	Northern Ireland	Altnagelvin	SWAH
Adherence	72.7%	73%	77%
Non-adherence	11.7%	18%	16%
Not Accessible	14.4%	8%	7%
Not Known	1.3%	-	

Documentation of Indication for Antimicrobial





Antimicrobial Reviewed Within 72 Hours