The Regulation and Quality Improvement Authority

RQIA
Unannounced Infection Prevention/Hygiene Augmented Care Inspection

Royal Victoria Hospital
Cardiac Surgical Intensive Care Unit

24 & 25 March 2015

informing and improving health and social care
www.rqia.org.uk

The Regulation and Quality Improvement Authority

The Regulation and Quality Improvement Authority (RQIA) is the independent body responsible for regulating and inspecting the quality and availability of health and social care (HSC) services in Northern Ireland.

RQIA's reviews and inspections are designed to identify best practice, to highlight gaps or shortfalls in services requiring improvement and to protect the public interest.

Our Hygiene and Infection Prevention and Control inspections are carried out by a dedicated team of inspectors, supported by peer reviewers from all trusts who have the relevant experience and knowledge. Our reports are available on the RQIA website at www.rqia.org.uk.

Inspection Programme

The CMO's letter (HSS MD 5/2013) endorsed the use of the Regional Infection Prevention and Control Audit Tools for Augmented Care Settings by all Trusts in Northern Ireland in the relevant clinical areas www.rqia.org.uk.

- Governance Assessment Tool;
- Infection Prevention and Control Clinical Practices Audit Tool;
- Neonatal Infection Prevention and Control Audit Tool;
- Critical Care Infection Prevention and Control Audit Tool;
- Augmented Care Infection Prevention and Control Audit Tool.

The introduction of this suite of audit tools is follow-on from development of the existing regional healthcare hygiene and cleanliness standards and audit tool, developed and disseminated in 2011. Both sets of tools should be used in conjunction with each other. A 'Guidance and Procedural Paper for Inspections in Augmented Care Areas' has been developed which outlines the inspection process www.rqia.org.uk.

The inspection programme for augmented care covers a range of specialist facilities and a rolling programme of unannounced inspections has been developed by RQIA to assess compliance with both of these sets of audit tools.

RQIA also carries out announced inspections. These examine the governance arrangements and systems in place to ensure that infection prevention and control and environmental cleanliness policies and procedures are working in practice.

Contents

1.0 Inspection Summary

An unannounced inspection was undertaken to the Royal Victoria Hospital (RVH) Cardiac Surgical Intensive Care Unit on 24 and 25 March 2015. The inspection team comprised of three RQIA inspectors. Details of the inspection team and trust representatives attending the feedback session can be found in Section 7.

Picture 1: Visitors Entrance to CSICU

The Cardiac Surgical Intensive Care Unit (CSICU), based at the Royal Victoria Hospital (RVH) site, is part of the Belfast Health and Social Care Trust (Picture 1). The CSICU had recently received investment to increase capacity to 11.5 intensive care beds (Level 3) and eight high dependency unit (HDU) care beds (Level 2). Dependency levels may cause a change to this configuration. The unit provides a regional programme of routine and specialist cardiac surgery procedures for adult patients.

The critical care unit was assessed against the following regionally agreed standards and audit tools:

- Regional Critical Care Infection Prevention and Control Audit Tool
- Regional Infection Prevention and Control Clinical Practices Audit Tool
- Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool

This inspection is the first of a three year cycle of inspection carried out within this area. The report highlights strengths as well as areas for further improvement, and includes recommendations and a quality improvement action plan.

Overall the inspection team found evidence that the cardiac surgical at the RVH was working to comply with the above standards and audit tools.

Inspectors observed:

- the unit was compliant in all seven of the Regional Healthcare Hygiene and Cleanliness Standards

Inspectors found that the key areas for further improvement include:

- layout, design and storage capacity within the unit
- the management of blood cultures and antimicrobial prescribing

Inspectors observed the following areas of good practice:

- The last MRSA bacteraemia reported within the unit was during July 2009.
- Members of the infection prevention and control (IPC) team continue to provide training within the unit on team study days.
- A new communication flowchart on the management of multi resistant organisms within critical care is being developed by the infection prevention and control team (IPCT).
- A patient had been complimentary of the care and treatment he had received within the unit. This gentleman informed an inspector that 'it had been an honour and a privilege to receive the care from the staff'.

The inspection resulted in 38 recommendations for improvement listed in Section 6.

Detailed lists of the findings are available on request from RQIA Infection Prevention and Hygiene Team.

The final report and quality improvement action plan will be available on RQIA's website. Where required, reports and action plans will be subject to performance management by the Health and Social Care Board and the Public Health Agency (PHA).

RQIA's inspection team thanks the Belfast Health and Social Care Trust (BHSCT), and in particular all staff at the RVH CSICU for their assistance during the inspection.

2.0 Overall Compliance Rates

The Regional Critical Care and Clinical Practices Infection Prevention and Control Audit Tools

RQIA uses these tools as an assessment framework to build progressive improvement over a three-year inspection cycle. Compliance scores for the first inspection are 85 per cent, rising to 95 per cent by the end of the third inspection.

Compliance rates are based on the scores achieved in the various sections.

Table 1: Regional Critical Care Infection Prevention and Control Audit Tool Compliance Levels table layout look different, line width?

Areas inspected	
Local Governance Systems and Processes	85
General Environment – Layout and Design	80
General Environment – Environmental Cleaning	87
General Environment – Water Safety	100
Clinical and Care Practice	90
Patient Equipment	100
Average Score	**90**

Table 2: Regional Infection Prevention and Control Clinical Practices Audit Tool Compliance Levels

Areas inspected	
Aseptic non touch technique (ANTT)	81
Invasive devices	79
Taking Blood Cultures	50*
Antimicrobial prescribing	69
Clostridium *difficile* infection (CDI)	88*
Surgical site infection	95
Ventilated (or tracheostomy) care	100
Enteral Feeding or tube feeding	86
Screening for MRSA colonisation and decolonisation	89
Average Score	**82**

*Staff practice was not observed during the inspection.
Information was gained through staff questioning and review of unit audits.

Compliant:	85% or above
Partial Compliance:	76% to 84%
Minimal Compliance:	75% or below

The Regional Healthcare Hygiene and Cleanliness Audit Tool

Compliance rates are based on the scores achieved in each section of the Regional Healthcare Hygiene and Cleanliness Audit Tool. Percentage scores can be allocated a level of compliance using standard compliance categories below.

Table 3: The Regional Healthcare Hygiene and Cleanliness Audit Tool Compliance Levels

Areas inspected	
General environment	94
Patient linen	86
Waste	98
Sharps	95
Equipment	95
Hygiene factors	98
Hygiene practices	90
Average Score	**94**

Compliant: 85% or above
Partial Compliance: 76% to 84%
Minimal Compliance: 75% or below

Where an inspection identifies issues that are considered to be of high risk, trusts will be asked to take immediate action.

3.0 Inspection Findings: Regional Critical Care Infection Prevention and Control Audit Tool

The Regional Critical Care Infection Prevention and Control Audit Tool contains seven sections. Each section aims to consolidate existing guidance in order to improve and maintain a high standard in the quality and delivery of care and practice in critical care. This will assist in the prevention and control of healthcare associated infections.

Regional Critical Care Infection Prevention and Control Audit Tool Compliance Levels

Areas inspected	
Local Governance Systems and Processes	85
General Environment – Layout and Design	80
General Environment – Environmental Cleaning	87
General Environment – Water Safety	100
Clinical and Care Practice	90
Patient Equipment	100
Average Score	**90**

The findings indicate that overall compliance was achieved in relation to the Regional Critical Care Infection Prevention and Control Audit Tool.

3.1 Local Governance Systems and Processes

For organisations to comply with this section, good governance should be displayed through management that displays effective decision-making and leadership. Systems and processes should be robust, and staff should be aware of their roles and responsibilities. Appropriate policies and procedures should be available. The unit achieved compliance in this section of the audit tool.

Leadership and Management

A unit sister had been identified as the lead for IPC. The sister displayed good leadership, management and knowledge on infection prevention and control and the necessary measures to take in managing infection within the unit.

The unit sister leads a team of IPC link staff. Nine staff nurses and two healthcare assistants make up the team who rotate attendance at hospital link meetings. IPC information from link meetings is cascaded to other unit staff for learning via staff meetings, daily safety briefings, the notice board and a communications book. The unit has developed a CSICU staff newsletter which is circulated to unit staff every three months. The newsletter aids

communication between staff; it highlights latest news and updates, with specific references to IPC.

The IPC link team meet every four months and discuss IPC issues salient to their workplace. The team comprised of only nursing staff. Efforts should be made to invite other disciplines who work within the unit to become active participants of this group. This will assist in the sharing of IPC information between disciplines and support a collaborative approach to IPC initiatives.

1. **It is recommended that all staff disciplines within the unit are active participants in IPC initiatives.**

The unit sister is allocated approximately six hours protected time per month for IPC work. Inspectors were informed that this time allocation is not always sufficient to meet the IPC responsibilities of the role. Inspectors were informed that the sister may not always get this time due to other work commitments.

2. **It is recommended that the unit IPC lead has adequate and protected time to undertake the responsibilities involved within the role.**

Infection prevention and control nurses (IPCNs) are available from 8am to 5pm Monday to Friday within the trust. In the evenings and at weekends the Medical Microbiologist on-call provides IPC advice. Inspectors were informed that although IPC trust staff did not visit the unit on a daily basis they are readily available for advice by phone. Inspectors were informed that visits by IPC staff were increased for outbreak management. Staff commented that they had a strong relationship with the IPC team who are very supportive in providing advice and assisting with IPC initiatives.

3. **It is recommended that infection prevention and control staffing levels are reviewed to facilitate daily visits to the unit.**

Review of Documentation

A review of documentation evidenced a range of critical care meetings, from management level to frontline staff. They include: the critical care operations group meetings, senior nursing staff meetings, IPC unit staff meetings, healthcare assistant meetings and IPC group meetings. From a review of meeting minutes, IPC was not always included as a standing agenda item and although IPC was generally discussed, the detail of information recorded within the minutes was limited. During discussions with a number of medical staff it was evident that they were not fully aware of some key IPC performance data in relation to the unit e.g. the rate of positive blood cultures and the rate blood culture contamination.

4. **It is recommended that IPC should be a standing item on the agenda of all unit and staff meetings. All clinical staff should be routinely updated on relevant IPC performance data.**

A review of documentation evidenced that incidents relating to IPC were appropriately reported and acted on. The BHSCT trust uses a DATIX web-based system for incident reporting. Meticillin-resistant staphylococcus aureus (MRSA) and Clostridium *difficile* Infection (CDI) are investigated by a Root Cause Analysis (RCA) process as per trust policy. Documentation from RCAs evidenced that a multidisciplinary approach was taken to this process. Learning from a recent RCA had identified an issue with the traceability of items of patient equipment. Steps had since been taken within the unit to address this issue. The incidence of CDI and MRSA bacteraemia cases within the trust are discussed at the Healthcare associated infection improvement team (HCAIIT) meetings and the outcome of RCA investigations are reviewed to identify potential trends.

All staff questioned during the inspection had a good knowledge of IPC policies and procedures, and were able to access the relevant documents on the trust intranet site and policy folders within the unit.

The Occupational Health department (OHD) has developed a new policy entitled 'Screening and vaccination of staff against infectious diseases in the workplace – Guidelines (2014)'. This has attached links to policy and guidelines on hepatitis B, Measles, Mumps and Rubella (MMR), Tuberculosis (TB) and Varicella Zoster. The new updated MRSA policy has advice for staff on screening which should only be initiated by the IPC team, in liaison with the OHD. Advice for staff having symptoms of infective vomiting and diarrhoea is available within the IPC regional manual, included within the IPC area of the electronic HUB on the staff intranet. Staff members questioned, were knowledgeable of the appropriate guidance and action to take in the event that they develop an infectious condition.

The unit sister keeps a record of all staff members' history of infection with the varicella-zoster virus (the virus that causes chickenpox and shingles) and all staff referrals to the OHD.

A system was in place for unit staff to identify and report maintenance and repair issues. The computerised recording system in the estates department captures this information.

Audit

Local and regional audits and the implementation of high impact interventions were undertaken to improve infection prevention and control practices and environmental cleanliness. Action plans had been developed as required to address performance issues.

High impact intervention (HII) audit score cards were not initially available for inspectors to review. Unit sisters had informed inspectors that they had a recent issue in accessing score cards on the directorate shared folder. This issue had been resolved during the inspection.

Evidence was available that unit staff carried out self-audit using the regional critical care audit tools. Inspectors identify this as good practice as it allows for ongoing quality improvement initiatives to take place.

Some elements of IPC audit data had been displayed for staff on the unit notice board and discussed with nursing staff during supervision sessions. Performance audit data on hand hygiene and environmental cleanliness was displayed publicly at the entrance to the unit for visitors to view.

Surveillance

Surveillance, the continuous monitoring of healthcare associated infection (HCAI) is key to the control of infection. A surveillance programme can be used to implement improvement initiatives, assess effectiveness of clinical interventions and can quickly identify outbreaks of infection.

Local surveillance data is analysed by the microbiology and the IPC teams and presented and discussed at the trust HCAI improvement team meetings and the IPC committee meetings. Trust performance against HCAI targets and mandatory surveillance through PHA are reviewed at these meetings.

The local surveillance system alerted unit staff to an outbreak of Carbapenemase Producing Enterobacteriaceae (CPE) in January 2015. Reviewed documentation evidenced an investigation and measures taken to control and prevent future incidence.

Training and Development

Staff infection prevention and control knowledge and up-to-date practical skills are a prerequisite for clinical staff to carry out their role in an effective manner.

Accessing relevant trust policies and the ability to demonstrate essential knowledge of key IPC legislation is included as an aspect of the critical care networks national competencies. All new staff must progress through step one of the competency framework. IPC is a competency included within this framework and assists staff in developing knowledge, understanding and enhance skills that contribute to IPC in critical care. The competencies are

set out to provide a pathway of progress, starting with a novice in critical care to becoming a competent and safe practitioner.

All unit staff had participated in the trust corporate welcome and introduction to the basic principles of IPC. IPC training is mandatory within the trust; 48 per cent of staff nurses and 70 per cent of healthcare assistants have completed this face to face training. Members of the IPC team had provided training within the unit on team study days.

5. **It is recommended that all staff attend mandatory IPC training.**

Four IPC link nurses from the unit attended the Northern Ireland Infection Prevention Society (IPS) conference in October 2014 and a number of staff attended the trust IPC link nurse study day which took place in February 2015. Inspectors identify this as good practice. This benefits the unit by providing staff with new knowledge in IPC and facilitates networking with other health professionals both within and outside the trust.

Information and Communication

Information on infection prevention and control, and the effective communication of this information, is vital to ensure adherence to good practice.

A range of information resources was in place to advise relatives or visitors of infection prevention and control precautions; hand hygiene leaflets, general visitor information and display posters. An information pack is given to all patients pre-operatively relating to their surgery.

IPC guidance for relatives/visitors to the unit was however not available. Guidance for relatives/visitors should include:

- How, when and where within the unit to wash their hands.
- Information on the appropriate use of clinical hand wash basins.
- If appropriate, the concept of bare below the elbow as defined in local policy.
- Not to bring outside coats into the unit.

6. **It is recommended that visitors/ relatives are provided with IPC guidance specific to the CSICU.**

3.2 General Environment

3.2.1 Layout and Design

For organisations to comply with this section of the audit tool they must ensure adequate facilities are available for the delivery of care. This includes the space available to carry out care, decontaminate equipment and to ensure effective isolation.

The unit has achieved partial compliance in the layout and design of the environment.

The core clinical space around patients' beds for the delivery of care within the multi bedded areas of ICU and HDU was not within 80 per cent of the minimum dimensions currently recommended for existing units by the DHSSPSNI (Picture 2).

Picture 2: Typical Bed space in CSICU

All bed spaces within the ICU and HDU are not a standardised size; each with some variation in core clinical space. The largest space in the multi-bedded area is 13.73 sqm and the smallest 9.26 sqm. All bed spaces within ICU and HDU do not achieve 80 per cent of the minimum dimensions currently recommended for existing units by the DHSSPSNI. The requirement of the linear distance between bed head centres is 4.6m; this is not achieved within the unit.

The limitations in clinical space, in both ICU and HDU significantly affected staff members' ability to manoeuvre patients and equipment. Inspectors noted that, although the core clinical space did not meet current recommended requirements, staff were working within these limitations to deliver safe and effective care. Inspectors observed that bed spaces were free from clutter during the inspection.

Only one side room is available with a core clinical space of 15.06 sqm. This room was used for the isolation of patients to control the spread of infection or for the protection of immunosuppressed patients. This is not in line with

number of side rooms recommended by the DHSSPS and outlined in the audit tool; a minimum of four single rooms per eight beds is required.

Inspectors were informed that plans are in place for the CSICU to move to the area currently occupied by the RICU within the RVH. An anticipated date for this move remains unconfirmed. This will assist in improving the core clinical space of beds.

7. **It is recommended that the trust continues with plans to relocate the CSICU within the hospital.**

Inspectors evidenced that ventilation systems were routinely monitored, serviced and cleaned by estates department.

3.2.2 Environmental Cleaning

For organisations to comply with this section they must ensure Patient & Client Support Services cleaning staff display knowledge of cleaning policies and procedures, and are competent in cleaning hand washing sinks. Environmental cleaning audits should be carried out, and the infection prevention and control team should be consulted when infection has been identified.

Good practice was observed and the unit was compliant in the section on environmental cleaning. Environmental cleaning; guidelines, audit and staff competency based training were in place and reviewed. On questioning, staff displayed good knowledge on cleaning procedures. There was a regular programme of de-cluttering and environmental auditing in place.
Inspectors noted however that terminal cleans are not signed off by Patient and Client Support Services (PCSS) staff or the unit sister, and are also not randomly validated by PCSS supervisors.

8. **It is recommended that terminal cleans are signed off by Patient & Client Support Services staff or the nurse in charge, and randomly validated by Patient and Client Support Services supervisors.**

3.2.3 Water Safety

For organisations to comply with this section they must ensure that an overarching water safety plan and individual area risk assessment plan is in place. Water sampling, testing, flushing and maintenance are carried out correctly, and there is a mechanism in place to report water analysis results.

The unit was compliant in relation to water safety. An overarching trust water safety management plan and individual unit risk assessment plan were in place. The management plan has recently been reviewed in January 2015 and includes updated guidance as per Water Systems Health Technical Memorandums 04-01: Addendum, Pseudomonas aeruginosa – advice for augmented care units. The individual water safety risk assessment was last

completed in 2012; inspectors were informed that this risk assessment is currently being reviewed.

Collection of tap water samples to facilitate microbiological organism testing and analysis was carried out. The trust carries out scheduled water sampling for pseudomonas *aeruginosa* from all outlets in augmented care areas on a quarterly basis. All results of water analysis are reported to the trust water safety group and the Augmented Care group for review. The water safety group is inclusive of staff from IPC, estates and clinical representatives.

Throughout the inspection it was observed that clinical hand wash stations were used appropriately; only for the purpose of hand hygiene.

3.3 Critical Care Clinical and Care Practice

For organisations to comply with this section they must ensure that the delivery of care is provided in a way that negates the risk of transmission of infection. This is provided through adequate staffing, monitoring of patient movement, infection control screening policies and adherence to DHSSPS and local guidance on cleansing the critical care.

The unit achieved compliance in this section of the audit tool. A retrospective patient placement system to identify which bed the patient is in during their stay in critical care was available. A diary is used to track patient placement and movements within the unit. The ability to carry out retrospective patient placement recording had been used to gather information to assist in managing the outbreak of CPE.

To facilitate the continuity of care following the transfer of a patient to another unit, staff members complete the regional IPC admission/transfer risk assessment form. The new tool provides a more comprehensive patient assessment of multidrug resistant organisms, infective diarrhoea, communicable diseases, respiratory and soft tissue infections. Microbiological specimen results, including pending results must be included on the transfer form. Staff are also required to record any IPC precautions that needed to be initiated and whether the patient had ever been admitted to an ICU.

In line with trust policy, elective patients are screened for MRSA at the cardiac surgical pre-admission clinic. If a patient is identified as MRSA positive, decolonisation can be commenced prior to their date of surgery. The MRSA screening policy and procedures were known by staff. MRSA screening includes swabs of the nose, groin, and areas of broken skin, vascular access sites and catheter urine sample. The trust MRSA policy outlines the processes for swabbing and decolonisation.

Inspectors were informed that if a patient's admission screens were positive or if their results following transfer to another ward were positive, the receiving or transferring wards were informed. The mode of reporting the screening results to the transferring or the receiving unit is by post. This is not an efficient method in reporting results to other units. Results should be reported

in a timely manner so other areas may take appropriate precautions to reduce the risk of infection.

Inspectors noted that there was no protocol to guide staff in reporting results to other units. Inspectors were provided with a draft communication flowchart which has been devised by the BHSCT IPC team on the management of multi-resistant organisms within critical care. The flowchart clearly outlines nominated staff responsibilities, set timeframes and the recording of actions taken in reporting screening results to other units. Inspectors were informed that this protocol is soon to be approved for use within the CSICU.

9. **It is recommended that staff ensure that if patient screening results are positive, the sending or receiving unit is informed of the results in a timely manner. Once approved, the communication flowchart for multi-resistant organisms should be introduced within the CSICU.**

Staff washed patients in water from a source of known quality and used alcohol rub after hand washing when caring for patients. Staff were aware of risk factors that cause skin injury. All patients are bathed daily with water of known satisfactory quality.

3.4 Critical Care Patient Equipment

For organisations to comply with this section they must ensure specialised equipment is effectively cleaned and maintained. Audits of equipment cleaning and education on the use of equipment should be available.

The unit achieved compliance in this section of the audit tool. Specialist equipment inspected was clean and in a good state of repair. Staff displayed good knowledge of single use equipment.

There was guidance and routine auditing of the cleaning, storage and replacement of specialised patient equipment, including when a patient is in isolation or during an outbreak.

4.0 Inspection Findings: Regional Infection Prevention and Control Clinical Practices Audit Tool

The Regional Infection Prevention and Control Clinical Practices Audit Tool contains nine sections. The observations of key clinical procedures have shown to reduce the risk of infection if performed correctly. Each section aims to consolidate and build on existing guidance in order to improve and maintain a high standard in the quality and delivery of care and practice in critical care. This will assist in the prevention and control of healthcare associated infections.

Regional Infection Prevention and Control Clinical Practices Audit Tool Compliance Levels

Areas inspected	
Aseptic non touch technique (ANTT)	81
Invasive devices	79
Taking Blood Cultures	50*
Antimicrobial prescribing	69
Clostridium *difficile* infection (CDI)	88*
Surgical site infection	95
Ventilated (or tracheostomy) care	100
Enteral Feeding or tube feeding	86
Screening for MRSA colonisation and decolonisation	89
Average Score	**82**

* Staff practice was not observed during the inspection.
Information was gained through staff questioning and review of unit audits.

The findings indicate that overall partial compliance was achieved. Inspectors identified that immediate improvement was required in the collection of blood cultures and antimicrobial prescribing.

During the inspection clinical practice was observed in the majority of areas. Staff were questioned on all aspects of the clinical practices audit tool and displayed good knowledge on the practical application of clinical procedures.

4.1 Aseptic Non Touch Technique (ANTT)

ANTT is a standardised, best practice and safe aseptic technique used for the overall management of invasive clinical practices and preparation of medication. For organisations to comply with this section they must have a policy in place; staff should display knowledge and practical skills on the key principles, and audit of staff competency is carried out.

The unit achieved partial compliance in this section of the audit tool. The ANTT policy was in place and accessible on the trust intranet for staff. The

policy identifies competency training and assessment as key principles in ensuring adherence to policy. The policy contains a range of hospital and community ANTT pictorial guidelines. ANTT assessments are to be carried out yearly, the assessment tool used is within the ANTT policy.

A total of 16 nursing staff within the unit have been skills assessed to become ANTT assessors. The role of the ANTT assessor is to assist with the training and skills assessment of ANTT procedures. Training is delivered online and face to face. Records evidenced that 50 per cent of nursing staff had received ANTT training.

A programme of ANTT training and skills assessments had not been introduced for medical staff. Inspectors were informed that the IPC team provide an overview of ANTT practice at medical staff induction sessions and at trust mandatory IPC training. Inspectors were informed that attendance by medical staff at mandatory IPC training was poor.

The unit anaesthetic lead advised that medical staff ANTT competency was gained in other clinical areas before their placement within the unit. Inspectors were informed that consultants would observe medical staff aseptic practice only on an informal basis.

A cardiac surgeon was observed accessing the arterial line of a patient. Inspectors note that the key principles of ANTT were not observed. A silver foil tray was used to carry equipment, instead of a wipeable plastic tray. The tray had been placed on the patient's abdomen when the procedure was being carried out. The surgeon wore gloves but no apron, inspectors observed an over flow of blood from the port onto the bed covers. .

10. **It is recommended that a programme of ANTT training and skills assessments is introduced for all clinical staff.**

During the inspection, nursing staff were knowledgeable on when ANTT procedures should be applied and displayed excellent practical application of the key elements of ANTT.

An ANTT audit was carried out in January 2014; from 10 observations of practice, only two achieved compliance. There had been no written action plan developed to address the issues identified and there had been no repeat or validation auditing. In June 2014, the IPC team carried out an ANTT independent audit; 100 per cent compliance was achieved however only two assessments were completed.

11. **It is recommended that ANTT compliance is regularly audited, with action plans developed and implemented where compliance issues are identified. Independent validation audits should be carried out where audit scores identify poor practice.**

4.2 Invasive Devices

Invasive devices are medical devices which in whole or in part, penetrate the body, either through a body orifice or through the surface of the body. For organisations to comply with this section they must ensure that there are systems and process in place to ensure a standardised and consistent approach by staff in the insertion and ongoing maintenance of invasive devices.

The unit achieved partial compliance in this section of the audit tool. Evidence of practice was obtained through observation, review of documentation and speaking with staff.

Policies/procedures for the insertion and on-going management of invasive devices were in place however a number had passed their revision date without being reviewed.

12. **It is recommended that all trust policies/guidelines are reviewed and updated as required to ensure continued accuracy of guidance for staff.**

Competency in the management of invasive access devices is assessed as an aspect of Step 1 of the national competency framework for critical care nurses. This is to be completed by all new nursing staff employed within the unit during their preceptorship period.

Medical staff are primarily responsible for the insertion of peripheral venous cannulas (PVCs) within the unit; inspectors were informed that it is difficult for nursing staff to maintain this skill. The unit clinical educator advised that there is a new initiative to train and assess long term staff on PVC insertion competency.

13. **It is recommended that staff competence in the insertion and management of invasive devices, continues to be developed.**

The clinical educator and lead link nurse advised that ongoing competency assessment in intravenous access is completed as part of ANTT assessment. The clinical educator is working with the Critical Care Network in Northern Ireland (CCaNNI) to develop a new regional arterial line policy.

In a review of patient records, inspectors identified a number of issues in relation to the recording of information on the management of a range of invasive devices. Issues include:

- On the insertion of PVCs, relevant information such as gauge of the device, inserted by, reason for insertion and frequency of observation was not always included on the PVC observation chart.

- PVC observation charts were was not always commenced when the PVC was inserted within theatre.

- There was no section on the PVC observation chart to record the batch number of the inserted cannula.

- There were no standard documents available for arterial lines and central lines to record insertion details such as: date inserted, time inserted, reason for insertion, inserted by and the batch number of the device.

- Urinary catheter care was not always recorded in the nursing documentation.

14. It is recommended that all relevant information is recorded in relation to the insertion and ongoing management of invasive devices. Invasive device observation charts should be commenced on insertion of the device.

Staff practice and knowledge in the insertion and management of invasive devices during the inspection was of a good standard. Audit results evidenced compliance with high impact intervention standards.

Care Bundles: Week Commencing 26/1/15

- CVC – Insertion/Ongoing care 100 per cent.
- PVC - Insertion/Ongoing care 100 per cent.
- SRC - (Self-Retaining Catheter) - Ongoing care 100 per cent.
- VAP – February 2015 - 99.4 per cent.

The Public Health Agency (PHA) 'Device associated Infection Surveillance in Critical Care Units HCAI Monthly Report' details January 2014 – December 2014 RVH CSICU infection rates. This report identifies that the CSICU had:

- **0** ventilated associated pneumonias (VAP) in January – December 2014, there had been no VAP since August 2013.
- **0** Catheter Associated Urinary Tract Infections (CAUTI) per 1,000 bed days in January – December 2014, there have been no CAUTIs since 23/9/13.
- **1** Central line-associated bloodstream infection (CLABSI) per 1,000 bed days in January – December 2014, there had been no CLABSIs since May 2014.

The inspection team is encouraged with best practice compliance in the above care bundle scores and device associated infection rates.

4.3 Taking Blood Cultures

A blood culture is a microbiological culture of blood. It is employed to detect infections that are spreading through the bloodstream. For organisations to comply with this section they must ensure that a policy is in place, staff display knowledge and practical skills on the key principles and monitoring of the rate of blood cultures is carried out.

The unit achieved minimal compliance in this section of the audit tool. Immediate attention is required to bring this section to a compliant standard.

A trust blood culture policy was available however, it was due for review in 2012; inspectors were informed that it is currently being reviewed and were able to review a draft copy.

Evidence of practice was obtained through review of documentation and speaking with staff. Staff demonstrated good knowledge on how and why to take a blood culture.

Inspectors reviewed the notes of a number of patients that had blood cultures obtained. Inspectors observed that when a blood culture is obtained there is either no documentation or variation in details recorded: time, site and clinical indicators for taking blood cultures.

15. It is recommended that all relevant information on the collection of blood cultures is consistently recorded.

The IPC team include the theory of taking of blood cultures as part of medical staff induction, the IPC team plan to develop a DVD on the procedure to be used trust wide.

Inspectors were advised by the anaesthetic lead that medical staff competence in obtaining blood cultures is gained in other clinical areas before their placement within the unit. The consultant would observe staff practice in obtaining blood cultures and identify any issues; however there is no formal assessment of this procedure.

The hospital laboratory regularly informed clinical, nursing and IPC staff of positive blood cultures within the unit. Systems are in place to compare blood cultures results between directorates within the trust and this data is reviewed at the trust HCAI committee.

The rate of blood culture contamination should not exceed three per cent. Inspectors were provided with evidence that the incidence of blood culture contamination within the unit for the fourth quarter of 2014 was 6.25 per cent. The 6.25 per cent in CSICU accounts for six contaminated samples out of the 96 samples sent for laboratory analysis. These results may be an indication that blood cultures are not being collected with proper attention to aseptic technique. An agreed action plan to improve practice was not available.

16. **It is recommended that staff devise an action plan to improve the practice of obtaining blood cultures when audit scores identify poor practice.**

There is no current forum within the unit for clinical, nursing and IPC staff to discuss the rate of positive blood cultures or the incidence of false positive results. As discussed, clinical staff were unaware of this data at the time of the inspection.

17. **The rate of positive blood cultures and the incidence of false positive results within the unit should be routinely discussed by clinical, nursing and IPC staff.**

There has been no update competency based training for staff on taking blood cultures to address the blood culture contamination rates. There was no routine compliance monitoring with best practice when taking blood cultures within the unit.

18. **It is recommended that a system should be developed to routinely monitor compliance with best practice when collecting blood cultures. Training updates should be provided for all relevant staff where infection rates or audit scores identify poor practice.**

4.4 Antimicrobial prescribing

Antimicrobial prescribing should be carried out in line with evidence-based antimicrobial guidelines. This should improve and reduce the progression of antibiotic resistance and optimise patient outcomes. For organisations to comply with this section they must ensure that there are systems and process in place to ensure a standardised and consistent approach by staff to prescribing. Prescribing should be monitored and reviewed.

Minimal compliance was achieved in this section of the audit tool.

Inspectors observed that antimicrobial guidelines were in place and cascaded to medical staff as part of induction training. Guidelines are available on the intranet site and as a pocket guide. In November 2014 the BHSCT launched an antimicrobial 'Microguide' app which is available on smart phones.

The microbiology team carry out a daily antimicrobial ward round, Monday to Friday. At weekends the microbiology team contact the unit by telephone to provide advice. This ensures that there is direct microbiological advice at the bedside and that antimicrobial prescribing is reviewed. There is however no pharmaceutical input on ward rounds; the unit does not have a dedicated pharmacist. Specific staff queries are addressed by the pharmacist that works within the Regional ICU within the hospital.

A computer aided prescribing tool was not available to aid antibiotic prescribing within the unit.

19. **It is recommended that pharmacy cover within the unit is reviewed in line with critical care core standards. Electronic prescribing tools should be introduced for use within the unit.**

A trust wide antimicrobial steering committee was in place. This team centrally reviews audit results, anti-microbial usage and incidents.

The trust antimicrobial pharmacist advised that antimicrobial usage was reviewed in 2012 as part of a Point Prevalence Survey. The survey identified that approximately 60 per cent was achieved in compliance with local antimicrobial policy. An agreed action plan to improve practice was not available.

20. **It is recommended that staff develop an action plan to improve the practice of antimicrobial prescribing when audit scores identify poor practice.**

Inspectors noted that antimicrobial usage is not routinely audited in line with current antimicrobial prescribing guidance. Inspectors were informed that the pharmacy team have developed a new programme of audit to commence in May 2015. All trust wards will have a yearly point prevalent audit, with an educational session on antimicrobial prescribing.

21. **It is recommended that the pharmacy team continues to develop the trust audit programme. Antimicrobial usage within the unit should be routinely audited in line with current antimicrobial prescribing guidance.**

A review of patients' notes identified that when antimicrobials are newly prescribed, the rationale for the decision to prescribe is not documented in the patients' medical notes until the following day. Anaesthetic staff at the feedback session reaffirmed this.

22. **It is recommended that when medications are prescribed the rationale for this decision is documented in patients' medical notes simultaneously.**

4.5 Clostridium *difficile* infection (CDI)

The detection and treatment of CDI should be carried out in line with best practice guidance. For organisations to comply with this section they must ensure that guidance on care is in place, staff display knowledge and implement the guidance and adherence to best practice is monitored.

The unit achieved compliance in this section of the audit tool. Inspectors were unable to observe practice at the time of the inspection. Evidence of practice was obtained through review of documentation and speaking with staff.

Up to date guidance and a care pathway on the management of CDI was available and known to staff. A new CDI policy had been developed and updated to include a section on waste management.

Records indicate that there had been four patients with CDI in year 2013/14; there had been no cases of CDI reported in year 2014/15. Audit tools have been developed to monitor adherence with the management of CDI, to include completion of the care pathway. These tools had not been completed to monitor adherence with the management of CDI in the four reported cases in 2013/14.

23. **It is recommended that adherence to the management of alert organisms (CDI and MRSA) is audited, to include the completion of the relevant care pathway.**

The management of CDI patients was further reviewed as part of the RCA process. An antibiotic policy was in place for patients who have or are suspected with CDI. The appropriate antibiotic prescribing is reviewed at daily ward rounds.

The IPCN team record CDI surveillance data on formic forms. The data reports that currently 63.5 per cent of CDI patients throughout the trust are in isolation at the time of the positive result. Inspectors were informed that the CSICU had achieved 100 per cent in isolation at the time of the positive result. This is a commendable achievement considering the limitations in side room availability within the unit. Unit sisters were unaware of this data at the time of the inspection.

(As per recommendation 4)

4.6 Surgical site infection (SSI)

Surgical site infection (SSI) is a type of healthcare associated infection, in which a wound infection occurs after an invasive (surgical) procedure. The majority of surgical site infections are preventable. For organisations to comply with this section they must ensure that systems and processes are in place throughout perioperative (pre, intra and post-operative) care to reduce the risk of infection. A programme of surgical site infection surveillance should be in line with DHSSPS guidance.

A review of the trust and unit in the management of SSI identified compliance in this section of the audit tool. Information was obtained from discussion with IPC staff, unit staff and a review of individual patients' records.

The trust undertakes mandatory reporting SSI surveillance to the PHA on cardiac surgery, orthopaedic surgery, neurosurgery and caesarean section delivery. Results of surveillance are reviewed at the Peri Operative Improvement Team.

The cardiac SSI Surveillance rate in 2014 averaged at 1.25 per cent. Unit sisters were unaware of this rate during the inspection.

(As per recommendation 4)

Although inspectors were unable to observe practices in relation to pre-operative care, staff knowledge in reducing the risk of infection in the post-operative period was good.

4.7 Ventilated (or tracheostomy) care

Ventilator-associated pneumonia (VAP) is pneumonia that develops 48 hours or longer after mechanical ventilation is given by means of an endotracheal tube or tracheostomy. For organisations to comply with this section they must ensure that guidance on the prevention and care of a patient with VAP is in place and monitored.

Full compliance was achieved in this section of the audit tool. A ventilator care bundle with critical care points was available. Staff were knowledgeable on the prevention and care of VAP. There had been no VAP cases reported within the unit since August 2013. In February 2015, 99.4 per cent compliance was reported with the VAP care bundle.

4.8 Enteral feeding or tube feeding

Enteral feeding or tube feeding is defined as a mode of feeding that delivers nutrients directly into the stomach, duodenum or jejunum (gastrostomy, jejunostomy, naso/orogastric tubes). For organisations to comply with this section staff should display awareness of guidelines for the management of an enteral feeding system; insertion, set up and care. Adherence to best practice should be monitored.

Compliance was achieved in this section of the audit tool. Evidence of practice was obtained through observation, review of documentation and speaking with staff. Enteral feeding policy/guidance was available for CSICU and the trust. The trust policy was due for review in October 2014.

(As per recommendation 12)

Enteral feed was stored and disposed of as per trust policy and in line with best practice. Staff had good knowledge on the management of an enteral feeding system; insertion, administration, set up and care. When necessary, staff adhered to guidance on the care of a stoma site from the trust stoma nurse.

Decanting feeds can occur at the bedside. The trolley used has a small surface area, new larger trolleys should be considered.

Inspectors were informed that long term staff are trained on nasogastric awareness as part of their mandatory training programme. Records evidence that attendance at this training needs improvement.

(As per recommendation 13)

Inspectors observed that enteral feeding systems are not labelled however this is not currently part of trust policy. There is variation in staff completion of the nasogastric record form and completion of details including: pH, size of the tube inserted and inserted by.

(As per recommendation 14)

Inspectors note that there are currently no systems in place to monitor compliance with enteral feeding protocol and guidance.

24. **It is recommended that the trust enteral feeding policy be updated in line with best practice and a system to monitor compliance with best practice developed.**

4.9 Screening for Meticillin Resistant Staphylococcus Aureus (MRSA) colonisation and decolonisation

The detection and treatment of MRSA should be carried out in line with DHSSPS Best Practice on Screening for MRSA Colonisation (HSS MD 12/2008). For organisations to comply with this section they must ensure that a screening and treatment policy is in place, staff display knowledge of the policy and adherence to best practice is monitored.

The unit achieved compliance in this section of the audit tool. Evidence of practice was obtained through observation, a review of documentation and speaking with staff. All patients on admission to the unit for elective surgery or emergency surgery are screened for MRSA.

An updated MRSA screening and treatment policy and care pathway is in place. Audit tools have been developed to monitor adherence with the management of MRSA, to include completion of the care pathway and isolation. These audits had not been completed by ward staff and IPC independently.

(As per recommendation 23)

Due to the limited number of isolation rooms, one patient colonised with MRSA was not isolated. This case had been risk assessed and reviewed in conjunction with the IPC Team.

The management of patients that have had an MRSA bacteraemia were further reviewed as part of the RCA process. An RCA is initiated within five days of the event. Findings of the RCA were reported to unit staff at team meetings and safety briefs, and to the senior management team at the HCAI management meetings. The last MRSA bacteraemia reported within the unit was January 2009. Staff are commended for this achievement.

5.0 Inspection Findings: Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool

The Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool provide a common set of overarching standards for all hospitals and other healthcare facilities in Northern Ireland. Inspections using the audit tool gather information from observations in functional areas including, direct questioning and observation of clinical practice and, where appropriate, review of relevant documentation.

The audit tool is comprised of the following sections:

- organisational systems and governance
- general environment
- patient linen
- waste and sharps
- patient equipment
- hygiene factors
- hygiene practices

The section on organisational systems and governance was not reviewed during this unannounced inspection.

Standard 2: General Environment

For organisations to comply with this standard they must provide an environment which is well maintained, visibly clean, free from dust and soilage. A clean, tidy and well maintained environment is an important foundation to promote patient, visitor and staff confidence and support other infection prevention and control measures.

The Regional Healthcare Hygiene and Cleanliness Audit Tool Compliance Levels

General environment	
Reception	90
Corridors, stairs lift	96
Public toilets	95
Ward/department - general (communal)	100
Patient bed area	96
Bathroom/washroom	N/A
Toilet	N/A
Clinical room/treatment room (Pharmacy room)	90
Clean utility room	97
Dirty utility room	87
Domestic store	93
Kitchen	N/A
Equipment store	N/A
Isolation	98
General information	93
Average Score	**94**

The findings in the table above indicate that the general environment and cleaning in the critical care unit was of an excellent standard.

The hospital entrance and reception is the first area of a hospital building that most users encounter. This area should instil a reassuring and welcoming sense of calm, safety and cleanliness. A high standard of cleanliness in these public areas promotes public confidence in the cleaning standards set by the hospital.

The reception area, public toilets and corridors leading to the wards were generally clean and maintenance and repair was of a good standard. There was chewing gum debris present around the entrance doors. The barrier mat at the main reception entrance required cleaning, temporary repairs had been made to the reception floor with industrial tape and some wood surfaces were worn.

The key findings in respect of the general environment for the unit are detailed in the following section.

Critical Care Unit

Within the environment section of the audit tool inspectors found excellent compliance with the standard of cleaning. The issues identified for improvement in this section of the audit tool were:

- There was damage to some walls, doors, door frames, shelves and sanitary ware. External windows, difficult to access areas, some horizontal surfaces, the vinyl exterior cover of a mattress and the inside door of the bedpan washer disinfector, required cleaning.
- The documentation for recording the drug fridge temperatures in the pharmacy room did not detail guidance on temperature ranges or actions to be taken. The fridge at the nurses' station in ICU required cleaning.
- Nursing cleaning schedules did not fully detail all equipment and staff responsibilities. There had been no equipment cleaning validation audits completed.
- There was no poster on the segregation of used linen; some posters were taped to the walls and cupboards with adhesive tape.

Recommendations

25. **It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair. Adhesive tape and labels should not be used on surfaces.**

26. **It is recommended that nursing cleaning schedules should detail all available equipment and outline staff responsibilities. The schedules should be audited by senior staff.**

27. **It is recommended that fridge temperature documentation includes recommended temperature ranges and any necessary actions required when temperatures deviate.**

Standard 3: Patient Linen

For organisations to comply with this standard, patient linen should be clean, free of damage, handled safely and stored in a clean and tidy environment. The provision of an adequate laundry service is a fundamental requirement of direct patient care. Linen should be managed in accordance with HSG 95(18) and once published the final DHSSPS Policy for Provision of Health and Social Care Laundry and Linen Services.

Compliance of Patient Linen

Patient linen	
Storage of clean linen	90
Storage of used linen	81
Laundry facilities	N/A
Average Score	**86**

The above table indicates that although overall compliance was achieved in the management of patient linen. The storage of used linen requires improvement to bring the score to a compliant level.

Issues identified for improvement in this section of the audit tool were:

- On a bed that had been prepared for the arrival of a new patient, inspectors observed footprints on the bed sheet. The pillow case was creased and had traces of makeup.
- A member of staff was observed carrying used linen to the dirty utility room; the nurse was not wearing a disposable apron.
- Some linen bags were more than 2/3 full. Filled bags were stored on a cage in the middle of the HDU, beside the emergency exit.

Recommendations

28. It is recommended that staff ensure that linen is visibly clean.

29. It is recommended that linen skips are not overfilled and staff investigate alternative options for the storage of used linen bags.

30. Staff should adhere to best infection prevention and control practices in the management of used linen. Posters on the segregation of linen should be available for staff to reference.

Standard 4: Waste and Sharps

For organisations to comply with this standard they must ensure that waste is managed in accordance with HTM07-01 and Hazardous Waste (Northern Ireland) Regulations (2005). The safe segregation, handling, transport and disposal of waste and sharps can, if not properly managed, present risks to the health and safety of staff, patients, the public and the environment.

Waste bins in all clinical areas should be labelled, foot operated and encased. This promotes appropriate segregation, and prevents contamination of hands from handling the waste bin lids. Inappropriate waste segregation can be a potential hazard and can increase the cost of waste disposal.

Sharps boxes must be labelled and signed on assembly and disposal. Identification of the origin of sharps waste in the event of spillage or injury to staff is essential. This assists in the immediate risk assessment process following a sharps injury.

Compliance of Waste and Sharps

Waste and sharps	
Handling, segregation, storage, waste	98
Availability, use, storage of sharps	95

4.1 Management of Waste

The above table indicates that the unit achieved good overall compliance in the management of waste. Issues identified for improvement in this section of the audit tool were:

- There was inappropriate waste in a purple lidded pharmaceutical waste bin within the dirty utility room. Items included a small sharps box and a laryngoscope blade and handle (Picture 3).

Picture 3: Sharps box and laryngoscope handle and blade in pharmaceutical waste bin

4.2 Management of Sharps

The above table indicates that the unit achieved good overall compliance in the management of sharps. Issues identified for improvement in this section of the audit tool were:

- The temporary closure mechanism on two sharps boxes was not deployed when not in use.

Recommendation

31. **It is recommended that all unit staff follow trust policies in the management of waste and sharps.**

Standard 5: Patient Equipment

For organisations to comply with this standard they must ensure that patient equipment is appropriately decontaminated. The Northern Ireland Regional Infection Prevention and Control Manual, states that all staff that have specific responsibilities for cleaning of equipment must be familiar with the agents to be used and the procedures involved. COSHH regulations must be adhered to when using chemical disinfectants.

Any unit, department or facility which has an item of equipment should produce a decontamination protocol for that item. This should be in keeping with the principles of disinfection and the manufacturer's instructions.

Compliance of Patient Equipment

Patient equipment	
Patient equipment	95

The above table indicates that the unit achieved good overall compliance in this standard.

The issues identified for improvement in this section of the audit tool were:

- Trigger tape was not used on clean commodes to indicate the commodes were clean.
- The blood gas machine in ICU was blood stained.
- Labels were attached to the drugs' trolley with adhesive tape.
- The dressing trolley in the pharmacy room had an IV stand attached with porous tape.
- The procedure trolley in the Labs room was not fit for purpose. Its wooden frame was unsealed and therefore could not effectively be decontaminated; makeshift repairs had been made to the trolley with tape (Picture 4).

Picture 4: Wooden framed procedure trolley

Recommendation

32. **It is recommended that general patient equipment must be clean, stored correctly and in a good state of repair. Trigger tape should be used consistently to identify items of equipment that have been cleaned.**

Standard 6: Hygiene Factors

For organisations to comply with this standard they must ensure that a range of fixtures, fittings and equipment is available so that hygiene practices can be carried out effectively.

Compliance of Hygiene Factors

Hygiene factors	
Availability and cleanliness of wash hand basin and consumables	99
Availability of alcohol rub	100
Availability of PPE	100
Materials and equipment for cleaning	93
Average Score	**98**

The above table indicates that the unit achieved good overall compliance in this standard. Clinical hand washing sinks, consumables and PPE were readily available for staff to use. Issues identified for improvement in this section of the audit tool include:

- The number of clinical hand wash sinks within the unit is not in line with national guidance. There was no clinical hand wash sinks in the dirty utility and the pharmacy room.
- Cleaning/disinfectant products were not stored under locked conditions.
- The domestic trolley was left unattended in HDU for an extended period of time (day 1 of the inspection).
- Domestic equipment was stored in the back corridor; polisher and cleaning trolley. One of the domestic trolleys in ICU domestic store was dusty and stained.

Recommendations

33. **It is recommended that the unit cleaning staff ensure that all domestic cleaning equipment is clean and stored securely. All chemicals should be stored in line with COSHH guidance.**

34. **It is recommended that the number of clinical hand wash basins is reviewed in line with national guidance.**

Standard 7: Hygiene Practices

For organisations to comply with this standard they must ensure that healthcare hygiene practices are embedded into the delivery of care and related services.

Compliance of Hygiene Practices

Hygiene practices	
Effective hand hygiene procedures	90
Safe handling and disposal of sharps	100
Effective use of PPE	89
Correct use of isolation	88
Effective cleaning of ward	95
Staff uniform and work wear	79
Average Score	**90**

The above table indicates that the unit achieved good compliance in this standard. Overall staff demonstrated effective hand hygiene practices and adherence to trust policy on the correct isolation of patients and use of PPE. Improvement is required in relation to staff adherence to the trust dress code policy.

The issues identified for improvement in this section of the audit tool were:

- A member of medical staff did not perform hand hygiene before contact with a patient.
- Patients in HDU were not offered the opportunity for hand hygiene before meals.
- A member of cleaning staff and a health care assistant (HCA) did not wear an apron when cleaning a bed.
- Appropriate care planning was not in place for a patient identified with an alert organism.
- A HCA was not aware of the correct dilution rate for disinfectants when dealing with a blood or body spill.
- Some medical staff did not comply with trust hand hygiene policy. Inspectors observed medical staff wearing long sleeved jumpers, long sleeved blouses, suits and watches.
- A range of disciplines within the unit did not adhere to the trust dress code policy. Staff were observed with long unsecured hair; wearing stoned rings and earrings and a necklace.

35. **It is recommended that all staff adhere to the trust dress code and hand hygiene policies.**

36. **It is recommended that patients are offered the opportunity for hand hygiene before and after meals.**

37. **It is recommended that care plans/ care pathways are completed for patients identified with alert organisms.**

Other issues

Inspectors observed a number security issues that may facilitate unauthorised access to the unit.

- Inspectors observed that a door along the public corridor which leads to the unit pharmacy room was open. A sign on the door identified that the door is to be kept locked at all times.

- The public access door to the unit and the door at the back corridor, leading to an area where oxygen cylinders are stored, were not secured.

- The emergency access door from the unit was being regularly used by staff as a short cut to the car parking area and to the King Edward building.

38. **It is recommended the trust review security arrangements within the unit to prevent issues of unauthorised access.**

6.0 Summary of Recommendations

The Regional Critical Care Audit Tool

1. It is recommended that all staff disciplines within the unit are active participants in IPC initiatives.

2. It is recommended that the unit IPC lead has adequate and protected time to undertake the responsibilities involved within the role.

3. It is recommended that infection prevention and control staffing levels are reviewed to facilitate daily visits to the unit.

4. It is recommended that IPC should be a standing item on the agenda of all unit and staff meetings. All clinical staff should be routinely updated on relevant IPC performance data.

5. It is recommended that all staff attend mandatory IPC training.

6. It is recommended that visitors/ relatives are provided with IPC guidance specific to the CSICU.

7. It is recommended that the trust continues with plans to relocate the CSICU within the hospital.

8. It is recommended that terminal cleans are signed off by Patient & Client Support Services staff or the nurse in charge, and randomly validated by Patient and Client Support Services supervisors.

9. It is recommended that staff ensure that if patient screening results are positive, the sending or receiving unit is informed of the results in a timely manner. Once approved, the communication flowchart for multi-resistant organisms should be introduced within the CSICU.

10. It is recommended that a programme of ANTT training and skills assessments is introduced for all clinical staff.

11. It is recommended that ANTT compliance is regularly audited, with action plans developed and implemented where compliance issues are identified. Independent validation audits should be carried out where audit scores identify poor practice.

12. It is recommended that all trust policies/guidelines are reviewed and updated as required to ensure continued accuracy of guidance for staff.

13. It is recommended that staff competence in the insertion and management of invasive devices, continues to be developed.

14. It is recommended that all relevant information is recorded in relation to the insertion and ongoing management of invasive devices. Invasive device observation charts should be commenced on insertion of the device.

15. It is recommended that all relevant information on the collection of blood cultures is consistently recorded.

16. It is recommended that staff devise an action plan to improve the practice of obtaining blood cultures when audit scores identify poor practice.

17. The rate of positive blood cultures and the incidence of false positive results within the unit should be routinely discussed by clinical, nursing and IPC staff.

18. It is recommended that a system should be developed to routinely monitor compliance with best practice when collecting blood cultures. Training updates should be provided for all relevant staff where infection rates or audit scores identify poor practice.

19. It is recommended that pharmacy cover within the unit is reviewed in line with critical care core standards. Electronic prescribing tools should be introduced for use within the unit.

20. It is recommended that staff develop an action plan to improve the practice of antimicrobial prescribing when audit scores identify poor practice.

21. It is recommended that the pharmacy team continues to develop the trust audit programme. Antimicrobial usage within the unit should be routinely audited in line with current antimicrobial prescribing guidance.

22. It is recommended that when medications are prescribed the rationale for this decision is documented in patients' medical notes simultaneously.

23. It is recommended that adherence to the management of alert organisms (CDI and MRSA) is audited, to include the completion of the relevant care pathway.

24. It is recommended that the trust enteral feeding policy be updated in line with best practice and a system to monitor compliance with best practice developed.

Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool

Standard 2: Environment

25. It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair. Adhesive tape and labels should not be used on surfaces.

26. It is recommended that nursing cleaning schedules should detail all available equipment and outline staff responsibilities. The schedules should be audited by senior staff.

27. It is recommended that fridge temperature documentation includes recommended temperature ranges and any necessary actions required when temperatures deviate.

Standard 3: Patient Linen

28. It is recommended that staff ensure that linen is visibly clean.

29. It is recommended that linen skips are not overfilled and staff investigate alternative options for the storage of used linen bags.

30. Staff should adhere to best infection prevention and control practices in the management of used linen. Posters on the segregation of linen should be available for staff to reference.

Standard 4: Waste and Sharps

31. It is recommended that all unit staff follow trust policies in the management of waste and sharps.

Standard 5: Patient Equipment

32. It is recommended that general patient equipment must be clean, stored correctly and in a good state of repair. Trigger tape should be used consistently to identify items of equipment that have been cleaned.

Standard 6: Hygiene Factors

33. It is recommended that the unit cleaning staff ensure that all domestic cleaning equipment is clean and stored securely. All chemicals should be stored in line with COSHH guidance.

34. It is recommended that the number of clinical hand wash basins is reviewed in line with national guidance.

Standard 7: Hygiene Practices

35. It is recommended that all staff adhere to the trust dress code and hand hygiene policies.

36. It is recommended that patients are offered the opportunity for hand hygiene before and after meals.

37. It is recommended that care plans/ care pathways are completed for patients identified with alert organisms.

38. It is recommended the trust review security arrangements within the unit to prevent issues of unauthorised access.

7.0 Key Personnel and Information

Members of RQIA's Inspection Team

Thomas Hughes	Inspector Infection Prevention/Hygiene Team
Sheelagh O'Connor	Inspector Infection Prevention/Hygiene Team
Margaret Keating	Inspector Infection Prevention/Hygiene Team

Trust Representatives attending the Feedback Session

The key findings of the inspection were outlined to the following trust representatives:

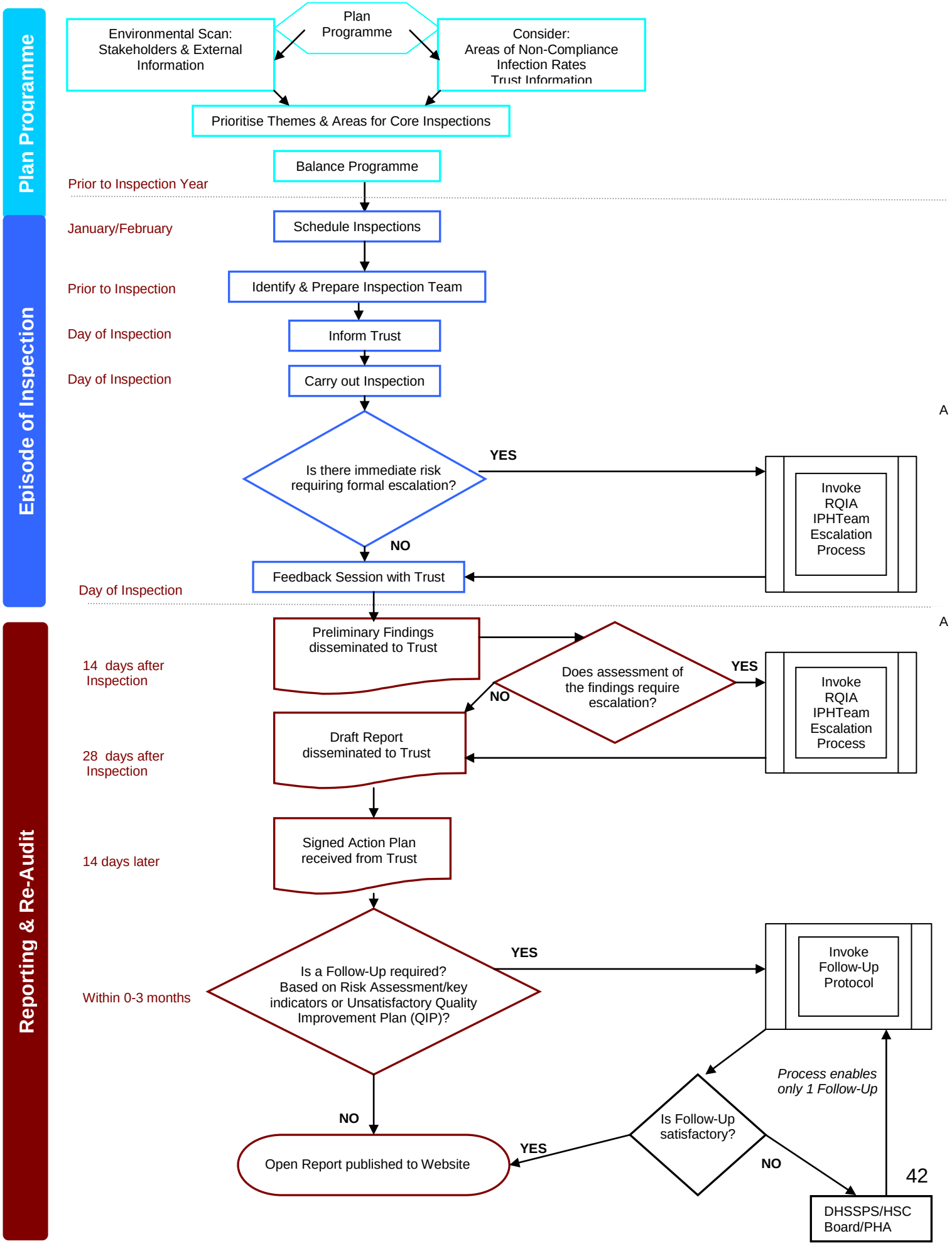
Mr D Robinson	Co-Director Nursing
Ms K McClenaghan	Service Manager, Surgery and Specialist Directorate
Ms H Gililand	Consultant Anaesthetist
Ms C O'Neill	Sister CSICU
Ms S Forsythe	Deputy Sister CSICU
Ms O Boyd	PCSS Head of Service WBH
Ms M Robinson	PCSS Operations Manager
Ms I Thompson	Lead Nurse IPC
Ms R Gillan	Infection Prevention and Control Nurse
Ms R Finn	Infection Prevention and Control Nurse
Mr J Ravey	Senior Estates Officer
Mr P Gibson	Admin Team Leader

8.0 Augmented Care Areas

Based on DHSSPS guidance, the augmented care areas currently identified for inclusion in inspections are:

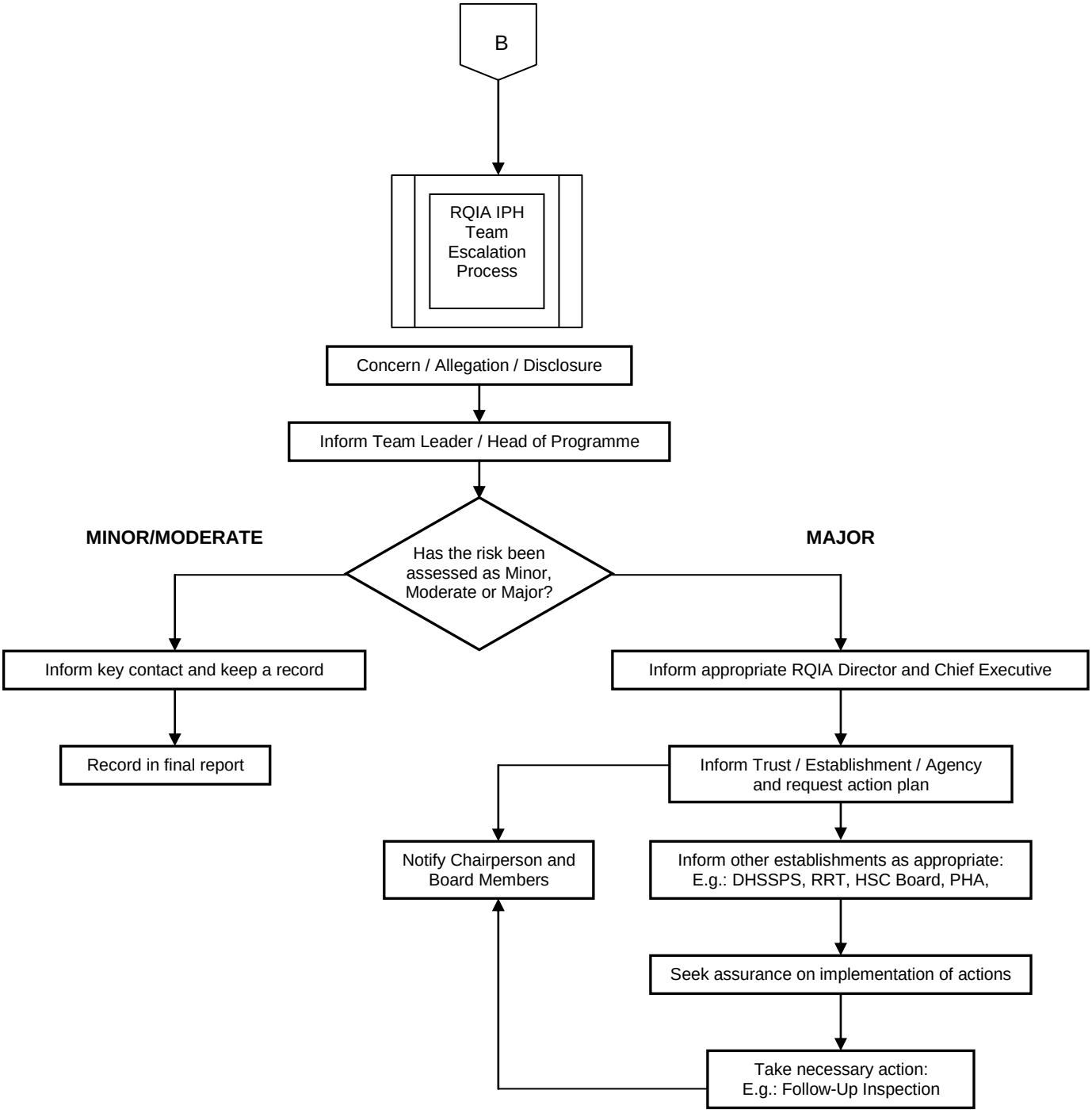
- neonatal and special care baby units
- paediatric intensive care
- all adult intensive care which includes cardiac intensive care
- burns units
- renal (dialysis) units
- renal transplant unit
- high dependency units (HDU)
- haematology
- oncology

9.0 Unannounced Inspection Flowchart



10.0 Escalation Process

RQIA Hygiene Team: Escalation Process



11.0 Quality Improvement Plan

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
The Regional Critical Care Audit Tool				
1.	It is recommended that all staff disciplines within the unit are active participants in IPC initiatives.	CSICU CSICU Link Nurse	This issue has been raised at the Critical Care Operational Group (CCOG) Meeting on March 31st 2015 and via the CSICU link nurse meetings. It was agreed at this meeting that the anaesthetists would identify a clinical champion for infection control. Multidisciplinary members will be identified to join the group and will be invited to link team meetings four monthly.	August 2015
2.	It is recommended that the unit IPC lead has adequate and protected time to undertake the responsibilities involved within the role.	CSICU	6 hours per month protected time has been allocated to the CSICU IPC Lead. It has been agreed that this time will be prioritised and will be reassessed in 6 months.	May 2015 October 2015
3.	It is recommended that infection prevention and control staffing levels are reviewed to facilitate daily visits to the unit.	IPC	Current staffing levels will not permit daily CSICU visits; however weekly visits will take place and these visits increase when there is an issue i.e. increased incidence of infection. The IPCN will undertake 6 monthly audits	On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			to include ANTT, PPE, hand hygiene and more frequently as issues arise.	
4.	It is recommended that IPC should be a standing item on the agenda of all unit and staff meetings. All clinical staff should be routinely updated on relevant IPC performance data.	CSICU Clinical Director Cardiothoracic Surgery / Clinical Lead Cardiothoracic Anaesthetics	IPC is included in all nursing staff meetings. IPC issues will now be included in the CCOG meetings. Clinical Leads to identify the forum for discussing and disseminating IPC issues among the wider medical teams. Information on IPC is cascaded to members of the team via the communication book, (which is available to all disciplines) newsletter (which will be emailed to all disciplines) and by email. A record of minutes of all nursing meetings is available to staff. There is an IPC site on the Trust hub for staff to reference. This will be brought to the attention of all disciplines.	On-going June 2015 Include all staff (not just nursing) from next issue June 2015
5.	It is recommended that all staff attend mandatory IPC training.	CSICU	Nursing Sisters, Clinical Director Surgery & Clinical Lead Anaesthetist, to action and ensure all staff in their teams receive training.	On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			The use of E-learning, when implemented will help facilitate this training. A further work station will be identified for CSICU staff to facilitate e-learning.	
6.	It is recommended that visitors/ relatives are provided with IPC guidance specific to the CSICU.	CSICU	A patient information leaflet is being devised and will be updated as necessary following any new IPC guidance.	September 2015
7.	It is recommended that the Trust continues with plans to relocate the CSICU within the hospital.	Cardio-Thoracic Management	This will follow the opening of the new building and relocation of RICU to same.	To be confirmed
8.	It is recommended that terminal cleans are signed off by Patient & Client Support Services staff or the nurse in charge, and randomly validated by Patient and Client Support Services supervisors.	PCCS	Discussions on-going between Nursing and PCCS as to how this will be implemented and recorded following terminal clean of vacated 'infected' bed space.	May 2015
9.	It is recommended that staff ensure that if patient screening results are positive, the sending or receiving unit is informed of the results in a timely manner. Once approved, the communication flowchart for multi-resistant organisms should be introduced within the CSICU.	CSICU	General communication flowchart has been finalised and will be implemented by clinical team. Screening for MRSA takes place at pre-operative assessment and screening in CSICU is only carried out on emergency admissions.	May 2015

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
The Regional Clinical Practices Audit Tools				
10.	It is recommended that a programme of ANTT training and skills assessments is introduced for all clinical staff.	CSICU	Nursing Sisters, Clinical Director Surgery and Lead Anaesthetist will ensure this is improved for all Nursing staff and introduced for Surgical and Anaesthetic staff. Surgical and Anaesthetic staff assessors will be identified who will lead on assessment for their teams.	On-going
11.	It is recommended that ANTT compliance is regularly audited, with action plans developed and implemented where compliance issues are identified. Independent validation audits should be carried out where audit scores identify poor practice.	CSICU Sisters IPCN	An identified member of the Nursing Infection Control Link Team will carry out monthly ANTT audits and action plans will be implemented. The IPC Nurse will also undertake 6 monthly audits.	On-going
12.	It is recommended that all trust policies/guidelines are reviewed and updated as required to ensure continued accuracy of guidance for staff.	Corporate Nursing	Policy for the insertion and on-going management of invasive devices will be reviewed.	December 2015
13.	It is recommended that staff competence in the insertion and management of invasive devices, continues to be developed.	CSICU	Staff members will be supported and appropriate training given, as need identified.	On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
14.	It is recommended that all relevant information is recorded in relation to the insertion and on-going management of invasive devices. Invasive device observation charts should be commenced on insertion of the device.	CSICU	Anaesthetists discussing appropriate method of where and what to record, regarding peripheral line, central & arterial line insertion including batch numbers. For further discussion at next Critical Care Operational Group (CCOG) to agree actions. The process for commencing the peripheral venous catheter documentation on peripheral line insertion is under review within CSICU.	On-going
15.	It is recommended that all relevant information on the collection of blood cultures is consistently recorded.	Clinical Director Surgery/Lead Anaesthetics	Discuss at CCOG and agree implementation plan. There is guidance on collection of blood cultures on the Trust hub which is available for all staff. Review Trust guidance on collection of blood cultures and adapt appropriately for use in the cardiac surgical unit. This will include appropriate documentation in the notes.	June 2015 December 2015
16.	It is recommended that staff devise an action plan to improve the practice of obtaining blood cultures when audit scores identify poor practice.	Consultant Anaesthetist / Governance Lead Cardiac	Review Trust guidance on collection of blood cultures and adapt appropriately for use in the cardiac surgical unit.	September 2015

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
		Surgery	Guidance for the collection of blood cultures in CSICU to be given to all medical staff.	On-going
17.	The rate of positive blood cultures and the incidence of false positive results within the unit should be routinely discussed by clinical, nursing and IPC staff.	IPCN & Clinical Director Surgery/Lead Anaesthetics	Data will be circulated to clinical Director Surgery, Clinical Lead and Nursing Sisters in CSICU by IPCN. This information will be cascaded to all members of the Surgical, Medical and Nursing Team. IPC issues to be an agenda item on CCOG meeting, IPCN to be invited to future meetings	June 2015 On-going On-going
18.	It is recommended that a system should be developed to routinely monitor compliance with best practice when collecting blood cultures. Training updates should be provided for all relevant staff where infection rates or audit scores identify poor practice.	Clinical Director Surgery/ Anaesthetic Lead	Development of a monitoring system for compliance will be discussed at CCOG Training updates will be provided for all relevant staff where infection rates or audit scores identify poor practice. There is an ANTT Trust Policy which incorporates blood culture taking and this would be part of ANTT auditing and training. CSICU adaptation of blood culture taking to be incorporated.	December 15 On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
19.	It is recommended that pharmacy cover within the unit is reviewed in line with critical care core standards. Electronic prescribing tools such as CareVue should be introduced for use within the unit.	Pharmacy Anaesthetic Lead	A Business case for 1 WTE Pharmacist to work between CSICU and the cardio-thoracic ward (5A) will be drafted by pharmacy. There are electronic drug sheets in place in CSICU/HDU which are updated daily. The use of CareVue, which will include drug prescribing, will be implemented, pending funding, as part of the CSICU move to new accommodation. The date for the move is to be confirmed.	December 2015
20.	It is recommended that staff develop an action plan to improve the practice of antimicrobial prescribing when audit scores identify poor practice.	Pharmacy	First Antimicrobial Stewardship plan for CSICU is drafted for circulation and comment. This details the standards and the audit programme are contained in this document. There should be a minimum of one training session for Medical and Nursing staff per year, facilitated by Antimicrobial Steering Committee	December 2015
21.	It is recommended that the pharmacy team continue to develop the Trust audit programme. Antimicrobial usage within the unit should be routinely audited in line with current antimicrobial prescribing guidance.	Pharmacy	The details, the standards, and the audit programme are contained in Antimicrobial Stewardship plan for CSICU	December 2015

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
22.	It is recommended that when medications are prescribed the rationale for this decision is documented in patients' medical notes simultaneously.	Clinical Director Surgery Lead Anaesthetics	Following the microbiology daily ward round, any new microbiological findings and antibiotic prescribing advice is documented in the notes.	On-going
23.	It is recommended that adherence to the management of alert organisms (CDI and MRSA) is audited, to include the completion of the relevant care pathway.	IPCN	Staff will utilise relevant care pathways as required and the CSICU IPC Link team, in conjunction with the IPC Team, will audit this documentation when applicable (i.e. When there is a patient with an alert organism in the unit).	On-going
24.	It is recommended that the Trust enteral feeding policy be updated in line with best practice and a system to monitor compliance with best practice developed.	Corporate Nursing	The Trust enteral feeding policy will be updated in line with best practice and a system to monitor compliance with best practice developed.	December 2015
Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool Standard 2: Environment				
25.	It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair. Adhesive tape and labels should not be used on surfaces.	CSICU PCCS	Nursing staff will highlight furniture, fixtures and fittings that need repair and arrange same. PCCS staff to follow daily work cleaning schedule. All staff will be informed via team meetings/staff bulletin that adhesive tape	On-going June 2015

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			and labels should not be used on surfaces.	
26.	It is recommended that nursing cleaning schedules should detail all available equipment and outline staff responsibilities. The schedules should be audited by senior staff.	CSICU	A cleaning schedule following the Trust recommendations has been updated and will be audited monthly by a member of the IPCT Link Team.	May 2015
27.	It is recommended that fridge temperature documentation includes recommended temperature ranges and any necessary actions required when temperatures deviate.	CSICU	The current fridge temperature document will be updated to include; the recommended temperature range, and provide guidance on action required, if temperature falls outside this range.	June 2015
Standard 3: Patient Linen				
28.	It is recommended that staff ensure that linen is visibly clean.	CSICU	Recommendations from this report, and completed action plan will be shared with all staff in the unit.	On-going
29.	It is recommended that linen skips are not overfilled and staff investigate alternative options for the storage of used linen bags.	CSICU	Attention has been drawn to this point with posters on linen storage and segregation guidance erected. Options for alternative storage have been previously explored and a suitable area for storage could not be identified. This will be addressed in the preparation for the CSICU move. Linen is removed from the unit at regular	May 2015 May 2016 On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			intervals throughout the day. Weekly audit by Sister CSICU.	
30.	Staff should adhere to best infection prevention and control practices in the management of used linen. Posters on the segregation of linen should be available for staff to reference.	CSICU All Nursing staff	See points 28 & 29. Posters on Linen storage and segregation guidance erected. Weekly audit by Sister CSICU.	On-going
Standard 4: Waste and Sharps				
31.	It is recommended that all unit staff follow Trust policies in the management of waste and sharps.	CSICU	The CSICU Sharps Box Audit team (nursing) undertakes weekly audits and will feedback results and recommendations to staff at staff meetings, including CCOG; via the communication book, newsletter and notice board.	Ongoing
Standard 5: Patient Equipment				
32.	It is recommended that general patient equipment must be clean, stored correctly and in a good state of repair. Trigger tape should be used consistently to identify items of equipment that have been cleaned.	CSICU All Nursing staff	This recommendation is currently being cascaded to all staff. Nursing staff now complete an equipment record for each patient. Equipment will be repaired / replaced as necessary. The wooden trolley in the Labs room will	On-going June 2015 May 2015

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			be replaced. New trigger tape will be ordered and will be attached to all pieces of equipment when cleaned. CSICU Sisters and Cardiac Technicians will audit weekly.	 On-going On-going
Standard 6: Hygiene Factors				
33.	It is recommended that the unit cleaning staff ensure that all domestic cleaning equipment is clean and stored securely. All chemicals should be stored in line with COSHH guidance.	PCCS	All PCCS staff to attend Health and Safety training. PCCS staff have been reminded of good working practices involving cleaning equipment. Weekly Observational checks by Domestic Supervisor signed off by Nursing	December 2015
34.	It is recommended that the number of clinical hand wash basins is reviewed in line with national guidance.	ICPN CSICU	Hand washing basins in CSICU do not meet national guidance of one per bed space; however this recommendation will be fully considered when preparations for re-locating take place. Hand sanitizers are available at all bed spaces for staff and visitor use.	On-going

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			One wash had basin in CSICU and one in HDU is used as a safe water source for patients; this is not used for hand hygiene.	
Standard 7: Hygiene Practices				
35.	It is recommended that all staff adhere to the Trust dress code and hand hygiene policies.	CSICU Clinical Director Surgery / Lead Anaesthetist	This will be brought to the attention of all multidisciplinary leads to share with their teams and ensure their staff are reminded of both the dress code and hand hygiene policies. Staff on CSICU will be approached as necessary to ensure policies are adhered to.	On-going
36.	It is recommended that patients are offered the opportunity for hand hygiene before and after meals.	CSICU	Individual hand wipes are now available for patients before and after meals.	On-going
37.	It is recommended that care plans/care pathways are completed for patients identified with alert organisms	IPCT	A care plan will be agreed and implemented.	December 2015
38.	It is recommended the Trust review security arrangements within the unit to prevent issues of unauthorised access.	Estates CSICU	Estates Officer and CSICU will review security in line with recommendation and action as necessary.	June 2015

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