



The **Regulation** and
Quality Improvement
Authority

The Regulation and Quality Improvement Authority

**Unannounced Infection
Prevention/Hygiene Augmented Care Inspection**

Mater Hospital Critical Care Unit

29 and 30 April 2014

Assurance, Challenge and Improvement in 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.

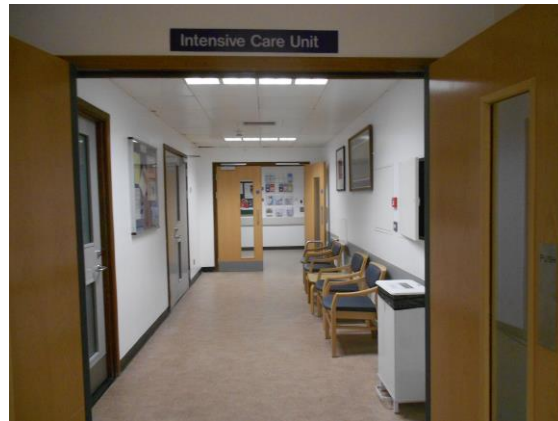
RQIA also carries out announced inspections. These examine the governance arrangements and systems in place to ensure that infection prevention and control and environmental cleanliness policies and procedures are working in practice.

Contents

1.0	Inspection Summary	4
2.0	Overall Compliance Rates	6
3.0	Inspection Findings: Regional Critical Care Infection Prevention and Control Audit Tool	8
4.0	Inspection Findings: Regional Infection Prevention and Control Clinical Practices Audit Tool	19
5.0	Inspection Findings: Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool	27
6.0	Summary of Recommendations	38
7.0	Key Personnel and Information	42
8.0	Augmented Care Areas	43
9.0	Unannounced Inspection Flowchart	44
10.0	Escalation Process	45
11.0	Quality Improvement Plan	46

1.0 Inspection Summary

An unannounced inspection was undertaken to the Mater Hospital Critical Care Unit (CCU), on 29 and 30 April 2014. The inspection team comprised of four RQIA inspectors. Details of the inspection team and trust representatives attending the feedback session can be found in Section 7.



Picture 1: Mater Hospital Unit

The 6 bed critical care unit, based at the Mater Hospital site, is part of the Belfast Health and Social Care Trust (Picture 1). It is commissioned for 3 intensive care and 3 high dependency care beds.

The unit provides intensive care services to patients with life threatening illness, following major, complex surgery and following serious accidents. Patients in high dependency care are generally less ill than those in critical care but still require organ support e.g. to help maintain blood pressure, which cannot be provided in an ordinary ward.

In November 2013 the unit was refurbished, improving storage and the general environment for the delivery of patient care. Further upgrading to increase and improve side room facilities is planned.

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 critical care unit at the Mater Hospital was working to comply with the regional 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 were:

- local governance systems and processes
- layout, design and storage within the unit
- audit of practice and adherence to policy

Inspectors observed the following areas of good practice:

- introduced 'The 5 Safe Behaviours' as a commitment to safety and quality refurbishment and planned upgrading of side room facilities
- refurbishment of unit in November 2013
- computer aided antimicrobial prescribing tool

The inspection resulted in 37 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 HSC Trust (BHSCT), and in particular all staff at Mater Hospital Critical Care Unit 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

Areas inspected	Compliance Level
Local governance systems and processes	77
General environment - layout and design	75
General environment - environmental cleaning	88
General environment - water safety	95
Critical Care clinical and care practice	86
Critical Care patient equipment	86
Average Score	85

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

Areas inspected	Compliance Level
Aseptic non touch technique (ANTT)	80
Invasive devices	88
Taking blood cultures	71*
Antimicrobial prescribing	93
Clostridium <i>difficile</i> infection (CDI)	90*
Surgical site infection	100
Ventilated (or tracheostomy) care	100
Enteral feeding or tube feeding	89*
Screening for meticillin resistant staphylococcus aureus (MRSA) colonisation and decolonisation	79*
Average Score	88

*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

Critical Care Unit	Compliance Level
Environment	93
Patient linen	97
Waste	94
Sharps	90
Equipment	87
Hygiene factors	97
Hygiene practices	94
Average Score	93

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	Compliance Levels
Local governance systems and processes	77
General environment - layout and design	75
General environment - environmental cleaning	88
General environment - water safety	95
Critical Care clinical and care practice	86
Critical Care patient equipment	86
Average Score	85

The findings indicate that whilst overall compliance was achieved in relation to the Regional Critical Care Infection Prevention and Control Audit Tool, inspectors identified areas for improvement in local governance and the layout and design of the environment.

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 partial compliance in this section of the audit tool.

Leadership and Management

The unit manager displayed good leadership, management and knowledge on infection prevention and control. Unit staff displayed good awareness in this area.

The unit has introduced 'The 5 Safe Behaviours' as a commitment to safety and quality. These focus on; attention to detail, clear communication, a questioning and receptive attitude, effective handover and support. It is hoped that the five behaviours staff commit to, will develop and strengthen the culture of safety for patients and staff.

The unit manager takes the lead in attending operational meetings specific to infection prevention and control (IPC). The unit has a dedicated IPC link nurse who attends infection prevention and control meetings. This is good practice as the DHSSPS document 'Changing the Culture' 2006 identifies that link staff need to have dedicated protected time for their infection prevention and control activities.

The unit has a dedicated trust IPC nurse to advise on the management of infection control issues, unit staff complemented this service. Inspectors were advised by unit staff that IPC staff do not visit the unit on a daily basis. Staff are available for advice by telephone, however an increase in visits does not always occur for example, outbreak management, phone calls do increase.

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

IPC information is cascaded down to staff for learning via staff meetings, communication folder and safety huddles. Although audit and incidents are discussed under 'Safety', the local staff meeting agenda should further define these topics to ensure they are always discussed. The IPC nurse provides feedback to staff at meetings however this is not formalised as a standard item on the staff meeting agenda. There is no standardised document used by staff when carrying out safety huddles to ensure continuity of information discussed and disseminated.

2. It is recommended that audits, incidents and feedback from link nurses should become a standard item on local staff meeting agenda. Documentation used by staff carrying out safety huddles should be standardised.

Inspectors were informed that the ratio of nursing and domestic staff is reviewed and increased when required, for example, during an outbreak. Trust bank nurse staff can be used to supplement unit staffing levels. A recruitment programme is underway with two new staff recently employed and two new staff to be appointed in the near future; this will fill outstanding vacancies.

3. It is recommended that critical care recruitment should continue.

Unit staffing levels are maintained therefore beds are not closed due to staff shortage. Beds can be closed if the dependency of patients is above commissioned spaces i.e. five patients requiring intensive care, one bed closes as the maximum staffing levels of five nurses on duty have been reached.

Review of Documentation

The trust has a communication, learning and outcomes strategy for critical care. This sets out corporate responsibilities for information flow which includes learning and outcomes from improvement plans and trust targets. Serious adverse incidents, high impact interventions, care bundles, healthcare associated infection (HCAI), environmental cleanliness and hand hygiene are core components for discussion within the critical care strategy.

A review of documentation evidence a range of critical care meetings, from management level to frontline staff, which feed into each other e.g. critical care management team, senior nurse meeting, critical care network, senior sisters meeting, local sisters meeting, unit staff. These were attended by senior management; nursing and medical staff as appropriate and discuss core components of the strategy.

A process for root cause analysis, follow up and learning was in place for the management of serious adverse incidents. Incident reporting was discussed at staff meetings.

Accessing IPC policies and the ability to demonstrate a basic knowledge of these policies is included as part of nursing staff critical care preceptorship period. Inspectors identified that not all staff were aware that IPC critical care policies and procedures could be accessed via the intranet Unscheduled Care/Emergency Care HUB. At the time of inspection, only six policies specific to critical care were available on this section of the HUB. Staff were unable to locate a policy on Ventilator Associated Pneumonia. A number of clinical practice policies, required review. These are detailed in the section 4.0 of the report and should be reviewed as part of the HUB update.

- 4. It is recommended that the intranet Unscheduled Care/Emergency Care HUB should be updated to contain all policies relevant to critical care. All staff should be aware of how to access these policies.**

There was no trust overarching occupational health/infection prevention and control policy to identify that staff screening maybe carried out, for example in a vomiting and diarrhoea outbreak. Staff screening is discussed as part of the policy on the management of MRSA and Tuberculosis.

- 5. It is recommended that the trust should develop an overarching occupational health policy.**

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. Future plans to develop this system include hand held devices carried by maintenance staff for dispatching work; this will facilitate 'live working'.

Not all documentation required for evidence and outlined in the appendix of the audit tool was available on the first day of inspection for staff to reference.

Audit

Local and regional audits and the implementation of high impact interventions were undertaken to improve infection prevention and control practices and environmental cleanliness. Evidence was available to show that audit results were reported to unit staff. Inspectors observed that when a hand hygiene audit compliance rate was 80 per cent, there was no action plan in place to identify steps taken to improve practice, although compliance did improve to 90 per cent.

Hand hygiene audits are independently verified. Inspectors identified that an external validation audit was carried out in the unit. The audit tool used was not specific for augmented care areas and did not assess that alcohol hand decontamination was carried out following hand hygiene with soap and water.

- 6. It is recommended that when a decrease in infection prevention and control audit compliance is identified an action plan is developed. External validation hand hygiene audit tools should be specific for augmented care areas.**

The IPC nurse conducts independent audits on infection prevention and control in the unit. Audit information on infection prevention and control and environmental cleanliness is displayed on a notice board at the entrance to the unit.

Inspectors were informed that the unit plan to promote one high impact intervention every month to focus and maintain staff interest.

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 if infection.

Inspectors noted that infection prevention and control audit and microorganism local surveillance programmes were in place. These monitor and promote improvement in infection prevention and control practices and infection rates. A twice weekly microbiology ward round and local critical care management group review this data. This information is also reviewed trust wide as part of the healthcare associated infection improvement group.

Inspectors were informed that when infections are identified, staffing levels can be increased, to assist in the delivery of care and ensure adherence to good infection prevention and control practices.

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.

All unit staff have participated in the trust corporate welcome and introduction to the basic principles of IPC. IPC training is mandatory within the trust, only 56 per cent of unit staff have completed this training.

7. It is recommended that all critical care staff should attend IPC mandatory training.

Staff were aware of action to take when they have developed an infection, thus preventing the transmission of infection.

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, general visitor information, HCAI. The patient and visitor information leaflet should be updated to include the 7 step hand hygiene technique.

Relatives and visitors do receive information on hand hygiene however this does not explicitly detail information on the concept of bare below the elbow and where if appropriate it is for them to adhere to it; not to wear false nails, jewellery; stoned rings, watches and bracelets.

There was no unit relative or visitor information leaflet to include; visiting times and arrangements and not to bring outside coats into the unit. Inspectors were advised that the critical care network is in the process of developing a generic leaflet for critical care units to use.

8. It is recommended that information leaflets for relatives and visitors should be updated and developed. Leaflets should detail the concept of care below the elbow and adherence to the dress code policy were appropriate.

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 on the critical care, decontaminate equipment and to ensure effective isolation.

The unit was minimally compliant in the layout and design of the environment.

The critical care, intensive care/high dependency, unit consists of 6 beds, incorporating one side room. This number of commissioned beds is never exceeded. An IPC audit carried out in March 2013 identified the need for an upgrade in facilities in the unit. In November 2013 refurbishment was carried out, improving storage and the general environment for the delivery of patient care. Further work is planned to increase and improve single room facilities.

The refurbishment of the unit included installation of ceiling pedestals at each bed space. These pedestals have electrical sockets, backed up with an interruptible power supply for patient equipment (Picture 2). The removal of bedhead trunking and equipment now allows staff to have 360° access to the patient. A full painting and maintenance programme with high density storage units and upgrading of sanitary storage and utility spaces has also improved the unit environment. Dedicated patient equipment trolleys reduce clutter at the bedside.



Picture 2: Ceiling pedestal

The critical care core clinical space around the patient bed area, for the delivery of care, was not within 80 per cent of the minimum dimensions recommended by the DHSSPS and outlined in the audit tool. The minimum core space should be 20.8 sqm, with a linear distance of 4.6 m between bed head centres. Inspectors were advised by the trust estates department that the core clinical space for the bed area was 18.6 sqm, 14.4 sqm in the single room and 3.86 m between bed head centres.

Inspectors noted that although the space does not meet current recommended requirements, staff are working within these limitations to deliver safe and effective care. Bed spaces were free from clutter and easily accessible.

There was one single room available for isolation in the unit; 1 room per 6 beds. This is not in line with numbers recommended by the DHSSPS and outlined in the audit tool; a minimum of 4 single rooms per 8 beds i.e. 1 room per 2 beds. The single room is not fit for purpose as it has no ventilated lobby for isolation. Inspectors noted and unit staff advised that due to space

restrictions is was not always possible to isolate a patient, who requires a number of large pieces of equipment, in this room.

Inspectors were informed by senior management that plans are in place to upgrade the existing single room. A vacant room outside the unit is to be refurbished and incorporate into the unit, thus creating a second single room.

Facilities as outlined in the audit tool were not all available for visitors, relatives or staff. There was no dedicated visitors' toilet, beverage point or overnight accommodation, a relative's room was available. Vending machine and toilets are accessible in the emergency department and food and beverages available at the hospital canteen, café or shop.

There is no staff changing facilities, a unisex staff toilet and locker room is available. Staff advised that they travel to work in uniform and launder as per trust policy. There is no dedicated area for the storage of equipment for repair and the near patient testing equipment is located on a trolley, behind the nurses station, rather than in a designated area.

Ventilation systems are routinely monitored, serviced and cleaned by estates. An annual ventilation risk assessment from intake to supply and testing is carried out to identify if ventilation system cleaning is required. A trigger mechanism is in place which alarms and logs onto the computer system for a response, when there is a drop in filter pressure and cleaning is required. A yearly external validation of critical alarms and plant operation is carried out by building management team.

- 9. It is recommended that the upgrading of single room facilities should continue. As part of any refurbishment/new build planning, adherence to core clinical space recommendations and an improvement in the facilities available should be reviewed. There should be on-going review of the layout and design of the unit for maximum space utilisation.**

3.2.2 Environmental Cleaning

For organisations to comply with this section they must ensure 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. Terminal cleans were not randomly validated by supervisors.

- 10. It is recommended that terminal cleans are randomly validated by supervisors.**

On questioning, staff displayed good knowledge on cleaning procedures and guidelines. However inspectors observed that a member of domestic staff missed the first step of the four cloth tap and sink cleaning technique. The member of staff was retrained during the inspection.

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 plan and individual unit risk assessment plan were in place. Collection of tap water samples to facilitate microbiological organism testing and analysis is carried out. The trust carries out a quarterly schedule of water sampling from all outlets.

At the time of inspection the cold water tap in the dirty utility room equipment sink was designated out of use as *Pseudomonas aeruginosa* had been isolated in the water. Documentation and discussion with the estates department evidenced an investigation that identified the source of contamination in pipework and included disinfection, replacement and addition of new water pipes and valves. Water sampling and testing regimes was being carried out in line with current DHSSPS guidelines.

All taps flush automatically every 12 hours to ensure there is not stagnant water in the system. However, there were gaps in the daily tap water flushing records completed by domestic staff. In the dirty utility room a sheet of paper rather than a record sheet was in use. This sheet did not differentiate between the flushing of two sinks within the room e.g. equipment sink, hand washing sink.

11. It is recommended that daily tap water flushing records on designated record sheets are completed by domestic staff.

Hand washing sinks were used correctly - only for hand washing. Bodily fluids and cleaning solutions were not disposed of down hand washing sinks. Patient equipment was not stored or washed in hand washing sinks. A system is in place to address any issues raised with the maintenance of hand washing sinks and taps.

The estates department are proactively autoclaving taps and replacing clean outlets every six months in critical care. Inspectors were advised that over the last six months a consultant microbiologist has been engaged by the trust to independently audit the trust procedures for managing water hygiene. A remotely hosted web based system for water testing results is in development, trials are on-going at present.

All results of water analysis are reported to the trust water safety and usage group. This includes staff from infection prevention and control, microbiology, estates and governance. The chair of the trust's augmented care group provides a report to this group regarding water safety at local level. The water safety and usage group provides an overview on the trust water quality to the governance steering group. Documentation viewed evidenced discussion at the water safety and usage group of the isolation of *Pseudomonas aeruginosa* in the critical care unit.

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 patient.

The unit achieved compliance in this section of the audit tool. During the inspection, staff allocation ensured optimal infection prevention and control practices.

A 'live' and retrospective patient placement system to identify which bed the patient is in during their stay in critical care is available on the 'ward watcher' computer system. At present there is no retrospective full unit bed placement plan available for staff. In the event of an outbreak staff can manually check unit diaries and the unit admission book to identify patient placements, this can be a time consuming exercise. Following discussion consultant staff identified the ability for ward watcher to capture this information in the future.

On transferring a patient out of the unit, staff complete a discharge summary on ward watcher. This details a brief medical history and action plan for the patient and includes the patient's antibiotic therapy, infection status and latest blood and microbiology results. This is accompanied by a completed regional critical care transfer form.

12. It is recommended that ward watcher is developed to capture a retrospective full unit bed placement plan.

Screening policies and procedures are in place and known to staff. New trust screening procedures have been implemented with growing awareness of new resistant organisms e.g. Carbapenemase Producing Enterobacteriaceae (CPE) or Carbapenem Resistant Enterobacteriaceae (CRE). Staff refer to the Regional Infection Prevention and Control Manual for guidance on isolation.

Inspectors were advised that if a patient's critical care admission screens are positive or if their results following discharge or transfer to another ward are positive the receiving or transferring wards are not routinely informed. This information would be forwarded if the results were clinically significant. There is no policy or protocol in place for this practice.

13. It is recommended that a policy or protocol should be developed to outline when the results of a patient's critical care admission screen or post discharge results are forwarded to other wards.

In one set of notes inspected for a patient with an infection, there was no infection prevention and control care plan in place. There was no risk assessment in place for the patient being nursed in the main unit rather than in a side room. Care plans that were in place were filed in the patient's old notes rather than in the daily notes.

14. It is recommended that an IPC nursing care plan is in place for patients with a known infection. A risk assessment should be in place for a patient with an infection being nursed in the main unit rather than in a single room. Nursing care plans should be present, reviewed and reflected in the daily evaluation of care.

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, patients skin condition was recorded in care records.

3.4 Critical Care Patient Equipment

For organisations to comply with this section they must ensure specialised critical care 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 generally clean and in a good state of repair. Staff displayed good knowledge of single use equipment. There was no guidance for the cleaning, storage and replacement of specialised patient equipment, including when a patient is in isolation or during an outbreak. Specialist equipment was not routinely audited by senior staff.



Picture 3: Stored damaged x-ray vests

Areas noted for improvement: the spirometer used by physiotherapy staff was grubby, had paper labels present and the tubing and filter were attached to the machine (covered in a plastic bag). Stored x-ray vests were grubby, the fabric was worn and split and therefore not easily cleaned (Picture 3).

15. It is recommended that all specialist equipment should be cleaned and in a good state of repair. Guidelines should be developed for the cleaning, storage and replacement of specialised patient equipment. Adherence to guidance should be routinely audited by senior nursing staff.

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 has 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	Compliance Levels
Aseptic non touch technique (ANTT)	80
Invasive devices	88
Taking blood cultures	71*
Antimicrobial prescribing	93
Clostridium <i>difficile</i> infection (CDI)	90*
Surgical site infection	100
Ventilated (or tracheostomy) care	100
Enteral feeding or tube feeding	89*
Screening for MRSA colonisation and decolonisation	79*
Average Score	88

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

The findings indicate that overall compliance was achieved. Inspectors identified that an improvement was required in ANTT, taking blood cultures and screening for MRSA colonisation and decolonisation.

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 care 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. An ANTT policy was not in place and available for staff to reference. Inspectors were

advised that a draft policy is in development and circulated to key members of trust for review. Once developed this is to be disseminated to staff.

16. It is recommended that the draft ANTT policy is completed and disseminated to staff.

Staff displayed good knowledge and practical skills on the principles of ANTT.

On the 10 April 2013, members of the trust IPC team facilitated update training on ANTT for the Mater and Belfast City hospitals critical care units. An element of this training was staff competency based assessment in ANTT. Through completion of this assessment, critical care nurse team leaders were deemed competent to assess their local team's competency in carrying out ANTT. Evidence was provided for the inspection team that this has commenced within the Mater critical care unit, for a range of ANTT interventions. The unit manager informed the inspectors that all nursing staff within the unit will have a yearly ANTT competency based assessment.

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 compliance in this section of the audit tool.

Evidence of practice was obtained through observation, review of documentation and speaking with staff. Policies and procedures for the insertion and on-going management of invasive devices were in place. However some of these policies had passed their review date. Policies identified for review were; the management of urinary catheter (2012) peripheral vascular cannulation (March 2013), chest drains (2013) and central venous catheters (2010). Bundles of care implemented include management of central vascular catheters (CVC), peripheral vascular catheters (PVC) and urinary catheters.

There was no evidence available of nursing staff competency assessment and training in the insertion and management of PVCs and urinary catheters. Inspectors were provided with competency records for staff on the insertion and maintenance of nasogastric (NG) tubes. The acting clinical coordinator for critical care informed the inspectors that they recognize and will address this issue.

Inspectors observed that the documentation on an inserted PVC failed to record the person who carried out the procedure and the batch number of the device. On two occasions when nursing staff accessed a PVC and an arterial line inspectors observed that following cleaning of the port/ hub of the devices,

nursing staff failed to allow this key part to dry for 30 seconds as per guidance.

17. It is recommended that an audit of staff competence and adherence to guidance on the insertion and care of invasive devices is carried out.

The Public Health Agency (PHA) 'Device associated Infection Surveillance in Critical Care Units HCAI Monthly Report', April 2013 - March 2014 details the Mater critical care unit infection rates. This report identifies that the critical care unit has had:

- **zero** catheter associated urinary tract infections (CAUTI),
- **zero** central line associated blood stream infections (CLABSI),
- **zero** catheter related blood stream infections (CR-BSI)
- **zero** blood stream infections with CVC
- **zero** ventilated associated pneumonia

The unit is commended for these results.

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 non-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 a review of documentation and speaking with staff.

A trust blood culture policy was available however this was due for review in 2012. Staff demonstrated good knowledge on how and why to take a blood culture. Inspectors reviewed the notes of a number of patients that had a blood culture taken. Documented viewed did not always detail the date, time, site and clinical indicators for taking the culture.

Inspectors noted that blood culture analysis to include the percentage contamination of blood samples taken is carried out. Evidence was available to show that blood culture contamination comparisons can be made between different departments within the trust. Documentation viewed evidence that within critical care the incidence of blood culture contamination was less than three per cent in 2012/13. A rate of above three per cent has been identified for action from January to March 2014. The inspection team were advised but provided with no evidence that the incidence of false positive results is discussed by clinical, nursing, IPC staff as part of the trust wide HCAI group meeting.

At present there is no system in place to monitor compliance with best practice when taking blood cultures. Inspectors were informed by the units lead anaesthetist that there are plans for senior nursing staff to monitor medical staff when obtaining blood cultures against best practice guidance. The IPC nurse provided a one off training session for unit medical staff in September 2013. The training session focused on the principles of ANTT when taking blood cultures. Inspectors were also informed that there are plans to commence mandatory and statutory training records for medical staff, in line with a similar to the current nursing system. Annual training on blood culture sampling will be a component of this mandatory training.

The acting clinical co-ordinator informed the inspectors that at present there is an IPC nurse based at the Royal Victoria hospital critical care unit. This nurse provides staff training and monitors best practice, it is hoped to extend this service to all trust critical care units.

18. It is recommended that an audit of staff competence and adherence to guidance on blood culture technique is carried out.

4.4 Antimicrobial prescribing

Antibiotic 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.

Compliance was achieved in this section of the audit tool. Inspectors observed that antimicrobial guidelines were in place, ensuring continuity of prescribing within the unit. Computer aided prescribing tools were available to aid antibiotic prescribing; this software was developed by the trust lead anaesthetist. Inspectors were impressed by the local use of technology to enhance patient care.

A unit based pharmacist has been in place for two months; working two days a week. Antimicrobial usage is not currently audited within the unit in line with antimicrobial prescribing guidance. Inspectors were informed that there are plans to commence a sepsis audit for the unit in May 2014. An aspect of this audit will be to assess antimicrobial usage in line with antimicrobial prescribing guidance. Antimicrobial ward rounds take place twice weekly. The unit lead anaesthetist hopes to extend this to a five day per week round with the aid of teleconferencing equipment recently installed, during the November 2013 refurbishment. Contact with the microbiology team to facilitate this has already taken place.

Records reviewed evidenced that information to guide prescribing of antimicrobials was recorded. This included the patient antimicrobial history,

indication to prescribe an antimicrobial, and the planned duration of the antimicrobial.

The trust lead anaesthetist completed an antibiotic research project within the unit in 2010; this was presented at the European Society of intensive care medicine. The project was entitled 'Antibiotic prescribing in a mixed general Intensive Care Unit: a seven year audit of Practice. The study concluded that: '86 per cent of antibiotics within the unit were prescribed for five -seven days which is the commonly believed duration of antibiotic therapy required for effective treatment'. As part of good practice, antimicrobial prevalence audit has also been carried out as part of the HPA Point Prevalence Survey (PPS) 2012. Inspectors were informed by the IPC nurse that results for the Mater hospital reported no deviations from guidelines.

19. It is recommended that antibiotic usage is monitored at unit level as part of routine practice. Actions plans should be developed were issues are identified.

4.5 Clostridium *difficile* infection (CDI) Recommendations

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.

An up to date guide and care pathway on the management of CDI is available and known to staff. This does not however include advice on waste management.

20. It is recommended that the CDI guidance is updated to include advice on waste management.

Inspectors were informed that the unit last cared for a patient with CDI in May 2011. Completion of the CDI care pathway for patients identified in the future should be audited.

The IPC team carry out audits on the achievement of isolation within agreed timescales for CDI patients. Critical care is not at present part of this audit. Overall the trust data shows that 67.8 per cent of patients were in isolation when CDI was identified. The results of this audit are discussed at the trust HCAI group.

There is currently no system in place within the unit to monitor compliance with best practice guidance in the management of CDI.

21. It is recommended that compliance with the completion of the CDI care pathway and best practice on the management of CDI is carried out as applicable.

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 full compliance in this section of the audit tool. Information was obtained from discussion with infection prevention and control staff, unit staff and a review of individual patients' records.

Inspectors observed that perioperative guidance on the prevention of SSI was available. Staff within the unit displayed knowledge of the SSI care bundle for patients within critical care.

Inspectors were informed that perioperative SSI audit is carried out. Audits of all specialities are carried out 1 week every month in theatre. The perioperative SSI audit includes; safety briefing, hair removal, glucose control, beta blockade, DVT prophylaxis, normothermia and antibiotic prophylaxis.

The trust undertakes mandatory reporting SSI surveillance to the Public Health Agency on orthopaedic surgery, cardiac surgery, neurosurgery and caesarean section delivery. Results of audit and surveillance are reviewed by Perioperative Critical Care Improvement Team (POCCIT) and Safety Implementation Team (SIT) and Maternity Services governance groups.

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 care bundle with critical care points was available. Staff have received training on VAP and were knowledgeable on the prevention and care of a VAP.

Documentation evidenced monitoring of compliance with the care bundle. Regional VAP surveillance is carried out and forwarded to the PHA. Results of audit and surveillance is reviewed by the critical care management team and the trust wide HCAI group.

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 review of documentation and speaking with staff.

A policy/guidance was available and staff have received training on enteral feeding. Enteral feed is stored, administered and disposed of as per trust policy and in line with best practice. Staff displayed good knowledge on the management of an enteral feeding system; insertion, set up and care. When necessary, staff adhere to guidance on the care of a stoma site from the trust stoma nurse or tissue viability nurse.

Preparation, decanting, reconstituting or diluting of feeds is not done within the unit.

There are currently no systems in place to monitor compliance with enteral feeding protocol and guidance.

22. It is recommended that compliance with the enteral feeding protocol and guidance is audited and actions plans developed were issues are identified.

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 partial 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.

An up to date MRSA screening and treatment policy was in place and known to staff. Routine screening is carried out in line with DHSSPS Best Practice on Screening for MRSA colonisation. Guidance available should however further qualify the measures for staff to undertake when decolonisation therapy may be contraindicated as a treatment option e.g. skin condition.

23. It is recommended that the MRSA screening and treatment policy should be reviewed to include guidance where treatment is contraindicated.

An MRSA care pathway was available and known by staff. The inspection team was informed by the IPC nurse that MRSA colonization/infected patients have been newly isolated and nursed within the unit. Adherence to the MRSA screening and treatment policy and completion of the MRSA care pathway for these patients was not audited. Infection control audits are not currently carried out for the achievement of isolation in line with local guidance.

24. It is recommended that adherence to the MRSA screening and treatment policy and care pathway is audited and actions plans developed where issues are identified.

Inspectors were advised that the unit has recently been designated as an IPC primary focus unit. In line with other focus wards a series of measures have been implemented; RQIA style audit of the environment and a hand hygiene audit. It is anticipated that an MRSA audit which will assess patient isolation and completion of the MRSA care pathway will commence.

25. It is recommended that infection control audits are carried out on achievement of isolation for MRSA. Actions plans should be developed where issues are identified.

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	Compliance levels
Reception	N/A
Corridors, stairs lift	96
Public toilets	N/A
Unit/department - general (communal)	87
Patient bed area	95
Bathroom/washroom	N/A
Toilet (staff)	100
Clinical room/treatment room	78
Clean utility room	100
Dirty utility room	93
Domestic store	88
Kitchen	86
Equipment store	100
Isolation	98
General information	100
Average Score	93

The findings in the table above indicate that the general environment and cleaning in the Critical Care Unit was of a good standard, with four sections achieving full compliance.

Inspectors observed in the corridor leading to the critical care unit, the vinyl finish on chairs was damaged and the underside of chair frames was dusty.

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 good compliance with the standard of cleaning. The key issues identified for improvement in this section of the audit tool were:

- dust in some extractor air vents
- damage to wall paint work in the interview room and a cupboard door in the dirty utility room
- split and damage to the vinyl finish on the settee, chair and stool in the visitors room and on the rubber surface of the stool in the clinical room
- dust and debris on surfaces and inside storage units; visitors room and clinical room floor, kitchen window frame, high density storage, cupboards, kitchen door and wall
- insufficient storage facilities and limited work surface in the clinical room resulting in boxes of supplies stored on top of cupboards
- equipment required cleaning; bed pan rack, inside of the drugs fridge, food fridge. The base of a bed was blood stained, this was immediately cleaned (Picture 4).



Picture 4: Blood stain on bed base

- drugs fridge temperatures were recorded in a spiral notebook, rather than a trust temperature record sheet. There was nowhere to record actions taken in the event of variations in the drugs fridge temperature.
- some kitchen food containers and the coffee machine required cleaning. The food fridge temperature records were above recommended guidance, action to address this was not always recorded.
- no dedicated hand washing sink in the clinical room
- limescale on taps; kitchen, dirty utility room equipment sink, domestic store sink and sluice combi unit
- in the domestic store there was a white deposit on the hand washing sink plughole. The leg of the sink and sluice combi unit was broken bedpan washer was not working.

26. It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair. A maintenance programme should be in place to ensure all building repairs are carried out. Storage facilities within the unit should be reviewed and improved.

27. It is recommended that drugs fridge temperature checks are carried out and recorded on the trust record sheet. Variations in temperature and actions taken to address these should be recorded.

28. It is recommended that a hand washing sink is available in the clinical room.

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	Compliance levels
Storage of clean linen	94
Storage of used linen	100
Laundry facilities	N/A
Average Score	97

The above table indicates that the unit achieved good overall compliance in the management of patient linen.

Linen was clean, free from damage and stored appropriately in the designated store. Staff demonstrated good knowledge on the handling of clean and used linen.

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

- the linen cupboard was untidy; empty bags were mixed with clean linen

29. It is recommended that the linen store is clutter free and linen bags stored correctly.

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	Compliance levels
Handling, segregation, storage, waste	94
Availability, use, storage of sharps	90

4.1 Management of Waste

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

- pharmaceutical waste in the magpie box
- dusty, dirty or rusted waste receptacles; purple lidded burn bin, clinical waste bin at nurses' station
- the large yellow euro bin at the lift lobby, outside the unit, was overflowing and the surrounding area was untidy and required cleaning

30. It is recommended that all staff ensure the correct segregation of waste. Waste receptacles should be clean, not overflowing and in a good state of repair. The waste storage area should be clean and uncluttered.

4.2 Management of Sharps

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:

- the temporary closure mechanism on sharps boxes was not always in place
- the sharps box on the resuscitation trolley, dated November 2013, was full and the temporary closure mechanism was not in place

31. It is recommended that all sharps box temporary closure mechanisms are in place when sharps boxes are not in use. Sharps boxes should be changed when full.

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	Compliance levels
Patient equipment	87

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:

- sterile single use laryngoscope blades and forceps on the resuscitation trolley were out of their original sterile packaging. The end of the catheter tubing on the resuscitation trolley suction machine was exposed. Forceps were hanging from an IV stand in the equipment store and oxygen masks at the patient bedside were exposed.
- a metal box used to store equipment that required reprocessing in Sterile Services contained paperwork and equipment, which inspectors were advised, was for disposal (Picture 5)



Picture 5: Paper work in sterile services box

- cotton wool balls had been removed from their packaging and were stored loosely in a drawer in the high density storage unit. White IV fluid cuffs were hanging from an IV stand.
- some equipment required cleaning; catheter stand, stored monitor, blood gas machine, resuscitation trolley and equipment. The blood gas machine surface was chipped.
- trigger tape to indicate equipment had been clean was inconsistently used. Inspectors were advised that the use of tape had only been introduced into the unit
- there was no standard procedure in place for staff to follow to manually clean bedpans when the bedpan washer is out of order

32. General patient equipment must be clean, stored correctly and in a good state of repair. Stored patient equipment should have cleaning guidelines in place and trigger tape insitu to identify that it has 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	Compliance levels
Availability and cleanliness of wash hand basin and consumables	96
Availability of alcohol rub	97
Availability of PPE	100
Materials and equipment for cleaning	93
Average Score	97

The above table indicates that the unit achieved good overall compliance in this standard. Hand washing sinks were easily accessible and in good repair (Picture 6).



Picture 6: Hand washing sink

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

- there were no hand towels in two dispensers on day 1 of the inspection, this was rectified by staff. Hand moisturiser was not available for staff.
- the underside of 3 out of 4 sensor tap spouts had a soap and scum residue present
- the pump mechanism on the alcohol dispenser at the entrance to the unit was sticking
- the chemical cupboard in the dirty utility room was unlocked on day 1 of the inspection, this was rectified on day 2. The Difficil - S store cupboard was unlocked.

- the domestic store and domestic cleaning chemical cupboard were unlocked and the inside of the domestic trolley required cleaning
- PPE was available for use however there are only two dispensing stations in the unit. Staff are to review the number of stations with a view to increasing the number of stations available.

33. It is recommended that consumables and dispensers are available and in working order. The domestic trolley should be kept clean at all times.

34. It is recommended that all chemicals are stored in a locked, inaccessible area in accordance with COSHH regulations.

35. It is recommended that staff review the number of PPE stations with a view to increasing the number available.

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	Compliance levels
Effective hand hygiene procedures	100
Safe handling and disposal of sharps	100
Effective use of PPE	93
Correct use of isolation	81
Effective cleaning of unit	89
Staff uniform and work wear	99
Average Score	94

The above table indicates that the unit achieved good overall compliance in this standard. Staff achieving full compliance and demonstrated effective hand hygiene procedures and safe practice in the handling and disposal of sharps.

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

- a member of nursing staff was observed wearing gloves and an apron while entering and leaving a store, rather than donning just immediately prior to a procedure
- a single room is available for isolation. The room is small and not suitable for patients who require isolation and additional equipment e.g. dialysis equipment, patients are nursed in the main unit.
- an infection prevention and control care plan was not in place for a patient with a known infection, a daily assessment of on-going need and evaluation of care could not be made against a plan of care
- a Difficil - S dilution chart and COSHH data sheets were not available. The ward manager advised that COSHH data sheets were currently being updated
- a domestic staff member was wearing large earrings

36. It is recommended that a Difficil - S dilution chart and COSHH data sheets are available.

37. It is recommended that all staff adhere to the trust dress code policy.

6.0 Summary of Recommendations

The Regional Critical Care Audit Tool

1. It is recommended that infection prevention and control staffing levels are reviewed to facilitate daily visits to the unit.
2. It is recommended that audits, incidents and feedback from link nurses should become a standard item on local staff meeting agenda. Documentation used by staff carrying out safety huddles should be standardised.
3. It is recommended that critical care recruitment should continue.
4. It is recommended that the intranet Unscheduled Care/Emergency Care HUB should be updated to contain all policies relevant to critical care. All staff should be aware of how to access these policies.
5. It is recommended that the trust should develop an overarching occupational health policy.
6. It is recommended that when a decrease in infection prevention and control audit compliance is identified an action plan is developed. External validation hand hygiene audit tools should be specific for augmented care areas.
7. It is recommended that all critical care staff should attend IPC mandatory training.
8. It is recommended that information leaflets for relatives and visitors should be updated and developed. Leaflets should detail the concept of care below the elbow and adherence to the dress code policy were appropriate.
9. It is recommended that the upgrading of single room facilities should continue. As part of any refurbishment/new build planning, adherence to core clinical space recommendations and an improvement in the facilities available should be reviewed. There should be on-going review of the layout and design of the unit for maximum space utilisation.
10. It is recommended that terminal cleans are randomly validated by supervisors.
11. It is recommended that daily tap water flushing records on designated record sheets are completed by domestic staff.
12. It is recommended that ward watcher is developed to capture a retrospective full unit bed placement plan.

13. It is recommended that a policy or protocol should be developed to outline when the results of a patients critical care admission screen or post discharge results are forwarded to other wards.
14. It is recommended that an IPC nursing care plan is in place for patients with a known infection. A risk assessment should be in place for a patient with an infection being nursed in the main unit rather than in a single room. Nursing care plans should be present, reviewed and reflected in the daily evaluation of care.
15. It is recommended that all specialist equipment should be cleaned and in a good state of repair. Guidelines should be developed for the cleaning, storage and replacement of specialised patient equipment. Adherence to guidance should be routinely audited by senior nursing staff.

The Regional Clinical Practices Audit Tools

16. It is recommended that the draft ANTT policy is completed and disseminated to staff.
17. It is recommended that an audit of staff competence and adherence to guidance on the insertion and care of invasive devices is carried out.
18. It is recommended that an audit of staff competence and adherence to guidance on blood culture technique is carried out.
19. It is recommended that antibiotic usage is monitored at unit level as part of routine practice. Actions plans should be developed were issues are identified.
20. It is recommended that the CDI guidance is updated to include advice on waste management.
21. It is recommended that compliance with the completion of the CDI care pathway and best practice on the management of CDI is carried out as applicable.
22. It is recommended that compliance with the enteral feeding protocol and guidance is audited and actions plans developed were issues are identified.
23. It is recommended that the MRSA screening and treatment policy should be reviewed to include guidance were treatment is contraindicated.
24. It is recommended that adherence to the MRSA screening and treatment policy and care pathway is audited and actions plans developed were issues are identified.
25. It is recommended that infection control audits are carried out on achievement of isolation for MRSA. Actions plans should be developed were issues are identified.

Regional Healthcare Hygiene Cleanliness Standards and Audit Tool

Standard 2: Environment

26. It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair. A maintenance programme should be in place to ensure all building repairs are carried out. Storage facilities within the unit should be reviewed and improved.
27. It is recommended that drugs fridge temperature checks are carried out and recorded on the trust record sheet. Variations in temperature and actions taken to address these should be recorded.
28. It is recommended that a hand washing sink is available in the clinical room.

Standard 3: Patient Linen

29. It is recommended that the linen store is clutter free and linen bags stored correctly.

Standard 4: Waste and Sharps

30. It is recommended that all staff ensure the correct segregation of waste. Waste receptacles should be clean, not overflowing and in a good state of repair. The waste storage area should be clean and uncluttered.
31. It is recommended that all sharps box temporary closure mechanisms are in place when sharps boxes are not in use. Sharps boxes should be changed when full.

Standard 5: Patient Equipment

32. General patient equipment must be clean, stored correctly and in a good state of repair. Stored patient equipment should have cleaning guidelines in place and trigger tape insitu to identify that it has been cleaned.

Standard 6: Hygiene Factors

33. It is recommended that consumables and dispensers are available and in working order. The domestic trolley should be kept clean at all times.
34. It is recommended that all chemicals are stored in a locked, inaccessible area in accordance with COSHH regulations.
35. It is recommended that staff review the number of PPE stations with a view to increasing the number available.

Standard 7: Hygiene Practices

36. It is recommended that a Difficil - S dilution chart and COSHH data sheets are available.
37. It is recommended that all staff adhere to the trust dress code policy.

7.0 Key Personnel and Information

Members of RQIA's Inspection Team

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

Trust Representatives attending the Feedback Session

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

Janet Johnston	Co-Director, Anaesthetics, Critical Care, Theatres and Sterile Services
David Robinson	Co-Director Nursing
Colin Carins	Co-Director, Patient and Client Support Services
Brian McCloskey	Clinical Director, Critical Care Services
Stephen Austin	Consultant, Lead Clinician Critical Care, BHSC
John O'Hanlon	Consultant, Critical Care, Mater Hospital
Martin Duffy	Consultant, Lead Clinician Critical Care, Mater Hospital
Jo-anne Colvan	Consultant Anaesthetist
Finbarr O'Neill	Clinical Lead, RICU
Jane Sheridan	Acting Clinical Co-ordinator, Critical Care
Bronagh McCann	Acting Senior Manager, Anaesthetics and Critical Care
Tracey Price	Ward Manager
Mary Hanrahan	Senior Nurse, Infection Prevention and Control
Shaun McCook	Divisional Operations Manager, Estates
James Kearns	Estates Officer, Operations
Ian Wilson	Estates Officer, Operations
Ramon Davey	Patient and Client Support Services, Manager
Rhoda McFarland	Acting Senior Nurse, RICU
Ray Milligan	Patient and Client Support Services
Tony Campbell	Patient and Client Support Services Patient and Client Support Services

Apologies

Tony Stevens	Medical Director
Bernie Owens	Director Unscheduled Care

8.0 Augmented Care Areas

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

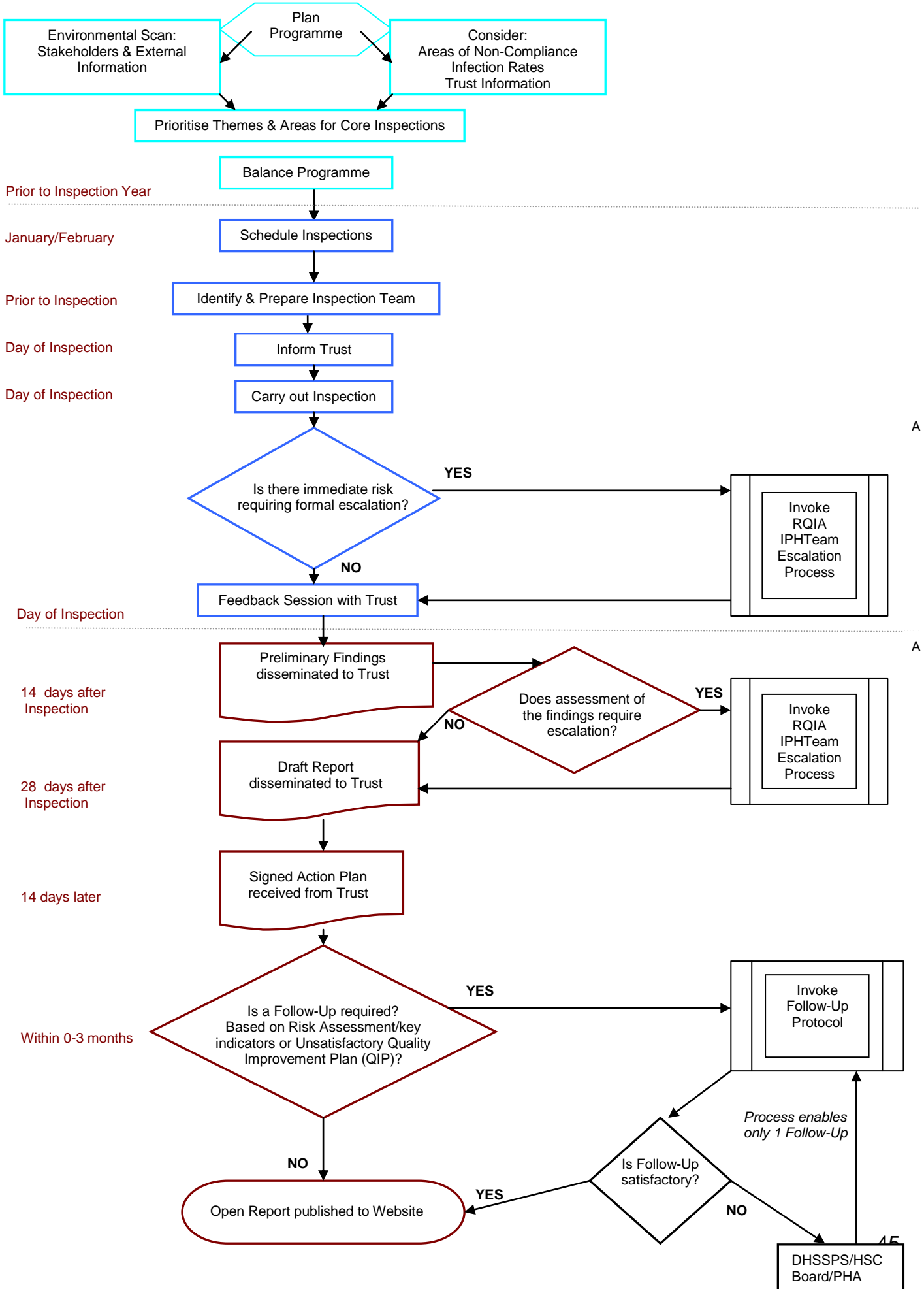
- neonatal and special care baby units
- paediatric intensive care
- all adult intensive care which includes cardiac intensive care
- burns units
- renal (dialysis) units
- renal transplant unit
- high dependency units (HDU)
- haematology
- oncology

9.0 Unannounced Inspection Flowchart

Plan Programme

Episode of Inspection

Reporting & Re-Audit

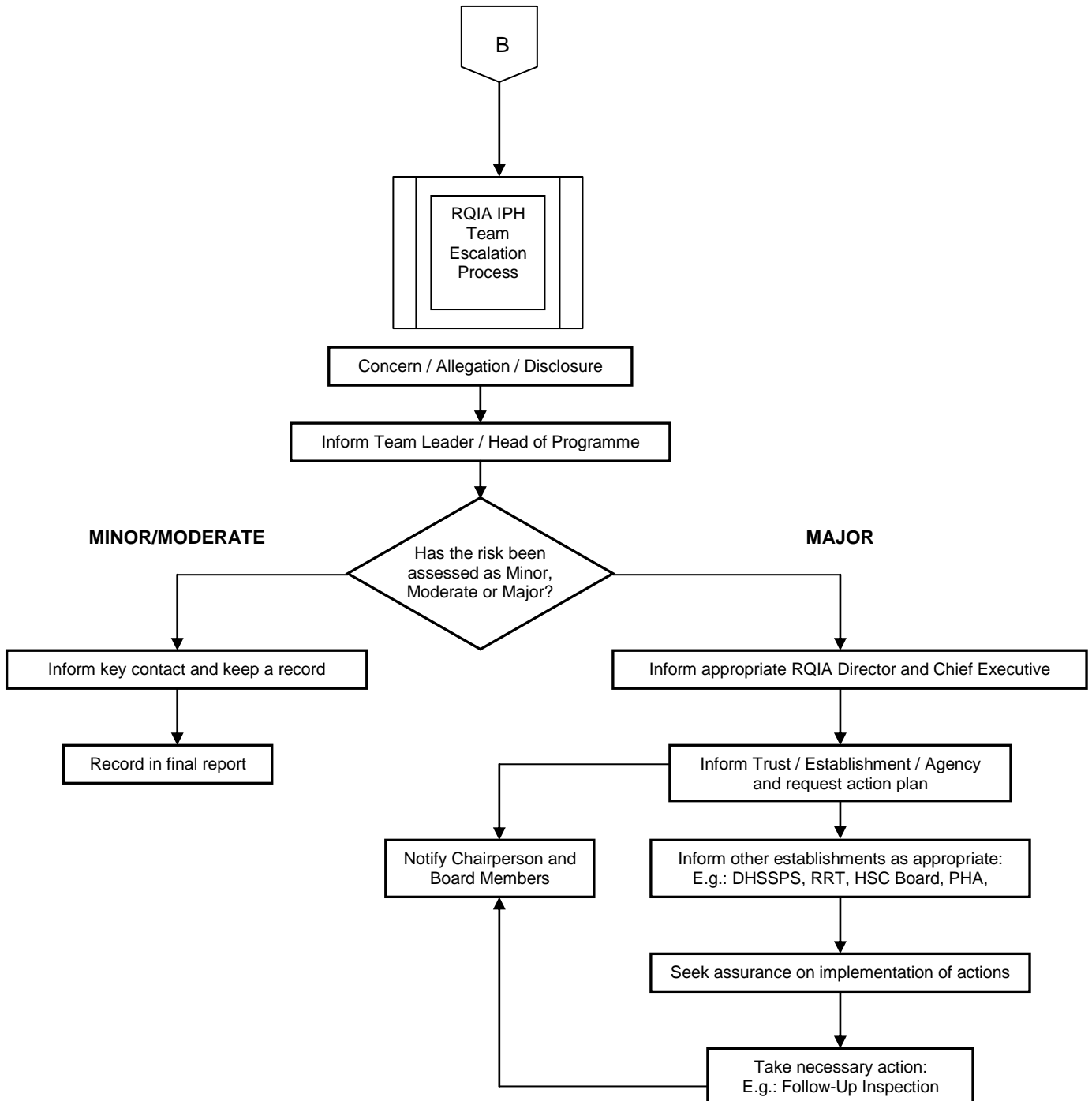


A

A

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 infection prevention and control staffing levels are reviewed to facilitate daily visits to the unit.	IP&C Service Nursing and User experience service	Liaise with the Senior Nurse for IP&C regarding increase in visits by the IP&C team	Ongoing
2.	It is recommended that audits, incidents and feedback from link nurses should become a standard item on local staff meeting agenda. Documentation used by staff carrying out safety huddles should be standardised.	Senior Nursing team MIH	Sister to include on the agenda of the staff meeting and liaise with the IP&C link nurse	Complete
		Senior sisters Critical care BHSCT	To discuss and formalise a standardised approach to the safety huddle at the senior sisters meeting	Complete
3.	It is recommended that critical care recruitment should continue.	Senior sisters and CCMT (Critical Care Management Team)	To continue to monitor staffing levels and manage staff turnover with timely recruitment	Ongoing
4.	It is recommended that the intranet Unscheduled Care/Emergency Care HUB should be updated to contain all policies relevant to critical care. All staff should be aware of how to access these policies.	Senior nurses critical care Belfast trust	To identify policies and incorporate in the Hub policy folder	End Dec 2014
		Clinical Co-Ordinator Critical Care	Regarding staff awareness on accessing policies – this will be highlighted on the staff communication board and book, and raised at the staff meeting in September 2014.	September 2014

5.	It is recommended that the trust should develop an overarching occupational health policy.	Medical Directorate and ACCTSS management team	To set up a meeting with The Occupational Health team to take forward recommendation	End Sept 2014
6.	It is recommended that when a decrease in infection prevention and control audit compliance is identified an action plan is developed. External validation hand hygiene audit tools should be specific for augmented care areas.	Local governance team critical care and Critical Care Management Team (CCMT)	Indicators to identify low scores and immediate action plans are implemented and reported at local governance meetings and at senior management governance meetings. Staff are now utilising audit tools specific for augmented care (as of August 2014)	Complete and ongoing as necessary Complete
7.	It is recommended that all critical care staff should attend IPC mandatory training.	Senior Sisters and education team critical care.	Poor compliance identified and staff given opportunity to attend IP&C meetings. Training of the month targeted for IP&C mandatory training (June/July 2014)	Complete
8.	It is recommended that information leaflets for relatives and visitors should be updated and developed. Leaflets should detail the concept of care below the elbow and adherence to the dress code policy was appropriate.	Senior nursing team	CaNNI relatives' information leaflet to be adapted for MIH ICU to ensure it addresses bare below the elbow and adherence to dress code policy.	End Oct 2014
9.	It is recommended that the upgrading of single room facilities should continue. As part of any refurbishment/new build planning, adherence to core clinical space recommendations and an improvement in the facilities available should be reviewed. There should be on-going review of the layout and design of the unit for maximum space utilisation.	Senior management team	The refurbishment of the 2 single rooms is currently within the Capital Bids list and this is evaluated on a monthly basis. Any refurbishment of this space will be undertaken with the intention to maximise the clinical space utilisation.	Ongoing

10.	It is recommended that terminal cleans are randomly validated by supervisors.	Critical Care Management Team (CCMT), Senior Nurses and PCSS Management Team	CCMT to set up a working group with PCSS Management to take forward this recommendation	To be set up by end Sept 2014
11.	It is recommended that daily tap water flushing records on designated record sheets are completed by domestic staff.	Critical Care Management Team (CCMT), Senior Nurses and PCSS Management Team	CCMT to set up a working group with PCSS Management to take forward this recommendation	To be set up by end Sept 2014
12.	It is recommended that ward watcher is developed to capture a retrospective full unit bed placement plan.	Critical Care Management Team (CCMT), Senior Nurses, Medical Team	The current Ward Watcher package does not facilitate a retrospective full unit bed placement plan. This is a regional system. The Trust will raise with CCaNNI. Discussions with MIH ICU team and clinical lead regarding how records can be maintained locally.	Next CCaNNI operation group meeting Sept 14 End Sept 14
13.	It is recommended that a policy or protocol should be developed to outline when the results of a patients critical care admission screen or post discharge results are forwarded to other wards.	Critical Care Management Team (CCMT), IPC	CCMT to set up a working group with IPC to take forward this recommendation, this will also include the discharge/transfer of patients to another Trust.	Working group To be set up by end Sept 2014

14.	It is recommended that an IPC nursing care plan is in place for patients with a known infection. A risk assessment should be in place for a patient with an infection being nursed in the main unit rather than in a single room. Nursing care plans should be present, reviewed and reflected in the daily evaluation of care.	Critical Care Management Team (CCMT), IPC	CCMT to set up a working group with IPC to take forward this recommendation. Senior sister will address issues with staff regarding deficit in care planning at September 2014 staff meeting	Working group To be set up by end Sept 2014 Sept 2014
15.	It is recommended that all specialist equipment should be cleaned and in a good state of repair. Guidelines should be developed for the cleaning, storage and replacement of specialised patient equipment. Adherence to guidance should be routinely audited by senior nursing staff.	Chief Critical Care Scientist, Senior Nurse Team	The Chief Critical Care Scientist is taking audit guidelines forward across the 3 units. Critical Care scientist for the MIH has developed a booklet for equipment cleaning guidelines Critical Care scientist for the MIH develop guidelines for repair of equipment	End Dec 2014 Complete End Oct 2014
The Regional Clinical Practices Audit Tools				
16.	It is recommended that the draft ANTT policy is completed and disseminated to staff.	CCO Critical Care	ANTT Policy for the BHSCT was approved on 31/07/14. This will be distributed to staff imminently. Critical Care currently auditing all nursing staff on ANTT competency.	End Aug 2014 Ongoing
17.	It is recommended that an audit of staff competence and adherence to guidance on the insertion and care of invasive devices is carried out.	CCaNNI CCMT Senior Nurses ICU Medical staff IPC BHSCT	To review the application and staff competence of insertion and ongoing care of invasive devices in Critical Care with the clinical education team.	End Sept

18.	It is recommended that an audit of staff competence and adherence to guidance on blood culture technique is carried out.		This is covered within the new ANTT policy and within the ANTT training. The Critical Care team have commenced auditing of blood culture techniques with the medical team.	Ongoing
19.	It is recommended that antibiotic usage is monitored at unit level as part of routine practice. Actions plans should be developed were issues are identified.	Clinical Lead Critical Care	Clinical lead in the MIH is implementing a 3 monthly rolling audit of antimicrobial usage liaising with the BHSCT Antimicrobial Husbandry Group.	Ongoing
20.	It is recommended that the CDI guidance is updated to include advice on waste management.	Critical Care Management Team (CCMT), IPC	CCMT to set up a working group with IPC to take forward this recommendation. There will be feedback to the BHSCT HCAI Implementation team regarding how this can be taken forward Trust wide.	Working group To be set up by end Sept 2014 8 th August 2014
21.	It is recommended that compliance with the completion of the CDI care pathway and best practice on the management of CDI is carried out as applicable.	Link nurses, Senior Nurses CCO Critical Care	Link nurses will carry out on the spot audits of care pathways in use to ensure completion of the care pathway. There will be feedback to the BHSCT HCAI Implementation team regarding how this can be taken forward Trust wide.	8 th August 2014
22.	It is recommended that compliance with the enteral feeding protocol and guidance is audited and actions plans developed were issues are identified.	Nutrition link nurses, senior nurse, dietetics	Senior nurse within the unit to audit compliance with enteral feeding protocol in conjunction with BHSCT Dietetic team.	End Oct 2014

23.	It is recommended that the MRSA screening and treatment policy should be reviewed to include guidance were treatment is contraindicated.	CCO Critical Care	There will be feedback to the BHSCT HCAI Implementation team regarding how this can be taken forward Trust wide.	8 th August 2014
24.	It is recommended that adherence to the MRSA screening and treatment policy and care pathway is audited and actions plans developed were issues are identified.	Link nurses, Senior Nurses	Link nurses will carry out on the spot audits of care pathways in use to ensure completion of the care pathway.	Complete
25	It is recommended that infection control audits are carried out on achievement of isolation for MRSA. Actions plans should be developed were issues are identified.	CCO Critical Care	There will be feedback to the BHSCT HCAI Implementation team regarding how this can be taken forward Trust wide.	8 th August 2014

Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool
Standard 2: Environment

26.	<p>It is recommended that staff ensure all surfaces including furniture, fixtures and fittings are clean and in a good state of repair.</p> <p>A maintenance programme should be in place to ensure all building repairs are carried out.</p> <p>Storage facilities within the unit should be reviewed and improved.</p>	Senior sister, CCMT, Estates	<p>Senior sister to identify a programme for replacement and repair of furniture, fixtures and fittings. This will be escalated to the CCO and Service Manager for replacement as required through the capital bids and procurement process.</p> <p>Follow up to the weekly environmental audits will be carried out to ensure issues of maintenance to the building are escalated appropriately to Estates</p> <p>A working group with Estates will be convened to review and action issues identified within this report.</p>	<p>Ongoing</p> <p>Complete and ongoing as necessary</p> <p>Ongoing</p>
-----	--	------------------------------	---	--

27.	It is recommended that drugs fridge temperature checks are carried out and recorded on the trust record sheet. Variations in temperature and actions taken to address these should be recorded.	Senior sister	Nursing auxiliaries within the unit are recording the fridge temperatures on a daily basis and this is audited by the senior sister in the unit.	Complete
28.	It is recommended that a hand washing sink is available in the clinical room.	Senior sister, Estates	A working group with Estates will be convened to review and action issues identified within this report.	Ongoing
Standard 3: Patient Linen				
29.	It is recommended that the linen store is clutter free and linen bags stored correctly.	Senior sister	Staff have been reminded of the importance of a clutter free environment and this forms part of the cleaning rota within the unit. The nurse in charge checks this on a daily basis.	Complete
Standard 4: Waste and Sharps				
30.	It is recommended that all staff ensure the correct segregation of waste. Waste receptacles should be clean, not overflowing and in a good state of repair. The waste storage area should be clean and uncluttered.	Senior sister	Staff have been reminded of importance of implementing this recommendation in relation to waste and sharps. The nurse in charge checks this on a daily basis. The senior sister is currently reviewing the staff training on waste management.	Complete Complete by end Dec 2014
31.	It is recommended that all sharps box temporary closure mechanisms are in place when sharps boxes are not in use. Sharps boxes should be changed when full.	Senior sister	Staff have been reminded of importance of implementing this recommendation in relation to temporary closure mechanisms. The nurse in charge checks this on a daily basis.	Complete

Standard 5: Patient Equipment				
32.	General patient equipment must be clean, stored correctly and in a good state of repair. Stored patient equipment should have cleaning guidelines in place and trigger tape in situ to identify that it has been cleaned.	Senior sister Critical Care Scientist	Critical Care are using the BHSCT equipment cleaning schedule to ensure that equipment is cleaned and stored appropriately. Trigger tape is now in use to identify that equipment has been cleaned.	Complete
Standard 6: Hygiene Factors				
33.	It is recommended that consumables and dispensers are available and in working order. The domestic trolley should be kept clean at all times.	Critical Care Management Team (CCMT), Senior Nurses and PCSS Management Team	CCMT to set up a working group with PCSS Management to take forward this recommendation Dispensers in the unit have been reviewed and actions regarding repair have been taken.	Working group To be set up by end Sept 2014 Complete
34.	It is recommended that all chemicals are stored in a locked, inaccessible area in accordance with COSHH regulations.	Critical Care Management Team (CCMT), Senior Nurses and PCSS Management Team	CCMT to set up a working group with PCSS Management to take forward this recommendation All staff are aware of their responsibilities for keeping COSHH cupboard locked. All staff have completed their COSHH mandatory training.	Working group To be set up by end Sept 2014 Complete
35.	It is recommended that staff review the number of PPE stations with a view to increasing the number available.	Critical Care CCO and Senior Sister	Senior sister with Critical Care CCO to look at increasing the number of PPE stations from 2, this will be dependent on available space within the unit.	End August 2014

Standard 7: Hygiene Practices				
36.	It is recommended that a Difficil - S dilution chart and COSHH data sheets are available.	Senior sister	Senior sister is taking this forward	End August 2014
37.	It is recommended that all staff adhere to the trust dress code policy.	CCMT, Clinical Lead	A reminder regarding the staff dress code policy will be distributed to all staff (including AHP and support services)	End August 2014



The **Regulation** and
Quality Improvement
Authority

The Regulation and Quality Improvement Authority
9th Floor
Riverside Tower
5 Lanyon Place
BELFAST
BT1 3BT

Tel: (028) 9051 7500
Fax: (028) 9051 7501
Email: info@rqia.org.uk
Web: www.rqia.org.uk