The Regulation and Quality Improvement Authority

Inspection Report

8 - 9 December 2021

Belfast Health and Social Care Trust

Cardiac Surgery Intensive Care Unit
Royal Victoria Hospital
274 Grosvenor Road,
Belfast,
BT12 6BA

Telephone number: 028 9024 0503

Information on legislation and standards underpinning inspections can be found on our website https://www.rqia.org.uk/

1.0 Service information

Organisation/Registered Provider: Belfast Health and Social Care Trust	**Responsible Person:** Dr Cathy Jack, Chief Executive Officer, Belfast Health and Social Care Trust (BHSCT)
Person in charge at the time of inspection: Mr. Damian Marner Charge Nurse	**Number of commissioned beds:** 18
Categories of care: Augmented Care	**Number of beds occupied in the wards on the day of this inspection:** 10
Brief description of the accommodation/how the service operates: The Belfast Trust provides Cardiac Surgery for the whole of Northern Ireland, serving a population of 1.8 million people. The cardiac surgery department carries out all aspects of heart surgery with routine procedures that includes coronary artery bypass grafting, heart valve replacement and repair, aortic surgery and resection of tumours invading the heart. The Cardiac Surgery Intensive Care Unit (CSICU) is a 18-bedded unit based on Level 3 of the main building, at the Royal Victoria Hospital (RVH) site.	

2.0 Inspection summary

An unannounced inspection was undertaken to the Cardiac Surgery Intensive Care Unit (CSICU) at the Royal Victoria Hospital (RVH) on 8 December 2021 and concluded on 9 December 2021, with feedback to the ward manager and key representatives. Three care inspectors from the Hospital Programme Team carried out the inspection.

This inspection focused on two key areas:

1. The Inspection team carried out an exercise to validate the findings and actions taken by the Trust following their self-assessment with the three regionally agreed inspection tools for augmented care areas.

2. The Inspection team carried out a series of interviews with staff who work within the CSICU. The purpose of these interviews was to assess if actions had been taken to strengthen leadership, management, and communication within the Cardiothoracic Service following the outcomes of a Royal College of Surgeons, Invited Service Review Report (2020).

Validation of the findings and actions taken by the Trust following their self-assessment with the three regionally agreed inspection tools for augmented care areas.

The Chief Medical Officer endorsed the use of the Regional Infection Prevention and Control Audit Tools for Augmented Care Settings by all health and social care (HSC) Trusts in Northern Ireland in the relevant clinical areas. In 2013 an improvement programme of unannounced inspections to augmented care areas commenced on 28 May 2013 and continued until 2018. Within the programme, there was an expectation that compliance levels would improve year on year until all HSC Trust areas had achieved a compliance rate of 95%. A compliance level of 95% is now the expected standard.

Following on from this in 2018 the future approach to assurance of infection prevention and control practices within intensive care wards moved from compliance dominant to a collaboration-based model in assuring good practice.

This approach required HSC Trusts to undertake regular self-assessment of the care delivered in their augmented care settings with the agreed overall compliance target scores of 95%. The Critical Care Network Northern Ireland (CCaNNI) works with HSC Trusts to provide a platform for regional sharing of good practice and learning. RQIA have worked collaboratively with the CCaNNI and agreed the protocol for the return of twice-yearly submission of HSC Trust self-assessments and updated action plans from the CCaNNI to RQIA. Inspection visits to a selection of intensive care units are undertaken by RQIA to randomly sample aspects of the Regional Infection Prevention and Control Audit Tools for Augmented Care Settings to spot check the systems and processes of care, while reserving the right to independently assess/inspect any intensive care unit at any stage should a particular circumstance require this.

The purpose of this inspection was to validate the findings and actions taken by the BHSCT (the Trust) following their self-assessment with the three regionally agreed inspection tools for augmented care areas. (Regional Infection Prevention and Control Audit Tool for Augmented Care Settings in Northern Ireland, (HSS MD 5/2013), Regional Infection Prevention and Control Clinical Practices Audit Tool for Augmented Care Areas and the DHSSPS Regional Healthcare Hygiene and Cleanliness Audit Tool). Table 1 sets out agreed regional compliance targets and table 2 sets out the Trust's self-assessment compliance levels.

Table 1: Regional Level of Compliance

Compliant	95% or above
Partial Compliance	86 to 94%
Minimal Compliance	85% or below

Table 2: Self-assessment Level of Compliance September 2020

Inspection Tools

Inspection Tools	Self-assessment
Regional Augmented Care Infection Prevention and Control Audit Tool.	**96.3%**
Regional Infection Prevention and Control Clinical Practices Audit Tool.	**95.8%**
Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool.	**98.8%**

This inspection focused on six key themes: the unit's infection prevention control (IPC) and environmental cleanliness; enteral feeding; antimicrobial prescribing; taking of blood cultures; and Aseptic Non Touch Technique (ANTT) and invasive devices.

Environmental cleaning and IPC were both found to be of a high standard in the main unit. There were good antimicrobial stewardship mechanisms in place and staff displayed good knowledge on the management of enteral tube feeding systems. ANTT practices and invasive device management were observed to be in line with policy and good practice. There was not a system in place to audit compliance with ANTT practices in the management of nasogastric feeding tubes or the taking of blood cultures, which would provide assurances to management.

Staff interviews following the outcomes of a Royal College of Surgeons, Invited Service Review Report (2020).

The Chief Executive of the Belfast Health and Social Care Trust commissioned an Invited Service Review (ISR) of the Trusts Cardiothoracic surgical service following a number of concerns regarding the clinical management and leadership within the service following a breakdown of communication and working relationships within the service. The ISR was undertaken by the Royal College of Surgeons into Cardiothoracic Services at the Belfast Trust between 9 and 11 March 2020.

The ISR team reported a number of significant issues and made 37 recommendations. Interpersonal and behavioural issues within the service.

This service was placed into enhanced monitoring by the General Medical Council in February 2021 this action was taken in respect of the training experience for doctors and enhanced monitoring by the GMC remained in place at the time of this inspection.

Inspectors focused on assessing whether improvements had been made to strengthen leadership, management, and communication within the cardiothoracic service following the recommendations outlined within the ISR report. Inspectors carried out a number of interviews with staff at all levels of the cardiothoracic service.

Staff who were interviewed reported improvements in collaborative working, staff relationships, communication and leadership at all levels. Staff advised of a number of recent organisational development actions which included a review of the cardiac service management structures, relocation of the theatre and CSICU to an area that is more conducive to the delivery of safe and effective care, the establishment of a range of safety and accountability meetings and a renewed focus on trainee education.

3.0 How we inspect

RQIA's inspections form part of our ongoing assessment of the quality of services. To do this, we review the information we hold about the service, examine a variety of relevant records, speak with visitors, staff and management, and observe staff practices throughout the inspection.

The information obtained is then considered before a determination is made on whether the service is operating in accordance with the relevant legislation and quality standards.

This report reflects how the service was performing at the time of our inspection, highlighting both good practice and any areas for improvement. It is the responsibility of the Trust to ensure compliance with legislation, standards, and best practice, and to address any deficits identified during our inspections.

4.0 What people told us about the service?

We were unable to speak with patients during the inspection due to their clinical condition.

Staff reported that they were happy to work in the unit, teamwork with all disciplines was good, and they felt well supported by managers. Staff did comment on the personal challenges they faced when redeployed to the Nightingale Hospital at the height of the pandemic to support the ICU teams. Staff did acknowledge the good support from the unit managers during this period.

5.0 The inspection

5.1 What has this service done to meet any areas for improvement identified at or since last inspection?

The last inspection to the CSICU was undertaken on 2 October 2018 by care inspectors; no areas for improvement were identified during this inspection.

5.2 Inspection findings - Validation of the Augmented Care Self-assessment

5.2.1 Regional Healthcare Hygiene and Cleanliness Standards

The standard of cleaning of clinical area of the unit was excellent. There was clear evidence of an enhanced environmental cleaning programme. Staff when questioned, were aware of the importance of cleaning to prevent transmission of infectious organisms. Fixtures and fittings were well maintained with evidence of ongoing improvement works. Patient bed areas were bright, uncluttered, and well organised to allow for effective cleaning of the environment.

Excellent compliance with hand hygiene was observed from all staff. Hand washing facilities and a range of consumables were available to enable hand hygiene practices to be carried out effectively. A safe source sink (non-hand washing) is clearly located in the unit with signage indicating its purpose in place.

The unit was risk assessed as a Red Zone for COVID -19 precautions, requiring full personal protective equipment (PPE) to be worn. A range of PPE for transmission based precautions was available and accessible to staff. PPE was observed to be worn appropriately in line with current guidance. Staff have maximised the directional flow traffic using a one-way entry/exit system. Floor signage has been used effectively to direct flow. A PPE donning station was located at main entrance and the doffing station, for removal and disposal of PPE, was located in the annex area of the unit.

Overall, the management of waste and sharps was in line with Trust policy. Sharps disposal boxes were situated at the point of care and partial closure mechanisms were evidenced to be in place when not in use.

Equipment in use was noted to be clean and well maintained. The use of trigger tape was observed which indicated when the equipment was last cleaned and ready for use.

Information on key performance indicators, which included hand hygiene and environmental cleaning audits, were clearly displayed and action plans were observed to support areas for improvement. Audit scores evidenced good compliance. The IPC team visit the unit regularly and are accessible via telephone outside of these visits for support and advice.

Examination of records indicated compliance at mandatory IPC training is 50%. An area for improvement has been identified in respect of this.

The inspection team were pleased with the relocation of the CSICU to its new location on level three with improvements noted in terms of increased bed space, more modern fixtures and fittings, and an increased capacity of the number of side rooms. There are however concerns in relation to having adequate clinical support infrastructure for the storage of clinical equipment and adequate provision for the decontamination and servicing of cardiac equipment.

The annex accommodates a further five beds, but to date these have not been used. The annex was being used for a multiuse of purposes due to the limitations of the support spaces within the current footprint of the unit. Inspectors observed that this area was being used for the storage of equipment, storing of the blood fridge, a PPE donning /doffing station area, and an area for staff training. Two bed areas were also designated workstations for the technicians to strip, clean, and set up patient equipment. Inspectors found this area cluttered with equipment making it really challenging for effective cleaning procedures. Dust was noted to be settling on unused equipment in the annex area. This was brought to attention of nurse in charge during the inspection.

In addition, inspectors were advised of the challenges when decontaminating the cardiopulmonary bypass machines used during cardiac surgery. These machines receive a deep clean every two weeks, with a weekly water filter change. Currently these machines have to be transported to the old CSICU for decontamination by one staff member. There were no suitable facilities within the current unit to carry this out, as a suitable ventilated area is required due to the COSHH products used. IPC team and SMT have advised us that this has been risk assessed, and discussions are ongoing with the IPC team to find a suitable alternative area within CSICU. This is also on the Trusts Risk Register.

Staff advised that all efforts have been made to maximise space within the unit and additionally source storage space in neighbouring departments, however this has been without success. Staff advised of the advantages in patient flow, capacity and infection control outbreak management by improving the clinical support areas of the unit and the repurposing the annex area back for patient use. An AFI has been made in respect of this.

5.2.2 ANTT

A Trust policy was in place, which indicated a yearly assessment was to be completed by staff involved in ANTT practices. ANTT trainers are clearly identified and a programme of assessment is in place. The resource file contains all elements of assessment and ANTT practices staff were assessed against. Compliance rates for assessment of practices are good. Practices observed during the inspection were noted to be in line with good practice and policy. Monthly local audits are carried out to ensure compliance with policy.

5.2.3 Enteral Feeding

For Trusts to comply with this section of the audit tool they must ensure guidance is, available to inform practice and to assist in the prevention of infection associated with enteral nutrition. Enteral feed must be stored, used, and disposed of in accordance with Trust policy and administration and maintenance of the enteral feeding system should be carried out in accordance with evidence-based practice.

The ward managers advised that that all staff complete competency based training on the insertion of nasogastric feeding tubes during their induction. Staff also complete a documented self-assessment of the procedure, which is used to identify any deficits in knowledge and skills. There was no programme of continuous competency based training on the insertion of nasogastric feeding tubes, although staff reported this does take place informally or following a period of long-term leave. This was discussed with the ward managers who provided assurance that any gaps in training would be addressed as a priority.

Patient care records relating to enteral feeding systems were reviewed. The required documentation was fully completed and included detail on the insertion set up, and care of the enteral feeding tube. It was noted that all nasogastric-feeding tubes observed had the appropriate line labelling in place.

Staff demonstrated good knowledge surrounding enteral feeding and the appropriate infection prevention control procedures in accordance with evidence based practice.

A weekly audit takes place, which monitors the accurate completion of care records associated, with the management of nasogastric feeding tubes. This includes details on the tubes insertion and the ongoing clinical care. Audit results demonstrated a high level of compliance, although, it was noted that the audit did not include the ANTT practices associated with the tubes insertion or any subsequent connections or disconnections to the tube. This was discussed with the ward managers during the inspection and assurance was provided the auditing process would be reviewed to include compliance with ANTT practice. An area for improvement has been identified in relation to incorporating ANTT practices with NG tube insertion and ongoing clinical management within the auditing processes.

5.2.4 Taking of blood cultures

A policy and procedure was in place, and ongoing training was provided to the medical staff from anaesthetic champions on the taking of blood cultures. We observed a one-stop trolley situated within the main unit with an aide memoire attached for the procedure. It was identified that there was no auditing of ANTT practices when staff were carrying out the procedure. An AFI has been identified in respect of this.

The contaminant rates, which are discussed at the Augmented Care Sub Group Meetings, overall are below 3%, which indicates that blood cultures are being collected with proper attention to aseptic technique. We would suggest that records are maintained as evidence of what actions take place when levels rise above 3% and who has the clear line of responsibility in taking these forward.

5.2.5 Invasive devices

Overall, we were assured that good systems and processes were in place to ensure a standardised approach to the insertion and ongoing care of invasive devices. A range of care bundle audits are carried out with good compliance noted with invasive devices. Invasive lines were evidenced as labelled in line with regional policy with good staff practice witnessed in their management. There was evidence of practices in keeping of records of the peripheral cannula charts.

5.3 Inspection findings – Staff Interviews following the 2020 Invited Service Review

The Chief Executive of the Belfast Health and Social Care Trust commissioned an Invited Service Review (ISR) of the Trusts Cardiothoracic surgical service following a number of concerns regarding the clinical management and leadership within the service following a breakdown of communication and working relationships within the service. The ISR was undertaken by the Royal College of Surgeons into Cardiothoracic Services at the Belfast Trust between 9 and 11 March 2020.

The ISR team made 37 recommendations which included actions to improve interpersonal issues within the service and strengthen the management and leadership of the unit at all levels.

The ISR report highlighted accounts of significant environmental issues affecting Cardiac Theatres on the Royal Victoria Hospital site. The review team reported accounts of water leaks, fumes, and dust contamination because of the aging estate.

RQIA inspectors had previously planned to inspect the environments of the theatre area and the CSICU. These plans were however postponed as following a further water leak in the cardiac surgery theatres in July 21, the Trust relocated both the cardiac theatres and the CSICU to level 3 of the RVH following the decant of the regional intensive care unit which moved to the new critical care building.

For the purposes of this inspection, inspectors focused on assessing whether improvements had been made to strengthen leadership, management, and communication within the cardiothoracic service following the recommendations outlined within the ISR report.

Interviews were carried out with 12 staff in total, which included representation from the senior management team and medical and nursing disciplines.

Overall staff morale was reported to be good, even with the impact of the pandemic. Staff told us they felt supported, respected, and valued by managers. Staff understood the importance of being able to raise concerns and were confident in doing so that concerns would be managed professionally. Managers were visible and approachable. Staff have also reported good collaborative working amongst disciplines, and any conflicts are dealt with quickly and constructively.

Improvements in leadership were attributed to a number of factors. A review of the cardiac service management structures had been undertaken resulting in the appointment of a new Clinical Director in September 2021, and new clinical leads in October 2021. It is planned that the cardiothoracic service is to separate into specific cardiac surgery and thoracic surgery services with an implementation date agreed for January 2022.

As previously, noted CSICU and cardiac theatres relocated to its current location in level 3 in July 2021. This had helped integrate the service into the wider theatre environment of the hospital and improve collaboration and shared learning with other services.

Cardiothoracic weekly safety meetings have been established and are independently chaired. Staff reported these multidisciplinary meetings helped improve integrated working and communication across all disciplines. Improving trainee education is also a strong focus within these meetings.

Some staff identified that they had been disappointed with the outcomes of the ISR, however it had ultimately provided a strong focus which helped teams to work collaboratively to make positive cultural changes. Staff advised that a number of meetings have been held with consultant teams to support positive change and understand acceptable behaviours when engaging with other staff members.

Staff have reported that they want the cardiothoracic management team to facilitate ongoing meetings with all disciplines involved in the ISR to enable constructive discussion and collaboratively agree actions to address the findings of the ISR. An AFI has been made in respect of this.

RQIA were pleased to see early signs of change and improvement whilst cognisant that it takes time to make cultural changes and embed these fully within a service; it is a journey that requires strong and resilient leadership to embed the vision, align behaviours accordingly and instill robust systems of monitoring and accountability.

6.0 Quality Improvement Plan/Areas for Improvement

Areas for improvement have been identified where action is required to ensure compliance with **DHSSPSNI Quality Standards for Health and Social Care (March 2006)**

	Standards
Total number of Areas for Improvement	4

The total number of areas for improvement includes 4 that have been stated for a first time.

Areas for improvement and details of the Quality Improvement Plan were discussed with the service management team, as part of the inspection process. The timescales for completion commence from the date of inspection.

Quality Improvement Plan

Action required to ensure compliance with DHSSPSNI Standards for Health and Social Care(March 2006)	
Area for improvement 1 **Ref:** Standard 5.1 **Stated:** First time **To be completed by:** 10 February 2022	The Trust should ensure systems are in place to monitor compliance with mandatory IPC training and that action is taken were compliance levels are not achieved. Action should then be implemented to ensure all CSICU staff complete mandatory IPC training in line with Trust policy Ref: 5.2.1
	Response by registered person detailing the actions taken: >Monthly audit commenced to identify percentage staff up to date with mandatory IPC training. (Data pulled from E-Roster, baseline 58% 21/03/22) >Importance of compliance with IPC mandatory training highlighted at weekly update, newsletter and daily safety huddle. >Staff to self report training and complete personal training records which are then uploaded to E-Roster.
Area for improvement 2 **Ref:** Standard 5.1 **Stated:** First time **To be completed by:** 10 July 2022	The Trust should improve the dedicated clinical support spaces for the storage; decontamination and servicing of equipment to ensure they adequately meet the functional requirements of the unit. This will additionally promote the desired behaviours of cleaning and tidiness and discourage clutter and the separation of clean and dirty activities. Ref: 5.2.1
	Response by registered person detailing the actions taken: >This issue has been added to the Risk Register. >Options for dedicated storage space for equipment and goods are being explored by the Co-Director for surgery and Capital Redevelopment Team colleagues using the original Level 3 architectural drawings. >Dedicated clinical support space identified for the perfusion and scientific equipment and estates works programme agreed to make ready the space. Ongoing negotiations with existing team currently using identified space to relocate in progress.

Area for improvement 3 **Ref:** Standard 5.1 **Stated:** First time **To be completed by:** 10 February 2022	The Trust should instigate routine audit of compliance with ANTT practice in the management of nasogastric tubes and the practice of taking blood cultures. Ref: 5.2.3/5.2.4
	Response by registered person detailing the actions taken: >Compliance with ANTT practice during renewal of giving set and nasogastric feed, added to weekly NG audit tool. >Auditing of blood cultures being arranged by Anti-Microbial Stewardship Group. Pharmacist/Anaesthetists will action. A Local Safety Standard for Invasive Procedures (LocSSIP) will be in place for the procedure of blood cultures and subsequently audited. Yearly ANTT assessment will be based on blood culture procedural practice.
Area for improvement 4 **Ref:** Standard 5.1 **Stated:** First time **To be completed by:** 10 February 2022	The Trust should ensure the cardiothoracic management team involves and actively engages with all staff disciplines and groups. Meeting should be structured to promote constructive discussion and collaboration to address the recommendations of the Invited Service Review. Ref: 5.3
	Response by registered person detailing the actions taken: Clinical Director, Clinical Leads and Service Manager for Specialist Surgery are now in post. There have been a number of engagement events with staff from various disciplines over the past number of months including those with Consultant staff as well as junior medical staff and senior management. There is a weekly meeting of ASMs, Service Manager and Service Clinical Leads to discuss performance, safety and for team members to highlight any areas of concern. A weekly patient safety and quality meeting is now in place which involves representation from all disciplines who provide ward based care for Cardiothoracic patients.

	Consultant delivered teaching sessions are now in place for doctors in training, the invitation of which is extended also to non-medical staff. The Consultant Surgeons, Anaesthetists and scheduler meet collectively on a weekly basis to discuss patients who are due to be scheduled for Surgery. This includes a discussion about clinical priority and any anticipated problems that may arise during the surgery. The Service Clinical Leads meet monthly with junior medical staff to provide support, identify learning needs and address any concerns. Any issues are then escalated to the Clinical Director as appropriate. There is now an establshed system in place within the Service for having oversight of Morbidity & Mortality, Critical Care Performance, Governance, Safety key performance indicators including patient experience. Visible senior nursing leadership from ASMs/SM who regularly engage with the Sister/charge nurses/ clinical staff on a daily basis. There is a daily Charles Vincent Safety Huddle for the Division of Surgery which is chaired by the Co-Director/ Divisional Nurse/ Chair of Division and is attended by CTS ASM and Service Manager. This ensures sensitivity to operations and early escalation of any problems. Ward staff meetings are held regularly and are attended by the ASM with the invitation to the Divisional Nurse. The Divisional SMT are accessible and can be contacted directly by any of the CTS team.

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