



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at the Midland Regional Hospital Mullingar.

Date of on-site inspection: 04 December 2019

**HIQA's consolidated programme of monitoring against the
*National Standards for the prevention and control of
healthcare-associated infections in acute healthcare services***

About the Health Information and Quality Authority (HIQA)

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA's mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children and Youth Affairs, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

Table of Contents

1.0 Introduction.....	2
2.0 Information about this inspection.....	2
3.0 Hospital profile	3
4.0 Inspection findings.....	4
4.1 Governance and management structures	4
4.2 Monitoring, audit and evaluation systems including risk management.....	6
4.3 Implementation of evidence-based best practice	10
5.0 Conclusion	18
6.0 References	20
7.0 Appendices.....	24
Appendix 1: Lines of enquiry (LOE)	24

1.0: Introduction

Under section 8(1)(c) of the Health Act 2007, Authorised Persons of the Health Information and Quality Authority (HIQA) monitor the implementation of the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*¹ in public acute hospitals.

HIQA's focus in 2019 included a detailed evaluation of how hospitals organise themselves to minimise the spread of healthcare-associated infections; with a particular focus on systems to detect, prevent, and manage multidrug-resistant micro-organisms, and the approach taken to reduce the risk of reusable medical device-related infection. These two areas are internationally recognised as being major contributors to potentially preventable patient harm as a consequence of healthcare provision.

HIQA has published a guide² to this monitoring programme which is available to view on HIQA's website www.hiqa.ie

2.0 Information about this inspection

This inspection report was completed following an unannounced inspection carried out at the Midland Regional Hospital Mullingar by Authorised Persons, HIQA, Noreen Flannelly-Kinsella and Bairbre Moynihan on 04 December 2019 between 09:15hrs and 17:00hrs.

Specific lines of enquiry were developed to facilitate this monitoring programme and are included in this report in Appendix 1.

Inspectors used specifically designed monitoring tools and focused on:

- the prevention and control of transmission of antimicrobial-resistant bacteria and healthcare-associated infections
- decontamination facilities* outside of designated controlled decontamination units.[†]

During this inspection inspectors spoke with hospital managers, staff and representatives from the Healthcare-Associated Infections and Antimicrobial

* Decontamination facilities refers to the physical infrastructure where decontamination of reusable medical devices is provided.

[†] A controlled decontamination unit, such as a Central Decontamination Unit or Endoscope Reprocessing Unit, is a designated unit which has defined governance arrangements and is designed, constructed, maintained and controlled with structures, systems, processes and outcomes that are continuously monitored, measured and validated to provide assurances that reusable medical devices are safely and effectively reprocessed consistently in accordance with legislation, manufacturer's instructions, national decontamination standards and guidelines, National Standards and best practice guidance.

Stewardship Committee and Decontamination Committee. Inspectors requested and reviewed documentation, data and observed practice within the clinical environment in a sample of clinical areas which included:

- Medical One Ward: a 31-bedded general medical ward.
- St Mary's Rehabilitation Unit: a 10-bedded unit comprising of one two-bedded and two four-bedded rooms located at St Mary's Campus.
- The Radiology Department.

HIQA would like to acknowledge the cooperation of the hospital management team and staff who facilitated and contributed to this unannounced inspection.

3.0 Hospital profile

The Midland Regional Hospital Mullingar is a model 3 acute teaching hospital which is owned and managed by the Health Service Executive and is part of the Ireland East Hospital Group.[‡] The hospital has a bed capacity of 200 inpatient beds and a 24/7 Emergency Department. The hospital provides a range of inpatient, day and outpatient services for surgery, medicine, obstetrics, gynaecology and paediatrics.

A rehabilitation service under the governance of the Midland Regional Hospital Mullingar was provided off-site in a 10-bedded rehabilitation unit located at St Mary's Campus adjacent to the hospital.

The hospital was providing a decontamination and reprocessing service for reusable medical devices used at the hospital. Decontamination and reprocessing of critical and semi-critical devices[§] was performed in the:

- Central Sterile Supplies Department (CSSD) (for critical devices such as surgical instruments).
- Endoscopy Unit (for semi-critical devices such as gastro-intestinal endoscopes and bronchoscopes).

Decontamination and reprocessing of semi-invasive ultrasound probes used in the Radiology Department was performed locally using either an automated validated system or manual multi-wipe high level disinfectant system. Semi-invasive

[‡] Hospital groups: The hospitals in Ireland are organised into seven hospital groups. 1. Ireland East Hospital Group. 2. Dublin Midlands Hospital Group. 3. South/South West Hospital Group. 4. Saolta University Health Care Group. 5. University of Limerick Hospitals Group. 6. RCSI Hospitals Group. 7. Children's Health Ireland Hospital Group.

[§] The Spaulding classification, dating back to the 1950s, is a widely used classification system which is used to determine the level of decontamination a reusable medical device requires. The level of decontamination required is dependent on the equipment's purpose, and ranges from cleaning, through disinfection to a requirement for sterilisation. Devices may be classified as 'critical' (presenting a high risk of infection transmission if not fully cleaned, disinfected and sterilised), 'semi-critical' or 'non-critical' (presenting a low risk).

ultrasound probes used in the Woman's Health Directorate were decontaminated locally using manual multi-wipe high level disinfectant systems.

In addition, non-invasive ultrasound probes and doppler devices used in the Out-Patient Department were decontaminated locally after use.

4.0 Inspection findings

The following sections present the general findings of this unannounced inspection. The report is structured as follows:

- Sections 4.1 to 4.3 present the general findings of this unannounced inspection.

4.1 Governance and management structures

4.1.1 Infection prevention and control programme

Inspectors found that there were formalised organisational structures to support the prevention and control of healthcare-associated infection at the hospital. Oversight of the infection prevention and control programme at St Mary's Rehabilitation Unit by the infection prevention and control team was also evident.

However governance arrangements around the prevention and control of healthcare-associated infection were not fully aligned with the Ireland East Hospital Group. The hospital's consultant microbiologist and assistant director of nursing in infection prevention and control had a joint commitment with two other hospitals in the Dublin Midland Hospital Group. HIQA's previous monitoring reports identified that the consultant microbiologist had remained a standalone position leading and providing cover on a 24-hour basis seven-days-a-week across three hospitals in two hospital groups (with cover arrangements provided for periods of leave). Information submitted by the hospital following this inspection stated that a business case for a second regional microbiologist position had been submitted by the consultant microbiologist prior to this inspection.

The infection prevention and control team was led by the consultant microbiologist who was employed by the Midland Regional Hospital Mullingar. The consultant microbiologist had a nine hour commitment at the hospital, and attended in person two-days per week.

The team attended a meeting with the Ireland East Hospital Group via teleconference on a quarterly basis. Team membership included 2.0 WTE infection prevention and control nurse specialists however, it was identified that this complement had been temporarily reduced to 1.0 WTE. Furthermore inspectors learned that access to dedicated administrative resources was not available.

Therefore a review of infection prevention and control team resources using defined methodologies, including the size, complexity and speciality of services provided is required.¹ Furthermore workforce contingency and succession planning¹ so that the service continues seamlessly in the absence of specialist staff without negatively impacting on the programme is recommended.

The infection prevention and control team prepared an infection prevention and control report for the hospital's Healthcare Associated Infections and Antimicrobial Stewardship Committee. An objective of this committee was to deliver on the hospital's healthcare-associated infection and antimicrobial stewardship strategy. The committee, chaired by the hospital manager, met quarterly and reported to the hospital's Quality and Safety Executive Committee as did eighteen other hospital committees. In order to strengthen governance arrangements, the number of hospital committees reporting into an oversight committee should be reviewed.

The Quality and Safety Executive Committee met bi-monthly and reported to the Hospital Management Team. Minutes of quality and safety executive committee meetings reviewed showed that responsible persons and timeframes afforded for each action were not always identified. Furthermore it was not evident that actions were reviewed at each meeting.

Quality Improvement Plan

HIQA reviewed the quality improvement plan (QIP) published by the Midland Regional Hospital Mullingar following HIQA's 2015 inspections. Overall, it was apparent that progress had been made in addressing the findings of the 2015 inspections. For example:

- The importance of closing doors of isolation rooms was included in mandatory infection prevention and control training.
- A hospital-wide internal mattress audit was introduced.
- Equipment storage in the intensive care unit was reviewed and a room was identified for storage.

4.1.2 Decontamination and reprocessing of reusable medical devices

The Decontamination Committee was responsible for overseeing decontamination of reusable medical devices at the hospital. Defined management arrangements for decontamination service provision at service-delivery level were in place. This

included an outsourced manager position (with a certified ISO accredited external contractor)** for two days each week in CSSD.

The hospital did not have an assigned decontamination lead and or coordinator at the time of inspection. Likewise there was no group decontamination lead position in the Ireland East Hospital Group.^{3,4} HIQA acknowledges that the appointment of a hospital decontamination lead or coordinator position was at an advanced stage at the time of this inspection.

The Decontamination Committee meeting, chaired by the peri-operative divisional nurse manager, met bi-monthly. Membership included local managers from centralised and satellite decontamination facilities including the manager contracted in CSSD. Representatives from infection prevention and control, quality and risk, bio-engineering and maintenance were also included. It was reported that minutes were shared with committee members which was validated by staff in a satellite decontamination facility inspected.

However decontamination committee minutes reviewed showed that attendees were not recorded in five of six minutes received. Management need to ensure that quorums for effective decision-making are met, relevant specialist expertise are in attendance and minutes reflect what was discussed.

During this inspection there appeared to be lack of clarity in relation to reporting and escalation from decontamination services as differing arrangements were identified. Reporting arrangements need to be integrated and formalised so that issues identified as areas of concern are escalated appropriately so that they can be effectively managed.

4.2 Monitoring, audit and evaluation systems including risk management

4.2.1 Monitoring, audit and evaluation systems

The infection prevention and control surveillance programme included surveillance of:

- 'alert' organism^{††} and 'alert' conditions
- multidrug-resistant organisms
- invasive medical device-related infections
- surgical site infections in relation to caesarean sections

** Achieved external accreditation to ISO13485 for the provision of decontamination and sterilisation services for reusable medical devices (International Organisation for Standardisation).

†† Alert organisms are micro-organisms that pose a significant risk of transmission to non-infected patients or staff, resulting in colonisation or healthcare-associated infection, or that pose a significant risk of transmission to non-infected people in the wider population or community.

- intensive care unit-acquired infections
- data reported to the European Antimicrobial Resistant Surveillance Network (EARS-Net)^{**}
- neonatal infections.

Hand hygiene

Staff hand hygiene compliance required by the HSE is set at 90%. Following inspection hospital management reported that overall hospital compliance was 91% which is in line with the national target.

Hand hygiene training was mandatory every two years. Training was delivered twice monthly for staff. Hospital management were unable to provide inspectors with the percentage of staff trained and trained by staff discipline as the audits had not been inputted due to lack of clerical support. Minutes reviewed of two Healthcare Associated Infections and Antimicrobial Stewardship Committee meetings highlighted this deficit but it had yet to be progressed at the time of inspection.

Environmental and equipment audits

A combined equipment and environmental audit was carried out monthly on each ward, including St Mary's Rehabilitation Unit, by support services. The hygiene audit reports reviewed clearly identified corrective actions required and a responsible person for each action; the clinical nurse manager had overall responsibility for the quality improvement plan which was returned to the support services department following each audit. However the equipment hygiene component of the audit tool needs review to provide assurances that patient equipment including drip stands and commodes are cleaned in line with national minimum cleaning frequencies.^{5,6}

An overall hospital trended hygiene report viewed by an inspector showed results consistently greater than 87%. Management reported during the inspection that overall trending of environmental and equipment hygiene audits was undertaken. Some hygiene audit results showed that maintenance issues remained unresolved from audit to audit thereby impacting on overall results. Management informed staff that a rolling maintenance programme had ceased in the summer. This should be recommenced as a matter of priority.

Decontamination and reprocessing of reusable medical devices

The focus of this inspection was on satellite decontamination facilities outside of designated controlled decontamination units.

^{**} EARS-Net performs surveillance of antimicrobial susceptibility of bacteria causing infections in humans including; *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Acinetobacter* species, *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Enterococcus faecalis* and *Enterococcus faecium*.

Notwithstanding this during the course of this inspection it was identified to inspectors that regular audit was undertaken in the centralised Endoscopy Unit. An audit of compliance with recommended practices for cleaning and disinfection processes for endoscopes undertaken in April 2019, showed that an action plan was put in place to address areas identified for improvement.¹ In CSSD as part of a service level agreement management stated that performance reports including non-conformances were presented to hospital management by the external contractor with responsibility for management of the department, on a quarterly and annual basis.

Inspectors were informed that decontamination equipment was maintained and periodically tested, monitored and validated by specialist groups at the hospital and external service providers in line with national guidance and best practice recommendations.^{7,8,9,10} Clinical engineering and maintenance and repair of equipment featured as a standing agenda item at decontamination committee meetings. An authorised engineer for decontamination (AED)^{§§} was appointed by the hospital to oversee and audit technical aspects of the decontamination programme.

Hospital management stated that periodic testing schedules for water was undertaken in both centralised decontamination facilities and that environmental testing (air and surfaces) was due to commence shortly. Inspectors were told that contingency plans in the event of decontamination equipment failure were being finalised at the hospital.

Other findings in relation to the satellite decontamination facility inspected will be presented in section 4.3.2 in this report.

4.2.2 Risk management

The hospital had systems in place to identify and manage risk in relation to the prevention and control of healthcare-associated infections.

Inspectors were informed that the hospital had a hospital risk register^{***} and infection prevention and control risks were included. The risk register included existing controls, actions and an identified person for the actions. Management informed inspectors that the risk register was reviewed monthly at the hospital executive meeting, updated at the clinical incident management meeting, and was a

§§ A suitably qualified person to graduate level designated by management to provide independent auditing and technical advice in relation to decontamination facilities, and equipment testing and validation records.

*** A risk register is a database of assessed risks that face any organisation at any one time. Always changing to reflect the dynamic nature of risks and the organisation's management of them, its purpose is to help hospital managers prioritise available resources to minimise risk and target improvements to best effect. The risk register provides management with a high level overview of the hospital's risk status at a particular point in time and becomes an active tool for the monitoring of actions to be taken to mitigate risk.

standing agenda item at the hospital clinical governance quality and patient safety committee meeting.

However, the infection prevention and control team informed inspectors that they did not have oversight of the infection prevention and control risks on the hospital risk register. Furthermore, a number of risk assessments were completed by the infection prevention and control team including for example risk of non-compliance with CPE screening and lack of public toilets in the Emergency Department but these had yet to be entered on the hospital risk register. Hospital management need to ensure that there are clear processes for communication and oversight by the infection prevention and control team of infection prevention and control-related risks entered on the hospital risk register.

Incidents were reported via a paper based system and entered onto the National Incident Management System.⁺⁺⁺ Management reported that incidents were tracked and trended on a monthly basis by the infection prevention and control team. Documentation reviewed showed that incidents were a standing agenda item twice yearly on Healthcare Associated Infections and Antimicrobial Stewardship Committee meetings. Staff reported that incidents in relation to lack of isolation rooms were reported but that newly acquired healthcare-associated infections were not routinely reported. Newly acquired healthcare-associated infections must be reported and inputted into the National Incident Management System in line with national standards and guidelines.^{1,11}

Decontamination and reprocessing of reusable medical devices

Inspectors were informed that decontamination-related risks were managed locally at decontamination committee meetings and risks that could not be effectively mitigated were escalated through directorate and or hospital management reporting structures. While governance and risk featured as an agenda item on decontamination committee meetings it was not evident that regular review of decontamination-related risks and incidents were discussed at this forum. Hospital management told inspectors that it was hospital policy to report decontamination-related incidents on the National Incident Management System.

Decontamination-related risks entered on the hospital's risk register included the absence of a decontamination lead, and non-compliance with building standards in CSSD. A risk assessment was carried out in relation to CSSD infrastructure as design did not facilitate complete separation of clean and dirty activities.

A risk assessment in relation to ageing decontamination and sterilisation equipment was also undertaken in CSSD however an action owner or a date by which these

⁺⁺⁺ The State Claims Agency National Incident Management System is a risk management system that enables hospitals to report incidents in accordance with their statutory reporting obligation.

actions were to be completed was not evident on the risk assessment which is not in line with national guidance.¹² National guidance recommend that feedback from routine or planned preventive maintenance along with the life cycle information from the manufacturer should inform decisions when to replace a device and or equipment.¹³

Inspectors were told that the hospital had an inventory of reusable medical devices and decontamination-related equipment.

Hospital management told inspectors that the hospital had recently trialled automated validated systems using ultraviolet light so as to move fully to automated validated systems for reprocessing ultrasound probes at the hospital; this needs to be progressed as manual multi-wipes systems are the least preferred option.⁷

The national medical devices eAlert^{***} system had been implemented at the hospital. The clinical engineering department and the quality, patient safety and risk management department, as nominated "designated persons" were responsible for internal hospital distribution to the relevant personnel for implementation of the recommended actions where applicable. The national track and trace programme and global asset identifier coding to support quality assurance of decontamination practices had been rolled-out in central decontamination facilities.

4.3 Implementation of evidence-based best practice

4.3.1 Systems to detect, prevent and manage multidrug-resistant organisms

The inspection team reviewed measures to prevent the spread of antimicrobial-resistant organisms. Inspectors focused on hospital-wide systems and processes in place at the hospital to prevent and control Carbapenem-Producing *Enterobacteriales* (CPE).

CPE management

The hospital was not in full compliance with national CPE screening guidelines.¹⁴ Specifically the hospital was not screening patients who had been inpatients in the Midland Regional Hospital Mullingar within the previous 12 months. Management stated that this was not being carried out due to lack of laboratory resources. The lack of laboratory resources had been escalated to the hospital risk register. Documentation reviewed showed that a medical scientist who was hired with funding provided to the hospital to expand CPE screening was allocated to another role in the laboratory due to staff shortages.

^{***} The national eAlert system receives notification directly from the HPRA of all medical device safety / hazard notifications or any internally generated HSE safety notifications for distribution.

Inspectors were informed the hospital had not experienced an outbreak of CPE. A number of initiatives had been introduced to control the transmission of CPE including:

- rapid testing for CPE for the winter months in the Emergency Department allowing for early identification and isolation of patients with CPE
- colour coded signage for patient rooms to identify patients who were CPE positive
- an antimicrobial-resistant organism assessment tool for identifying patients that may have an antimicrobial-resistant organism and CPE screening requirements
- an antimicrobial-resistant organism alert for insertion in the healthcare record
- the ISBAR (Identify, Situation, Background, Assessment, and Recommendation) interdepartmental handover included a tick box for antimicrobial-resistant organisms
- inspectors were informed that auditing of compliance with CPE screening within 24 hours of admission was carried out on one ward. This should be progressed to all inpatient clinical areas
- in line with the HSE CPE Contact Communications Programme,¹⁵ the hospital had written to identified CPE patient contacts^{§§§} that had been discharged advising them of their CPE contact status. Inspectors were informed that a number of patients had contacted the hospital requesting screening and that none of these patients acquired CPE.

An inspector was told that criteria for admission to St Mary's Rehabilitation Unit included a negative CPE screen and that screening for CPE had not as yet been implemented. The admission criteria to the unit was in the process of being finalised at the time of inspection. Hospital management need to be assured that CPE screening is applicable to the level of service provided^{1,14,16,21} and inter-facility transfer is aligned with national guidance in this regard.¹⁷

Evidence of good practice

Outbreak management

An outbreak report was completed following an outbreak of norovirus in August 2019. The outbreak report included background, a summary of events and an action

^{§§§} A CPE patient contact is defined as a person that has shared a multi-bed area and/or shared toilet facilities with a person identified as colonised or infected with CPE. This includes time spent in the Emergency Department (ED) and Acute Medical Assessment Units (AMAU). A person that has been cared for in an inpatient area (including ED and AMAU) by nursing staff who were simultaneously caring for one or more patients colonised with CPE in the absence of Contact Precautions. This might arise in relation to a patient who was not known to be colonised with CPE at the time in question.

plan. However the report viewed by an inspector did not outline learning from the outbreak.

Patient placement

- Management informed inspectors that there was an isolation prioritisation policy for management of patients with transmissible infection.
- All patients who were isolated on the day of inspection on Medical 1 Ward had appropriate signage in place and doors were closed.
- A patient was pre-emptively isolated in Medical 1 Ward while awaiting microbiological results. However the patient was placed in a room with no showering or toilet facilities. Staff reported that the patient had a designated commode for the room.
- An inspector was informed that when advice in relation to infection prevention and control was required at St Mary's Rehabilitation Unit a member of the infection prevention and control team attended.

Antimicrobial stewardship

- The hospital had an antimicrobial stewardship programme in place. A recent audit carried out over a six month period to monitor prescribing and consumption of carbapenem was carried out. Following a number of actions a 60% reduction in carbapenem prescribing had been observed.

Environmental hygiene

- Medical 1 Ward
 - Overall the environment was generally clean.
 - A hygiene audit undertaken in November 2019 was viewed by inspectors. Compliance of 87% was achieved with an accompanying action plan.
- St Mary's Rehabilitation Unit
 - good local ownership and oversight of hygiene was clearly evident
 - cleaning check lists were consistently completed
 - the environment and patient equipment inspected appeared clean
 - hygiene audit results showed 92-93% compliance between September and November 2019 respectively; this high level of compliance was evident on the day of inspection
 - a green tagging system which alerted staff to when equipment was last cleaned was consistently applied
 - wall and floor surfaces appeared well maintained despite dated

infrastructure.

Staff training

- All staff on Medical 1 Ward and St Mary's Rehabilitation Unit had attended hand hygiene, standard and transmission-based precautions training within the previous two years.
- Infection prevention and control training was provided two-yearly to staff with responsibility for hospital cleaning.

Opportunities for improvement

Communication

- A nursing patient transfer form reviewed at St Mary's Rehabilitation Unit showed that information in relation to infection prevention and control was limited; a review of documentation is recommended.

Infrastructure and environmental hygiene

- Medical 1 Ward
 - Unacceptable levels of dust was noted on the undercarriages of beds inspected and shelving in the clean utility.
 - Two rooms named the "Day Room" and "Treatment room" were occupied by inpatients. Hand hygiene facilities were available in the rooms but no showering or toilet facilities. Patients had to use the bathroom facilities in multi-occupancy rooms. Management informed inspectors this was a longstanding issue and that patients were risk assessed before being placed in the room.
 - Storage space on the ward was limited for example, there was inappropriate storage of mattresses, hoists and a weighing scales in an assisted bathroom.
 - The design of clinical hand wash sinks did not comply with HBN 00-10 Part C: Sanitary assemblies.¹⁸
 - General wear and tear was noted throughout the ward for example, black staining on flooring, doors were chipped and walls were damaged. This does not aid effective cleaning.
- St Mary's Rehabilitation Unit
 - The infrastructure was outdated and not in line with modern healthcare facilities.¹⁹
 - There was no single or multi-occupancy en-suite room and insufficient toilet and shower facilities.

- Inappropriate storage of a medication fridge, food fridge and cleaned patient equipment was observed in patient care rooms.
- The nursing office also operated as a clean utility room.
- There was no designated cleaner's equipment room; the cleaning trolley and supplies were stored underneath a stairwell outside the unit.
- Inappropriate storage of other equipment such as cleaned commodes not in use, and non-clinical healthcare waste and linen trolleys was also evident in this space.

Antimicrobial stewardship

- National guidelines²⁰ recommend that hospitals have a process in place to facilitate pre-authorisation for the use of all carbapenem antibiotics^{****} by an infection specialist (consultant or specialist registrar in clinical microbiology or infectious diseases). However contrary to national guidelines preauthorisation from a consultant microbiologist was not essential when prescribing meropenem. The hospital needs to review the current approach to restrictive prescribing rights.

Patient placement

- Medical 1 Ward
 - Management need to ensure that patients with Vancomycin-resistant *enterococci* are isolated in line with national guidelines.²¹

Equipment hygiene

- Medical 1 Ward

An inspector found that patient equipment on Medical 1 Ward was generally clean with a few exceptions which included:

- there was no clearly defined system for identifying if equipment had been decontaminated between patient uses. A green tagging system which alerted staff to when the equipment was last cleaned was inconsistently applied for example, a weighing scales and a hoist had green tags in place dated 12/11/2019 and 24/5/2019 respectively despite both being on daily cleaning schedules
- a drug trolley observed by an inspector was noted to be unclean and in a state of disrepair with chipped and rusted legs and handles

**** The carbapenem group of antibiotics include meropenem, and ertapenem and are broad spectrum antimicrobials.

- additionally, bed tables were chipped and damaged and the chairs in the "quiet room" were torn and stained.

4.3.2 Decontamination and reprocessing of reusable medical devices

An inspector visited a satellite decontamination facility in the Radiology Department to ensure that structures, systems, processes and outcomes were aligned to national standards.⁷

While manual multi-wipe high level disinfectant systems were also in operation, a procedure room with an automated validated high-level disinfection system was inspected on this occasion.

Evidence of good practice included:

- an automated validated high level decontamination system was located beside the ultrasound machine (the probe could not be disconnected)
- single-use probe transducer covers and sterile gel sachets were used
- a standard operating procedure in relation to loading and unloading the ultrasound probe was accessible at point of use
- a system aimed at protecting the integrity and microbial state of the decontaminated probe had been implemented
- an attached decontamination certificate clearly indicated when the probe had been decontaminated
- a manual track and trace system⁺⁺⁺ had been implemented
- the procedure room appeared clean with few exceptions
- monthly environmental and patient equipment hygiene audits were undertaken in line with national guidance; a detailed hygiene audit result showed 87% compliance was achieved from September to November 2019.

Required areas for improvement:

Opportunities for improvement identified included some of the following:

- a risk assessment had not been undertaken in relation to manual high level disinfection multi-wipe systems used; this needs to be progressed
- some ambiguity in relation to the hospital's computerised system which alerted staff to patients who had been in contact or previously diagnosed with a transmissible microorganism system was evident; clinical staff should have access to information technology systems to effectively support infection prevention and control delivery¹

⁺⁺⁺ Track and trace systems record the decontamination process used on critical and semi-critical reusable medical devices and link them to the patient on which they have been used.

- a guideline in relation to decontamination of semi-invasive ultrasound probes was in draft form and needs review by the infection prevention and control team and finalised
- auditing of decontamination practices and track and trace systems had not taken place; hospital management need to be able to verify that processes and procedures are systematically carried out and variables associated with manual disinfection and track and trace systems are controlled as part of a quality assurance programme
- maintenance issues such as a missing ceiling tile and damaged door surfaces did not facilitate cleaning
- cleaning schedules for patient equipment need review to ensure alignment with national cleaning frequencies for higher risk functional areas.^{5,6}

4.3.3 Staff training, education and competency in relation to decontamination practices

Satellite decontamination facility

Most staff operatives had received face-to-face manufacturer's training in relation to manual multi-wipe high level disinfection systems for semi-invasive ultrasound probe decontamination in the satellite decontamination facility inspected. Some peer-to-peer training had also taken place.

Staff operatives had also received on-site manufacturer's training in relation to the automated high level disinfection system on the unit. A designated super-user had been assigned to assist with training of other relevant staff in the department in relation to this equipment.

The responsible person must ensure that all staff involved in the decontamination of semi-invasive ultrasound probes receive documented training on the methods of decontamination and use of equipment.⁷ In addition once operatives are assessed as competent to work independently a training needs assessment needs to be carried out periodically.

Chemical safety training had not taken place and needs to be progressed in the satellite decontamination facility inspected.

Centralised decontamination facilities

Documentation reviewed showed that in line with HSE recommendations, a number of staff operatives had completed an academic qualification in decontamination practices and sterile services including to degree level. Additionally a further staff operative was currently in the process of undertaking an academic qualification in endoscopy decontamination.

All staff operatives had completed the HSE Land online training in relation to decontamination and chemical safety training in the Endoscopy Unit. Regular operator training was also provided by the manufacturers and or suppliers of endoscopes and decontamination-related equipment.

Inspectors were told that staff operatives were trained in the management of flexible endoscopes used 'out of hours'^{****} and a standard operating procedure was in place.

To concur with best practice guidance in relation to staff working in endoscopy decontamination facilities including staff working 'out of hours' an annual review of staff competencies should be undertaken.⁴ Furthermore hospital management need to be assured that responsible operators at each operation stage of decontamination and reprocessing are deemed competent to undertake assigned responsibilities.¹

Policies, procedures and guidelines

Inspectors found that decontamination-related policies and standard operating procedures reviewed were either in draft form or overdue for review. It was evident that this had been identified as a concern by staff in decontamination committee minutes over the previous year and escalated to the Clinical Governance Quality and Patient Safety Committee. However it was not evident that any remedial action to address these concerns had been put in place.

Current HSE policy states that hospital policies, procedures and guidelines should be reviewed every three years.²² To ensure staff have access to the most up-to-date evidenced-based best practice guidance appropriate to their role this needs to be addressed and progressed as a matter of priority.¹ Furthermore the hospital needs to continue to work towards full implementation of the latest HSE national guidance⁴ including for the management of transmissible spongiform encephalopathies.^{§§§§ 23}

**** 'Out of hours' was defined as after 17.00 hours on weekdays and 24 hours on the weekend and Bank Holidays.

§§§§ Creutzfeldt-Jakob disease (CJD) and vCJD (variant CJD) are human forms of TSE (Transmissible spongiform encephalopathies). TSE is a group of progressive, invariably fatal, conditions that affect the brain (encephalopathies) and nervous system of many animals, including humans, cattle, and sheep. Critical and semi-critical medical devices contaminated with high-risk tissue (i.e., brain, spinal cord, and eye tissue) from high-risk patients—those with known or suspected infection with Transmissible Spongiform Encephalopathies require special treatment.

5.0 Conclusion

Overall HIQA found that the hospital was endeavouring to fully implement the *National Standards for the prevention and control of healthcare-associated infection in acute healthcare services*.¹

However the hospital was not in full compliance with the latest national guidance on screening for CPE due to laboratory resource deficiencies. In light of the National Public Health Emergency in relation to CPE management, this needs to be addressed as a matter of priority.

Inspectors found that governance and management arrangements around the prevention and control of healthcare-associated infection were in place however arrangements were not fully aligned with the Ireland East Hospital Group structure.

The hospital had systems in place to identify and manage infection prevention and control and decontamination-related incidents and risks however there needs to be processes for communication and oversight of incidents and risks to relevant teams and committees.

HIQA acknowledges the hospital's positive progress and compliance levels in relation to:

- number of initiatives to identify and monitor patients who were CPE positive
- ongoing surveillance, monitoring and audit programmes
- oversight, management and auditing of environmental hygiene.

However management must ensure that measures are put in place to address deficiencies identified in this report with a particular emphasis on the following:

- infection prevention and control team resources
- ensure incident reporting of newly acquired healthcare-associated infections
- review pre-authorisation policy of carbapenems
- oversight of hand hygiene training
- ongoing preventative maintenance programmes
- design, layout and storage systems in two clinical areas inspected.

5.2 Decontamination and reprocessing of reusable medical devices in a satellite decontamination facility

While the hospital had defined management arrangements in place reporting lines needed to be formalised to provide an accurate level of assurance in relation to

decontamination service provision. HIQA acknowledges that the appointment of a decontamination lead or coordinator position at the hospital was at an advanced stage at the time of this inspection.

A number of risks on the hospital's risk register were in relation to decontamination service provision such as non-compliant infrastructure in centralised decontamination facilities and need to be addressed. That said it was evident that the hospital was;

- progressing with academic training in centralised decontamination facilities
- moving towards automated validated decontamination methods for semi-invasive ultrasound probes.

In a satellite decontamination facility inspected HIQA found that staff were endeavouring to implement national standards and recommended best practice guidance. However management need to address the following:

- a training needs assessment should be carried out periodically once staff operatives are assessed as competent to work independently
- a risk assessment in relation to manual high level disinfection multi-wipe systems needs to be undertaken
- policies, procedures and guidelines need to be reviewed, finalised and up-to-date to support staff operatives working in decontamination service provision across the hospital
- regular review and audit of all relevant stages of decontamination lifecycles to ensure compliance with best practice and provide assurances to hospital management in relation to decontamination service provision.

The Midland Regional Hospital Mullingar, as a member of the Ireland East Hospital Group, need to be supported to better address the issues identified in order to facilitate compliance with the National Standards for the Prevention and Control of Healthcare Associated Infections and other existing national healthcare standards.

6.0 References

1. Health Information and Quality Authority. *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*. Dublin: Health Information and Quality Authority; 2017. [Online]. Available online from: <https://www.hiqa.ie/sites/default/files/2017-05/2017-HIQA-National-Standards-Healthcare-Association-Infections.pdf>
2. Health Information and Quality Authority. Guide to HIQA's consolidated programme of monitoring against the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services* in 2019. Dublin: Health Information and Quality Authority; 2019. [Online]. Available online from: <https://www.hiqa.ie/reports-and-publications/guide/guide-monitoring-against-national-standards-prevention-and-control>
3. Health Service Executive. Quality Improvement Division. Review of Endoscope Decontamination in Acute Hospitals. Dublin: Health Service Executive; 2015.
4. Health Service Executive. Standards and Recommended Practices for the Operational Management of Endoscope Decontamination Facilities. Dublin: Health Service Executive; 2019. [Online]. Available online from: <https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/decontamination/health-service-executive-standards-and-recommended-practices-for-operational-management-of-endoscope-decontamination-facilities-2019.pdf>
5. National Hospitals Office, Quality, Risk & Customer Care. HSE Cleaning Manual Acute Hospitals. September 2006. [Online]. Available from: http://hse.ie/eng/services/publications/Hospitals/HSE_National_Cleaning_Standards_Manual.pdf
6. National Hospitals Office, Quality, Risk & Customer Care. HSE National Cleaning Manual Appendices. September 2006. [Online]. Available from: http://www.hse.ie/eng/services/publications/hospitals/HSE_National_Cleaning_Standards_Manual_Appendices.pdf
7. Health Service Executive Guidance for Decontamination of Semi-critical ultrasound Probes; Semi-invasive and Non-invasive ultrasound Probes. November 2016. [Online]. Available from: <https://www.hse.ie/eng/about/Who/qualityandpatientsafety/Medical-Devices/decontamination/ultrasound-Probe-Decontamination-Guidance-Feb-17.pdf>
8. Health Service Executive Standards and Recommended Practices for Commissioning, Validation and Testing in Endoscope Decontamination Facilities. Dublin: Health Service Executive; 2018. [Online]. Available online from:

<https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/decontamination/standard-and-recommended-practices-for-commissioning-validation-and-testing-in-endoscope-decontamination-facilities.pdf>

9. Health Service Executive Standards and Recommended Practices for Facility Design and Equipping of Endoscope Decontamination Units. Dublin: Health Service Executive; 2017. [Online]. Available online from:

<http://www.hse.ie/eng/about/Who/QID/nationalsafetyprogrammes/decontamination/HSE-Standards-and-Recommended-Practices-for-Facility-Design-and-Equipping-of-EDUs-QPSDD022.pdf>

10. Health Service Executive National Decontamination of Reusable Invasive Medical Devices Advisory Group. Health Service Executive Standards and Recommended Practices for Central Decontamination Units. Dublin: Health Service Executive; 2011. [Online]. Available online from:

[http://www.hse.ie/eng/about/Who/qualityandpatientsafety/resourcesintelligence/Quality and Patient Safety Documents/Decontamination/HSE Standards Recommended Practices CDUs.html](http://www.hse.ie/eng/about/Who/qualityandpatientsafety/resourcesintelligence/Quality%20and%20Patient%20Safety%20Documents/Decontamination/HSE%20Standards%20Recommended%20Practices%20CDUs.html)

11. Health Service Executive. Escalation Procedure for outbreaks/incidents/situations of Healthcare Associated Infections. Dublin: Health Service Executive; 2018 [Online]. Available online from:

<https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/general/hse-hcai-escalation-procedure.pdf>

12. Health Service Executive. Integrated Risk Management Policy. Part 2. Risk assessment and Treatment. Managing and Monitoring Risk Registers. Dublin. Health Service Executive; 2017. [Online]. Available online from:

<https://www.hse.ie/eng/about/qavd/riskmanagement/risk-management-documentation/hse-integrated-risk-management-policy-part-2-risk-assessment-and-treatment.pdf>

13. Health Service Executive Medical Devices/Equipment Management compliance with the HSE's Medical Devices and Equipment Management Standard. Guidance for Service Areas. HSE. 2009. [Online]. Available online from:

<http://www.hse.ie/eng/services/publications/corporate/Medicaldevicesequipment.pdf>

14. Health Service Executive. Requirements for screening of Patients for Carbapenemase-Producing Enterobacterales (CPE). April 2019. [Online]. Available online from: <https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe/requirements-for-screening-for-carbapenemase-producing-enterobacterales-cpe-april-2019.pdf>

15. Health Service Executive. CPE Contact Communications Programme. [Online]. Available online from: <https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe-contact-communications-programme/>

16. Health Information and Quality Authority. National Standards for infection prevention and control in community services. Dublin: Health Information and Quality Authority; 2018. [Online]. Available online from: <https://www.hiqa.ie/sites/default/files/2018-09/National-Standards-for-IPC-in-Community-services.pdf>

17. Health Service Executive. Provisional Guidance relating to Inter-facility Transfer of Patients Colonised or Infected with Antimicrobial Resistant Organisms (AMRO) Including Carbapenemase Producing Enterobacteriaceae (CPE). Health Service Executive; 2018. [Online]. Available online from: <https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe/interfacility-transfer-of-patients-colonised-or-infected-with-amro-including-cpe-provisional-guidance.pdf>

18. Department of Health, United Kingdom. Health Building Note 00-10 Part C: Sanitary Assemblies. [Online]. Available online from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/148497/HBN_00-10_Part_C_Final.pdf

19. Department of Health, United Kingdom. Health Building Note 00-09: Infection control in the built environment. [Online]. Available online from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/170705/HBN_00-09_infection_control.pdf

20. Health Service Executive. National Policy on Restricted Antimicrobial Agents. Health Service Executive; 2016. [Online]. Available online from: <https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/hcaiamr/hse-policy-on-restricted-antimicrobials-july-2016.pdf>

21. Health Service Executive. Guidelines for the prevention and control of Multi-drug resistant organisms (MDRO) excluding MRSA in the healthcare setting. 2014 [Online]. Available online from: https://www.hpsc.ie/az/microbiologyantimicrobialresistance/mdro/Guidelines%20for%20the%20Prevention%20and%20Control%20of%20MDRO_Final%20Revised_July%202014.pdf

22. Health Service Executive. HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs). Health Service Executive; December 2016. [Online]. Available online from: <http://www.hse.ie/eng/about/Who/QID/Use-of-Improvement-Methods/nationalframeworkdevelopingpolicies/HSE-National->

Framework-for-Developing-Policies-Procedures-Protocols-and-Guidelines-PPPGs-2016.pdf

23. Health Service Executive. Protocol for Reporting and Management of cases of Creutzfeldt Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSEs) or a person at increased risk of a TSE. 2019. Health Protection Surveillance Centre. 2019. [Online]. Available online from: <https://www.hpsc.ie/a-z/other/cjd/guidance/Reporting%20and%20Management%20CJD%20TSEs%202019.pdf>

7.0 Appendices

Appendix 1: Lines of enquiry (LOE)

1. Governance and management structures

The hospital has formalised governance arrangements with clear lines of accountability and responsibility around the prevention and control of healthcare-associated infections and the decontamination and reprocessing of reusable medical devices.

2. Monitoring and evaluation systems including risk management

The hospital has effective arrangements in place to respond to the ongoing monitoring, evaluation, audit and outcome measurement in relation to the prevention and control of healthcare-associated infection programme and the decontamination and reprocessing of reusable medical devices.

The hospital has a risk management system in place to identify, manage and report all hazards, adverse events, near misses and risks in relation to the prevention and control of healthcare-associated infections and the decontamination and reprocessing of reusable medical devices.

3. Implementation of evidence-based best practice

The hospital has the structures, systems and processes to detect, prevent, and manage multidrug-resistant organisms.

The hospital has the structures, systems and processes in relation to decontamination and reprocessing of reusable medical devices in satellite decontamination facilities.

The hospital ensures that key personnel have been appropriately trained to the necessary standard of competence and are supported with ongoing education and training reflecting national and international evidence.

The hospital ensures that key personnel are implementing evidenced-based best practice with up to date policies, procedures, protocols and guidelines in line with relevant legislation and national guidelines.

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