

Report of the unannounced inspection at the Midland Regional Hospital Tullamore, County Offaly.

Monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services

Date of on-site inspection: 30 January 2018

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent authority established to drive high-quality and safe care for people using our health and social care services in Ireland. HIQA's role is to develop standards, inspect and review health and social care services and support informed decisions on how services are delivered.

HIQA aims to safeguard people and improve the safety and quality of health and social care services across its full range of functions.

HIQA's mandate to date extends across a specified 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 statutory responsibility for:

- **Setting Standards for Health and Social Services** Developing personcentred standards, based on evidence and best international practice, for health and social care services in Ireland.
- Regulation Registering and inspecting designated centres.
- Monitoring Children's Services Monitoring and inspecting children's social services.
- Monitoring Healthcare Safety and Quality Monitoring the safety and quality of health services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- Health Technology Assessment Providing advice that enables the best outcome for people who use our health service and the best use of resources by evaluating the clinical effectiveness and cost-effectiveness of drugs, equipment, diagnostic techniques and health promotion and protection activities.
- Health Information Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information about the delivery and performance of Ireland's health and social care services.

Table of Contents

1.	Introduction	1
2.	Findings at the Midland Regional Hospital Tullamore	4
	2.1 Risks identified during this unannounced inspection	4
	2.2 Governance	6
	2.3 Risk management	. 10
	2.4 Policies, procedures and guidelines	. 11
	2.5 Staff training and education	. 12
	2.6 Implementation of evidence based best practice	. 13
	2.7 Systems to prevent and manage multidrug-resistant organisms	. 16
	2.7.1 Hospital systems to prevent and control multi-drug resistant organisms	. 16
	2.7.2 Prevention and control of multidrug-resistant organisms in clinical areas inspected.	. 21
3.	Progress since the previous HIQA inspection	. 25
4.	Conclusion	. 26
5.	Reference	. 28
6.	Appendices	. 32
	Appendix 1:Lines of enquiry for the monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services	
	Appendix 2: Copy of the letter issued to the Midlands Regional Hospital Tullamore regarding the high risk identified	. 33
	Appendix 3: Copy of the response letter received from the Midlands Regiona Hospital Tullamore regarding the high risks identified during the HIQA inspection of the Midlands Regional Hospital Tullamore	

1.Introduction

HIQA monitors the implementation of the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services* ¹ in public acute hospitals in Ireland to determine if hospitals have effective arrangements in place to protect patients from acquiring healthcare-associated infection. The *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services* will be referred to as the National Standards in this report.

In 2017, HIQA commenced a revisedmonitoring programme against the National Standards. The aim of this revised monitoring programme is to assess aspects of the governance, management and implementation of designated programmes to prevent and control healthcare-associated infections in hospitals. This monitoring programme comprises Phases One, Two and Three which will be described next.

The National Standards were updated in 2017 and therefore supersede the previous version. Hospitals should work towards implementing these revised National Standards.

Phase One

All public acute hospitals were requested to complete and return a self-assessment tool to HIQA during April and May 2017. The self-assessment tool comprised specific questions in relation to the:

- hospital infection prevention and control programme and associated oversight arrangements
- training of hospital personnel to implement policies, procedures, protocols, guidelines and evidence-based practice in relation to the prevention and control of infection
- systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug-resistant organisms.

The hospital Chief Executive Officer or General Manager and the Health Service Executive (HSE) Hospital Group Chief Executive Officer were asked to verify that the information provided to HIQA accurately reflected the infection prevention arrangements within the hospital at that time.

Phase Two

Using a revised assessment methodology HIQA commenced a programme of unannounced inspections against the National Standards in public acute hospitals in May 2017.

Specific lines of enquiry were developed to facilitate monitoring in order to validate some aspects of self-assessment tools submitted by individual hospitals. The lines of enquiry which are aligned to the National Standards are included in this report in Appendix 1.

Further information can be found in the *Guide to the monitoring programme* undertaken against the National Standards for the prevention and control of healthcare-associated infections ² which was published in May 2017 and is available on HIQA's website: www.higa.ie

In October 2017, the Minister for Health activated a Public Health Emergency Plan and convened a National Public Health Emergency Team as a public health response to the increase of Carbapenemase Producing *Enterobacteriaceae* (CPE)* in Ireland. In light of the ongoing national public health emergencythe focus of inspections in 2018 will be on systems to detect, prevent and respond to healthcare-associated infections and multidrug-resistant organisms in line with national guidelines.

Phase Three

Phase Three of this monitoring programme will focus on the reprocessing of reusable medical devices and HIQA will commence onsite inspections in this regard in due course.

Information about this inspection

This inspection report was completed following an unannounced inspection carried out at the Midland Regional Hospital Tullamore by Authorised Persons from HIQA; Kathryn Hanly, Noreen Flannelly-Kinsella and Kirsten O'Brien. The inspection was carried out on 30 January 2018 between 09:00hrs and 17:00hrs.

Prior to this inspection, authorised persons reviewed the hospital's completed self-assessment tool and related documentation submitted to HIQA in May 2017.

During this inspection inspectors spoke with hospital managers and staff, and members of the Infection Prevention and Control Team. Inspectors requested and reviewed documentation and data and observed practice within the clinical environment in a small sample of clinical areas which included:

- the general Intensive Care Unit
- a surgical ward.

^{*} Carbapenemase Producing *Enterobacteriaceae*(CPE), are Gram-negative bacteria that have acquired resistance to nearly all of the antibiotics that would have historically worked against them. They are therefore much more difficult to treat.

The inspection team used designed monitoring tools during this inspection and focused specifically on aspects of the prevention and control of transmission of antimicrobial-resistant bacteria and healthcare-associated infections.

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

2. Findings at the Midland Regional Hospital Tullamore

The following section of this report outlines the main findings of this inspection. The report is structured as follows:

- section 2.1 outlines the risk identified during this unannounced inspection
- section 2.2 to 2.7 present the general findings of this unannounced inspection which are aligned to monitoring lines of enquiry.

2.1 Risks identified during this unannounced inspection

During this inspection, a risk was identified whereby the hospital had not ensured the full and reliable implementation of the national screening guidelines in relation to CPE.

In light of the limited treatment options and substantial mortality associated with infections caused by CPE, prevention and control measures are of the utmost importance. Screening for CPE is considered an essential infection prevention and control strategy.

Risk escalation by HIQA, and reciprocal response by the hospital group

Considering this in the context of the activation of the National Public Health Emergency Plan[†] to address CPE in our health system, HIQA sought assurance regarding arrangements that are in place to ensure compliance with the national guidelines³ on screening[‡] for CPE at the Midlands Regional Hospital Tullamore.

The General Manager provided written assurance of arrangements that would be enacted in response to HIQA's letter to ensure compliance with the national policy on screening for CPE at the hospital. Specifically these key actions included:

- infection prevention and control nurse ward visits to focus on CPE awareness
- dedicated CPE training for staff in the Intensive Care Unit (ICU)
- infection prevention and control hospital wide CPE awareness campaign

[†]A National Public Health Emergency Plan was activated on 25 October 2017 by the Minister for Health in response to the increase and spread of Carbapenemase Producing *Enterobacteriaceae* (CPE) in Ireland. As a result a National Public Health Emergency Team was convened and they have been meeting on a weekly basis since 02 November 2017. Please refer to the Department of Health webpage for further details: http://health.gov.ie/national-patient-safety-office/patient-safety-surveillance/antimicrobial-resistance-amr-2/public-health-emergency-plan-to-tackle-cpe/nphet-press-releases-minutes-of-meetings/

[‡]Performing active surveillance cultures, active screening tests or contact screening of at-risk patients to detect colonisation with Carbapenemase Producing *Enterobacteriaceae*.

- CPE awareness and national screening requirements is included in mandatory infection prevention and control training for all staff
- CPE awareness poster campaign in the ICU
- Hospital-wide CPE awareness poster campaign
- CPE reminder stickers outlining national requirements for CPE screening inserted in nursing notes as a reminder for staff
- audit of compliance with national CPE screening requirements.

A copy of the letter issued to the General Manager of the Midland Regional Hospital Tullamore to seek further assurance regarding the risk identified and a copy of the response received from the General Manager of the Midland Regional Hospital Tullamore are shown in Appendices 2 and 3 respectively.

2.2 Governance

Line of enquiry

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

The Midland Regional Hospital Tullamore is a statutory hospital owned and managed by the Health Service Executive (HSE) and is part of the Dublin Midlands Hospital Group[§].

The hospital had formalised governance arrangements and organisational structures with clear lines of accountability in place to support the prevention and control of healthcare associated infection. However, inspectors found through this inspection that governance and management arrangements around the prevention and control of healthcare-associated infection were not fully aligned to the current Dublin Midlands Hospital Group governance structure. This was a legacy arrangement originating from the previous HSE Midland Regional Hospital Group consisting of Tullamore, Portlaoise and Mullingar Regional Hospitals. The Consultant Microbiologist and the Assistant Director of Nursing in Infection Prevention and Control at the hospital provided a regional service acrossthe three hospitals therefore had a remit in two hospital groups; the Dublin Midlands Hospital Group at Portlaoise and Tullamore and Ireland Hospital East Hospital Group at Mullingar.

HIQA noted that this represents a likely very heavy workload when compared with the operational norm in other similar sized hospitals. Hospital management should review this arrangement in the interest of ensuring sustainability.

Within the current governance construct, some formalised working arrangements were also in place between the Infection Prevention and Control Team at the Midland Regional Hospital Tullamore and their counterparts in other hospitals in the Dublin Midlands Hospital Group. Hospital management informed inspectors that the Dublin Midlands Hospital Group had recently established a group wide Infection Prevention and Control Committee.

The Infection Prevention and Control Team

The infection prevention and control programme in the hospital was delivered by a specialist infection prevention and control team who reported to the Healthcare Associated Infection Committee. The Infection Prevention and Control Team

[§]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 Group4. Saolta Hospital Group. 5. University Limerick Hospitals Group. 6. RCSI Hospitals Group 7.National Children's Hospital Group.

workload was described in the team's annual plan. The team also produced an infection prevention and control annual report. The programme was led a by a consultant microbiologist who had a 0.4 whole time equivalent commitment (WTE) to the hospital and also had onsite commitment to the Midland Regional Hospital sites in Mullingar and Portlaoise. The Consultant Microbiologist provided advice to clinical staff twenty four hours a day, seven days a week, in line with National Standards. The Irish National Accreditation Board accredited the Microbiology Department in the hospital.

The infection prevention and control nursing service at the Midland Regional Hospital Tullamore was provided for by one WTE Clinical Nurse Manager 2. The Regional Assistant Director of Nursing in Infection Prevention and Control provided an additional 0.8 WTE Infection Prevention and Control support in the Midland Regional Hospital Tullamore in order to meet current service needs. Inspectors were informed that the infection prevention and control nursing service also provided education, assistance in outbreak management and telephone advice as required to community services including private nursing homes and residential centres in the region.

Inspectors were informed that the Infection Prevention and Control Team considered that infection prevention and control nurse staffing levels were below desirable levels given the size of the hospital and their regional and community remit. Inspectors were informed that a business case had been submitted for an additional 0.8 WTE Infection Prevention and Control Clinical Nurse Manager 2 for the Midland Regional Hospital Tullamore. However, at the time of inspection, the hospital had not received sanction for this post.

The Surveillance Scientist covered the Midlands Regional Hospital Tullamore and the Midlands Regional Hospital Portlaoise and collated and analysed data for both hospitals.

The Healthcare Associated Infection Committee

The Healthcare Associated Infection Committee at the Midland Regional Hospital Tullamore co-ordinated, directed, supported and provided oversight of the implementation of the infection prevention and control programme. Inspectors were informed that the Healthcare Associated Infection Committee was chaired by the General Manager and membership included multi-disciplinary and executive management team representation. Membership also included a public health representative.

It was confirmed at interview, and verified in the documentation which was reviewed, that the Healthcare Associated Infection Committee meetings were well attended with a structured agenda and schedule.

Hospital management informed inspectors that there was a defined reporting structure with the Infection Prevention and Control Team reporting to the Healthcare Associated Infection Committee. This Committee in turn reported to the Clinical Governance Committee which was one of five high-level oversight committees at the hospital.

However, inspectors were informed that the prevention and control of healthcare-associated infection at the hospital was not a standing agenda item at meetings of the Clinical Governance Committee and that issues in relation to infection prevention and control were reported periodically as required. A regular reporting structure to this Clinical Governance Committee should be formalised going forward. The Clinical Governance Committee reported to the Hospital Management Team.

The hospital had also established a Hygiene Action Group. This group was chaired by the Director of Nursing and membership included senior management and infection prevention and control team members. This group aimed to provide a forum for the management, monitoring and review of the internal hygiene audit system. Defined terms of reference outlined committee purpose, objectives, membership and their roles and responsibilities, reporting relationships and frequency of meetings.

A governance organisational diagram also indicated that the Hygiene Action Group, the Reusable Invasive Medical Device Committee and the Hand Hygiene Champions Group reported to the Healthcare Associated Infection Committee.

2.2.1 Monitoring and evaluation

Hospital management monitored the following key performance indicators in relation to the prevention and control of healthcare-associated infection in line with HSE national reporting requirements:

- hospital-acquired Staphylococcus aureus bloodstream infection
- hospital-acquired *Clostridium difficile* infection.

Documentation reviewed showed that root cause analyses were performed and action plans developed in relation to bloodstream infections, prosthetic joint infections and *Clostridium difficile* infections identified through surveillance. Molecular typing of isolates was undertaken for hospital-acquired cases *of Clostridium difficile* infection. Recommendations to prevent *Clostridium difficile* infection and bacteraemias were circulated to relevant staff following the root cause analyses and were presented at the Healthcare Associated Infection Committee.

It was reported to inspectors that the hospital had committed to monitor additional key performance indicators in line with updated 2018 HSE national reporting requirements. These included:

- new cases of Carbapenemase Producing Enterobacteriaceae (CPE)
- implementing the screening requirements for Carbapenemase Producing Enterobacteriaceae
- implementing the national policy on restricted antimicrobial agents.**

Hospital management also monitored performance in respect of the following indicators:

- percentage compliance of hospital staff with the World Health Organisation's five moments of hand hygiene using the national hand hygiene auditing tool
- median hospital total antibiotic consumption.

A number of other parameters relating to the prevention and control of healthcareassociated infection were regularly monitored by the Infection Prevention and Control Team and these included the following:

- surveillance of 'alert' organisms and 'alert' conditions^{††}
- clusters or outbreaks of infection
- bloodstream infections.

All required notifiable infectious diseases data from the hospital is reported to the Health Protection Surveillance Centre (HPSC) through the Computerised Infectious Disease Reporting System (CIDR) managed by the HPSC.

The surveillance scientist produced surveillance reports on a quarterly basis. Regular formal feedback was also provided to the Healthcare Associated Infection Committee. Data in respect of the parameters monitored, legionella water test results and audit findings were presented at meetings of the Healthcare Associated Infection Committee.

Ongoing surveillance of key multidrug-resistant organisms monitored at the hospital will be presented in section 2.4 in this report.

^{**}Antimicrobial is a substance that kills or inhibits the growth of micro-organisms such as bacteria, viruses or fungi (an antibiotic is a type of antimicrobial).

^{††}Alert conditions include physical symptoms such as skin rashes, vomiting, diarrhoea, respiratory illness that could be due to an infectious illness.

2.3 Risk management

Line of enquiry

Risks in relation to the prevention and control of infection are identified and managed.

Inspectors were informed by management that risks identified in clinical areas were addressed at clinical area level and high risks were escalated in line with HSE risk management processes. Inspectors reviewed the corporate risk register^{‡‡} for the hospital. Documentation provided showed that hospital management had identified risks which could increase transmission of healthcare-associated infection due to:

- the inadequate provision of infection prevention and control nurse resources
- the non-isolation of patients identified with multidrug-resistant organisms on medical wards in line with national guidelines
- inappropriate usage of treatment rooms storing sterile supplies to accommodate patients in accordance with the hospitals escalation admission policy
- poor management of the patient environment as a result of insufficient numbers of cleaning staff
- transmission of infection in the Emergency Department due to inadequate isolation facilities.

The Infection Prevention and Control Nurse ensured that all identified risks were assessed and a formal risk assessment undertaken and circulated as appropriate.

Hospital management informed inspectors that it was hospital policy to report incidents related to the prevention and control of healthcare-associated infection on the hospital incident management system. These incidents featured as an agenda item at Healthcare Associated Infection Committee meetings.

^{‡‡} 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.

2.4 Policies, procedures and guidelines

Line of enquiry

The hospital has policies, procedures and guidelines in relation to the prevention and control of infection and hospital hygiene.

The hospital had a suite of infection prevention and control policies which covered aspects of standard precautions, transmission-based precautions andmultidrug-resistant organisms including outbreak management. Documentation reviewed by inspectors showed that the review cycle for local policies, procedures and guidelines was every two years. It was practice that hospital policies, procedures and guidelines in respect of infection prevention and control were approved by hospital management on behalf of the Healthcare Associated Infection Committee. Inspectors were informed that the suite of infection prevention and control guidelines had been revised in September 2017 and were still awaiting sign off by senior management.

Infection prevention and control policies, procedures and guidelines were made available to staff in a hard copy manual and also on the hospital intranet. However, it was noted that staff in the clinical areas inspected had some difficulty accessing policies, procedures and guidelines stored electronically, in a timely manner. Access to and organisation and labelling of documents in the hospital's intranet should be refined and improved so as to facilitate easy access in a timely manner to the most up to date hospital policies, procedures and guidelines by staff.

2.5 Staff training and education

Line of enquiry

Hospital personnel are trained in relation to the prevention and control of healthcare-associated infections.

The Annual Infection Prevention and Control Awareness Day was held on October 13th. It was reported to HIQA that 120 staff attended the information stand on the day which focused on hand hygiene, aseptic non-touch technique and CPE screening.

Infection prevention and control education was mandatory for relevant hospital staff at induction and every two years thereafter. Prevention and control of healthcare-associated infection training sessions were scheduled on a regular basis for hospital staff. Content included training in relation to standard and transmission-based precautions and aseptic technique. Inspectors were informed that 518 staff attended training in 2017. Documentation viewed by inspectors showed that 79% of staff in the Intensive Care Unit had completed this training in the previous two years.

Documentation reviewed by inspectors indicated that additional training and education was also provided in response to identified training needs. For example, in response to an increased bacteraemia rate during Q2 2017, Infection Prevention and Control Nurses had provided ward based sessions in relation to aseptic technique to staff throughout the hospital.

Hand hygiene training

Inspectors were informed that hand hygiene training was mandatory for staff at induction and every two years thereafter in line with national hand hygiene guidelines.⁴ Clinical staff were required to attend faceto face training andnon-clinical staff had the option of completing the HSE online hand hygiene training or attending face to face training. At the time of the inspection, only 65% of hospital staff had attended hand hygiene training in the previous two years.

Documentation viewed by inspectors showed that 91% of staff in the Intensive Care Unit and 100% of staff in the surgical ward inspected had completed this training in the previous two years.

Hand hygiene training was provided through scheduled sessions and hand hygiene 'blitz' events. This training was blended, and comprised both face-to-face sessions and eLearning training programmes.

2.6 Implementation of evidence based best practice

Line of enquiry 4.1

The hospital has implemented evidence-based best practice to prevent intravascular device-related infection and urinary catheter-associated infection, ventilator-associated pneumonia and surgical site infection.

Surveillance of invasive-device related infection

National guidelines recommend healthcare-associated infection surveillance in relation to surgical site infectionand invasive-device related infection surveillance including central venous access device-related infection, urinary catheter-associated urinary tract infection and ventilator-associated pneumonia.^{5,6,7} The hospital did not routinely perform invasive-device related infection surveillance.

Care bundles

A care bundle is a group of evidence-based practices that improve the quality of care when consistently applied to all patients. The Midland Regional Hospital Tullamore had embedded a programme of audit, feedback and quality improvement plans in relation to infection prevention care bundles at the hospital. The implementation of care bundles to prevent invasive device-related infection was reviewed in both clinical areas inspected.

Care bundles for peripheral vascular catheters, central venous access devices and urinary catheters were in place. Compliance with care bundle implementation was audited quarterly. Evidence indicates that compliance with all care bundle components should consistently be 100%. A process was in place at the hospital to feedback care bundle audit results to clinical area ward managers to facilitate development of quality improvement plans if indicated.

Quarterly peripheral vascular catheters, central venous access device and urinary catheter care bundle compliance audit results in the Intensive Care Unit showed an annual average of 93%, 100% and 98% compliance respectively in 2017.

In the Intensive Care Unit urinary catheter bundle components were recorded on an excel sheet weekly by the Clinical Nurse Manager. Weekly recording did not provide assurances that all components of the urinary catheter bundle were consistently applied each day.

Inspectors were informed that ventilator-associated pneumonia care bundles had recently been introduced in the Intensive Care Unit and that staff were working to embed these and to commence auditing of ventilator-associated pneumonia care

bundle implementation. Inspectors were informed that a ventilator-associated pneumonia prevention policy had been developed and was awaiting approval.

Care bundles for peripheral vascular catheters and urinary catheters were also in place in the surgical ward visited. Average annual compliance in 2017 with peripheral vascular catheter and urinary catheter care bundle implementation was recorded as 89% and 95% respectively.

Surgical site infection surveillance

Surgical site infection surveillance represents good practice and demonstrates a commitment to monitoring the quality of patient care and is an important patient safety and quality assurance initiative. The Midland Regional Hospital Tullamore commenced a programme of surgical site infection surveillance in late 2013 among elective orthopaedic prosthetic joint surgical patients.

Currently, surveillance is carried out in many hospitals within Ireland but methodologies differ and the results are not publically available for benchmarking and comparison purposes. Consequently, surveillance data was validated by the hospital locally and submitted to the UK national surgical site infection surveillance service managed by Public Health England.⁸ This was an important and proactive quality assurance and improvement step.

In a 2016 HIQA inspection, inspectors identified that the reported rate of surgical site infection following elective orthopaedic prosthetic joint surgery remained higher than desirable based upon reported data benchmarked against UK figures. This concern prompted HIQA to seek further assurances from the Dublin Midlands Hospital Group to evaluate the likely infection incidence rate in this patient population. Further investigation by the Hospital Group Management Team identified that although the rate of surgical site infection in this service was higher than desirable, the rate of infection was slightly lower than originally determined through benchmarked data.

During the course of this inspection inspectors were informed that the position of surgical site infection surveillance co-ordinator at the hospital had been vacated in quarter three 2017. This resulted in the suspension of the existing programme of surgical site infection surveillance.

Inspectors were informed that the hospital had since revised their approach to surgical site infection surveillance and was now reporting data including surgical site infection rates to the Irish National Joint Registry. §§ The hospital's process for

14

^{§§} The Irish National Orthopaedic Register (INOR)is an electronic application which will record and monitor elective arthroplasty surgery and monitor clinical outcomes for joint replacement surgery nationally.

reporting and reviewing orthopaedic infection to the Irish National Joint Registry was still in draft format.

Multidisciplinary teamwork is essential in preventing and managing surgical site infections and in ensuring effective surveillance. The multidisciplinary team should include surgeons, anaesthetists, theatre managers, microbiologists, infection control nurses, audit and surveillance staff, administrative staff and ward staff.⁹

Inspectors were informed that the Orthopaedic Governance Group was now responsible for oversight of orthopaedic surgical site infection surveillance at the hospital. This Group had the stated aim of supporting patient safety, innovation, good practice and improved quality on a multidisciplinary basis within the orthopaedic service. However, it was a concern that the Consultant Microbiologist was not a listed member of the Orthopaedic Governance Group.

Furthermore, in the absence of a designated surgical site infection surveillance coordinator at the hospital problems with the quality of data and reliability of the results are likely to be encountered if staff are not designated or trained to undertake the surgical site surveillance.8

Post-operative surgical site infections are a major source of morbidity and mortality in surgical patients. Surgical site infection surveillance is a core component of surgical risk management and quality assurance, and an integral part of clinical governance. Successful surveillance requires commitment, team work, effective communication and accurate data collection. In light of prior signals of the potential for required improvement in this area, the hospital has a responsibility to ensure the necessary measures are put in place to be assured of effective leadership, governance and management of their revised surgical site infection surveillance programme.

2.7 Systems to prevent and manage multidrug-resistant organisms

2.7.1 Hospital systems to prevent and control multi-drug resistant organisms

Line of enquiry

The hospital has systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug-resistant organisms in line with national guidelines.

Inspectors looked at implementation of aspects of standard and transmission-based precautions to assess the detection, prevention, control and management of transmission of multidrug-resistant bacteria at the hospital.

Microbiological screening and surveillance of antimicrobial-resistant bacteria

Identifying patients that are vulnerable to infection is a critical step during admission, discharge or transfers within or between healthcare services to ensure seamless integrated care. The hospital had a computerised system that alerted staff in situations when a patient who had been in contact with or previously diagnosed with a transmissible microorganism was readmitted to the hospital. This helped staff to identify patients colonised with antimicrobial-resistant bacteria so that appropriate screening and accommodation could be arranged.

It was reported that hospital policy for screening of patients for antimicrobial-resistant bacteria at the hospital was in line with national guidelines. ¹⁰ However, inspectors found that there was lack of clarity among staff in the areas inspected in relation to the indication for screening for antimicrobial-resistant organisms on admission. Inspectors found that that screening for vancomycin-related *Enterococci* and CPE was not carried out in line with national guidelines. ¹⁰ Local microbiological screening guidelines should be clearly communicated and accessible to relevant clinical staff.

The hospital had invested in technology to assist with rapid microbiological testing for CPE, vancomycin-resistant *Enterococci* (VRE), methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile*, norovirus and influenza. It was reported to HIQA that this investment had yielded positive benefits by:

- enabling timely clinical decision-making
- rapid enactment of infection control measures
- implementation of appropriate isolation precautions to reduce the risk of spreading infection to patients, staff and visitors at the hospital.

Hospital isolation facilities

Healthcare environments should be planned, designed, developed and maintained to facilitate effective cleaning and compliance with infection prevention and control best practice. It is important that the physical healthcare infrastructure minimises the spread of healthcare-associated infections, including multidrug-resistant organisms.¹¹ Patients with suspected or confirmed communicable disease including healthcare-associated infection and multidrug-resistant organisms should be placed in a suitable isolation room single room in line with national guidelines 10^{,12}

Hospital managers told inspectors that the hospital has a total bed capacity of 232 inpatient beds however only has funding to staff 195 of the inpatient beds. There were 208 inpatients on the day of the inspection.

On the day before this inspection, overall 'Trolley Watch'** figures indicated that 18 patients were on 'trolleys' in the hospital. This means that although the additional bed spaces were available at ward level there was insufficient staff capacity funded at the hospital to safely accommodate all admitted patients at ward level. Hospital management were working to address this risk and had submitted business cases for funding to recruit additional staff. Hospital management explained to inspectors that requests for additional resources from the HSE at national level had not resulted in the provision of extra staff at the time of this inspection.

The Infection Prevention and Control Team performed daily 'alert' organism^{†††} and condition surveillance to identify patients requiring infection control precautions and to identify unusual clusters of infection. The Infection Prevention and Control Team advised staff in relation to screening and isolation requirements for in-patients colonised^{‡‡‡} or infected with a transmissible organism.

Hospital management reported that there were a total of 32 single rooms at the hospital. All single rooms at the hospital had en-suite toilet facilities which is beneficial from an infection prevention and control perspective. In addition, there were two neutral pressure isolation rooms for patients with airborne infection. All

^{***}Trolley Watch Figure are compiled by the Irish Nurses and Midwives Organisation to show the number of admitted patients in hospital who are accommodated on trolleys each day because of a shortage of available hospital beds. The overall figure relates to trolleys in Emergency Departments and the number of additional patients on beds, trolleys or chairs, on inpatient wards/units above the stated complement of that ward/unit and provides a picture of whole hospital overcrowding. Online. Available at: https://inmo.ie/Trolley/Mard/Watch

Alert organisms are micro-organisms that pose a significant risk of transmission to non-infected patients or healthcare workers.

^{***} Colonisation is the presence of bacteria on a body surface (like on the skin, mouth, intestines or airway) without causing disease in the person. Infection is the invasion of a person's bodily tissues by disease-causing organisms.

nineteen patients for whom isolation precautions were indicated were accommodated in single rooms on the day of inspection.

Patient placement decisions should be based on risk assessment which should consider the route of organism transmission alongside patient factors and symptoms that increase the risk of spreading infection. ¹³ Inspectors were informed that the expertise of the Infection Prevention and Control Team was sought regarding isolation prioritisation whenever suitable rooms werenot readily available. The hospital did not use a risk-based isolation prioritisation tool. ¹⁴ While the isolation prioritisation tools do not replace expert advice, they may ensure a rational and consistent approach to the prioritisation of single room usage, particularly overnight and at weekends when specialist infection prevention and control nursing advice may not be readily available.

Hand hygiene

The hospital had established a Hand Hygiene Champions Group. The hand hygiene champions acted as role models and mentors for their colleagues and supported the Infection Prevention and Control Nurses and provided informal awareness sessions on hand hygiene technique with the ultraviolet checkpoint box. §§§§

The Midland Regional Hospital Tullamore participated in national hand hygiene audits, the results of which are published twice a year. The hospital achieved 96% compliance rate in the national hand hygiene audit in October 2017 which is above the current required compliance target of 90% set by the HSE. Compliance was highest among nursing staff who achieved over 98% compliance. Lower compliance of 73% was identified among medical staff. Action plans were developed and circulated with the relevant audit reports to Clinical Nurse Managers in the areas audited.

Monthly hand hygiene audits in the Intensive Care Unit showed that staff in this area achieved an average of 100% hand hygiene compliance in November 2017. Additionally hand hygiene compliance audits result for the surgical ward inspected showed 100% compliance with hand hygiene in August 2017.

Hygiene Audits

Environmental hygiene audits were carried out in all areas by the Hygiene Action Group every second month. However, frequencies of hygiene audits for very high risk functional areas such as the Intensive Care Unit were not in line with national

^{§§§}UV particles in hand wash gel medium applied to hands symbolise bacteria – by applying a thin layer of a medium onto the hands and inspecting them before and after washing under a UV Checkpoint Lamp, any areas not thoroughly cleaned will be highlighted with our distinctive bright green glow. This method of revealing poor hand washing technique can help you to achieve and maintain high hand hygiene standards throughout your organisation.

guidance¹⁵ or best practice.¹⁶ Local auditing was not carried out in the areas inspected. National guidance and best practice recommend that managerial audits, should be carried out to validate the local audit process, provide an independent objective view of cleanliness and should form part of the ongoing management and supervision of ward/department hygiene.

Hygiene audits results were trended for each clinical area and quality improvement plans were developed in response to deficiencies identified. However an overall annual trend report for the hospital was not evident. Audit findings in relation to the clinical areas visited on this inspection will be presented in section 2.4 in this report.

Cleaning resources

It was reported to HIQA that cleaning resources allocated to the hospital were insufficient to meet the daily activity levels. The hospital demonstrated an awareness of many of the inherent weaknesses in existing cleaning resources, and described actions to address some of the deficiencies identified.

Inspectors were told that members of the housekeeping team had dual roles which included both cleaning and catering duties. This is not the operational norm in the majority of Irish hospitals. There is a risk that dual responsibilities may dilute the effectiveness of both roles. Inspectors were also informed that multi-task attendants were frequently redeployed to other areas in the hospital. The hospital was also in the process of recruiting 14 additional multi-task attendants.

The hospital had comprehensive specifications for hospital hygiene detailing the elements to be cleaned, the required cleaning method, frequency of cleaning and staff discipline responsible, which is recommended in line with national guidelines.¹⁷

Antimicrobial stewardship

Inspectors were informed that the hospital had an antimicrobial stewardship programme in place. The Consultant Microbiologist conducted daily microbiology rounds in the Intensive Care Unit and weekly microbiology ward rounds on the surgical, oncology and haematology wards.

Monthly antimicrobial reports of Meropenem, Ertapenem**** and Levofloxacin usage were prepared by the antimicrobial pharmacist and presented at the Healthcare

^{****} Meropenem and Ertapenem are antimicrobials belonging to a class of antimicrobial known as carbapenems. It may be used to treat a wide range of infection types however treatment options are very limited for Gramnegative organisms resistant to meropenem. Greater use of meropenem has begun to see limited instances of the emergence of resistance to this drug — some strains of Gramnegative bacteria have evolved to produce chemicals which disable meropenem and other carbapenem antimicrobials from working. These chemicals are known as carbapenemases. Treatment options for carbapenemase producing bacteria (CPE) are limited to a handful of antimicrobial choices which are often less effective than meropenem, and sometimes more toxic.

Associated Infection Committee meetings. Antimicrobial consumption data was also reported to the Health Protection Surveillance Centre (HPSC) for comparative analysis nationally.

The antimicrobial pharmacist undertook a number of audits in relation to antimicrobial stewardship including a weekly audit of antibiotic prescribing for medical patients with same day feedback to the relevant prescribers. Direct feedback to prescribers in the clinical environment by specialist trained staff in relation to antimicrobial usage is a critically important component of antimicrobial stewardship programmes.

The hospital participated in a national point prevalence survey of hospital-acquired infections and antimicrobial use in May 2017 which was part of a European-wide point prevalence study.

Tackling the emergence of resistance including CPE requires enforcing antimicrobial stewardship policies to avoid unnecessary use of broad-spectrum agents (especially carbapenems e.g. meropenem, imipenem, ertapenem). National guidelines¹⁸ 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). The hospital had introduced restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic meropenem, which is a last line antibiotic used to treat serious gram-negative infection. However, performance and impact of the restricted antibiotic policy was not routinely audited, trended or reported. The number of courses of carbapenem antibiotics dispensed per month without prior authorisation by an infection specialist, or a documented compliance with a hospital policy covering exceptional use of these agents should be analysed to assess the performance and impact of the restricted antibiotic policy.

Training in relation to antimicrobial stewardship was provided to relevant clinical staff. All staff at the hospital had access to advice from the Infection Prevention and Control Team and the Antimicrobial Pharmacist. Clinical staff had access to advice from a Clinical Microbiologist as required.

Management of outbreaks

The hospital had a system in place to manage and control infection outbreaks in a timely and effective manner. Minutes of outbreak control meetings were recorded. Outbreaks of infection at the hospital were documented in the 2017 infection prevention and control report. However, detailed outbreak reports were not produced. National Standards recommend that a report outlining the outcome of an investigation of an outbreak is presented to senior management, with feedback of outbreak control learning points provided to staff to identify any areas for

improvement. The Infection Prevention and Control Team at the hospital should be sufficiently supported and resourced to facilitate this work to enable shared learning across the hospital.

It is recommended that health care workers should get the flu vaccine to protect themselves, their families and their patients. Research in European healthcare institutions shows a link between increased vaccinations and a reduction in the rates of flu-like illness. In 2017 the HSE aimed to achieve a target of 40% flu vaccination uptake among health care workers. A review influenza vaccine uptake figures found that 30.2% staff in the hospital had obtained the seasonal influenza vaccine in 2017. Measures to promote and improve healthcare worker uptake of seasonal influenza vaccine should be encouraged.

2.7.2 Prevention and control of multidrug-resistant organisms in clinical areas inspected.

Systems to prevent the spread of antimicrobial resistant organisms were reviewed in both clinical areas inspected.

Intensive Care Unit

The Intensive Care Unit contained six beds with four beds in an open plan area and two single isolation rooms. One of these rooms had neutral pressure ventilation, an ante-room and ensuite facilities. All patients requiring isolation in the unit were accommodated in single rooms on the day of inspection, as appropriate. Designated equipment was allocated to patients requiring transmission-based precautions to reduce the risk of cross infection.

It was reported that active screening for colonisation or infection with Methicillin resistant *Staphylococcus aureus* (MRSA) and Vancomycin-related *Enterococci (VRE)* was carried out in the Intensive Care Unit in line with national guidelines. On review of the inspection findings inspectors identified that the hospital was not in compliance with HSE guidelines.3 for screening patients for CPE, in the Intensive Care Unit.

Good local ownership in relation to infection prevention and control was evidenced in the unit during the inspection and is commendable. Environmental surfaces and patient equipment inspected were visibly clean with few exceptions. A system was in place to facilitate the identification of clean equipment.

Comprehensive cleaning specifications were in place that clearly identified all the elements of both environmental surfaces and patient equipment to be cleaned and the required cleaning method, frequency of cleaning and staff discipline responsible in line with national cleaning guidelines. However, inspectors found that the cleaning logbook was not consistently completed which does not provide assurance

that patient equipment was regularly cleaned. In addition, there was no dedicated space or room where staff could clean patient equipment.

Performance data in relation to care bundle compliance, hand hygiene compliance and hospital hygiene audits were displayed on a notice board in the Intensive Care Unit. Environmental hygiene audits were carried out in January, March, May, September and November 2017. Results reviewed showed an average annual compliance rate of 98% for 2017 and this was reflected on the day of inspection.

HIQA was informed that intravenous trays were washed in the hand hygiene sink in the medication preparation area. Using sinks for both hand-washing and the cleaning of equipment should be discouraged as this will significantly increase the risk of hand and environmental contamination.

The 'dirty' utility room^{††††} opened directly into the open plan area of the unit which was not in line with recommended guidelines. The staff work station was effectively an office space in the open plan patient accommodation area which was less than ideal from an infection control perspective.

Staff in the Intensive Care Unit were required to supply and launder their own scrub suits. Studies show that uniforms may become contaminated withmicrobial pathogens, MRSA, VRE and *Clostridium difficile*.²¹ However the relative contribution of contaminated scrubs in the spread of healthcare associated infection is not known.²² Hospital management and the infection control team should undertake a risk assessment to be assured that this practice does not pose a risk to the spread of healthcare associated infection infections.

Specialist surgical ward

The ward had capacity for 31 beds which included four six-bedded rooms, one three-bedded room and four single rooms with en-suite facilities of which one had an ante room. Inspectors were informed that only 12-15 beds were operational at any given time due to staff funding issues. This resulted in an additional capacity for 16 beds not being utilised on this ward. Elective surgery had been temporarily postponed on this ward so that medical patients admitted from the Emergency Department could be accommodated in line with the hospitals escalation protocol.

On the day of inspection, all patients who required transmission-based precautions were appropriately isolated in single rooms. To prevent the risk of cross infection it is recommended that designated patient equipment is made available where possible

^{††††}A room equipped for the disposal of body fluids and the decontamination of reusable equipment such as bedpans, urinals, commodes and body fluid measuring jugs. Waste, used linen and contaminated instruments may also be temporarily stored in this room prior to collection for disposal, laundering or decontamination.

for patients in isolation: dedicated blood-pressure cuffs were made available for patients in isolation. Colour-coded signage to communicate isolation precautions was in place in both rooms. At the time of inspection, a door to one of the isolation rooms remained open. Isolation room doors should be kept closed as far as possible otherwise a risk assessment should be performed.

Inspectors were informed that patient assessment to determine previous colonisation or infection with a transmissible infection was undertaken during preoperative assessment, in the Emergency Department and on admission to the ward. Nursing documentation reviewed by inspectors did not include an infection prevention and control section however a prompt in relation to screening for MRSA was included in pre-operative assessment documentation. It was reported that screening of patients for colonisation or infection with MRSA was performed in line with national guidelines. National recommendations in relation to the isolation of MRSA patients should inform isolation prioritisation policies at the hospital. It was highlighted to inspectors that routine screening for VRE was not performed in line with national guidelines.

An additional sticker was attached to the pre-operative assessment documentation to prompt staff to screen and isolate patients for CPE. However the sticker only contained two questions which related to a previous history of being an inpatient in a hospital in Ireland or abroad in the previous twelve month period. Inspectors noted that not of all of the indications listed in national guidance document in relation to screening requirements for CPE were included on this sticker.3 This should be addressed by the hospital as a priority in light of the National Public Health Emergency Plan currently in place to address CPE.

On the day of inspection overall the patient environment was generally clean with few exceptions. Environmental and patient equipment hygiene audit overall scores for November 2017 showed 100% and 93% compliance with desirable standards for environmental and patient equipment hygiene respectively. A notice board located on a ward corridor openly displayed this information along with performance reports in relation to hand hygiene, catheter care bundle compliance and nursing metrics which could be shared with patients, families and visitors of patients on the ward.

Opportunities for improvement were identified in relation to the storage and management of some items of patient equipment. Patient cryotherapy equipment and a fridge were inappropriately located in the anteroom into a household cleaning equipment room. This equipment was stored adjacent to a floor vacuum water

^{*****}Pre-operative assessment is an assessment of a patients' health statusto make sure that patients are as fit as possible, risks and benefits are discussed and an informed consent has been obtained prior to surgery. For elective surgery re-assessment may be required nearer the surgery date.

sucking machine. Such storage of patient equipment is not appropriate and requires immediate review to avoid inadvertent contamination of clean items.

Inspectors were informed that blood pressure cuffs were decontaminated after each patient use. However red staining was observed on one cuff which was highlighted and addressed at the time of inspection. A number of additional blood pressure cuffs were also stained. Blood pressure cuffs have been associated with potential sources of cross contamination²³ therefore specific controls need to be put in place to prevent such occurrences and to provide assurances that cleaning of reusable items are in line with national minimum cleaning frequencies.

Additionally, a small red stain was observed on an integrated sharps tray and a sharps disposal bin and a small brown stain was observed on the under surface of a commode which was addressed immediately by staff. Other patient equipment items stored in a designated store room appeared clean however there were some inconsistencies observed in relation to labelling of clean items.

3. Progress since the previous HIOA inspection

HIQA reviewed the quality improvement plan developed by the hospital following the last HIQA infection prevention and control inspection in June 2016. The quality improvement plan showed that 19 of the 23 actions identified in the quality improvement plan were given the status 'ready' and it was evident that the QIP was reviewed and updated between the 2016 and 2018 inspections.

Since the last HIQA inspection in 2016 the hospital had reviewed the existing treatment room accommodation available to the Renal Dialysis Unit and added additional capacity to the service. A new interventional radiology suite had been built. However this was not yet operational meaning that the risks identified in relation to the delays in the placement of permanent venous access devices for patients undergoing renal dialysis had not been fully addressed.

A formal legionella site risk assessment had been performed at the hospital in March 2017. Hospital management reported that internal control and preventative measures in relation to waterborne infection were implemented in the hospital including regular outlet flushing and microbiological testing of water. Governance and oversight in relation to water-borne infections in the hospital was the responsibility of the Maintenance Committee.

Good communication structures between facilities and services are essential for appropriate initiation of infection control measures upon patient transfer. In 2017 the Regional Infection Prevention and Control Team developed and distributed a questionnaire to all clinical nurse/midwife managers in three hospital sites (Mullingar, Tullamore and Portlaoise) to explore communication of information relating to healthcare-associated infections prior to patient admission from and transfer to other facilities within the region. Following this survey the team had committed to the development of a document to improve inter-facility communication of infectious status and isolation needs of patients prior to admission from and transfer to other facilities.

4. Conclusion

A National Public Health Emergency Plan was activated on 25 October 2017 by the Minister for Health in response to the increase and spread of Carbapenemase Producing Enterobacteriaceae (CPE) in Ireland. Identification of colonised patients by screening patients on entry to hospital is a critical measure required to identify those patients who are colonised with CPE, and to therefore prevent further transmission to other patients. The Health Service Executive introduced screening guidelines for the acute hospital sector in June 2017. Inspectors found that the Midlands Regional Hospital, Tullamore had not successfully ensured that screening patients for CPE was fully embedded in the hospital. In light of the current national public health emergency, HIQA considered this to be a high risk that required escalation to hospital management following this inspection. Hospital management responded highlighting key actions which the hospital has instigated to address this risk.

Patients are routinely transported from one department to another during hospitalisation. Ineffective communication of a patient's infection control assessment or infectious status can result in non-compliance with infection control precautions; exposing both staff members and other patients to the risk of infection.²⁴ There should be clear written and accessible instructions for staff in each clinical area and on nursing documentation so that there is better understanding of who needs to be screened, the organisms to screen for and the screening method.

HIQA found that some but not all essential elements of an infection prevention and control programme were in place in the Midland Regional Hospital Tullamore. Monitoring and evaluation of healthcare-associated infection processes and outcomes at the hospital should be expanded to facilitate wider evaluation of the impact of infection prevention and control measures. This could be achieved by advancing healthcare-associated infection surveillance and progressing with the implementation of patient screening programmes in line with national guidelines 1/3/10.

Improvements in the approach to diagnosis of infection can help to promote the best possible treatment decisions, and can decrease unnecessary or inappropriate use of antimicrobials. The hospital had invested in technology to assist with rapid microbiological testing.

The microbiologist provided cover to three acute hospitals over two hospital groups including twenty four hour a day, seven days a week clinical advice. Hospital management should review this arrangement in the interest of ensuring continued sustainability.

Care bundles should be consistently implemented in line with evidence-based best practice guidelines as full compliance with all essential care bundle components has

shown improved patient outcomes. The hospital should progress with the implementation of care bundles across the hospital in line with national guidelines. The frequency of care bundle audits should be determined by result performance.

Surgical site infection surveillance represents good practice and demonstrates a commitment to monitoring the quality of patient care. It is important that the revised approach to surgical site infection surveillance at the hospital is effectively structured, resourced and governed by senior management so that they are assured of the safety of surgical services provided with respect to infection rates. Hand hygiene is recognised internationally as the single most important preventative measure in the transmission of healthcare-associated infections in healthcare services. The hospital had demonstrated achieved compliance with the Health Service Executive's (HSE) national target of 90% for hand hygiene compliance throughout 2016 and 2017 which is commendable. However, attendance at hand hygiene training at the hospital needs to be improved.

Overall, the general environment and equipment in the areas inspected were clean and well maintained with some exceptions. Records viewed showed that environmental hygiene audits were performed regularly. However, HIQA recommends the frequency of auditing of very high risk areas is increased in line with national guidance. ¹⁷ Inspectors found through this inspection that governance and management arrangements around the prevention and control of healthcare-associated infection continued to evolve within the current Dublin Midlands Hospital Group governance structure. The recently convened Dublin Midlands Hospital Group Infection Control Committee is a welcome development and has the potential to facilitate improved governance structures and sharing of evidence-based practice in relation to infection prevention and control across the group.

5. Reference

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. 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 the monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections. Dublin: Health Information and Quality Authority; 2015. Available online from: https://www.hiqa.ie/sites/default/files/2017-05/Guidemonitor-National-Standards-healthcare-associated-infections.pdf
- 3. Health Service Executive.Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae* (CPE) in the Acute Hospital Sector. October 2017. Available online from: https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe/requirements-for-screening-of-patients-for-cpe-in-the-acute-hospital-sector.pdf
- 4. Royal College of Physicians of Ireland Clinical Advisory Group on Healthcare Associated Infections. Guidelines for Hand Hygiene in Irish Healthcare Settings Update of 2005 Guidelines. Dublin: Royal College of Physicians of Ireland/Health Service Executive; 2015. Available online from: https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,15060, en.pdf
- 5. SARI Working Group, Health Protection Surveillance Centre. *Guidelines for the Prevention of Ventilator-associated Pneumonia in adults in Ireland.* Dublin: Health Service Executive, Health Protection Surveillance Centre; 2011. Available online from: https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12530, en.pdf
- 6. Strategy for the Control of Antimicrobial Resistance in Ireland (SARI) Subgroup. *Guidelines for the prevention of catheter-associated urinary tract infection*. Dublin: Health Protection Surveillance Centre; 2011. Available online from: https://www.hpsc.ie/A-

Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12913 ,en.pdf

- 7. Royal College of Physicians of Ireland.Prevention of Intravascular Catheter-related Infection in Ireland.Partial update of 2009 National Guidelines. 2014. Available online from: http://www.hpsc.ie/A-Z/Hepatitis/GuidanceforRenalUnits/File,4115,en.pdf
- 8 Public health England. Protocol for the Surveillance of Surgical Site Infection. Surgical Site Infection Surveillance Service. (2013) Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uploads/system/uploads/attachment_data/file/633 https://www.gov.uk/government/uploads/system/uplo
- 9 Harrington P (2014) Prevention of surgical site infection. Nursing Standard. 28: (48), 50-58.
- 10. Royal College of Physicians of Ireland Clinical Advisory Group on Healthcare Associated Infections. Guidelines for the prevention and control of multidrug resistant organisms (MDRO) excluding MRSA in the healthcare setting. Dublin: Royal College of Physicians of Ireland/Health Service Executive; 2014. Available online from: http://www.hpsc.ie/a-
- z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/Guidelines% 20for%20the%20Prevention%20and%20Control%20of%20MDRO_Final%20Revised_July%202014.pdf
- 11. Department of Health, United Kingdom. Health Building Note 00-09: Infection control in the built environment. Available online from: http://www.dhsspsni.gov.uk/hbn_00-09_pdf
- 12. National Clinical Effectiveness Committee. Prevention and Control Methicillin-Resistant Staphylococcus aureus (MRSA).National Clinical Guideline No.2. Dublin: Department of Health; 2013. Available online from: http://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/File,14478,en.pdf
- 13. Health Protection Scotland. NHS National Services Scotland. 2015. Transmission Based Precautions Literature Review: Patient Placement (Isolation/Cohorting). Available online from: http://www.nipcm.scot.nhs.uk/documents/tbp-patient-placement-isolation-and-cohorting/
- 14. Jeanes A and Gopal R (1999) Lewisham Isolation Priority System (LIPS). University Hospital Lewisham and Jeanes A and Macrae B (2011) *British Journal of Nursing* 20(9):540-544
- 15. National Hospitals Office, Quality, Risk and Customer Care. HSE Cleaning Manual Acute Hospitals. Dublin: Health Service Executive; 2006. Available online from:

http://hse.ie/eng/services/publications/Hospitals/HSE National Cleaning Standards Manual.pdf

- 16. The British Standards Institution. PAS 5748:2014 Specification for the planning, application, measurement and review of cleanliness services in hospitals. 2nd edition. London: 2014.
- 17. National Hospitals Office, Quality, Risk and Customer Care. HSE National Cleaning Manual Appendices. Health Service Executive; 2006. [Online]. Available online from:

http://www.hse.ie/eng/services/publications/hospitals/HSE_National_Cleaning_Stand ards_Manual_Appendices.pdf

- 18. Health Service Executive.National Policy on Restricted Antimicrobial Agents.Health Service Executive; 2016.Available online from: https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/hcaiamr/hse-policy-on-restricted-antimicrobials-july-2016.pdf
- 19. 2017-2018 Influenza Vaccine Uptake in HSE-funded Hospitals and Long Term Care Facilities in Ireland. Provisional Final Report by HSE-HPSC;19/12/2017. Available online from: http://www.hpsc.ie/a-z/respiratory/influenza/seasonalinfluenza/influenzaandhealthcareworkers/hcwinfluenzavaccineuptakereports/Report%20on%20%20Influenza%20Vaccine%20Uptake-2017_2018-Provisional%20Report-19122017%20v2.4.pdf
- 20. The British Standards Institute. *PAS 5748:2014 Specification for the planning, measurement and review of cleanliness services in hospitals.* Available online from: http://shop.bsigroup.com/ProductDetail/?pid=00000000030292594.
- 21. Nordstrom J, Reynolds K and Gerba C. Comparison of bacteria on new, disposable, laundered, and unlaundered hospital scrubs. American Journal of Infection Control. 40 (2012) 539-43 https://ac.els-cdn.com/S019665531101011X/1-s2.0-S019665531101011X-main.pdf? tid=ce7c967a-0cc6-11e8-8cfc-000000aacb361&acdnat=1518091044 tid=ce7c967a-0cc6-11e8-8cfc-000000aacb361&acdnat=1518091044 https://ac.els-cdn.com/S019665531101011X/1-s2.0-S019665531101011X-main.pdf? <a href="tid=def-148-8cfc-148-8c
- 22. Loveday HP, Wilson JA, Hoffman PN, Pratt RJ (2007) Public perception and the social and microbiological significance of uniforms in the prevention and control of healthcare-associated infections: an evidence review. Journal of Infection Prevention. 8 (4): 10- 21. Available online from: http://journals.sagepub.com/doi/pdf/10.1177/1469044607082078
- 23. Matsuo M, Oie S, Furukawa H. *Contamination of blood pressure cuffs by methicillin-resistant Staphylococcus aureus and preventive measures.* Irish Journal of

Medical Science. 2013. Dec; 182(4): 707-9. Available online from: https://www.ncbi.nlm.nih.gov/pubmed/23639972

24. Ong M, Magrabi F, Post J, Morris S, Westbrook J, Wobcke W, Calcroft R and Coiera E Communication interventions to improve adherence to infection control precautions: a randomised crossover trial. BMC Infectious Diseases 2013, 13 (72). Available online from:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599084/pdf/1471-2334-13-72.pdf

6. Appendices

Appendix 1:Lines of enquiry for the monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services

Number	Line of enquiry	Relevant National Standard
1.1	The hospital has formalised governance arrangements with clear lines of accountability and responsibility around the prevention and control of healthcare-associated infections.	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 5.2, 5.3, 5.4, 6.1, 7.1
1.2	Risks in relation to the prevention and control of infection are identified and managed.	2.1, 2.3, 2.5, 3.1, 3.6, 3.7, 3.8
2	The hospital has policies, procedures and guidelines in relation to the prevention and control of infection and hospital hygiene.	2.1, 2.5, 3.1, 3.6, 3.8, 5.4, 7.2
3	Hospital personnel are trained and in relation to the prevention and control of healthcare-associated infection	2.1, 2.8, 3.1, 3.2, 3.3, 3.6, 6.1, 6.2
4.1	The hospital has implemented evidence-based best practice to prevent intravascular device-related infection and urinary catheterassociated infection, ventilatorassociated pneumonia and surgical site infection.	1.1, 2.1, 2.3, 3.5
4.2	The hospital has systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug-resistant organisms in line with national guidelines.	2.1, 2.3, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8,

Appendix 2: Copy of the letter issued to the Midlands Regional Hospital Tullamore regarding the high risk identified

Orlagh Claffey
General Manager
Midlands Regional Hospital Tullamore
Tullamore
Co. Offaly
orlagh.claffey@hse.ie

12 February 2018

Ref: PCHCAI18/08

Dear Orlagh

National Standards for the prevention and control of healthcareassociated infections in acute healthcare services - monitoring programme

The Health Information and Quality Authority (HIQA) carried out an unannounced inspection at the Midlands Regional Hospital Tullamore against the *National Standards for the prevention and control of healthcare associatted infections in acute healthcare services* on 30 January 2018.

On review of the inspection findings inspectors identified that the hospital is not in compliance with HSE guidelines¹⁶ around screening patients for Carbapenemase Producing *Enterobacteriaceae* (CPE) in the Intensive Care Unit. We consider this to be a high risk in light of the ongoing National Public Health Emergency Plan to address CPE in our health system which was activated by the Minister for Health on 25 October 2017.

Pleaseoutline how the hospital intends to address this high risk following this inspection. Details of the risks identified, and proposed mitigating actions will be included in the report of the inspection.

¹⁶Health Service Executive.Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae*(CPE) in the Acute Hospital Sector. October 2017. Available online from: https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe/requirements-for-screening-of-patients-for-cpe-in-the-acute-hospital-sector.pdf

Please provide this information to HIQA by close of business on **19February 2018** to <u>qualityandsafety@hiqa.ie</u>. Should you have any queries, please do not hesitate to contact me at <u>qualityandsafety@hiqa.ie</u>.

Yours sincerely,

Kathryn Hanly Authorised Person

CC: Mary Dunnion, Director of Regulation, Health Information and Quality Authority

Trevor O'Callaghan, CEO, Dublin Midlands Hospital Group Liam Woods, National Director of Acute Services, Health Service Executive

Appendix 3: Copy of the response letter received from the Midlands Regional Hospital Tullamore regarding the high risks identified during the HIQA inspection of the Midlands Regional Hospital Tullamore





Dublin Midlands Hospital Group Midland Regional Hospital Tullamore Arden Road Tullamore Co Offaly 057 9358072

15th February 2018

Ms. Kathryn Hanly Authorised Person Health Information Quality Authority Unit 1301, Citygate Mahon Cork.

Ref: PCHAI 2018/08

Dear Kathryn,

Thank you for your letter of 12th February following your inspection of Midland Regional Hospital, Tullamore, on 30th January. In response to the feedback of the onsite inspectors that day, the following actions have been agreed:

1. Onsite visits to wards:

Onsite visits are an integral part of the IPC nursing service, and include a focus on CPE awareness (Ongoing).

2. Dedicated training sessions:

CPE focused training for relevant staff in ICU, initiated in Feb 2018 and biannually going forward (With immediate effect).

3. Awareness Campaign:

The IPC team have run a previous campaign on CPE awareness (see attached poster from October 2017) and will run repeat sessions throughout 2018 at various locations in the hospital (Ongoing).

4. IPC Training programme:

CPE awareness and national screening requirements are included in mandatory IPC training for all staff (Ongoing).

5. ICU Poster Campaign:

Posters have been developed by the IPC team and are in place in ICU to remind staff of the specific screening requirements in their area (See attached copy)

6. Hospital wide Poster Campaign:

Posters are being developed for display in all clinical areas to remind staff of the importance of CPE. These will be in place within Quarter 1, 2018.

7. CPE reminder stickers:

Stickers which outline the national requirements for CPE screening are inserted in all nursing notes as a reminder for staff (ongoing).

8. Electronic reminder:

CPE screening requirements are a component of the ED electronic triage form.

9. Audit:

An audit of compliance will be completed within Quarter 1 2018.

I trust that this is to your satisfaction, should you have any queries please do not hesitate to contact

Yours sincerely,

General Manager

36

For further information please contact:

Health Information and Quality Authority
Dublin Regional Office
George's Court
George's Lane
Smithfield
Dublin 7

Phone: +353 (0) 1 814 7400 Email: qualityandsafety@hiqa.ie

URL: www.higa.ie

© Health Information and Quality Authority 2018