



**Health  
Information  
and Quality  
Authority**

An tÚdarás Um Fhaisnéis  
agus Cáilíocht Sláinte

# **Report of the unannounced inspection at Portiuncula University Hospital, Ballinasloe, Co. Galway.**

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: 06 February 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 person-centred 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.

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## **1.0 Introduction**

HIQA monitors the implementation of the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*<sup>1</sup> 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 revised monitoring 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*<sup>2</sup> which was published in May 2017 and is available on HIQA's website: [www.hiqa.ie](http://www.hiqa.ie)

In October 2017, the Minister for Health activated a Public Health Emergency Plan<sup>\*</sup> and convened a National Public Health Emergency Team as a public health response to the increase of Carbapenemase Producing *Enterobacteriaceae* (CPE)<sup>†</sup> in Ireland. In light of the ongoing national public health emergency the 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 Portiuncula University Hospital by Authorised Persons from HIQA; Noreen Flannelly-Kinsella and Kathryn Hanly. The inspection was carried out on 06 February 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:

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<sup>\*</sup>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/>

<sup>†</sup>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 Intensive Care and Coronary Care Unit
- a surgical ward.

Inspection findings presented in this report are aligned to HIQA's monitoring lines of enquiry as shown in Appendix 1. 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.

## 2.0 Findings at Portiuncula University Hospital

The following sections 2.1 to 2.6 present the general findings of this unannounced inspection which are aligned to monitoring lines of enquiry.

### 2.1 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.

#### Governance arrangements

Portiuncula University Hospital is a statutory public acute hospital owned and managed by the Health Service Executive (HSE). The hospital is a member of the Saolta University Health Care Group<sup>‡</sup> of hospitals.

The General Manager at Portiuncula University Hospital held overall accountability and responsibility for the prevention and control of healthcare-associated infection at the hospital. The General Manager reported to the Saolta University Health Care Group Chief Executive Officer (CEO) at monthly hospital group performance meetings.

The hospital had formalised governance arrangements and organisational structures in place to support the prevention and control of healthcare-associated infection. The infection prevention and control service was delivered by a specialist infection prevention and control team who reported to the Infection Prevention and Control Committee. This committee in turn reported into the Quality, Safety and Risk Committee as and when required. The Quality, Safety and Risk Committee reported into the Hospital Management Team.

Additionally, the Saolta University Health Care Group had formalised governance arrangements in place in relation to infection prevention and control across the group. The Infection Prevention and Control Committee at Portiuncula University Hospital along with other hospitals in the group, reported to the hospital group Infection Prevention and Control Committee on a quarterly basis.

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<sup>‡</sup>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 Limerick Hospitals Group. 6. RCSI Hospitals Group. 7. National Children's Hospital Group.



## **The Infection Prevention and Control Team**

The infection prevention and control programme at the hospital was delivered by a specialist multi-disciplinary team in line with National Standards. The aim of the team was to monitor and advise on implementation of the infection prevention and control programme at the hospital and to support staff in fulfilling their responsibilities in relation to infection prevention and control practice. The team held weekly meetings which were minuted and attended by the Consultant Microbiologist. Standing agenda items for infection prevention and control weekly meetings included updates and feedback in relation to surveillance, antimicrobial stewardship, audits, education, policies, procedures and guidelines, decontamination and infection control issues by area or department at the hospital.

The Infection Prevention and Control Team provided expert advice to hospital committees such as hygiene, decontamination, intensive care unit users group, drugs and therapeutics, and quality, safety and risk management. The team also provided advice before and during refurbishment and building projects at the hospital.

The team was led by a consultant microbiologist position jointly appointed with University Hospital Galway. It was reported that the consultant microbiologist attended the hospital for 12 hours, on one day a week, 0.3 whole-time equivalent (WTE)<sup>§</sup> hours. The microbiology service provided 24-hour seven-days-a-week access to expert advice by a consultant microbiologist in line with National Standards. This service was provided on a rotational basis by consultant microbiologists all based at University Hospital Galway. Hospital management told inspectors that discussions in relation to securing a second 0.5 WTE on-site consultant microbiologist position at the hospital were in progress. Inspectors were told that the microbiological laboratory at Portiuncula University Hospital was not accredited by the Irish National Accreditation Board. The hospital should look to progress this in line with National Standards.

The Infection Prevention and Control Team also included two nursing positions giving a total of 1.6 WTE infection prevention and control clinical nurse specialists at the hospital. Inspectors were informed, and documentation reviewed by inspectors showed that the team had highlighted a requirement to increase nursing resources to 2.0 WTE posts in light of additional reactive workloads demanded as a result of lack of isolation rooms, inadequate infrastructure, high occupancy rates, management of outbreaks of infection and ongoing threats of multidrug-resistant organisms.

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<sup>§</sup> Whole-time equivalent (WTE): allows part-time workers' working hours to be standardised against those working full-time. For example, the standardised figure is 1.0, which refers to a full-time worker. 0.5 refers to an employee that works half full-time hours.

The Infection Prevention and Control Clinical Nurse Specialists carried out full ward rounds at least twice a week and individual issues were addressed as they arose on a daily basis. Inspectors were told that finding inpatient accommodation for patients with transmissible infection was a daily challenge due to busy patient throughput and an insufficient number of hospital beds and isolation rooms to meet the demand for beds.

Inspectors were told during this inspection that infection prevention and control nursing positions were not always backfilled during staff leave. Hospital management reported to inspectors that a clinical nurse manager position had been allocated to the team to support staff leave as an interim measure however this position had recently become vacated. The hospital needs to continue to implement workforce contingency plans for trained specialist staff in infection prevention and control so that the service continues seamlessly during times of leave.

The team also included 0.5 WTE antimicrobial pharmacist and 1.0 WTE surveillance scientist, who in addition to surveillance work had on-call and bench work commitments. It was reported that administration support was limited and although there had been some recent increase in hours, manual inputting of audit data rested with infection prevention and control nursing staff ultimately impacting on the delivery of the infection prevention and control programme.

Infection prevention and control team resource issues had been highlighted by the team in their annual report 2016 and annual plan for 2017, at hospital and hospital group infection prevention and control committee meetings and had been entered on the infection prevention and control risk register.\*\* The hospital needs to be assured that the necessary resources are in place to perform the scope of activities necessary to fulfil these roles and to deliver a safe sustainable service.

### **The Infection Prevention and Control Committee**

The Infection Prevention and Control Committee provided oversight of the planning, implementation, monitoring and review of services associated with infection prevention and control at the hospital.

The Infection Prevention and Control Committee was chaired by the General Manager and membership included multi-disciplinary and executive management team representation. The committee had defined terms of reference, and met quarterly. Documentation reviewed showed that meetings followed a standardised agenda which included feedback and consideration of the infection prevention and

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\*\* 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.

control programme at the hospital. Quarterly reports from the Infection Prevention and Control Team, and decontamination, risk management, hygiene services and environmental monitoring committees were presented at committee meetings.

The Infection Prevention and Control Committee reported into the Quality, Safety and Risk Committee at the hospital as and when required. The Quality, Safety and Risk Committee was chaired by the General Manager. A more regular reporting system to this oversight committee should be formalised going forward by including infection prevention and control as a standing agenda item.

The Infection Prevention and Control Committee at the hospital along with other hospitals in the group, reported to the Saolta University Health Care Group Infection Prevention and Control Committee. This committee met quarterly, had defined terms of reference, and was chaired by the hospital group Chief Operations Officer. Membership included representatives from Public Health and the hospital group Assistant Director of Nursing for Infection Prevention and Control. The hospital group Infection Prevention and Control Committee in turn reported to the hospital group Quality and Safety Executive Committee.

Documentation reviewed by inspectors showed that performance data and reports were presented by Portiuncula University Hospital at the hospital group Infection Prevention and Control Committee. This arrangement facilitates oversight of the infection prevention and control programme and greater formal collaboration, cooperation and shared learning across the hospital group.

### **2.1.1 Monitoring and evaluation**

Portiuncula University Hospital monitored healthcare-associated infection and antimicrobial-resistance rates at the hospital. In addition, key performance indicators and other relevant indicator data were collected to assess the effectiveness of the infection prevention and control activities.

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.

Data reviewed by inspectors showed that the number of hospital-acquired *Staphylococcus aureus* bloodstream infections remained below the national HSE performance indicator for 2017 as required.

A slight increase in the number of reported cases of *Clostridium difficile* infection was noted for some months over 2017 which was greater than the national HSE

performance indicator. Documentation reviewed showed that root cause analyses were performed and action plans developed for cases of *Clostridium difficile* infection identified through surveillance. A detailed analysis of three cases of *Clostridium difficile* infection in October 2017 showed no epidemiological link between cases. Such analysis is important from a learning and improvement perspective. The team performed enhanced *Clostridium difficile* infection surveillance and molecular typing of isolates for hospital-acquired cases. The hospital had invested in molecular testing technology to assist with rapid microbiological testing for *Clostridium difficile* infection at the hospital.

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

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

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.

Measuring and assessing current practices through collection and analysis of data to identifying trends and areas for improvement and implementing the necessary changes to improve the service are key components of a quality improvement framework. A number of other parameters relating to the prevention and control of healthcare-associated infection were regularly monitored by the Infection Prevention and Control Team and these included the following:

- surveillance of 'alert' <sup>††</sup>organisms and 'alert' conditions<sup>§§</sup>
- data reported to the European Antimicrobial Resistant Surveillance Network (EARS-Net)<sup>\*\*\*</sup>

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<sup>††</sup> 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).

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

<sup>§§</sup> Alert conditions include physical symptoms such as skin rashes, vomiting, diarrhoea, respiratory illness that could be due to an infectious illness.

<sup>\*\*\*</sup> 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*.

- clusters or outbreaks of infection
- bloodstream infections
- intensive care unit-acquired infections and central-line associated bloodstream infections
- contaminated blood cultures.

Surveillance data reports received after this inspection and reviewed by inspectors showed a significant increase in the number of blood culture contamination rates at the hospital in the previous six month period. For example contamination rates reported in the emergency department (ED) showed between 9.3% and 12.6% from July to December 2017, well above acceptable rates.<sup>3</sup> Increased blood culture contamination rates can result in unnecessary investigations and antimicrobial therapy as well as lengthier hospital stays and unnecessary costs.

Documentation reviewed by inspectors showed that blood culture contamination rates were discussed by the hospital at the hospital group infection prevention and control committee meeting in September 2017. This documentation indicated that education and feedback was provided by the Consultant Microbiologist and the Pharmacist to staff in relation to positive blood cultures, blood culture contamination rates and antibiotic restriction policies. In light of continued increase in the number of blood culture contamination rates in December 2017, it is recommended that the hospital implements a quality improvement plan to address this issue going forward.

Inclusion of multiple outcome measures enables a more comprehensive evaluation of the effectiveness of infection prevention and control practices. The Infection Prevention and Control Team conducted audits across the hospital in relation to:

- antimicrobial stewardship
- hand hygiene compliance
- environment and equipment hygiene
- commodes and sluice room
- glucometers
- alcohol hand rub at point of care
- compliance with local and national recommendations on screening patients for CPE.

Inspectors were informed that the General Manager had recently communicated with relevant local managers in relation to poor compliance achieved with patient equipment hygiene audits which was verified in documentation reviewed by inspectors. This demonstrates a commitment by senior management to address deficiencies identified in relation to audit findings and is representative of good practice.

Data in respect of legionella water test results and local audit findings were also presented at meetings of the local hospital and hospital group Infection Prevention and Control Committee meetings. Findings in regard to hand hygiene, hospital hygiene audits and ongoing surveillance of key multidrug-resistant organisms monitored at the hospital will be presented in section 2.6 in this report

## 2.2 Risk management

### Line of enquiry

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

A comprehensive hospital infection prevention and control risk register was maintained outlining specific infection prevention and control risks and controls in place to mitigate against identified risks. Some high rated risks on the infection prevention and control risk register were in relation to:

- design and fabric of the building
- inadequate single room with en-suite facilities and airborne isolation rooms
- patients with multidrug-resistant organisms nursed in multi-bedded rooms
- inadequate bed spacing and congested hallways
- insufficient sluice rooms and toilets
- inadequate infection prevention and control team resources
- staffing levels on wards in relation to patient dependency and throughput
- lack of integrated information technology systems.

Collectively these risks do not facilitate effective infection prevention and control in an acute hospital setting.

The hospital infection prevention and control risk register was last updated in November 2017. Infection prevention and control risks were escalated to hospital management and entered on the hospital risk register as two overarching infection prevention and control risks which were in relation to poor hospital infrastructure and risk of Carbapenemase Producing *Enterobacteriaceae* outbreak of infection.

To address significant risks identified it was reported that a proposal to build a new 50-bed block was being progressed at the hospital. The design phase had been completed and planning permission had been granted. A number of meetings with HSE estates had taken place and site remedial works were due to commence in quarter two 2018. The design phase would enable the hospital to progress building proposals pending future allocation of capital funding.

In the interim of capital development, control measures had been implemented at the hospital. Efforts had been made by the hospital to address minor infrastructural issues in some areas having secured minor capital funding. An isolation prioritisation policy was developed by the Infection Prevention and Control Team in relation to prioritisation of single room usage.

Inspectors were informed that hospital management were reviewing the possibility of establishing an electronic link with a patient information computerised system in other hospitals within the hospital group which would enable staff to identify patients previously colonised or infected with a transmissible infection in another hospital on admission to Portiuncula University Hospital.

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.

Clinical risk management was discussed at weekly infection prevention and control team meetings, monthly hospital management team meetings, and quarterly hospital and hospital group infection prevention and control committee meetings. The General Manager and the Quality, Safety and Risk Co-ordinator reported on clinical risk management and incident reviews relevant to infection prevention and control at monthly Quality, Safety and Risk Committee meetings.

Inspectors were informed that infection prevention and control risks which could not be effectively mitigated at a local hospital level were escalated to the Saolta Serious Incident Management Team through relevant hospital group reporting structures.



## 2.3 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.

Inspectors found that the hospital had a comprehensive suite of infection prevention and control policies in relation to standard precautions, transmission-based precautions and the management of antimicrobial-resistant organisms. Hospital policies relevant to infection prevention and control were developed by the Infection Prevention and Control Team and approved by the Infection Prevention and Control Committee and or the Hospital Management Team. The hospital had an electronic document management system to facilitate document version control. Inspectors found that these documents were accessible to staff in electronic copies in the clinical areas inspected.

Current HSE policy states that hospital policies, procedures and guidelines should be reviewed every three years.<sup>4</sup> The hospital had up-to-date policies in relation to antimicrobial-resistant organisms and restricted antimicrobial-prescribing guidelines. Some policies in relation to infection prevention and control were due for review at the time of inspection. It is recommended that the Infection Prevention and Control Committee formalises the process in relation to reviewing policies, procedures and guidelines in light of these findings to ensure staff only had access to the most up to date version of these documents.

Inspectors were informed that electronic versions of policies were available on desktop computers in clinical areas. Patient information leaflets in relation to multidrug-resistant organisms which included CPE, *Clostridium difficile* infection, Vancomycin-resistant *Enterococci* were also available on computer desktops.

A standard operating procedure in relation to cleaning commodes was readily accessible to staff at point of use and contained written instructions and recommended steps as guidance for users in the surgical ward inspected.

## 2.4 Staff training and education

### Line of enquiry

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

### Infection prevention and control education

The Infection Prevention and Control Team informed inspectors that education and training in relation to infection prevention and control was provided on a monthly basis. It was reported that training was aligned to the national framework<sup>5</sup> for such knowledge and skills and content included standard and transmission-based infection control precautions. However, it was highlighted to inspectors that staff work pressures in clinical areas did not always facilitate attendance at infection prevention and control training.

Attendance at training was collated centrally at the hospital. Documentation reviewed by inspectors indicated that training and education was also provided in response to identified training needs and informal education sessions were provided to staff working in clinical areas. An infection prevention and control report showed that additional education was provided in relation to decontamination of commodes and environment, CPE, *Clostridium difficile* infection, aspergillosis, Ebola viral disease, correct fitting and removal of face mask respirators, blood and bodily fluid spills and bathing wipes.

A competency-based training programme for nursing staff was provided in relation to intravenous cannulation upon commencement of their employment at the hospital. Infection prevention and control education was also provided to non-consultant hospital doctors at induction and at 'grand rounds'.<sup>+++</sup>

Hospital management reported that hospital staff had participated in a quality improvement programme for antimicrobial stewardship delivered by the Royal College of Physicians in Ireland. Training was also provided locally to relevant clinical staff in relation to antimicrobial stewardship.

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.

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<sup>+++</sup>Grand rounds are formal meetings where physicians and other clinical support and administrative staff discuss the clinical case of one or more patients. Grand rounds originated as part of medical training.

Hospital management informed inspectors that hospital and contract staff with responsibility for hospital cleaning had completed a recognised cleaning training programme as recommended.

### **Hand hygiene training**

National hand hygiene guidelines recommend that hand hygiene training should be mandatory for relevant staff at induction and every two years thereafter.<sup>6</sup> Inspectors were informed that hand hygiene training was mandatory for staff at induction and every two years thereafter. Training updates were provided through twice monthly scheduled sessions and staff could either attend face-to-face sessions or undertake e-Learning training programme updates. In addition, the Infection Prevention and Control Clinical Nurse Specialist's provided hand hygiene training on demand when requested or in response to an issue.

At the time of the inspection 84% of hospital staff had attended hand hygiene training in the previous two years. Staff attendance at training was recorded centrally and data breakdown by each staff discipline was available which facilitates tracking and trending of attendance. Hospital management should regularly review uptake of hand hygiene training by staff discipline to ensure any gaps in the provision and uptake of training and education is addressed.

At the time of the inspection, attendance records for hand hygiene training in the Intensive Care Unit were not available. Documentation received after the inspection showed that 100% of staff in the Intensive Care Unit were up-to-date with hand hygiene training. In the surgical ward inspected 73% of staff had completed this training in the previous year.

Infection prevention and control staff told inspectors that an infection prevention and control link practitioner<sup>+++</sup> project had been temporarily suspended at the hospital. Hospital management should explore the feasibility of reintroducing this project to facilitate delivery of effective infection prevention and control practices within clinical settings and to support the work of the Infection Prevention and Control Team.

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<sup>+++</sup>Link practitioners are hospital staff who in addition to performing their own job support the Infection Prevention and Control Team to promote good practice in relation to infection prevention and control.

## 2.5 Implementation of evidence-based best practice

### Line of enquiry

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 and surgical site infection

The surveillance of healthcare-associated infection is one of the core components of an effective infection prevention and control programme.<sup>7,8,9</sup> National guidelines recommend healthcare-associated infection surveillance in relation to surgical site infection, central venous access device-related infection, urinary catheter-associated urinary tract infection and ventilator-associated pneumonia.<sup>10,11,12</sup>

Inspectors were told that the hospital did not routinely perform surveillance of surgical site infection and urinary catheter-associated urinary tract infection. It was reported to inspectors that ventilator-associated pneumonia surveillance was undertaken in the Intensive Care and Coronary Care Unit however data from this surveillance was not available to inspectors.

The Infection Prevention and Control Team told inspectors that central venous access device-related infection surveillance was carried out in the Intensive Care and Coronary Care Unit. However performance data relating to central venous access device-related infection was not available in the unit and staff were unaware of this surveillance programme. Additionally, this data was not included in surveillance data reports received by inspectors after the inspection.

It was of concern that while it was reported that this information was being gathered there was no evidence to indicate that this information was shared with front line staff. Sharing findings of ventilator-associated pneumonia and central venous access device-related infection surveillance data with front line staff should be reviewed as a priority following this inspection.

The hospital did not have a policy in relation to the prevention of surgical site infection. Such a policy should be developed based on best practice guidelines.<sup>13,14,15,16</sup>

### Care bundles

The implementation of care bundles to prevent invasive device-related infection was reviewed in both clinical areas inspected.

Care bundles for intravascular devices, urinary catheter care and ventilator-associated pneumonia had been implemented in the Intensive Care and Coronary Care Unit in line with national guidelines. Bundles were recorded daily on the critical care nursing care plan. Monthly central venous access device, urinary catheter care and ventilator-associated pneumonia bundle compliance audit results showed 100% compliance for the previous 12 months which demonstrates consistent good practice in recording interventions.

Peripheral vascular and urinary catheter care bundles had been implemented in the surgical ward inspected. Staff reported that central venous access device care bundles were also implemented as and when required. Care bundle audit results showed 100% compliance for urinary catheter care bundle compliance from January to August 2017. However compliance with peripheral vascular catheter care bundle implementation showed some variation with results of 71% to 100% from January to July 2017.

Full implementation of all evidenced-based components of care bundles have shown improved patient outcomes. The hospital needs to identify opportunities for improvement and develop an ongoing quality improvement plan to address these deficiencies going forward.

Monthly nursing metrics recorded at the hospital included some elements of invasive device management. Performance data including nursing metric results were openly displayed on a notice board in a main corridor in the surgical ward inspected.

## 2.6 Prevention and control of multidrug-resistant bacteria

### 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.

An effective infection prevention and control programme has systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug-resistant organisms in line with national guidelines.

### 2.6.1 Hospital systems to prevent and control multidrug-resistant organisms

Inspectors looked at hospital-wide systems and processes in place at the hospital to prevent and control multidrug-resistant organisms in line with National Standards.

#### 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 assessment of patients on admission or on first presentation should take into consideration the patient's risk of either acquiring or transmitting an infection.

Processes were in place in the Intensive Care Unit and surgical ward inspected to facilitate identification of patients who required transmission-based precautions and to screen patients for multidrug-resistant organisms in line with national guidelines. Nursing admission documentation reviewed by inspectors in the surgical ward included an infection status section in respect of all patients admitted or transferred from other wards or healthcare facilities. An infection prevention and control alert system was available on existing hospital information systems which identified patients previously colonised or infected with a transmissible infection.

Screening<sup>§§§</sup> and alert pathogen surveillance is an important protection for the hospital and the patients it treats in monitoring multidrug-resistant organism colonisation rates. Patient assessment at the hospital also includes screening for multidrug-resistant microorganisms, where appropriate, according to national recommendations.

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<sup>§§§</sup> Performing active surveillance cultures, active screening tests or contact screening of at-risk patients to detect colonisation with a multidrug-resistant organism.

Hospital managers told inspectors that screening for Vancomycin-resistant *Enterococci* (VRE), Methicillin resistant *Staphylococcus Aureus* (MRSA), and Carbapenemase Producing *Enterobacteriaceae* (CPE)<sup>17</sup> was in line with national guidelines at the hospital. This was further validated following discussions with staff in both clinical areas inspected. A hospital screening criteria document detailing screening requirements for CPE showed that the level of screening implemented at the hospital was in line with the national guidance document.

The Infection Prevention and Control Team also advised staff in relation to screening and isolation requirements for in-patients colonised<sup>\*\*\*\*</sup> or infected with a transmissible organism. An action flow chart was available to staff in clinical areas as a reference guide for the management of patients with CPE.

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. Monthly and quarterly breakdown of cases of antimicrobial-resistant bacteria and episodes of bloodstream infection were provided by the Surveillance Scientist at the hospital. Regular formal feedback was provided to the Infection Prevention and Control Team weekly meeting, and the local hospital and hospital group Infection Prevention and Control Committee quarterly meetings. It was reported to inspectors that monthly surveillance reports were disseminated to clinical departments at the hospital.

### **Hospital isolation facilities**

It is important that the physical healthcare infrastructure minimises the spread of healthcare-associated infections, including multidrug-resistant organisms.<sup>18</sup> Patients with suspected or confirmed communicable disease including healthcare-associated infection and multidrug-resistant organisms should be placed in a suitable single isolation room in line with national guidelines.<sup>19,20</sup>

Hospital managers told inspectors that there were 197 in-patient and day case beds at the hospital. Information provided by the hospital showed that there were only 13 single rooms in ward areas and two of these had en-suite facilities. On the day of inspection single room isolation was indicated for 29 in-patients of which 13 were isolated in single rooms. The lack of isolation facilities at the hospital does not facilitate effective infection prevention and control.

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\*\*\*\* 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.

On the day before this inspection, 'Trolley Watch'<sup>††††</sup> figures indicated that nine patients awaiting admission to the hospital were on trolleys in the Emergency Department indicating a lack of sufficient capacity to accommodate all admitted patients to the hospital.

## **Hand hygiene**

Service providers must adhere to hand hygiene practices and implement the essential components of the World Health Organization (WHO) multimodal improvement strategy<sup>21</sup> to minimise the risk of acquiring or transmitting infection.

Portiuncula University Hospital participated in national hand hygiene audits, the results of which are published twice a year. The hospital achieved an 88.6% compliance rate in the national hand hygiene audit in June/July 2017.

Documentation viewed by inspectors showed that the hospital achieved 91% compliance rate in October 2017 which was above the required compliance target of 90% set by the HSE.

Local hand hygiene compliance audits were also undertaken across the hospital on a regular basis. An action plan in relation to hand hygiene compliance audits had been implemented by the Infection Prevention and Control Team. Poorer performing areas were re-audited within a month and a process was put in place to address findings. Inspectors were informed that targeted hand hygiene training had been provided to relevant staff groups to address non-compliances. Documentation reviewed showed that hand hygiene audit results were tracked and trended by the Infection Prevention and Control Team.

Monthly hand hygiene audits in the Intensive Care Unit showed that staff in this area achieved an annual average of 87.2% for hand hygiene compliance in 2017.

Documentation reviewed by inspectors showed that the surgical ward achieved between 77 to 87% hand hygiene compliance from September to November 2017 respectively.

Alcohol hand gel was available at the point of care in the clinical areas inspected as recommended. The design of clinical hand wash sinks in areas inspected in the surgical ward were compliant with relevant guidance.<sup>22</sup>

## **Hygiene audits**

Standardised and effective auditing systems are essential to provide assurance that the system for measuring cleanliness levels is consistent and the required cleanliness

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<sup>††††</sup> 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. Online. Available at: <https://www.inmo.ie/6022>



levels are achieved. It was reported that regular managerial environmental and patient equipment hygiene audits were carried out by members of hygiene services, nursing management and infection prevention and control team at the hospital.

Inspectors observed that the frequency of environmental hygiene auditing was not graded according to the risk profile of hospital departments. Additionally inspectors were informed that 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.<sup>23,24</sup>

The hospital had information technology software to facilitate hygiene auditing however the existing system did not facilitate tracking and trending of audit results across the hospital. Hospital management told inspectors that they were in the process of refining the report generation element of the audit software so as to facilitate hospital-wide tracking and trending of results.

Environmental and patient equipment hygiene audit findings were presented at quarterly infection prevention and control committee meetings and hygiene meetings. A hospital report presented at the hospital group Infection Prevention and Control Committee meeting in quarter 3 2017, showed deficiencies in relation to patient equipment hygiene audit results with an average compliance rate of 67%, 74% and 71% achieved in relation to patient equipment, commode and glucometer audits respectively. Hospital management reported to inspectors that currently work was in progress in relation to roles, responsibilities and rosters relating to patient equipment cleaning at the hospital. This needs to be further progressed at the hospital.

A review of hygiene audit processes is recommended to ensure consistency of audit processes, scheduling of local audits in the clinical areas inspected, more frequent managerial hygiene audits of high risk areas and overall tracking and trending of results as recommended in line with national guidelines. Similar findings were made in relation to auditing processes in 2016.

Findings in relation to environmental and patient equipment hygiene audits in the clinical areas inspected will be presented in the next section of this report.

The area of the hospital designated for the laundering of cleaning textiles was visited at the time of inspection. The room was relatively small yet the layout supported the functional separation and segregation of the clean and dirty phases of these processes and the area was clean and tidy.

## Antimicrobial stewardship

Antimicrobial stewardship programmes including rationalisation of antimicrobial usage and surveillance of antimicrobial consumption is necessary to address emergent serious threats of antimicrobial resistance. Inspectors were informed that the hospital had a structured antimicrobial stewardship programme in place governed by the hospital Drugs and Therapeutic Committee and the local hospital and hospital group Infection Prevention and Control Committees.

Weekly antibiotic rounds by the Consultant Microbiologist and Antimicrobial Pharmacist were undertaken of patients referred by clinical teams, pharmacists or following results of laboratory reports. In addition weekly antibiotic rounds were conducted in the Intensive Care Unit and antimicrobial history for patients with *Clostridium difficile* infection was also reviewed.

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,<sup>\*\*\*\*</sup> imipenem, ertapenem. National guidelines<sup>25</sup> 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).

In line with national guidelines the hospital had introduced restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic meropenem in July 2017, which is a last line antibiotic used to treat serious gram-negative infection. Guidelines in relation to restricted antimicrobial prescribing and surgical prophylaxis were available to support staff at the hospital. Performance and impact of the restricted antibiotic policy was audited and trended and reported at quarterly infection prevention and control meetings.

Weekly review of antimicrobial stewardship activities was undertaken at the weekly infection prevention and control meetings. Quarterly antimicrobial reports were prepared by the Antimicrobial Pharmacist and presented at the hospital and hospital group Infection Prevention and Control Committee and the Drugs and Therapeutic Committee meetings. Antimicrobial consumption data was also reported to the Health Protection Surveillance Centre (HPSC) for comparative analysis nationally.

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<sup>\*\*\*\*</sup>Meropenem is an ultra-broad-spectrum antimicrobial 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 Gram-negative 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 Gram-negative 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.

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. This demonstrates a commitment by the hospital to proactively identify areas for improvement in the hospital.

### **Management of outbreaks**

HIQA was informed and documentation reviewed showed that the hospital had no outbreak of infection in the preceding 12 month period. In light of the inherent risks previously identified in relation to dated infrastructure, lack of isolation rooms and en-suite facilities, multi-occupancy rooms and space restrictions, storage and resource issues, this success shows the commitment of staff to prevent outbreaks of infection at the hospital.

The hospital had a system in place to manage and control clusters or outbreaks of infection in a timely and effective manner. A multidisciplinary outbreak control team was convened in the event of a suspected or confirmed outbreak of infection at the hospital. In addition to outbreak control team meetings and early implementation of control measures, additional control measures were put in place which included additional hand hygiene education sessions and increased cleaning and disinfection schedules. Feedback of outbreak control learning points to identify areas for improvement is important for staff.

The hospital will continue to face many infrastructural challenges in relation to the prevention and control of outbreaks of infection in the interim of a new hospital build and as part of the wider hospital group will need to be supported in their endeavours in relation to the infection prevention and control programme.

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 of influenza vaccine uptake figures<sup>26</sup> found that 38.7% staff in the hospital had obtained the seasonal influenza vaccine in 2017. The hospital should continue to promote with measures already implemented, healthcare worker uptake of seasonal influenza vaccine, at the hospital.

## **2.6.2 Prevention and control of multidrug-resistant organisms in clinical areas inspected**

Multiple factors in relation to hospital infrastructure at Portiuncula University Hospital restricted the hospital's ability to effectively prevent and control healthcare-associated infection. Notwithstanding this, systems and measures were put in place by the hospital in an effort to prevent and control multidrug-resistant organism transmission in both clinical areas inspected.

### **Intensive Care and Coronary Care Unit**

Infection assessment includes screening for multidrug-resistant microorganisms, where appropriate, according to national recommendations, and to clearly document findings in the patients' healthcare record. Processes were in place in the Intensive Care and Coronary Care Unit to facilitate identification of patients who required transmission-based precautions and to screen patients for multidrug-resistant organisms including CPE in line with national guidelines.

Patients admitted to critical care are at high risk for healthcare-associated infections (HCAI), with the potential for one-in-four patients to develop a HCAI.<sup>27</sup> It was practice in the unit to pre-emptively isolate patients with a suspected multidrug-resistant organism until results of microbiological screening performed on admission were available. During inter-facility transfers, multidrug-resistant organism status is critical information to relay. Inspectors noted that the Adult Critical Care Transport Record contained a dedicated section for recording infection control risks.

The overall infrastructure of the combined Intensive Care and Coronary Care Unit was not optimal from an infection prevention and control perspective. The configuration and design of the unit was outdated and did not meet the desirable standards of a modern day critical care facility.<sup>28</sup>

The unit contained eight beds with three beds in an open plan area and five single rooms which opened directly into the open plan area. Single patient rooms did not have anterooms and these and ancillary rooms including the 'dirty'<sup>§§§§</sup> utility room opened directly into the open plan area of the unit which was not in line with recommended guidelines. None of the single rooms had en-suite toilet or showers. There was one patient bathroom in the unit. This does not facilitate effective containment of transmissible infection.

Storage space for supplies and equipment was limited. There were insufficient facilities within the unit for storage and management of sterile supplies and patient

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<sup>§§§§</sup>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.

equipment used for paediatric patients. Clean and sterile supplies were inappropriately stored on open shelving in the paediatric room. It is recommended that sterile supplies are stored in fully enclosed storage units to avoid inadvertent contamination. The location of the blood analysers in a clean utility room was less than ideal as these were located over the medication fridge. There should be clear separation of functional activity and of clean and potentially contaminated items or equipment.

There was evidence of good local ownership with regard to hygiene in general. Overall environmental surfaces and patient equipment inspected in the Unit were visibly clean with few exceptions. The main unit was well maintained. Ancillary rooms were tidy and well organised however inspectors noted damage to wall finishes in some of these areas.

Environmental hygiene audit results for the unit showed compliance with desirable standards achieved compliance rates of 91% and 90% in August and September 2017 respectively. The high levels of compliance achieved in environmental hygiene audits were also reflected on the day of inspection. Documentation reviewed by inspectors showed that an overall trend report for the Unit was not available. Audit records reviewed by inspectors also suggest that environmental hygiene audits were not performed in line with recommended audit schedules for very high risk areas.

Inspectors were informed by management that there was an established procedure for auditing patient equipment throughout the hospital. However staff in the Intensive Care and Coronary Care Unit were unaware of audit results achieved. This deficit in the monitoring and auditing of patient equipment hygiene was of concern to inspectors. Timely feedback on equipment audit findings should be shared with frontline staff in the Unit.

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 also found that the cleaning checklist was not consistently signed which does not provide assurance that patient equipment was regularly cleaned.

Staff in the Intensive Care Unit were required to supply and launder their own scrub suits. Studies show that uniforms may become contaminated with microbial pathogens, MRSA, VRE and *Clostridium difficile*.<sup>29</sup> However the relative contribution of contaminated scrubs in the spread of healthcare-associated infections is not known.<sup>30</sup> Hospital management and the Infection Prevention and 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 at the hospital.

## **Surgical ward**

Processes were also in place in the surgical ward inspected to facilitate identification of patients who required transmission-based precautions and to screen patients for multidrug-resistant organisms in line with national guidelines.

The configuration and design of the surgical ward was dated and did not meet desirable standards of a modern patient care facility<sup>31</sup> and did not facilitate the management of patients with transmissible infection.<sup>32</sup> The ward could accommodate 33 in-patient beds and comprised three six-bedded rooms, one four-bedded room, two two-bedded rooms and seven single rooms of which two had en-suite facilities.

On the day of inspection ten patients required transmission-based precautions in the ward. Two of these patients were accommodated in single rooms with en-suite facilities, whilst five patients were accommodated in single rooms without en-suite facilities. Additionally two patients were cohorted in a two-bedded room and one patient with a history of a transmissible infection was accommodated in a six-bedded multi-occupancy room with patients without a transmissible infection.

Signage to communicate isolation precautions was in place in all rooms accommodating patients requiring transmission-based precautions and doors to single rooms and a two-bedded room were kept closed at the time of inspection. Personal protective equipment supplies was available outside isolation rooms and in cohort rooms and long-sleeved gowns were available where appropriate.

Inspectors observed that bed spacing in the six-bedded rooms were less than ideal from an infection prevention and control perspective. Limited space hindered access behind beds and around lockers when occupied therefore potentially impeding effective cleaning. None of these rooms had en-suite facilities and there was an insufficient number of toilets and showers on the ward. The ward corridor was cluttered with patient hoists, bedside armchairs, a desk and chairs due to insufficient ancillary facilities. Surfaces and finishes in some areas did not appear to have been proactively maintained and included walls, doors and woodwork.

Overall the patient environment inspected was generally clean with few exceptions however as access to many patient care areas in six-bedded rooms was restricted due to limited space, on a practical level this was difficult to assess. Light dust was observed on two bed frames, behind some equipment located on corridors and in a patient equipment storage room. Similar to findings in other areas inspected, comprehensive environmental hygiene cleaning schedules were in place. Check lists reviewed by an inspector in this ward indicated that cleaning had consistently been performed.

Local ward environmental hygiene audit results showed compliance rates of 80%, 84% and 95% with desirable environmental hygiene standards in March, August and November 2017 respectively. A hygiene services managerial environment audit report was available in the surgical ward showing audit dates and audit compliance scores achieved. The report also showed that action was taken to address areas for improvement in relation to environmental hygiene.

Opportunities for improvement were identified by inspectors in relation to cleaning, management and auditing of patient equipment. Brown and red staining was observed on the under surface of a number of patient armchairs and a raised toilet seat. This was highlighted by inspectors and addressed immediately by staff. Cleaning schedules for patient equipment reviewed by inspectors showed that they were not aligned with recommended national minimum cleaning frequencies for higher risk areas. Furthermore it was highlighted to the inspector that staff responsible for cleaning patient equipment were not regularly allocated time to perform routine cleaning due to competing demands such as the need to assist nursing staff with patient care needs.

Results of a clinical equipment hygiene audit on the surgical ward showed 73% compliance with equipment hygiene standards in August 2017. These findings should have prompted a review of patient equipment cleaning resources, cleaning specifications and a re-audit of patient equipment hygiene. Appropriate decontamination of patient equipment is fundamental to reducing their potential contribution to healthcare-associated infection. A surgical ward is deemed a high risk area and therefore should have the necessary resources required to ensure that the environment and patient equipment is cleaned in line with minimum cleaning frequencies for higher risk areas.

Space was limited in an ancillary room with patient equipment thereby not facilitating effective cleaning of equipment or the room. A tagging system used to indicate that equipment had been cleaned was inconsistently applied.

Designated disposable single patient use blood pressure cuffs were used for all patients. It was highlighted to inspectors that patients isolated in single rooms without en-suite facilities were not always assigned a dedicated commode. In addition, some staff reported that bed-pans were decanted into a sluice hopper prior to decontamination in a bedpan washer disinfectant. An infection prevention and control risk-based approach should be undertaken to ensure that these practices facilitate effective containment of transmissible infection. A number of control measures had been implemented by the hospital in relation to commodes in that regular commode and 'dirty' utility room checks each day were in place in the surgical ward inspected.

The surgical ward did not have an appropriately equipped room for the storage and management of ward cleaning equipment. Cleaning textiles were stored on a window ledge immediately above a janitorial sink. This practice posed a risk of inadvertent splash contamination of clean items. The room did not have a dedicated hand hygiene sink. In addition surfaces and finishes were damaged and therefore did not facilitate effective cleaning.



### 3.0 Progress since the previous HIQA inspection

HIQA reviewed the quality improvement plan<sup>33</sup> which was developed by the hospital following the 2016 HIQA infection prevention and control inspection and updated in January 2018.

In the interim of proposed new-building works remedial works had been completed in the Oncology Day Ward. In respect of the Maternity Department funding had been allocated by HSE estates for remedial works which were ongoing on the day of inspection. A maintenance programme and hand hygiene sink replacement programme was ongoing subject to minor capital funding and a number of hand hygiene sinks had been upgraded in clinical areas at the hospital.

The hospital had invested in molecular testing technology to assist with rapid microbiological testing for *Clostridium difficile* infection. Inspectors were told that this investment had yielded positive benefits by enabling timely clinical decision-making, rapidly enacting infection control measures and enabling appropriate isolation precautions to be implemented to reduce the risk of spreading infection to patients, staff and visitors at the hospital.

The hospital reported that a number of nursing positions had been filled in December 2017 and recruitment campaigns were ongoing. A business case had been submitted in relation to a 0.5 WTE infection prevention and control nursing staff position. The hospital had commenced preliminary discussions in relation to securing a second consultant microbiologist position at the hospital which would mean an increase of 0.5 WTE for the microbiology service. A business case in relation to two additional pharmacist positions had also been submitted. In addition, permanent medical consultant positions had been filled at the hospital.

A formal legionella hospital site risk assessment had been performed in November 2017. Hospital management reported that internal control and preventative measures in relation to water-borne infection were implemented including regular outlet flushing and microbiological testing of water. Governance and oversight in relation to water-borne infections was the responsibility of the Maintenance Department and Environmental Monitoring Committee at the hospital. An environmental monitoring committee report was presented at quarterly infection prevention and control committee meetings.

Quality improvement initiatives that had been implemented in relation to the prevention and control of infection at the hospital included the introduction of disposable heated comfort cloths for patients who required assistance to maintain essential hygiene needs in place of wash basins. In addition research was conducted by a staff member at the hospital which raised awareness of mobile phone hygiene and associated nosocomial infection risks.

## 4.0 Conclusion

Overall HIQA found that Portiuncula University Hospital had formalised governance arrangements in place to support the prevention and control of healthcare-associated infection. Organisational reporting structures at the hospital could be further advanced by formalising arrangements to an oversight committee at the hospital.

Well established links with the Saolta University Health Care Group in relation to infection prevention and control were in place which facilitates oversight of the hospital's infection prevention and control programme at a hospital group level.

Processes and systems were in place to identify and manage risk relating to infection prevention and control however, the dated hospital infrastructure as identified in previous HIQA inspections remains a challenge for both patients and staff at the hospital. Older and poorly designed hospitals makes implementation of an infection prevention and control programme more difficult and needs to be taken into consideration when allocating resources. Therefore hospital management needs to be assured that the necessary resources are in place to deliver a safe sustainable service.

The Infection Prevention and Control Team had put in place many elements of an infection prevention and control programme. The hospital monitored healthcare-associated infection key performance indicators and outcome measures which with additional resources could be further expanded to facilitate wider evaluation of the impact of infection prevention and control measures across the hospital. Management teams should ensure that relevant information produced through local monitoring is accessible to frontline staff to provide assurances in relation to the service being provided and to identify potential risks and opportunities for improvement at a local level.

Hospital managers told inspectors that screening for multidrug-resistant organisms including Carbapenemase Producing *Enterobacteriaceae* (CPE) was in line with national guidelines. This was further validated following discussions with staff in both clinical areas inspected. This critical prevention and control measure is of the utmost importance in light of the National Public Health Emergency in relation to CPE. The hospital had a structured antimicrobial stewardship programme in place and notwithstanding that reported rates of *Clostridium difficile* infection were periodically above the national target set by the HSE, there had been no outbreak of infection at the hospital in the preceding 12 month period.

The hospital achieved 91% compliance with hand hygiene compliance in October 2017 which shows commitment by staff to meet national hand hygiene targets. Care bundles were fully implemented in the Intensive Care and Coronary Care Unit and

care bundle compliance audit results showed consistent good practice in recording interventions. The hospital needs to ensure that full implementation of care bundle compliance is progressed across the hospital as full implementation has shown to improve patient outcomes. At the time of the inspection 84% of hospital staff had attended hand hygiene training in the previous two year period. The hospital management team needs to regularly review the uptake of infection prevention and control training to ensure any gaps in the uptake of training is addressed.

Overall the patient environment inspected was generally clean with few exceptions and there was good ownership in relation to environmental cleaning in the areas inspected. However opportunities for improvement were identified in relation to the management of patient equipment hygiene. In addition, auditing schedules in relation to hospital hygiene should be reviewed and information tracked and trended to provide assurance to hospital management that the system for measuring cleanliness levels is consistent and the required cleanliness levels are achieved.

Some risks identified by the hospital and impeding effective infection prevention and control as they exist cannot be sufficiently mitigated at a local hospital management level. It is recommended that the hospital continues to assess and manage the impact of these risks and deficiencies in relation to the infection prevention and control programme and escalate accordingly. As part of the wider hospital group the hospital will need to be supported in their endeavours in relation to the infection prevention and control programme in the interim of any new hospital build.

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## 6.0 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 catheter-associated infection, ventilator-associated 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

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