



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the announced inspection at University Hospital Limerick.

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

Date of on-site inspection: 22 September 2017

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.
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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 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
- the 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.hiqa.ie

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 2018.

Information about this inspection

This inspection report was completed following an announced inspection at University Hospital Limerick on 22 September 2017. The inspection was prompted by previous HIQA inspection findings at University Hospital Limerick, in addition to subsequent unsolicited information provided to HIQA relating to infection prevention and control issues at the hospital. HIQA had previously and repeatedly highlighted the need for additional national supports for University Hospital Limerick from the HSE to deal with the significant increase in the incidence of Carbapenemase Producing *Enterobacteriaceae* (CPE)* colonised and or infected patients at the hospital.^{3,4}

The hospital was given short advance notice by HIQA of this inspection in order to facilitate review by the inspection team of relevant hospital documentation and data before the inspection and to facilitate meetings at the hospital with hospital management and relevant clinical staff on the day of inspection.

This inspection included assessment of the prevention and control of healthcare-associated infection at the hospital in line with HIQA's current standard inspection methodology against the National Standards. The inspection team included Authorised Persons from HIQA; Aileen O' Brien, Kathryn Hanly, Noreen Flannelly-Kinsella and Emma Cooke. The inspection was carried out on 22 September 2017 between 09:00hrs and 18:00hrs.

* Carbapenemase producing Enterobacteriaceae (CPE), are a family of bacteria which can cause infections that are difficult to treat because they are resistant to most antimicrobials, including a class of antimicrobials called carbapenems which have typically been used as a reliable last line treatment option for serious infection. Bloodstream infection with CPE has resulted in patient death in 50% of cases in some published studies internationally.

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

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:

- a haematology/oncology ward
- an infection control cohort[†] ward
- a surgical ward.

Inspectors also visited the following areas:

- four wards with large multi-occupancy nightingale-style rooms[‡] and
- a central location where cleaning textiles were laundered.

Inspection findings presented in this report are aligned to HIQA's monitoring lines of enquiry as shown in Appendix 1. The inspection team used specifically designed monitoring tools during this inspection in relation to aspects of:

- Prevention of invasive device-related infection (Section 2.6.1)
- Prevention and control of transmission of antimicrobial-resistant organisms (Section 2.7.1)
- Safe injection practice (Section 2.7.2)
- Prevention of invasive aspergillosis during dust construction work (Section 2.7.3)

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

[†] A cohort area is a bay and or a ward in which a group of patients (cohort) with the same infection are placed together. 'Cohorting' of patients classically means the separation of those patients and their nursing staff from other patients because single room isolation facilities are not available. It is generally used as a measure of last resort in situations where single room capacity is greatly exceeded by the number of patients who are colonised with a particular alert organism, in an effort to prevent cross transmission from this patient cohort to the wider hospital patient population.

[‡] A nightingale-style room consists of one long ward with a large number of beds arranged along the sides, without subdivision of the room into bays. From an infection prevention and control perspective, the higher number of patients accommodated in nightingale wards increases the risk of infection transmission, especially if beds are spaced too close together.

2. Findings at University Hospital Limerick

The following sections present the overall findings of this announced inspection in University Hospital Limerick:

- Section 2.1 outlines high risks identified during this announced inspection
- Sections 2.2 to 2.8 present the general findings of this announced inspection which are aligned to the lines of inquiry.

2.1 High risks identified during this inspection

During this announced inspection a number of high risks were identified at University Hospital Limerick in relation to the prevention and control of healthcare-associated infection and in particular in relation to the management of an ongoing outbreak of CPE at the hospital. Specifically, risks were identified in relation to:

- infection prevention and control team resources and supports
- hospital infrastructure; including a relative lack of isolation facilities, the configuration of the infection control cohort ward and identified poor infection prevention and control practices on this ward
- environmental hygiene and cleaning of patient care equipment.

The risks identified and the measures taken by the hospital to mitigate these risks are described below and will be discussed further in this report.

Infection prevention and control team resources

During this inspection, HIQA identified the ongoing need for additional human resources and other supports for the Infection Prevention and Control Team at the hospital. HIQA determined that this was required in evaluating the level of current staffing resources – in particular related to trained infection prevention and control nurses and the number of medical microbiologists – in the context of risks identified across the hospital group in dealing with a major CPE outbreak, in addition to other workload demands.

This inspection found that contrary to HIQA's prior recommendations that additional supports needed to be provided to the hospital, staffing numbers for these key positions had not been sufficiently augmented. The number of consultant grade clinical microbiologists at the hospital had not increased since previous inspection findings. This inspection found that since HIQA's last inspection and as a consequence of staff turnover, the level of experience and training among infection prevention and control nurses at the hospital had in fact declined. It was identified at the time of this inspection, that only one out of five staff employed as infection prevention and control nurses had significant experience and had completed formal post-graduate training in this field. HIQA therefore determined that resourcing levels

had disimproved since the previous inspection, which was of significant concern to HIQA. Hospital management informed inspectors that some additional support had been provided to the Infection Prevention and Control Team with the temporary assignment of a 0.5 whole time equivalent[§] (WTE) staff member from the quality assurance function in September 2017. The hospital was also in the process of recruiting one vacant infection prevention and control nurse position at acting clinical nurse manager grade. Recruitment efforts made in 2016 to employ experienced infection prevention and control nurses with the requisite post-graduate training at the hospital had not been successful. The demands of training up and supporting newly appointed infection prevention and control nurses further impacted on implementation of an infection prevention and control programme at the hospital.

Hospital management explained to inspectors that sufficient additional resources from the HSE at national level had not resulted in the provision of extra staff at the time of this inspection.

Infrastructure and practice in the infection control cohort ward

The configuration and observed practices on the infection control cohort ward, which was used to centralise the placement of patients colonised or infected with multidrug-resistant organisms including CPE, did not facilitate effective infection prevention and control performance. Deficiencies identified on the day of inspection included:

- only six single ensuite rooms on this ward, with the remaining rooms being multi-occupancy rooms
- a lack of cohorting of staff who provided care to patients colonised or infected with CPE
- a lack of clarity around indications for screening patients for multidrug-resistant organisms. There should be clear written and accessible instructions for staff in clinical areas so that there is better understanding of who needs to be screened, the organisms to screen for and the screening method
- poor practice related to the cleaning and disposal of bedpans
- the co-location of a patient with norovirus on the ward.

Environmental and patient equipment hygiene

The overall standard of cleaning of patient equipment and the patient environment required improvement in both the haematology/oncology ward and the surgical ward inspected. Poor practice in relation to the cleaning and disposal of bedpans was also identified.

[§] 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.

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

Details of risks identified on the day of inspection were communicated in writing by HIQA to the Chief Executive Officer (CEO) of the University of Limerick (UL) Hospitals Group. In response, the CEO outlined key actions to mitigate the risks identified by HIQA. Specifically these key actions included:

- submission of a business case for six additional infection prevention and control nurses for the UL Hospitals Group to the HSE nationally
- finalisation of documentation in relation to the appointment of a third consultant microbiologist position and submission for funding in 2018 for a fourth consultant microbiologist position which would be shared with the local Community Health Organisation
- review of staffing rosters by nursing management to ensure the appropriate allocation of dedicated staff to care for patients who were colonised or infected with CPE, in accordance with national and international guidance
- revision of processes for decontamination of patient bedpans and other reusable equipment in the infection control cohort ward
- submission of a request for additional cleaning resources in the financial estimates process for 2018 and enhanced supervision to achieve desirable hygiene standards in the interim
- revision of cleaning schedules for patient equipment.

A copy of a letter issued by HIQA on 27 September 2017 to the CEO of UL Hospitals Group regarding the risks identified during the inspection and a copy of the response received from the CEO of UL Hospitals Group are shown in Appendices 2 and 3 of this report.

The following sections 2.2 to 2.8 present the general findings of this announced inspection which are aligned to monitoring lines of enquiry.

2.2 Governance

Line of enquiry 1.1

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

University Hospital Limerick is a large acute academic teaching hospital and is one of six hospitals comprising the UL Hospitals Group, which was established in January 2012. The UL Hospitals Group includes University Hospital Limerick, University Maternity Hospital Limerick, Nenagh Hospital, Ennis Hospital, Croom Hospital and St. John's Hospital.

Significant reconfiguration occurred following the establishment of the new University of Limerick Hospital Group and a directorate structure was introduced. Four clinical directorates with responsibility for daily operations relating to specific specialties across the six hospital sites were in place.

The Infection Prevention and Control Committee at University Hospital Limerick was established and functioned at UL Hospitals Group level and was ultimately accountable to the Chief Executive Officer of the hospital who was also the Chief Executive Officer of UL Hospitals Group.

Inspectors were informed that St John's Hospital in Limerick, did not come under the overarching infection prevention and control safety governance arrangements which were applicable to the remaining five hospitals within UL Hospitals Group (University Hospital Limerick, University Maternity Hospital Limerick, Nenagh Hospital, Croom Hospital and Ennis Hospital).

The Infection Prevention and Control Committee was in the process of updating the terms of reference which outlined the committee's objectives, membership, frequency of meetings and accountability and reporting relationships. The committee was chaired by the Clinical Director of the Diagnostics Directorate, with a consultant microbiologist as vice chairperson. The chairperson was also a member of the Executive Management Team, and it was explained to HIQA that this shared membership was intended to support governance and oversight of infection prevention and control. The committee was multidisciplinary and also included both patient and public health representation. The committee met quarterly and a review of the minutes of committee meetings confirmed that these meetings were well attended with a structured agenda and schedule. However, minutes reviewed did not clearly outline actions arising from the meetings, persons responsible and timeframes afforded to actions identified.

University of Limerick Hospitals Group established a Quality and Safety Executive Committee in 2013. Hospital management told inspectors that this structure was reviewed two years ago. This committee had overall accountability for planning, implementing and evaluating quality and safety management systems and processes in the hospital group. Hospital managers told inspectors that the Infection Prevention and Control Committee was one of six clinical committees that reported into the Quality and Safety Executive Committee. Each committee was required to prepare and present an assurance report for the Quality and Safety Executive Committee on a quarterly basis. However, HIQA found that this reporting relationship had not yet fully embedded in practice at the time of this inspection. For example, a review of the minutes of Quality and Safety Executive Committee meetings from 14 December 2016 to 15 June 2017 inclusive did not provide evidence that the committee received regular formal feedback from the Infection Prevention and Control Committee. Inspectors were informed that the Quality and Safety Executive Committee reported directly to the Executive Management Team led by the Chief Executive Officer, who in turn reported to the UL Hospitals Group Board of Directors.

The hospital had also established a Strategic Carbapenemase Producing *Enterobacteriaceae* Control Committee in 2016. This committee was chaired by the UL Hospitals Group Chief Operations Officer and membership included senior management, infection prevention and control team members, and community and public health representatives who met quarterly. Defined terms of reference outlined committee purpose, objectives, membership and their roles and responsibilities, reporting relationships and frequency of meetings. Objectives included the identification of risks and contributing factors related to the transmission of CPE and actions required to mitigate risk. Risks identified by this committee were escalated directly to the Executive Management Team. This committee reviewed updates and reports from the Infection Prevention and Control Committee, directorate level CPE incident meetings and the Antimicrobial Stewardship Committee and also provided updates about CPE management to the Infection Prevention Control Committee.

Infection prevention and control service

The infection prevention and control service at University Hospital Limerick was overseen by the Infection Prevention and Control Team and supported and monitored by the Infection Prevention and Control Committee. The Infection Prevention and Control Team had responsibility for the development, monitoring and implementation of an annual infection prevention and control programme of work.

The Infection Prevention and Control Team provided service to five of the six hospitals in UL Hospitals Group which included University Hospital Limerick, University Maternity Hospital Limerick, Ennis Hospital, Nenagh Hospital and Croom

Hospital. However, due to resource limitations, there was minimal onsite attendance by consultant microbiologists and infection prevention and control nurses in these outlying four hospitals in the group as most of the infection prevention and control team's work was focused on University Hospital Limerick and the current management of the ongoing CPE outbreak. Infection prevention and control and clinical microbiology advice was provided by telephone as required to the outlying hospitals. St John's Hospital operated a separate standalone infection prevention and control team. Again, there was minimal onsite attendance by consultant microbiologists at St John's Hospital due to competing demands.

Two consultant microbiologists alternated leadership of the Infection Prevention and Control Team which reported to a hospital clinical director. The team comprised:

- two WTE consultant microbiologists
- one WTE non-consultant hospital doctor at specialist registrar grade
- one Assistant Director of Nursing in Infection Prevention and Control, three WTE Clinical Nurse Managers recently appointed, and one vacant post which had very recently been part filled on a 0.5 WTE capacity
- two surveillance scientists
- 0.5 WTE administration support.

Consultant microbiologist advice was available to clinical staff in the six hospitals in UL Hospital Group twenty four hours a day, seven days a week, in line with National Standards.

HIQA identified during this inspection that despite prior recommendations in previous reports, infection prevention and control team staffing numbers had remained unchanged in spite of the additional challenges the hospital faced in dealing with CPE. In addition, it was identified that only one of the five current infection prevention and control nurses had at the time of this inspection completed specialist post-graduate training. Inspectors were also informed that surveillance scientists were redeployed to microbiology laboratory technical work particularly during the summer months. This had delayed the production of some surveillance reports.

The number of consultant microbiologists had not increased at the hospital since HIQA's prior inspections. Moreover these consultants were only supported by one non-consultant hospital doctor position. In light of the scale, complexity and geographical spread of responsibilities of these staff, and the nature of ongoing risks presented by CPE, HIQA determined that current resources remain insufficient to deliver comprehensive and sustainable clinical microbiology and infection prevention and control services. Despite HIQA's prior recommendations, additional required resources were not provided to the hospital.

The hospital demonstrated an awareness of many of the inherent weaknesses in existing infection prevention and control team resources, and described actions to address some of the deficiencies identified.

For example, inspectors were informed that a business case for an additional microbiologist, six additional infection prevention and control nurses, two additional surveillance scientists and one additional antimicrobial pharmacist for the UL Hospitals Group had been developed and submitted into the 2017 national HSE estimates process. However, it was reported by management that sufficient resources had not been provided through this process at the time of this inspection. The team previously had limited administrative support of a 0.5 WTE position. Hospital management had temporarily assigned a 0.5 WTE staff member from the quality assurance function in September 2017 and an additional one WTE administrative support position to the Infection Prevention and Control Team. The hospital was also in the process of recruiting one vacant infection prevention and control nurse position at acting clinical nurse manager grade.

Monitoring and evaluation

A well governed and managed service monitors its performance to ensure reliability so that it provides care, treatment and support that are of consistently high quality with minimal variation across the system. Hospital management monitored the following 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
- mandatory hand hygiene training uptake by current healthcare staff who interact with patients in the rolling 24 month period.

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

- median hospital total antibiotic consumption
- alcohol hand rub consumption
- percentage compliance of hospital staff with the World Health Organisation 5 moments of hand hygiene.

Surveillance scientists produced comprehensive and detailed surveillance reports on a quarterly basis to all directorates within the hospital group. This data was fed back to the Infection Prevention and Control Committee, directorate management teams, the Executive Management Team and to the Board of the UL Hospitals Group.

The following trends were also monitored at the hospital:

- colonisation** and bloodstream infections due to CPE
- colonisation and bloodstream infections due to vancomycin-resistant *Enterococci*.

Feedback was provided to clinical staff in respect of European Antimicrobial Resistance Surveillance Network (EARS-Net)^{††} data.

The hospital performed extensive screening of patients for CPE and in 2016 performed more than 10,000 CPE patient screens. Surveillance data reviewed showed that there were 38 new cases of CPE colonisation detected in 2016 and 34 cases of colonisation detected to date in 2017. It was reported to HIQA that there had been no cases of CPE bloodstream infections detected at the hospital since June 2015.

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 team met with the Medical, Perioperative and Maternal & Child Health Directorates and provided surveillance update reports. Outbreak meetings were convened as required at directorate level. However, written reports were not prepared following outbreaks of infection in line with national guidelines.⁵

The team performed enhanced *Clostridium difficile* infection surveillance and molecular typing of isolates was undertaken for hospital-acquired cases. Data reviewed by inspectors showed an increase in the number of cases of *Clostridium difficile* infections associated with UL Hospitals Group in quarter two 2017 which was greater than the national HSE performance indicator. A care bundle for management of *Clostridium difficile* infection had been recently introduced at the hospital. As part of the infection prevention and control annual programme the hospital had prioritised the progression of detailed analyses of cases of *Clostridium difficile* infections and *Staphylococcus aureus* bloodstream infections in 2017. Such analysis is important from a learning and improvement perspective.

** 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.

†† 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*.

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

In most cases CPE bacteria are carried harmlessly in the gut and do not cause infection or illness in patients. However, CPE bacteria can cause bloodstream and other infections in some patients that could result in serious illness or death. Inspectors were informed that hospital staff were in the process of retrospectively reviewing a number of patient deaths to determine if CPE infection was a possible cause or contributory factor. In addition, hospital management had commissioned an external review of these deaths in order to independently determine if CPE infection was a possible cause or contributory factor.

University Hospital Limerick participated in the national point prevalence survey of hospital-acquired infections and antimicrobial use, which was part of a European-wide point prevalence study. Data from this study should be used to proactively identify areas for improvement at the hospital.

Inspectors were informed that the hospital had plans to introduce more advanced nursing metrics in the form of 'test your care advanced score cards' to assist ongoing trending and reporting going forward.

2.3 Risk management

Line of enquiry 1.2

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

Risks in relation to the prevention and control of infection should be identified and effectively mitigated or managed. Any gaps or serious risks identified in the service's ability to prevent and control healthcare-associated infections must be addressed in a timely manner.

Risk management across the UL Hospitals Group was overseen by the Quality and Safety Executive Committee. A review of minutes of executive council and executive management team meetings, strategic CPE control committee and UL Hospitals infection prevention & control committee meetings showed that there was regular identification of risk relevant to infection prevention and control at the 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. Hospital-acquired incidents were trended and categorised according to incident type and hospital location. These incidents featured as an agenda item at quarterly Quality and Safety Executive Committee committee meetings. All serious incidents reported were reviewed by directorate management teams. Inspectors were informed that all reported incidents that were reported on the hospital incident management system were inputted into the National Incident Management System within five working days. However, senior management informed inspectors that there was likely underreporting of infection prevention and control related incidents at the hospital.

Risks identified by hospital staff and management

Risks identified in clinical areas were addressed at clinical area level or were documented and escalated to directorate level or higher as required. Inspectors were informed by management that high risks were escalated in line with HSE risk management processes. Inspectors reviewed the corporate risk register^{§§} for the hospital. A number of infection prevention and control risks were escalated to the UL Hospitals Group corporate risk register.

^{§§} A risk register is a database of assessed risks that any organisation faces at any one time. The risk register provides management with a high level overview of the hospital's risk status at a particular point in time and can be used as an active tool for the monitoring of actions to be taken to mitigate risk.

Inspectors also reviewed an infection prevention and control risk assessment^{***} form completed by the Infection Prevention and Control Team in August 2017. This was coupled with a review of the UL Hospitals Group corporate risk register. This documentation showed that many of the risks and issues identified by HIQA had been recognised by both the Infection Prevention and Control Team and senior managers at the hospital. Risks identified by hospital staff included; deficiencies in the hospital's ability to prevent and manage healthcare-associated infection as a result of infrastructural issues, staffing deficiencies, poor standards of environmental hygiene, and chronic overcrowding within the Emergency Department.

Documentation reviewed indicated that the corporate risk register was updated regularly by hospital management.

Management of the risks identified

The corporate risk register outlined the existing control measures enacted by hospital management to address identified infection prevention and control risks. These included:

- an active infection surveillance programme to detect alert organisms and conditions and clusters or outbreaks of infection
- staff education on hand hygiene and infection prevention and control
- infection prevention and control guidelines
- the provision of additional dedicated cleaning resources
- hygiene audits and feedback to staff and performance review by management
- a request to the HSE national capital group for funding for a new 96 single bedded block to address accommodation needs and lack of adequate isolation facilities. Confirmation of approval for this funding had not been received at the time of inspection
- daily patient flow management, bed management policies and weekly discharge meetings to address overcrowding in the Emergency Department
- opening of a transitional lounge in January 2017 to improve patient flow
- submission of a business case, for additional infection prevention and control resources via the national estimates process. It was reported by senior management that no additional resources through this process were forthcoming at the time of this inspection.

^{***} A risk assessment is an overall process of risk identification, risk analysis and risk evaluation.

In addition to measures described in the corporate risk register, hospital management had implemented a number of other actions to manage infection prevention and control risks at the hospital. Actions implemented included but were not limited to the following:

- an extensive screening programme for CPE, isolation of newly identified cases, screening and management of contacts and analysis of possible sources of transmission
- establishment of a Strategic Carbapenemase Producing *Enterobacteriaceae* Control Committee in 2016
- investment in additional cleaning resources including a system to decontaminate patient rooms with hydrogen peroxide vapour following patient discharge
- opening of an infection control cohort ward in November 2015 in order to address deficiencies in isolation facilities, for the management of patients with multidrug-resistant organisms and alert organisms
- refurbishment of two inpatient wards including the infection control cohort ward
- reduction in bed numbers in one of the above wards in an effort to increase spatial separation between patients
- recent opening of a 17 bed short stay ward for inpatient surge capacity
- prioritisation of another inpatient ward for refurbishment because of specific concerns identified by the Infection Prevention and Control Team but significant funding was required to upgrade the ward to recommended standards
- purchase of additional medical equipment in order to provide designated equipment to isolated patients
- supply of new personal protective equipment dispensers throughout the hospital to facilitate access to personal protective equipment at the point of care
- introduction of antiseptic impregnated wash cloths for patients
- review of processes in relation to hospital cleaning including cleaning specifications, schedules, checklists and resources in line with the risk categorisation of functional areas
- recruitment of 109 additional staff with responsibility for cleaning duties. These new staff had undergone a one week induction programme and a three day cleaning training programme
- appointment of a hygiene services manager for the UL Hospitals Group in March 2017
- opening of a new Emergency Department, with 50 single treatment rooms for patients in May 2017

- recruitment of 30 nursing positions for the new Emergency Department
- funding of rapid testing of patients for influenza virus which had facilitated staff to optimise the use of isolation rooms.

Other factors that impacted on infection prevention and control at the hospital were overcrowding and deficiencies in staff levels. Overall attendance in the hospital Emergency Department had increased since 2016 and this had increased demand for inpatient accommodation at the hospital. An external capacity review was performed at the hospital and it was estimated that an additional 50-60 inpatient beds were required at the hospital to address this. Inspectors were informed that review of patient flow was ongoing at the hospital.

Hospital management told inspectors that there were also deficiencies in front line staffing levels at the hospital and that there was a shortage of nurses across the hospital group. The hospital was currently working to recruit nurses from overseas. Measures implemented at the hospital to reduce the spread of CPE included an extensive programme of screening for CPE and the implementation of isolation precautions for identified cases and contacts.

HIQA also determined that to comprehensively address the wider CPE issue, substantive external resourcing will also be necessary.

2.4 Policies, procedures and guidelines

Line of enquiry 2

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, outbreak management and aseptic non-touch technique. It was practice that hospital policies, procedures and guidelines in respect of infection prevention and control were ratified by hospital management on behalf of the hospital Infection Prevention and Control Committee.

Current HSE policy states that hospital policies, procedures and guidelines should be reviewed every three years.⁶ Inspectors found that a number of infection control policies were overdue for revision at the time of the inspection. This was also identified by the Infection Prevention and Control Team in a risk assessment form dated August 2017. Updating of local infection prevention and control policies was not prioritised due to competing demands and available team resources. Policies relating to transmission-based precautions, aseptic technique, outbreak management, central venous access device and urinary catheter guidelines were due for revision.

Infection prevention and control policies, procedures and guidelines were made available to staff in electronic format on the hospital intranet. However, some staff had difficulty accessing relevant documents electronically in a timely manner. Inspectors also found some hard copies of older versions of infection prevention and control policies in one clinical area inspected. The manner in which documents were stored electronically in clinical areas did not facilitate easy identification of current infection prevention and control policies and guidelines.

HIQA recommends a review of document management systems in the hospital, both electronic and hard copies, to facilitate document version control and to ensure that staff have the most up-to-date information to support and guide practice and service delivery. Additionally the hospital needs to ensure that staff have an awareness of existing policies, procedures and guidelines in relation to infection prevention and control to facilitate easy access in a timely manner.

A report viewed by inspectors in relation to infection prevention and control incidents showed that the highest category of incidents over one year was in relation to out of date infection prevention and control policies and protocols. This issue had been discussed at a Quality and Safety Executive Committee meeting in February 2017.

The need to establish a policies and procedure committee was identified as an action from this meeting. Minutes reviewed from a subsequent Quality and Safety Executive Committee meeting did not outline progress made against this action.

In light of these findings, the hospital needs to ensure that additional resources are made available to support the Infection Prevention and Control Team to address these deficiencies.

2.5 Staff training and education

Line of enquiry 3

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

National hand hygiene guidelines recommend that hand hygiene training should be mandatory for relevant staff at induction and every two years thereafter.

Hand hygiene education was mandatory for all staff at University Hospital Limerick on a two yearly basis. At the time of the inspection, 68% of relevant staff had attended hand hygiene training across the UL Hospitals Group. The Infection Prevention and Control Team monitored the uptake of infection prevention and control training amongst hospital staff.

A number of staff across the hospital had undertaken a 'train the trainer' course following which these staff were approved to provide hand hygiene training to hospital staff. Action plans had been implemented at local level for areas that achieved below the national HSE target of 90% hand hygiene compliance among staff.

Infection prevention and control education was provided to relevant hospital staff at induction, and focused training was provided to a range of staff disciplines in areas such as standard and transmission-based precautions, hand hygiene, outbreak management, decontamination, aspergillosis, legionella and CPE management. E-learning in respect of aseptic non-touch technique was also made available to staff. The hospital was aligning this training to the national framework for such knowledge and skills.⁷ Training delivered by the Infection Prevention and Control Team included information in relation to surveillance data and education on core concepts of microbiology to inform staff on their role in the prevention of spread of multidrug-resistant organisms to patients.

The Infection Prevention and Control Team provided information about preventing the spread of infection to patients, staff and people attending the hospital through information leaflets, notices and visual display units on wards. All staff at the hospital had access to advice from the Infection Prevention and Control Team and clinical staff had access to advice from a consultant microbiologist.

2.6 Implementation of evidence-based and 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.

2.6.1 Prevention of invasive device-related infection

Care bundles to reduce the risk of different types of infection have been implemented across many health services over the past number of years and there have been a number of guidelines published in recent years recommending their introduction in Irish hospitals.^{8,9,10}

Inspectors reviewed aspects of invasive device management and care bundle implementation in the clinical areas inspected. Monitoring compliance with intravascular catheter care bundles are important process measures for evaluation of catheter-related blood stream infection preventative programmes. It is recommended that intravascular catheter care bundles are audited and results tracked and trended in order to identify any opportunities for improvement.

Documentation reviewed by inspectors showed that opportunities for improvement were identified at the hospital in late 2016 in relation to the insertion and maintenance of intravascular devices. The need for standardised practices and care bundle implementation and monitoring was identified at that time.

Care bundles for peripheral vascular catheters had been implemented in the haematology/oncology ward and care bundle compliance audits had been very recently introduced. Staff used notice boards on the ward corridor to publicly display care bundle audit results.

The hospital had implemented care bundles for intravascular catheters across the hospital and had incorporated peripheral venous catheter care bundle elements into a revised paediatric observation chart. This new chart also included peripheral venous catheter insertion and maintenance record and a tool to assess the condition of the device insertion site.

Care plans were used to guide staff and to record care in respect of the insertion and management of vascular access devices and urinary catheters. In the haematology/oncology ward inspectors were shown the hospital's proposed new guidelines for intravascular devices; these documents included pictures to make recommended practices easy to understand and follow. Staff had developed a vascular access decision pathway to assist staff in selecting the most appropriate

device for patient's needs. Posters had been developed to highlight best practice in relation to intravascular device insertion site care.

Care bundles for central venous access devices and peripheral vascular catheters were in place in the designated infection control cohort ward and compliance with care bundle implementation was audited every month. Trended care bundle audit results were provided on the day of inspection. Compliance with peripheral vascular catheter care bundle implementation averaged at 97% from January to September 2017. Compliance with central venous access device care bundle implementation was 100% from January to September 2017. Monthly urinary catheter care bundle compliance audit results on this ward showed an average of 95% compliance for the previous nine months which demonstrated opportunities for improvement.

Care bundles for peripheral vascular catheters and urinary catheter care were in place in the surgical ward visited. Both care bundles were incorporated into the hospitals 'national early warning score' adult patient observation chart. Compliance with peripheral vascular catheter care bundle implementation was audited every month and compliance averaged 79% to 86% from January to September 2017 which again which demonstrated opportunities for improvement. Inspectors were informed that monitoring compliance with urinary catheter care bundles had not commenced in the surgical ward inspected.

Nursing and Midwifery HSE Quality Care Metrics had been introduced at the hospital and this system recorded limited data in relation to elements of invasive device management. The hospital had plans to expand nursing metrics in the form of 'test your care advanced score cards' to assist ongoing trending and reporting in these areas going forward.

2.6.2 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.^{11,12,13} 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.^{14,15,16} Other health systems have advanced the surveillance of healthcare-associated infection to the benefit of both patients and health service providers by demonstrating reductions in these type of infections.^{17,18}

Detailed surveillance of catheter-related bloodstream infections was performed at University Hospital Limerick in relation to *Staphylococcus aureus* bacteraemia related to intravascular catheters. Surveillance of ventilator-associated pneumonia, catheter-associated urinary tract infection and surgical site infection was not routinely performed in the hospital. HIQA acknowledge that the undertaking of such

surveillance would require additional resources. It is recommended that surveillance of healthcare-associated infection is targeted in patients at greatest risk of infection or in areas where deficiencies have been identified.

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.^{19,20,21,22} Guidelines were available for surgical antimicrobial prophylaxis. However, inspectors noted that such guidelines were not readily accessible to staff in one clinical area inspected.

2.7 Systems to prevent and manage healthcare-associated infections and multidrug-resistant organisms

Line of enquiry 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.

2.7.1 Preventing the spread of antimicrobial-resistant organisms

Inspectors looked at systems, structures and processes in place at University Hospital Limerick to detect, prevent and respond to healthcare-associated infections and multidrug-resistant organisms in line with national guidelines.

Due to extensive microbiological screening and analysis of new cases of CPE the hospital was aware that there were ongoing difficulties in controlling the spread of these bacteria at the hospital. HIQA acknowledges that the true burden of CPE colonisation may be unknown in some other Irish hospitals and in the community because of limited screening.

Despite the implementation of a number of mitigating measures at the hospital and having formally escalated the risk to the HSE in 2014, new cases and clusters of CPE continued to be identified.

Inspectors were made aware of risk factors that likely contributed to the transmission of CPE at the hospital and these included:

- a hospital operating over capacity where patients were regularly boarded on ward corridors
- insufficient single room isolation facilities
- infection prevention and control team resource deficiencies
- accommodation of patients in multi-occupancy nightingale-style rooms
- insufficient spatial separation between beds in some inpatient areas
- insufficient resources to implement rapid CPE testing
- poor infrastructure in older inpatient wards
- frontline staffing deficiencies
- insufficient information technology resources to support timely identification of patients readmitted with CPE
- a reservoir of people in the hospital catchment area who are colonised with CPE
- poor infection control practices.

University Hospital Limerick had developed a quality improvement plan in regard to the management of CPE, which incorporated elements of the National Health Service Public Health England Toolkit^{†††} for the control and management of CPE.²³ This plan had been devised following the previous HIQA inspection in 2015.

On the day of inspection 449 inpatients were accommodated at the hospital. Inspectors were informed that 95 patients required isolation for infection control reasons, of which 42 were isolated in single rooms and 25 were cohorted in multi-occupancy rooms. The remaining 28 patients for whom isolation was indicated were accommodated with patients who did not require isolation. All patients colonised with CPE were however accommodated in single rooms on the day of inspection, as appropriate.

Overall, there were insufficient facilities at the hospital to isolate all patients who needed to be isolated. By way of example, there were a total of 443 inpatient beds at the hospital, of which 31 were critical care beds, 49 were paediatric beds and five beds were for patients with cystic fibrosis. All non-critical care paediatric rooms were single with ensuite facilities. Of the remaining 356 adult inpatient ward beds, there were 70 single rooms of which 55 had ensuite facilities. Seven inpatient medical wards each contained a nightingale-style room. Most of these rooms accommodated 14 patients.

The lack of isolation facilities likely meant that patients with transmissible infection were frequently moved throughout the hospital whenever a single room became available. In addition patients who required isolation were accommodated in multi-occupancy nightingale-style rooms, an approach which was not in line with best practice. A daily list identifying patients who required transmission-based precautions was produced by the Infection Prevention and Control Team. It was reported to HIQA that a significant amount of time was spent finding appropriate accommodation for patients with infection.

'Trolley Watch'^{†††} data for the day before this inspection indicated that 21 patients were accommodated on trolleys in the Emergency Department and that 17 extra patients were accommodated in ward areas. This represented the highest recorded figure by Trolley Watch nationally on this day. Although the new Emergency Department had 50 single treatment bays for patients, these figures showed that there was a significant lack of capacity within the wider hospital to accommodate all

^{†††} The toolkit provides practical advice for the management of CPE for clinicians, and staff at the frontline in an acute care setting.

^{†††} Trolley watch figures 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 shortage of available hospital beds. Available at :<http://www.inmo.ie/6022>

patients admitted on that day. Further evaluation of Trolley Watch figures for the hospital over time suggested that overcrowding was a regular occurrence.

Microbiological screening resources

It was reported that hospital policy for screening of patients for antimicrobial-resistant bacteria at the hospital was in line with national guidelines. Inspectors found that there was lack of clarity among staff in the designated infection control cohort ward in relation to the indication for screening for antimicrobial-resistant organisms on the day of inspection.

Inspectors were informed that occasionally, identification of patients previously colonised with CPE upon readmission to the hospital was delayed. Delays in identifying inpatient requiring screening were attributed to deficiencies in information technology resources at the hospital in that access to an infection control software programme was not available in all clinical areas. In addition, if the information system available in the Emergency Department was not checked, there were occasional delays in identifying patients that needed to be isolated.

Local microbiological screening guidelines should be clearly communicated and accessible to relevant clinical staff. Adequate information technology and staffing resources should be in place to facilitate rapid identification of patients previously colonised with antimicrobial organisms. Staff should be familiar with the systems in place so that they can identify any isolation and screening requirements for patients attending the hospital.

Inspectors were informed that the microbiology laboratory did not have resources to perform rapid testing of specimens for CPE. Early identification of CPE cases is recommended so that appropriate isolation precautions can be implemented to reduce the risk of spreading infection to patients, staff and visitors at the hospital. The hospital had submitted a previous business case proposal for technology to support molecular testing in the hospital and facilitate rapid and accurate confirmation of infection. This would reduce the time to produce screening results from 24-27 hours to 3-12 hours and could facilitate rapid testing on weekends. Inspectors were informed that a business case had been submitted through the national estimates process in May 2017 seeking funding from the HSE for this technology. However, at the time of this inspection, funding for such equipment had not been provided to the hospital. Expansion of screening for CPE at the hospital had also increased requirements for laboratory medical scientist positions.

***Clostridium difficile* infection**

A monthly *Clostridium difficile* infection surveillance report showed an increased incidence of *Clostridium difficile* at UL Hospitals Group in August 2017 which showed the greatest number of new cases per month detected since December 2016. On the background of a hospital with persistently high patient activity levels and limited isolation facilities, the prevention and control of *Clostridium difficile* infection must remain a priority for all relevant staff in the hospital and hospital management. The hospital needs to address the findings of this report particularly so that outbreaks of infection are prevented.

Antimicrobial stewardship

While a full evaluation of antimicrobial stewardship at the hospital was beyond the scope of this inspection, in light of the increased incidence of CPE at University Hospital Limerick, antimicrobial stewardship measures were briefly reviewed. The hospital had an antimicrobial stewardship programme in place which was coordinated by a multidisciplinary antimicrobial stewardship team and included all hospitals in the UL Hospitals Group with the exception of St John's Hospital. The team met quarterly and had developed an annual plan in 2016 and a report in 2017 which included a summary of results in relation to antimicrobial consumption audits and relevant point prevalence studies. Documentation reviewed indicated that antimicrobial stewardship rounds in some clinical areas had ceased in October 2016 due to staffing deficiencies.

The Antimicrobial Stewardship Team undertook a number of audits in relation to antimicrobial stewardship including monthly meropenem^{§§§} usage. It is recommended that meropenem is only prescribed in consultation with microbiology or infectious diseases consultants. Audits showed only 75% compliance with this recommendation in August 2017 in University Hospital Limerick. This finding and an increased incidence of *Clostridium difficile* infection highlights the need for sufficiently resourced antimicrobial stewardship and clinical pharmacy services.

^{§§§} 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.

Findings in clinical areas

On the day of inspection, measures to prevent the spread of antimicrobial-resistant organisms were reviewed in three clinical areas inspected by using relevant monitoring tools.

In addition, four other wards which had multi-occupancy nightingale-style patient accommodation rooms were visited.

Infection control cohort ward

In an effort to try to manage the increased incidence of CPE colonisation in patients presenting to the hospital, the hospital had established a specialist ward to accommodate patients colonised or infected with multidrug-resistant organisms, including CPE colonised patients. The ward could accommodate 23 patients and included six single rooms and six multi-occupancy rooms/areas containing two, three and four beds. All rooms had en-suite toilet and shower facilities.

Such an approach is not ideal in an acute hospital setting where instead it would be preferable to accommodate such patients in single rooms – however in the absence of appropriate facilities it may be considered as a short-term control measure. Having made a decision to manage this issue in this way, it is incumbent on the hospital to ensure that effective infection prevention and control practices are consistently implemented. Persistent issues such as overcrowding and insufficient isolation facilities need to be addressed at the hospital in the short-term.

Other observed infection prevention and control practices on the infection control cohort ward

This inspection identified that notwithstanding good standards of environmental hygiene on this ward, risks in relation to infection prevention and control practices were identified. Risks which required immediate mitigation were communicated to senior management during the inspection, and in writing immediately following it.

All patients colonised with CPE on the ward were accommodated in single rooms on the day of inspection, as appropriate. However, these patients were not cared for by a dedicated team of cohorted staff. In August 2014 an infection prevention and control risk assessment carried out in University Hospital Limerick recommended the allocation of designated staff to care for patients colonised and or infected with CPE with immediate effect. This requirement was further highlighted during the Strategic Carbapenemase-Producing *Enterobacteriaceae* Control Committee meeting held in March 2017. However, at the time of this inspection, staff cohorting for patients colonised and or infected with CPE had not been implemented on this ward.

The remaining patients colonised and or infected with multidrug-resistant organisms were cohorted in the remaining multi-occupancy rooms. However, inspectors identified that patients with two different types of multidrug-resistant organisms were cohorted in one multi-occupancy room. 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.²⁴ It was evident at the time of inspection that bed spacing in these multi-bedded rooms was not in line with best practice guidelines.³² Treatment of patients in close proximity to each other increases the risk of spread of many infections including those caused by multidrug-resistant organisms. It was of concern that this relatively newly renovated ward had not been designed and configured in line with international best practice guidelines for inpatient accommodation.

During the inspection, doors to four multi-occupancy isolation rooms accommodating patients requiring transmission-based precautions were open. The practice of managing patients with different types of transmissible infection in shared accommodation or in single rooms with open doors needs to be reviewed in line with national guidelines. Inspectors also observed unrestricted movement of patients on the corridor of the cohort ward. While it is accepted that patients need to exercise while in hospital, this should be organised so that the risk of spreading microorganisms to other patients is minimal.

Environmental hygiene

Environmental surfaces inspected in the infection control cohort ward were visibly clean without exception. Patient equipment inspected was visibly clean. Designated equipment was allocated to patients to reduce the risk of cross infection. A system was in place to facilitate the identification of clean equipment.

Cleaning specifications were in place which clearly identified all environmental surfaces to be cleaned, the required frequency of cleaning and the staff discipline responsible in line with national cleaning guidelines.^{25,26,27} Local environmental and patient equipment hygiene audits were performed monthly by ward staff. An overall compliance score of 95% was recorded in August 2017. The high level of compliance achieved in the recent environmental hygiene audit was reflected on the day of inspection.

Although this inspection identified good standards of environmental hygiene on the ward, some essential infection prevention and control practices were not implemented. Specific risks were identified which required immediate mitigation were communicated to senior management during the inspection, and in writing immediately following it.

Haematology/oncology ward

There were 13 beds in the oncology/haematology ward, and five of these were in single en-suite isolation rooms. Remaining patient beds were arranged in two multi-occupancy rooms each with four beds. There were no patients requiring isolation precautions in this ward on the day of inspection.

The infrastructure and design of the ward was less than ideal from an infection prevention and control perspective. Space between beds in multi-occupancy rooms was limited with one en-suite bathroom between four patients. Space in these rooms was further limited by the presence of staff work stations and computer equipment and free standing wardrobes for patients. Storage space on the ward was limited. The placement of staff workstations in close proximity to patients in these rooms should be reviewed as this is less than ideal from an infection prevention and control perspective.

The design of a 'dirty' utility room in the ward was poor in that there was insufficient space to separate clean and dirty functions. Specifically, a macerator for disposing of used bedpans and urinals was located directly adjacent to a clinical hand wash sink. This poses a risk of contaminating the hand wash sink and potentially the hands of staff with faecal microorganisms and could result in patients becoming colonised or infected with resistant microorganisms. This is of particular concern in a haematology/oncology ward where patients are at greater risk of infection with organisms such as vancomycin-resistant enterococci. This finding needs to be addressed.

Food trays and delph for patient's lunchtime were set up on a trolley on the main ward corridor at 10am. Food trays should be stored in the ward pantry until just before mealtimes so as to avoid inadvertent contamination.

Overall the standard of environmental hygiene and maintenance observed in the haematology/oncology ward was below the level expected in what is regarded as a high risk clinical area. Although the patient environment was generally clean there were some exceptions. Computer equipment at staff work stations in patient rooms was dusty and did not facilitate effective cleaning. Dust and fluff was visible on radiators and the design of these did not facilitate cleaning. Sticky residue was visible on multiple surfaces and housekeeping staff did not appear to have an appropriate cleaning product to remove this. Inspectors were informed that alcohol gel was used to remove this residue. This is not an appropriate solution to use for this purpose. Surfaces and shelving units in some ancillary rooms were dusty and equipment and supplies were not all stored off floor level.

The ward had not been maintained or upgraded to desirable standards. Exposed pipe work in patient's ensuite facilities did not facilitate cleaning. Woodwork and

paintwork was damaged in some areas. Surfaces including a worktop and cupboard doors in the clean utility room were in need of upgrade or repair. Flooring was damaged in places and woodwork covering radiator pipework in one patient room was poorly fitted and visibly dusty.

Staff in the ward had access to the infection prevention and control information system which helped them to identify patients known to have an infection risk. This facilitated timely isolation of such patients.

Staff used notice boards on the ward corridor to display information in relation to microbiological screening and infection prevention and control information. Staff had also implemented a care bundle for patients with *Clostridium difficile* infection which is good practice.

Surgical ward

The infrastructure of the surgical ward did not facilitate effective infection prevention and control because of a lack of isolation facilities, a nightingale-style room, limited space between beds, lack of appropriate hand washing sinks and insufficient ancillary rooms to facilitate the storage and management of equipment and supplies.

The 29-bedded surgical ward comprised a 14-bedded nightingale-style room, a five-bedded and a four-bedded multi-occupancy room and one two-bedded multi-occupancy room. There were four single rooms with en-suite facilities. Seven patients required transmission-based precautions of which four were isolated in single rooms and three patients were appropriately cohorted in a multi-occupancy room in line with the hospital's isolation prioritisation policy.

Some opportunities for improvement were observed in relation to environmental hygiene in this ward. Cleaning schedules for patient areas such as bathrooms and toilets indicated two-hourly cleans and two-hourly checks. Records reviewed on the day of inspection indicated that this had not been consistently performed. Staining was observed on two toilet seats in en-suite facilities and on three disposable curtains at occupied bed spaces. Some surfaces in the clinical room in this ward were dusty. These issues were addressed at the time of inspection.

A machine for scrubbing and drying floors had been introduced recently in this ward however there was no written protocol for maintaining this machine. Reusable scrubbing pads used on the machine were not managed hygienically. Such machines can lead to the aerosolisation of bacteria if not maintained correctly. Alternative arrangements should be put in place until there are formal clearly communicated procedures for managing this cleaning equipment in line with best practice guidelines.

Opportunities for improvement were also observed in relation to patient equipment hygiene in the surgical ward inspected. Brown stains were observed on two commodes. Staining was also observed on a blood pressure cuff. Patient equipment items stored on a communal corridor were uncovered and dusty and included drip stands, a portable patient hoist, an electrocardiograph machine, an emergency equipment cart and a patient weighing chair.

Patient equipment cleaning checklists reviewed indicated that cleaning had not been consistently performed. Checklists for daily cleaning of patient equipment were not comprehensive and not in line with recommended cleaning frequencies for higher risk areas. It was reported that staff responsible for cleaning patient equipment were not regularly allocated time to perform routine cleaning due to competing demands such as patient care and other duties. Inspectors were unable to identify if patient equipment had been cleaned prior to storage as there was no clearly defined system in place. Inspectors were informed that a system for identification of clean equipment had been developed but had not been fully implemented at the time of inspection

Deficiencies in ward maintenance were identified. Ceiling and wall paintwork and woodwork were damaged. Inspectors were informed that the hospital hoped to fully refurbish this ward shortly and therefore maintenance work had been put on hold. However, there was no agreed timeframe for commencement of this work. This ward had been identified in an infection prevention and control risk assessment dated August 2017 as a risk to patients contracting CPE due to increased detection of clinical cases of CPE, overcrowding and poor infrastructure. Deficiencies in ongoing maintenance need to be addressed as a matter of priority.

The Infection Prevention and Control Team should be consulted in relation to planned upgrade works to advise on optimal design and configuration. Two monthly local hygiene audits were performed and most recent audit results showed 92% to 100% compliance for both environmental and patient equipment hygiene in July 2017. However, this level of compliance was not reflected on the day of inspection.

Configuration of four additional inpatient wards visited

During this inspection, HIQA also visited four other inpatient wards to assess in general the facilities and infrastructure from an infection prevention and control perspective.

The layout of four additional wards visited was outdated in that each of these wards had a large multi-occupancy nightingale-style room. Most single rooms in two of the wards did not have a clinical hand wash sink. In one of the wards visited, there were 31 inpatients, with six patients requiring isolation for infection control reasons. Only two of these patients were accommodated in single rooms. The remaining four

patients were cohorted in a multi-occupancy nightingale-style room which also accommodated a further ten patients who did not require isolation. There were insufficient numbers of clinical hand wash sinks within this nightingale-style room. Ward staff did not have access to the 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.

In 2016, improvement works had taken place in one of the wards visited which had been identified as an area with increased detection of CPE cases that year. Improvement works included refurbishment and renovation of patient rooms including a nightingale-style room and installation of clinical hand wash sinks. HIQA noted with concern that although bed numbers had been reduced in the nightingale-style room the ward still accommodated more than ten patients.

At the time of inspection extra patients were accommodated on trolleys on ward corridors in three of the areas visited, as the hospital was in escalation due to serious overcrowding in the Emergency Department. Overall the design and layout of these wards did not facilitate the effective prevention of healthcare-associated infection and were not in line with recommended guidelines.²⁸

2.7.2 Safe injection practice

Inspectors reviewed elements of safe injection practice and implementation of aspects of standard precautions in the clinical areas inspected. Findings in this regard are presented separately below.

Designated infection control cohort ward

Inspectors observed that there was a failure to appropriately separate clean and dirty activities in the ward. Procedure trays used for medications for injection were decontaminated in a washer disinfectant in a 'dirty' utility^{****} room and subsequently dried on a surface adjacent to a sluice hopper. In addition inspectors were informed that the contents of bedpans were emptied into the sluice hopper and manually rinsed prior to being placed in the washer disinfectant. This practice increases the risk of contaminating clean supplies with faecal or other microorganisms and could increase the risk of spreading infection. This issue was identified to hospital management on the day of inspection so that risks identified could be mitigated as a matter of priority. Hospital management responded and stated that a designated washer disinfectant would be used for procedure tray decontamination. It is

**** 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.

recommended that clean and dirty activities are sufficiently separated so as to avoid contamination of procedure trays for invasive procedures.

Haematology/oncology ward

On this ward, staff who spoke with inspectors were able to describe recommended practice in relation to giving injections safely. However, inspectors found that the surface on which medications for injection were prepared was less than ideal from an infection prevention and control perspective. Medication for injection was prepared in a clean utility room which was relatively small in size. The medication preparation surface in this room was cluttered with various objects and there was a stainless steel utility sink at one end of this work surface. Procedure trays that had been used at the point of care were cleaned in this area which presented a risk of splashing blood onto the medication preparation space. A computer and keyboard on this surface were unclean and the design of the keyboard did not facilitate cleaning. The limited size of the room did not facilitate the creation of zones for clean and dirty activities such as cleaning patient equipment. The procedure for decontaminating these trays as observed by inspectors was time consuming and likely ineffective. A box of pharmacy supplies was delivered directly onto the medication preparation surface during this inspection which posed further risk of contaminating the medication preparation area.

Multi dose vials of insulin medication were not labelled to indicate single patient use as is recommended. Insulin injection pens were labelled to designate single patient use as appropriate. However, it was noted that multiple labelled insulin pens were stored in one plastic bag in a refrigerator. Some of the patients for whom these pens were prescribed had been discharged from the ward. Medication fridges should be checked regularly and used insulin pens should be discarded in line with manufacturer's recommendations and as patients are discharged. A reconstituted vial of antimicrobial medication spiked with a needle attached to a syringe was observed in a medication fridge. This practice was not in line with recommended guidelines and poses a risk of contaminating medication for injection. Findings in relation to injection practice during this inspection were promptly addressed by staff in this ward.

Clinical specimens were observed in refrigerators containing medication for injection, these were dated to indicate that they had been obtained on the 13th and 20th of September, some time before this inspection. This presents a risk of contamination of sterile supplies with blood borne viruses or bacteria. Clinical specimens should not be stored in medication refrigerators and practice in this regard requires review and improvement.

Opportunities for improvement were also observed in relation to the management of used sharps. Additionally, the design of the clinical hand wash sink in the clean utility room was not in line with recommended guidelines.

Surgical ward

Staff who spoke with inspectors were also able to describe practices in relation to giving injections safely and blood glucose measurement in line with best practice.

On this ward medication for injection was prepared in procedure trays on clean stainless steel trolleys in the clinical room. At the time of inspection an unclean pharmacy box was inappropriately stored on one of the stainless steel trolleys.

A multi-dose vial of insulin and an insulin injection pen stored within a medication fridge were labelled to designate single patient use. However, the multi dose vial was not labelled with date of opening recorded as recommended.

Inspectors noted a variance in practice in relation to decontamination of procedure trays used for medication for injection preparation. A staff member was observed placing a procedure tray in a 'dirty' utility room for decontamination in a washer disinfectant. Inspectors were informed that this was not the approved practice for decontamination of procedure trays in the ward. This was addressed at the time of inspection.

Some light staining was visible on four procedure trays used for intravenous medication and one had been stored wet. This was also brought to the attention of staff and addressed at the time of inspection. Reusable procedure trays should be effectively decontaminated and dried after each use.

A medication fridge in the ward was unclean at the time of inspection. Cleaning of medication fridges should be included in cleaning specifications and aligned to national minimum cleaning frequencies for higher risk areas.

The surgical ward operated as a central storage area for specialised sterile dressings in the hospital. Such supplies were inappropriately stored in an open storage area on the ward. Staff from other clinical areas in the hospital would come to the ward to access these dressings. This practice increases the risk of cross contamination throughout the hospital. This arrangement needs to be reviewed and an alternative arrangement put in place for managing such items.

In line with European Union Sharps Directive and Regulations 2010/32/EU²⁹ the hospital had introduced safe needle technology to reduce sharps injuries among staff.

Findings in relation to safe injection practice and implementation of standard precautions in all three clinical areas showed opportunities for improvement. A

standard protocol for decontaminating reusable procedure trays across the hospital should be formalised in line with best practice infection prevention and control guidelines. It is recommended that a dedicated separate work space is provided for safe medication preparation in clinical areas and that this area is kept clean and free of unclean equipment or stored supplies.

2.7.3 Prevention of invasive aspergillosis during construction work

There is potential risk to people with impaired immune systems of acquiring invasive aspergillosis⁺⁺⁺ during construction or renovation activities in hospitals, therefore specific controls need to be put in place to prevent such occurrences.

On the day of inspection, measures to prevent the spread of invasive aspergillosis during dust generating renovation work which was in progress at the hospital were reviewed. A hospital development project that involved renovations in the Radiology Department and the old Intensive Care Unit was in progress at the time of inspection. Infection prevention and control team members informed inspectors that they provided advice in relation to control measures required to reduce potential risks of infection to patients during these projects. Documentation reviewed showed that control measures had been clearly identified and recorded.

The Infection Prevention and Control Team was satisfied that recommended environmental controls were in place in line with national guidelines.³⁰ Control measures in place included dust barriers, enhanced cleaning in addition to enhanced air filtration in clinical areas as required. The Infection Prevention and Control Team communicated with hospital staff throughout these projects and provided education for hospital staff and external contractors in relation to aspergillosis prevention. Air quality was monitored during the work. The hospital policy for the prevention of aspergillosis during construction activities was updated in 2017.

2.7.4 Other measures to prevent the transmission of infection

Hand hygiene

The hospital participated in national hand hygiene audits, the results of which are published twice a year. Hand hygiene audit results were presented by hospital group directorate rather than by individual hospitals in the group. All directorates within the group met the required Health Service Executive (HSE) national hand hygiene target of 90% for June 2017 with both the peri-operative and child and maternal directorates achieving 92% and 94% respectively which was an improvement on the

⁺⁺⁺ Healthcare-associated invasive aspergillosis is an infection that can be potentially life threatening in patients with impaired immune systems. It is caused by fungal spores that may be transmitted in dust created by excavation and building work.

previous measurement period. Inspectors also reviewed records of the most recent hand hygiene audit results in the areas inspected.

Local hand hygiene audits carried out in the designated infection control cohort ward indicated that staff achieved 100% hand hygiene compliance in January 2017. In relation to hand hygiene training, 93% of staff in this ward were up to date.

Hand hygiene compliance audits had not taken place in the oncology/haematology ward in the past two years. The hospital should regularly review the frequency of local hand hygiene observational audits.³¹ It is important that the hospital implements the essential components of the World Health Organization (WHO) multi-modal improvement strategy equally in all areas throughout the hospital. Inspectors were informed that 90% of relevant staff in the oncology/haematology ward were up to date with hand hygiene training.

On the surgical ward hand hygiene compliance audits showed 97% and 90% compliance with hand hygiene audits for June and July 2017 respectively. All staff in this ward were up to date with hand hygiene training.

The Infection Prevention and Control Team had designed a hand hygiene plan for 2017 and had implemented a number of hand hygiene initiatives. A number of staff across the hospital had undertaken a 'train the trainer' course following which these staff were approved to provide hand hygiene technique training to hospital staff. This is a positive development. Two staff members in the oncology/haematology ward inspected had undertaken this course and provided hand hygiene training to colleagues. Hospital management told inspectors that the frequency of hand hygiene audits was increased to every two months and each department had to develop a quality improvement plan when compliance was less than 90%. However, Inspectors found that this was not the case in the Haematology/Oncology Ward. This information was shared with staff in a hospital newsletter.

Alcohol gel was available at the point of care in the clinical areas inspected. The hospital had worked to improve hand hygiene facilities across the hospital as new clinical areas were built or existing areas were upgraded. The design of some clinical hand wash sinks in older parts of the hospital and the number of clinical hand hygiene sinks in some single rooms and multi-occupancy rooms were not in line with recommended guidelines.³²

Central location for cleaning textiles

Inspectors visited a central location for laundering and reprocessing some cleaning textiles used at the hospital. Poor hygiene and a failure to separate clean and dirty activities in this area posed a risk of contamination of clean items such as cleaning cloths and mop heads. Colour-coded cleaning textiles were not segregated during

reprocessing and textiles that had been cleaned were stored damp in laundry bins. Cleaning textiles should be washed, handled and stored in a manner that prevents contamination.

Multiple surfaces and equipment in the room were unclean. Staff working in the area did not wear any personal protective equipment such as gloves and aprons and these supplies were not available in the room. An employee 'clocking-in' device was located directly over a container of unwashed cleaning cloths which posed a risk of contaminating the clothing of several cleaning operatives. Staff personal belongings were also located in this room which is not in line with best practice.

Inspectors were informed that laundering of other cleaning textiles used at the hospital had been transferred to an external laundry facility. The hospital was advised to address the risks identified by inspectors. Cleaning textiles should be laundered in a facility that meets hospital laundry specifications and guidelines.

Prevention of water-borne infection

A formal legionella site risk assessment had been performed at the hospital in 2015. Hospital management reported that internal control and preventative measures in relation to waterborne infection were implemented in the hospital including regular outlet flushing and that there was microbiological testing of water. Governance and oversight in relation to water-borne infections in the hospital was the responsibility of the Environmental Monitoring Committee. Inspectors were informed that this committee reported informally to the UL Hospitals Infection Prevention and Control Committee.

2.8 Quality improvement initiatives

University Hospital Limerick had implemented a number of additional initiatives aimed at enhancing the prevention and control of healthcare-associated infection at the hospital. These included the following:

- The Infection Prevention and Control Team had introduced a quality improvement project entitled 'Your Story Matters' aimed at capturing the voice and experience of the patients with CPE. Findings from the project were used to inform practice in the management of this patient cohort and address gaps identified in order to improve care. Project findings were presented at the 27th European Congress of Clinical Microbiology and Infectious Diseases in Vienna, Austria in 2016.
- The UL Hospitals Group had launched the 'What matters to you' patient poster initiative which was displayed on a selection of wards and used by patients, families and staff for making notes of things that are important to patients. Pilot areas included the designated infection control cohort ward in University Hospital Limerick.
- A financial analysis after the opening of the infection control cohort ward was undertaken as a quality improvement project and highlighted identifiable costs specific to the care and management of patients with CPE.

3. Conclusion

Through prior monitoring work, HIQA has identified risks at University Hospital Limerick relating to the management of CPE. HIQA has highlighted in published reports that comprehensive management of these risks required effective management locally within the hospital, coupled with parallel efforts to address this issue in community and residential care settings.^{3,4} HIQA has also previously emphasised the need for national support from the HSE to further assist the hospital in dealing with this serious issue.

Despite the implementation of a number of measures by hospital management and staff to manage this issue during this time period, HIQA found during this inspection that much more needs to be done to effectively prevent and control the spread of CPE. Moreover, a number of high risks were identified during this inspection in relation to the prevention and control of healthcare-associated infection which required HIQA to take action and officially raise concerns with the hospital.

Inadequate infection prevention and control resources at the UL Hospitals Group, including an identified lack of required specialised trained staff, had impeded the ability of the team to perform in the face of an increased workload imposed as a consequence of a major CPE outbreak. This had impacted on the delivery of the wider infection prevention and control programme. Staff turnover had seen a reduction in the level of experience and training levels among the infection prevention and control nursing complement, and both the number of specialist nurses and microbiologists at the hospital had remained unchanged since HIQA's prior inspections – despite prior recommendations by HIQA of a need to provide additional supports.

The hospital had submitted business cases to upgrade ward accommodation and increase hospital capacity – however at the time of this inspection these deficiencies had not been addressed. Ongoing overcrowding at the hospital exacerbates the risk of proliferation of CPE, placing patients attending this hospital at an increased risk of infection.

Despite efforts to improve hospital hygiene, HIQA found during this inspection that recommended standards of patient equipment and environmental hygiene were not consistently achieved in the areas inspected. These deficiencies must be addressed.

The configuration of an infection control cohort ward used to centralise the placement of patients colonised or infected with multidrug-resistant organisms, including CPE did not facilitate effective infection prevention and control. This inspection identified that notwithstanding good standards of environmental hygiene on the ward, not all essential infection prevention and control practices were implemented. Specific risks were identified which required immediate mitigation.

Overall, despite all of the efforts enacted by the hospital, HIQA was not fully assured following this inspection that the controls put in place to prevent and control healthcare-associated infection including CPE are sufficiently effective. This latest inspection identified multiple factors that significantly increase the risk of spreading multidrug-resistant organisms, including CPE in addition to other infections to patients.

These factors included but were not limited to; regular overcrowding at the hospital, the practice of boarding extra patients in beds on corridors, large multi-occupancy nightingale-style rooms combined with insufficient isolation facilities, insufficient infection control team resources, frontline staffing deficiencies, deficiencies in hospital hygiene and poor infection prevention and control practices.

These risk factors have persisted at the hospital, despite repeated concern raised in prior HIQA inspection reports into this matter. Moreover, it was evident that in many instances the hospital had themselves clearly identified these issues as areas of concern, and had sought external assistance in dealing with many of these risks. However, they have remained largely unaddressed.

In light of these findings, HIQA immediately escalated concerns both to the hospital, and through national governance arrangements, so that these risks might be properly addressed in the short term. Coordinated national intervention has proven effective in containing this risk elsewhere internationally.³³ Assurances were provided by the UL Hospitals Group CEO that identified risks will be addressed. However, it should be noted that management of the overcrowding situation at the hospital in particular will likely require higher level intervention – and in the absence of action in this regard, conditions for the spread of highly resistant microorganisms such as CPE remain greatly elevated.

It is imperative that efforts to address the serious findings of this inspection are urgently implemented, in order to reduce current risks for patients. This will require more effective local management of practice related issues, coupled with urgently required external support to deal with hospital overcrowding, infrastructural deficiencies and infection prevention and specialist staff and laboratory resourcing.

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5. 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,

Appendix 2- Copy of letter issued by HIQA to University Hospital Limerick following the announced inspection carried out on 22 September 2017.



Colette Cowan
Chief Executive Officer
University of Limerick Hospital Group
CEOULHospitals@hse.ie

27 September 2017

Ref: PCHCAI/25

Dear Colette

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

During the course of an announced inspection at University Hospital Limerick on 22 September 2017, authorized persons identified specific issues that may present a serious risk to the health or welfare of patients, visitors and staff and immediate measures need to be put in place to mitigate these risks.

The risks identified by the inspection team should be considered in the context of a hospital which is presented with known challenges associated with carbapenemase-producing enterobacteriaceae (CPE). These risks must be addressed in the short term and include the following:

- The need for additional human resource and other supports for the Infection Prevention and Control Team, given the presence of a predominately new, inexperienced and underqualified team of infection prevention and control nurses, and an unchanged number of Consultant Microbiologists at the hospital since HIQA's prior inspections - despite the ongoing challenges faced in dealing with CPE and other infection control risks across the UL Hospital Group.
- The less than ideal conditions on the cohort ward from an infection prevention and control perspective, given that this unit is used to centralise

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the placement of patients colonised or infected with multidrug resistant organisms, including CPE. Deficits identified on the day of inspection included;

- the presence of only six single rooms which was insufficient to accommodate all patients requiring isolation precautions on the day of inspection. Patients with CPE were not cared for by cohorted staff. There was an identified lack of clarity around indications for screening for multi-drug resistant organisms. There should be clear written and accessible instructions for staff in clinical areas so that there is better understanding of who needs to be screened, the organisms to be screening for and the screening method.
 - poor practice related to the cleaning and disposal of bedpans
 - the co-location of patients with norovirus on the ward, given the risk of proliferation of CPE from colonised patients were this infection to be spread to fellow patients accommodated on the ward.
- In addition, the overall standard of cleaning of both patient equipment and the patient environment required further improvement in the haematology/oncology ward and Ward 1D. This finding was especially concerning given that this was an announced inspection.

While these issues and this correspondence will be referred to in the final inspection report, HIQA believes it is important that these risks are brought to your attention now, in advance of this. This is being done so that you may act to mitigate and manage the identified risks as a matter of urgency.

Please formally report back to HIQA by **5pm on 29 September 2017** to qualityandsafety@higa.ie, outlining the measures that have been enacted to mitigate the identified risks. Details of the risks identified will be included in the report of the inspection. This will include copies of HIQA's notification of high risks and the service provider's response.

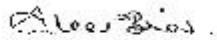
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Should you have any queries, please do not hesitate to contact me at qualityandsafety@higa.ie. Please confirm receipt of this letter by email (qualityandsafety@higa.ie).


Yours sincerely,



Aileen O'Brien
Authorised person

CC: Liam Woods, National Director of Acute Services, Health Service Executive
Mary Dunnington, Director of Regulation, Health Information and Quality Authority

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Appendix 3 - Copy of letter received from University Hospital Limerick following the announced inspection carried out on 22 September 2017.



Oifig an Phríomhoifigigh Feidhmiúcháin,
Grúpa Ospidéal OL, Ospidéal na hOllscoile, Luimneach,
Bóthar Naomh Neasáin, Tuar an Daill, Luimneach V94 F858
Tell: 061 482598 Ríomhphost: ceoulhospitals@hse.ie

Office of the Chief Executive Officer,
UL Hospitals Group, University Hospital Limerick,
St. Nessian's Road, Dooradoyle, Limerick V94 F858
Tel: 061 482598 Email: ceoulhospitals@hse.ie

Ref: CC/MR
29th September 2017

Ms. Aileen O'Brien
Authorised Person
HIQA Head Office
Unit 1301,
City Gate,
Mahon,
Cork.

Re: PCHCAI/25 National Standards for the prevention and control of healthcare associated infections in acute healthcare services – monitoring programme.

Dear Ms. O'Brien,

I wish to acknowledge receipt of your correspondence dated 27th September 2017 with regard to the announced inspection at the University Hospital Limerick on the 22nd September 2017. Hereunder please find my response to the issues outlined in your letter;

IPC Resources - We recognise that there are deficits within the IPC team and more specifically skill mix. A bid has been submitted for resources through the Estimates Process for six additional IPC nurses. We were unsuccessful in the recruitment of a CNS in 2016 following two campaigns however we will again progress a recruitment campaign for these posts.

Regarding the Microbiology posts, the paperwork is currently being completed for the 3rd post, the Medical Manpower Manager is in discussion with the Clinical Lead to finalise the relevant documentation, and this post will have a specific remit for IPC. We are also exploring the possibility of a fourth Microbiology post which will be a joint appointment with CHO3. The additional Microbiology post has been submitted through the Estimates process for funding in 2018.

Cohort Ward – We recognise the fact that we do not have enough single rooms in the Cohort Ward and it does not fulfill all the IP&C requirements. We are using the ward to cohort other MDRO patients in cohorted areas however all CPE positive patients are always isolated in single rooms but current capacity is insufficient.

There are very clear written and accessible policies for staff in clinical areas including guidance documents in relation to MDRO screening. PPG's are also available at ward level; the current one page synopsis on screening guidance will be re-issued. In relation to CPE, the IPC nurses get a daily report of all patients who fit the CRE screening criteria. This is communicated to each clinical area by the IP&C nurse daily.

The Director of Nursing of the Peri-Operative Directorate is reviewing the ward rosters to ensure the appropriate allocation of dedicated staff to patients with CPE based on National/International guidance.



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Cleaning and Disposal of Bedpans – There are two washer disinfectors in place on the Cohort ward, one will be dedicated for the decontamination of bedpans, the other washer disinfectant will be dedicated for the use of decontamination of all other equipment. A process flow will be put in place to manage the two washer disinfectors and will include the segregating, cleaning, drying and storage of these items.

Norovirus – This patient referred to in your correspondence developed symptoms post admission to Ward 2D, the patient was located on that ward because of their MDRO status and all control measures were put in place.

Ward 1D/4B – While enhanced cleaning hours have been provided in Ward 1D, they have not yet been introduced onto Ward 4B. The staffing requirements for this enhancement have been submitted as part of the Estimates Process for 2018. Interviews are being held in October with a view to extending the hours early in 2018, subject to funding. In the interim, enhanced supervision will be provided on the ward to ensure hygiene standards are achieved. The cleaning of patient equipment is a shared responsibility between HCA staff and Hygiene Attendant staff. Checklists are in place on Ward 1D for the cleaning of equipment. On Ward 4B – the cleaning of equipment is completed by the HCA staff under the supervision of the CNM2. In the short term in addition to daily and weekly routine cleaning by HCA staff a full deep clean of all equipment will be undertaken with a monthly deep cleaning schedule developed which will be supervised by the CNM3.

Please do not hesitate to contact me if you require further information.

Yours Sincerely

Colette Cowan
Chief Executive Officer
UL Hospitals Group

cc Mr Liam Woods National Director HSE
Ms Mary Dunnion Director of Regulation HIQA

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