Report of the unannounced inspection at University Hospital Waterford.

Date of on-site inspection: 24 January 2019

HIQA’s programme of monitoring against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services
About the Health Information and Quality Authority (HIQA)

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

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

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.

- **Regulating social care services** — The Office of the Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children’s special care units.

- **Regulating health services** — Regulating medical exposure to ionising radiation.

- **Monitoring services** — Monitoring the safety and quality of health services and children’s social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.

- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.

- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland’s health and social care services.

- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.
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1.0 Introduction

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

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

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

2.0 Information about this inspection

This inspection report was completed following an unannounced inspection carried out at University Hospital Waterford by Authorised Persons, HIQA; Kathryn Hanly, Noreen Flannelly-Kinsella, Bairbre Moynihan and Geraldine Ryan on 24 January 2019 between 09.10 hrs and 16.40 hrs.

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

Inspectors used specifically designed monitoring tools during this inspection and focused on:

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

During this inspection inspectors spoke with hospital managers, staff and representatives from both the Infection Prevention and Control Committee and

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

† A controlled decontamination unit, such as a Central Decontamination Unit or Endoscope Reprocessing Unit, is a designated unit which has defined governance arrangements and is designed, constructed, maintained and controlled with structures, systems, processes and outcomes that are continuously monitored, measured and validated to provide assurances that reusable medical devices are safely and effectively reprocessed consistently in accordance with legislation, manufacturer’s instructions, national decontamination standards and guidelines, National Standards and best practice guidance.
Decontamination Committee. Inspectors also requested and reviewed documentation, data and observed practice within the clinical environment in a sample of clinical areas which included:

- The Out-Patient Department 3 (OPD)
- Medical 3 Ward.

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

### 3.0 Hospital profile

University Hospital Waterford is a model 4 tertiary referral hospital which provides range of services including general medical, surgical, maternity and specialist care. The hospital is part of the South/South West Hospitals Group.⁴

Building of a new five storey block was nearing completion at the hospital at the time of inspection. This will provide 72 single en-suite rooms and additional isolation facilities with specialised ventilation at the hospital.

The hospital was providing a decontamination and reprocessing service for reusable medical devices used at the hospital and were actively endeavouring to centralise services and reduce the number of satellite facilities carrying out decontamination in line with best practice guidance.³

Decontamination and reprocessing of reusable medical devices were performed in:

- The Central Decontamination Unit (CDU) which comprised the old Central Sterile Supplies Department (CSSD) and a new Endoscopy Decontamination Unit (EDU).
- Satellite decontamination facilities located in OPD, Radiology Department, Maternity Department and Vascular Laboratory.
- Decontamination of non-critical reusable medical devices used in clinical and non-clinical areas was performed locally in each respective area.

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

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

- Section 4.1 outlines high risks identified during this unannounced inspection.
- Sections 4.2 to 4.4 present the general findings of this unannounced inspection.

4.1 High risks identified during this unannounced inspection:

   A. Non-compliance with Health Service Executive (HSE) guideline around screening patients for Carbapenemase Producing Enterobacteriales\(^8\)(CPE).\(^4\)

In light of the ongoing National Public Health Emergency Plan\(^**\) to address CPE which was activated by the Minister for Health on 25 October 2017, HIQA sought assurance regarding arrangements in place to ensure compliance with the national guidelines on screening for CPE at University Hospital Waterford.

The National Public Health Emergency Team have developed guidelines for screening of Patients for Carbapenemase Producing Enterobacteriaceae (CPE) in the Acute Hospital Sector.\(^4\) Screening is required to ensure that patients with CPE infection or colonisation are identified to:

- ensure that measures are taken to prevent onwards transmission to other patients
- provide an accurate picture of the current epidemiology of CPE at each institution and to inform appropriate control policies.\(^5\)

The hospital was not screening in line with national CPE screening guidance. Specifically, residents of long term care facilities were not routinely screened on admission in all areas, which is required for adherence to national guidelines. HIQA considered that the hospital’s non-compliance with these guidelines to be a high risk.

In response the general manager provided written assurance to HIQA with a commitment that full compliance with national CPE screening guidelines would be implemented by 12 February 2019. It is recommended that in line with national guidelines\(^6\) the hospital reviews and audit compliance with this revised local CPE screening policy and identify any gaps with regard to national policy.

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\(^8\) Carbapenemase Producing Enterobacteriales (CPE), are Gram-negative bacteria that have acquired resistance to nearly all of the antibiotics that would have historically worked against them. They are therefore much more difficult to treat.

\(^**\) A public health emergency is described as any serious or unexpected event, due to an infectious disease, which causes, or threatens to cause, death or serious illness to large sections of the population, an individual region or a specific cohort of individuals and which will have a major impact on the normal functioning of the health system and on society in general.
B. Ineffective managerial oversight of facilities located in the hospital basement.

This had resulted in an unhygienic and unclean environment for laundering reusable cleaning textiles and the storage of equipment and supplies. The infrastructure of this laundering area did not support functional separation of the clean and dirty phases of the laundering process. Doors were open to the external environment so pest control could not be assured in the open environment leading to the hospital laundry, kitchen and pharmacy.

Despite prior recommendations in previous HIQA inspection reports, progress in relation to addressing risks relating to the hospital basement facilities had been limited. HIQA escalated its concerns about this situation to hospital managers during the inspection so that the hospital could mitigate the associated risk.

The general manager also provided written assurance that a number of remedial actions had been instigated to address the identified risk of the facilities located in the hospital basement including:

- review of and strengthened managerial oversight of the facility
- approval was granted to proceed with the redesign plan of the area to meet requirement for the appropriate segregation of work flow processes and equipment
- laundering of the reusable cleaning textiles was to be managed through the hospital laundry on an interim basis
- an in-depth clean of the area was carried out and a housekeeping rota was in place.

A copy of the letter issued to the general manager of University Hospital Waterford to seek further assurance regarding the risk identified and a copy of the response received from the general manager of the hospital are shown in Appendices 1 and 2 respectively.

4.2 Governance and management structures

It was reported at interview that the infection prevention and control committee reported into the safety and quality executive steering committee who in turn reported to the executive management board. Inspectors were informed that shared membership of the quality and safety manager and members of senior management on both the safety and quality executive steering committee and the infection prevention and control committee ensured communication of relevant information at appropriate levels within the hospital. However, a review of safety and quality executive steering committee minutes from July to December 2018 found no evidence to indicate that issues relating to infection prevention and control were regularly discussed at these meetings.
Following the 2017 HIQA inspection the hospital had formalised the governance arrangements in relation to construction activity and water management at the hospital. Four subcommittees including the environmental monitoring, water governance, decontamination and hygiene committees formally reported to the infection prevention and control committee.

Governance arrangements and organisational structures were outlined in an organogram provided to HIQA showing lines of communication for infection prevention and control (appendix 3).

**Infection prevention and control team**

Inspectors were informed that additional resources were required to deal with ongoing hospital construction projects and the additional challenges the hospital faced in managing the CPE outbreak in line with national guidelines. These challenges had also impacted on the team’s capacity and capability to deliver the wider infection prevention and control programme. To address these challenges, hospital management had recently appointed an additional whole-time equivalent (WTE) infection prevention and control nurse and administrative support to the infection prevention and control team. Additional healthcare assistant and laboratory scientist resources were also appointed to facilitate the increased workload associated with CPE screening requirements.

University Hospital Waterford was providing a microbiology service to five hospitals across two hospital groups including twenty four hour/seven day a week microbiological clinical advice.

**Governance of the antimicrobial stewardship programme††**

The hospital’s antimicrobial stewardship committee had been inactive for an extended period of time. This issues had also been highlighted during the 2017 HIQA inspection. However, at the time of this inspection it was evident that a more structured approach to the governance of antimicrobial stewardship at the hospital was beginning to emerge.

It was explained that the antimicrobial stewardship committee was in the process of being re-established. The antimicrobial stewardship programme at the hospital must be effectively structured, resourced and governed as it re-embeds, and the formal reporting lines to the medicines and therapeutics committee should be re-established.

†† Antimicrobial stewardship is a systematic approach to optimising antimicrobial therapy, through a variety of structures and interventions. Antimicrobial Stewardship includes not only limiting inappropriate use but also optimising antimicrobial selection, dosing, route, and duration of therapy to maximise clinical cure, while limiting the unintended consequences, such as the emergence of resistance, adverse drug events, and cost.
Decontamination and reprocessing of reusable medical devices

Governance and management arrangements for decontamination and reprocessing of reusable medical devices had also been strengthened at the hospital. The hospital’s decontamination committee was responsible for overseeing the decontamination of reusable medical devices at the hospital. Hospital managers told inspectors that local managers from satellite decontamination facilities also attended meetings; the terms of reference should be amended to reflect this as not all satellite facilities were included.

The hospital did not have an assigned decontamination lead and had entered this on the hospital’s risk register. Likewise there was no group decontamination lead position in the South/South West Hospital Group. A leadership role in decontamination to drive and support the implementation of national and international best practice guidance across the group in line with HSE’s own recommendations should be advanced.

The medical devices committee monitored the age, condition and validation of decontamination devices and equipment. An authorised engineer for decontamination‡‡ (AED) was appointed by the hospital to oversee and audit technical aspects of the programme.

HIQA acknowledges that significant improvement in relation to centralising decontamination of reusable medical devices had been made. Hospital management informed inspectors that they continued to explore options to rationalise the number of satellite decontamination facilities across the hospital.

4.3 Monitoring and evaluation systems including risk management

4.3.1 Monitoring, audit and evaluation systems

Prevention and control of healthcare-associated infection

The infection prevention and control team met weekly and submitted detailed infection prevention and control team reports to the infection prevention and control committee on a quarterly basis.

In compliance with the Infection Prevention and Control Standards, the infection prevention and control surveillance programme included surveillance of:

- ‘alert’ organisms and ‘alert’ conditions§§

‡‡ A suitably qualified person designated by management to provide testing, advice and review validation records and is suitable qualified to graduate level.

§§ Alert conditions include physical symptoms such as skin rashes, vomiting, diarrhoea, respiratory illness that could be due to an infectious illness.
multidrug-resistant organisms

hospital-acquired *Staphylococcus aureus* bloodstream infection

hospital-acquired *Clostridium difficile* infection

catheter-related bloodstream infection (CRBSI)*** in the Intensive Care Unit

bloodstream infections.

Documentation reviewed indicated that the process for undertaking root cause analysis for each *Staphylococcus aureus* bloodstream infection and severe *Clostridium difficile* associated diarrhoea had yet to be progressed in line with national guidelines.8,9

Unannounced hygiene audits were performed by the hospital management team on a regular basis. In addition, clinical area staff monitored hygiene in clinical areas on a monthly basis. It was reported than the Medical 3 ward scored 91% compliance in the most recent environmental hygiene audit carried out in December 2018. However, this level of compliance was not consistent with the inspectors’ observations on the day of this inspection. These findings will be further discussed in section 4.4.1 of this report.

**Decontamination and reprocessing of reusable medical devices**

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

Planned maintenance of decontamination equipment including ventilation and water systems was overseen by the hospital’s maintenance department, technical services, bio-medical engineers and water governance committees. Periodic testing and validation of equipment was performed as part of service contracts by external service providers and overseen and audited by the AED in line with national guidance and best practice recommendations.10,11,12

**4.3.2 Risk management**

The hospital had systems in place to identify and manage risks in relation to the prevention and control of healthcare-associated infection and decontamination of reusable medical devices. Risk assessments outlined the existing control measures enacted by the hospital to address current risks. Risk registers††† were maintained at both corporate and local level.

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*** Catheter-related bloodstream infection (CRBSI) is defined as the presence of bacteraemia originating from an intravenous catheter.

††† A risk register is a database of assessed risks that face any organisation at any one time. Always changing to reflect the dynamic nature of risks and the organisation’s management of them, its purpose is to help hospital managers prioritise available resources to minimise risk and target improvements to best effect. The risk register provides management with a high level overview of the hospital’s risk status at a particular point in time and becomes an active tool for the monitoring of actions to be taken to mitigate risk.
Inspectors were informed that it was hospital policy to report incidents of healthcare-associated infection and decontamination on the national incident management system (NIMS). There were no reported decontamination-related incidents over the past 12 months. However, scope for improvement in the degree of incident reporting was identified by the hospital.

Infection prevention and control incidents were discussed at weekly infection control team meetings. Inspectors were informed that risks and incidents were also discussed at decontamination committee meetings. However, inspectors were informed that incidents and near misses were not trended. Management should review mechanisms for analysis of reported incidents and sharing of learning from these incidents and encourage a more open patient safety culture.

HIQA sought assurance during this inspection regarding arrangements that were in place to ensure compliance with best practice guidance on minimising the risk of transmission of developing a transmissible spongiform encephalopathies (TSE). Inspectors were informed that a hospital policy devised by the south east infection prevention and control committee was in place and being updated at the time of this inspection. Hospital management need to be assured that the hospital is in line with national guidance in this regard.13

4.4 Implementation of evidence-based best practice
4.4.1 Systems to detect, prevent and manage multidrug-resistant organisms

University Hospital Waterford was experiencing an ongoing hospital outbreak of CPE since March 2016. Surveillance data showed that there were 26 new cases of CPE colonisation detected in 2017 and 36 new cases of CPE colonisation detected in 2018. This increase was partly attributable to an increase in screening, meaning that the hospital had a more accurate picture of CPE colonisation.

Evidence of good practice

Screening and microbiological testing

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

Guidelines advise that where three or more patients with the same CPE associated with a hospital in the past three months this should be interpreted as prima facie evidence of transmission in your hospital and an outbreak control team should be convened to assess what if any further action is required.
CPE screening rates increased in recent months. A total of 1245 and 928 patients were screened in November and December 2018 respectively. This was an increase from 150 and 86 screens in January and February 2018. Universal screening on admission had been implemented on seven wards in quarter four 2018.

In line with the HSE CPE Contact Communications Programme, the hospital had commenced writing to identified CPE patient contacts that had been discharged advising them of their CPE contact status.

**Patient placement**

- The Infection Prevention and Control Team had devised a hierarchy of isolation prioritisation policy for management of patients with transmissible infection as a quick reference guide in relation to screening and isolation requirements.
- Additional audits of staff compliance with transmission based precautions were undertaken in areas experiencing CPE outbreaks.

**Communication**

- An outbreak control committee had been convened and the local Public Health Department was informed of the CPE outbreak.
- Routine assessment on patient admission for CPE and other multidrug-resistant organism risk status was nurse-led with screening questions printed on the dedicated infection prevention and control assessment in the admission booklet.
- Patient colonisation/infection and CPE screening status was clearly visible on a patient status board in the nursing office of the ward inspected.

**Equipment**

- Patient equipment viewed during the inspection was clean with few exceptions.

**Hand Hygiene**

- University Hospital Waterford achieved an overall hand hygiene compliance rate of 93.3% in the national hand hygiene audits in October 2018.

**Required areas for improvement**

**Screening and microbiological testing**

- As discussed in section 4.1, the hospital was not in full compliance with national CPE screening guidelines. While the hospital had recently initiated measures to broaden the level of CPE screening, residents of long term care facilities were

**** A CPE patient contact is defined as a person that has shared a multi-bed area and/or shared toilet facilities with a person identified as colonised or infected with CPE. This includes time spent in the Emergency Department (ED) and Acute Medical Assessment Units (AMAUs). A person that has been cared for in an inpatient area (including ED and AMAU) by nursing staff who were simultaneously caring for one or more patients colonised with CPE in the absence of Contact Precautions. This might arise in relation to a patient who was not known to be colonised with CPE at the time in question.
not routinely screened on admission in all areas. As a consequence, it is likely that the true incidence of CPE in the hospital may be underestimated.

Patient placement

- The current number of single rooms was insufficient to manage the ever-increasing number of patients requiring isolation for infection prevention and control reasons. There were 53 single rooms with ensuite facilities in the hospital. Inspectors were informed that on average 93 patients required isolation or cohorting on a given day. This issue was included in the hospital’s risk register.
- Two patients requiring transmission based precautions were isolated within a six-bedded patient room on the ward inspected. However, signage to identify the need to implement transmission-based precautions was not in place.

Communication

- An electronic infection prevention and control flag system was used to identify patients colonised with CPE.6

Antimicrobial stewardship

- While some antimicrobial stewardship interventions were in place, it was reported that the antimicrobial stewardship programme had been restricted due to staffing constraints in the clinical microbiology and pharmacy departments from 2016 to January 2019. However inspectors were informed that the antimicrobial stewardship pharmacist post was reinstated in February 2017 after a 16 month period. In addition, the hospital had recently appointed a fourth consultant microbiologist who was due to take up the position of clinical antimicrobial stewardship lead.
- The frequency of stewardship rounds on CPE outbreak wards had not increased as recommended in national guidelines.6
- The hospital had introduced national guidelines15 for restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic; meropenem††††. Restricted antimicrobials were dispensed on a named-patient basis. However an audit of compliance with the hospitals pre-authorisation policy found 48% non-compliance.
- Increased Clostridium difficile infection rates can be driven by increased antibiotic usage. Rates of new cases of Hospital acquired Clostridium difficile infection per 10,000 bed days used were consistently higher than the desirable HSE performance indicator for Clostridium difficile infection. Antimicrobial

†††† Meropenem is a carbapenem antibiotic reserved for treatment of infections due to antimicrobial resistant bacteria and infections in seriously ill patients, with input from an infection specialist (clinical microbiologist or infectious diseases physician). Because antimicrobial consumption is a driver of antimicrobial resistance, excessive consumption of meropenem is undesirable, as it may contribute to the spread of CPE in hospitals.
consumption contributes to the incidence of Clostridium difficile infection rates and therefore antimicrobial stewardship should be an important focus of the quality improvement plan implemented following this inspection.

- Due to resource deficits, the hospital had not participated in a national point prevalence survey of hospital-acquired infections and antimicrobial use in 2017.
- Regional antimicrobial prescribing guidelines required updating.

**Patient equipment**

- There was no clearly defined system for identifying if equipment had been decontaminated between patient uses.

**Environmental hygiene, monitoring and audit**

- There were insufficient local assurance mechanisms in place to ensure that the general environment was cleaned in accordance with local guidelines. For example, there was no evidence of checklists for daily cleaning of the general environment on Medical 3 ward.
- Unacceptable levels of dust were present on a number of bed frames. This does not provide assurance that equipment was cleaned in line with local and national\textsuperscript{16} cleaning schedules.
- Environmental screening was not routinely performed during CPE outbreaks. National guidelines recommend that environmental screening may identify persistent and unidentified reservoirs during prolonged and persistent outbreaks.\textsuperscript{6}

**Infrastructure and facilities**

The general infrastructure on Medical 3 ward did not support effective infection prevention and control practices or outbreak management.\textsuperscript{6,17} Deficiencies identified on the day of inspection included:

- Surfaces, finishes and some furnishings in patient rooms including wall paintwork, woodwork, wood finishes were worn, poorly maintained and did not facilitate effective cleaning. This was a concern when considered in the context of the ongoing CPE outbreak.
- Minimal spatial separation\textsuperscript{16} between beds in these multi-occupancy rooms did not comply with best practice guidelines.\textsuperscript{18}

\textsuperscript{16} Patients should be separated by at least 3 feet (1m) from each other in a cohort area, and bed curtains can be drawn as an additional physical barrier.
There was one sink in the ‘dirty’ utility room which was designated a hand wash sink. A separate sink for washing patient equipment was not available so it was difficult to determine if the hand wash sink had a dual function.

The design of the sluice hopper for disposal of body fluids did not confirm to Health Building Note 00-10 Part C: Sanitary assemblies.\(^{19}\)

The design of clinical hand wash sinks in the clinical room did not conform to Health Building Note 00-10 Part C: Sanitary assemblies.\(^{19}\) This sink outlet was visibly unclean, which posed an increased risk of transmission of water borne pathogens.

**Hand hygiene**

National hand hygiene guidelines recommend that hand hygiene training should be mandatory for relevant staff at induction and every two years thereafter. Documentation indicated that only 66% of hospital staff had attended mandatory hand hygiene training in the previous two years. A breakdown of hand hygiene training attended by each staff group was viewed. The figures showed that only 17% of consultant medical staff had attended hand hygiene training which was considerably lower than other staff groups.

4.4.2: Decontamination and reprocessing of reusable medical devices

Inspectors visited a satellite decontamination facility in OPD 3 to ensure that essential components such as structures, systems, processes and outcomes were in compliance with national standards and recommended practices for decontamination and reprocessing of reusable medical devices.\(^{10,11,20}\) In addition to Ear Nose and Throat (ENT) endoscopes, Transoesopheageal Echocardiography (TOE) probes were transported from the cardiology department and decontaminated in this facility.

**Evidence of good practice**

- a dedicated decontamination facility was available
- staff maintained an unidirectional flow and segregated clean and dirty activities as much as possible within infrastructural constraints
- the system for decontaminating ENT endoscopes did not generate a decontamination record; a manual record of the disinfection process was recorded
- a stop watch for monitoring disinfection times was used
- a defined system which clearly indicated when ENT endoscopes had been contaminated and decontaminated was in place
- a chemical risk-assessment had been performed.
Required areas for improvement

Findings of non-compliance with national standards and recommended practices in relation to decontamination and reprocessing of reusable medical devices in the area inspected included:

- decontamination facility design and infrastructure
- entry restrictions were not in place
- automated validated systems of high level disinfection were not used
- defined procedures to clearly identify ‘time expired endoscopes’ were not evident
- microbiological testing and monitoring of endoscopes and environment were not performed
- storage systems for reprocessed ENT endoscopes were inappropriate
- high level surfaces and floor covering were dusty
- track and trace systems for ENT endoscopes did not facilitate timely retrospective tracing of the service user; some entries were generally unclear
- standard operating procedures (SOPs) in relation to reprocessing of reusable medical devices in the facility were not up-to-date at point of use
- ongoing audit, quality improvement plans and implementation of an action plan to address previous audit findings were not evident.

An audit of decontamination facilities at the hospital had been undertaken by the AED and hospital management in April 2018. The hospital had followed up on some actions generated from the audit, for example:

- the hospital had trialled automated units for decontamination of semi-invasive ultrasound probes as part of the national procurement framework; high-level disinfectant methods effective against the human papilloma virus should be considered.\(^{21,22}\)
- management had developed a business case to advance transferring decontamination of ENT endoscopes from OPD to CDU; there was no agreed timeframe by which these proposals would be implemented.

However, an action plan to address other audit findings in relation to decontamination in OPD had not been put in place for example; ventilation and entry restrictions. Some findings identified on this inspection such as environmental hygiene issues and a non-functioning extraction fan were addressed by close of this inspection. Inspectors were also informed that work to address issues identified with the track and trace manual system was underway.

The hospital had an inventory of reusable medical devices and decontamination equipment used. However dates of purchase of all items were not included as recommended in line with national standards. The global asset identifier coding and national track and trace programme to support quality assurance of decontamination
practices had been implemented in central decontamination facilities at the hospital. Inspectors were told that sufficient equipment was available to allow for downtime for testing, maintenance and validation of equipment.

The national medical devices eAlert system§§§ had been implemented and a standard operating policy clearly identifying nominated ‘designated persons’ responsible for the management of medical device alerts was available at the hospital.

**Staff training, education and competency-assessment in relation to decontamination practices at hospital**

Training of operatives responsible for decontamination in the OPD satellite decontamination facility inspected was provided by manufacturers/suppliers of equipment and/or peer-to-peer training. To concur with national guidance and recommended best practice guidance a training needs assessment should be undertaken on all staff responsible for decontamination of reusable medical devices. Additionally staff trained in decontamination should be assessed as competent before working independently and a formalised competency assessment framework validated annually should be rolled-out.²⁰²³

Dedicated trained operatives whose sole responsibility was management of the decontamination facility in the OPD were not assigned to the facility in line with national guidance.

A number of staff had either completed or were in the process of undertaking an academic third level qualification in decontamination practices and sterile services in CDU in line with HSE recommendations

Staff had also completed the HSELaND online training programme in relation to decontamination. Regular operator training was provided by the manufacturers/suppliers of endoscope and decontamination equipment and training records were maintained. Appropriate staff had received manufacturers’ training and had completed an online training programme in relation to high level disinfection manual multi-wipe systems used in some clinical areas at the hospital.

Inspectors were informed that relevant staff had also completed chemical safety training at the hospital.

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§§§ The national eAlert system receives notification directly from the HPRA of all medical device safety / hazard notifications or any internally generated HSE safety notifications for distribution.
5.0 Conclusion

A National Public Health Emergency Plan was activated by the Minister for Health on 25 October 2017 as response to the increase and spread of Carbapenemase Producing Enterobacteriaceae (CPE) in Ireland. The National Public Health Emergency Team developed guidelines for screening of Patients for Carbapenemase Producing Enterobacteriales (CPE) in the Acute Hospital Sector. University Hospital Waterford had experienced an ongoing hospital outbreak of CPE since March 2016.

A number of high risks were identified during this inspection:

- University Hospital Waterford hospital was not screening in line with national guidance; the hospital was not routinely screening all residents of long term care facilities on admission.
- Ineffective managerial oversight of facilities located in the hospital basement.

These high risks were officially raised by HIQA to the general manager of the hospital. In response, assurances were provided that identified risks were being addressed (Appendix 2 and 3). In response the general manager provided written assurance to HIQA with a commitment that full compliance with national CPE screening guidelines would be implemented by 12 February 2019. The general manager also provided written assurance that a number of remedial actions had been instigated to address the identified risk of the facilities located in the hospital basement.

5.1 Systems to detect, prevent and manage multi-drug organisms

HIQA acknowledges the outbreak control committee had implemented multimodal infection prevention and control strategies to manage the ongoing CPE outbreak including establishing an outbreak control committee, the recent expansion of the CPE screening programme and prompt isolation of patients colonised with CPE.

Recurring challenges faced by the hospital to effectively prevent and control the CPE outbreak included a lack of isolation facilities and high occupancy rates.

Despite the implementation of a number of measures by hospital management and staff to manage the ongoing CPE outbreak, the hospital needs to put measures in place to address the deficiencies identified in this report to ensure compliance with the Infection Prevention and Control Standards\(^1\) and national CPE outbreak management guidelines\(^6\) with particular emphasis on the following:

- Full compliance with national CPE screening guidelines\(^4\)
- Improvements to the maintenance and infrastructure in inpatient wards
- Review the mechanisms in place to assure itself that the physical environment, facilities and resources are developed, maintained and managed
- the overall antimicrobial stewardship programme needs to be considerably
developed, strengthened, resourced and supported in order to progress.

It was evident in many instances the hospital had themselves clearly identified areas
of concern and had sought external assistance in dealing with many of these risks.

5.2 Decontamination and reprocessing of reusable medical devices

To ensure compliance with national standards and adherence to recommended best-
practice guidance, hospital management need to put measures in place to address
decontamination and reprocessing-related issues identified during this inspection, for
example:

- decontamination systems and processes used for high-level disinfection of
  reusable medical devices reprocessed in a satellite decontamination facility
  inspected
- design and infrastructure of the decontamination facility inspected
- competency assessment of staff operatives following training and before
  working independently
- microbiological testing and monitoring of endoscopes and environment
- oversight of environmental hygiene
- embedding regular audits and improvement plans into routine practice.

A leadership role in decontamination to drive and support the implementation of
national and international best practice guidance across the group in line with HSE’s
own recommendation\(^3\) should be advanced. HIQA acknowledges that hospital
management were endeavouring to centralise decontamination services and move
towards automated validated systems for reprocessing of all reusable medical
devices at the hospital.

Overall inspectors found that that there were clear lines of accountability and
responsibility in relation to governance and management arrangements for the
prevention and control of healthcare-associated infection at the hospital. However
the degree to which these were coordinated in the hospital could be improved. More
formal structures will aid in better collective risk management.

Following this inspection, the hospital needs to develop and action a quality
improvement plan derived from the findings from this and previous inspection
reports where relevant. This action plan should include clear timelines and identified
individuals with responsibility for each recommendation and action.

University Hospital Waterford, as a member of the South/South West Hospital
Group, needs support within group and national structures to ensure the hospital
has the necessary capability and capacity to manage the on-going threat presented
by CPE to the patients under the hospital’s care.
6.0 References


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


17 Department of Health, United Kingdom. Health Building Note 00-09: Infection control in the built environment. [Online]. Available online from: http://www.dhsspsni.gov.uk/hbn_00-09_pdf


19 Department of Health, United Kingdom. Health Building Note 00-10 Part C: Sanitary Assemblies. Available from: http://www.dhsspsni.gov.uk/hbn_00-10_part_c_l.pdf


7.0 Appendices

Appendix 1: Lines of enquiry 2019 monitoring programme against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services

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

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

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

3. Implementation of evidence-based best practice
The hospital has the structures, systems and processes to detect, prevent, and manage multidrug-resistant organisms.

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

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

The hospital ensures that key personnel are implementing evidenced-based best practice with up to date policies, procedures, protocols and guidelines in line with relevant legislation and national guidelines.
Appendix 2: Copy of the letter issued to University Hospital Waterford regarding the high risks identified during HIQA’s inspection at University Hospital Waterford.

Grace Rothwell
General Manager
University Hospital Waterford
Co Waterford
Grace.Rothwell@hse.ie

29 January 2019

Ref: PCHCAI 2019/03

Dear Grace

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

During the course of an unannounced inspection at University Hospital Waterford on 24 January 2019, inspectors identified high risks that had the potential to present a serious risk to the health or welfare of patients, visitors and staff. The risks included, but were not limited to;

- Non compliance with Health Service Executive guideline around screening patients for Carbapenemase Producing Enterobacteriaceae (CPE).

[4] Health Service Executive, Requirements for Screening of Patients for Carbapenemase Producing Enterobacteriaceae (CPE) in the Acute Hospital Sector February 2010. Available online from:
Ineffective managerial oversight of facilities located in the hospital basement, which had resulted in an unhygienic and unclean environment for laundering reusable cleaning textiles and the storage of patient equipment and supplies. These findings were similar to those identified by HIQA through the 2015 unannounced inspection at the hospital indicating that they had not been fully addressed.

The above issues were brought to the attention of senior management at the hospital during the inspection.

Please outline how the hospital intends to address these risks following this inspection. 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.

Please provide this information to HIQA by 2pm on 05 February 2019 to qualityandsafety@hiqa.ie. Should you have any queries, please do not hesitate to contact me at qualityandsafety@hiqa.ie.

Yours sincerely,

Kathryn Hanly
Authorised Person

CC: Mary Dunnion, Director of Regulation, Health Information and Quality Authority
    Gerry O’Dwyer, CEO, South/South West Hospitals Group
Appendix 3: Copy of letter received from University Hospital Waterford following the announced inspection carried out on 24 January 2019.

PRIVATE & CONFIDENTIAL

Ms. Kathryn Hanly
Authorised Person,
Health Information and Quality Authority, Head Office,
Unit 1301, City Gate,
Mahon,
Cork.

4th January 2019

Ref: PCHCAI 2019/03

National Standards for the prevention nd control of healthcare associated infection in acute healthcare services – monitoring programme

Dear Ms Hanly,

Further to your correspondence dated 29th January 2019 and in follow on to the unannounced HIQA monitoring inspection visit at University Hospital Waterford on 24th January 2019, I wish to outline the remedial actions taken to address the two high risk issues identified:

- **Non-compliance with Health Services Executive guidelines around screening patients for Carbapenemase Producing Enterobacteriaceae (CPE).**

From 5th of February 2019 an additional 4.0 WTE Healthcare Assistants (HCA) staff resources approved by hospital management will be deployed to implement CPE screening in the outstanding adult ward/ clinical areas. CPE screening in Paediatrics will commence on 12th February 2019.

This will assure that all relevant clinical areas at UHW are fully compliant with the National Guidelines for CPE screening and will address the risk identified on the monitoring visit of 24th January 2019.

The Intensive Care Unit and High Dependency Unit have been fully compliant with CPE screening since the implementation of the national CPE screening guidelines. In May 2018 CPE screening in the Oncology Ward was implemented with the addition of an approved 0.5WTE HCA to assist the ward with the screening programme. The CPE screening programme for Oncology patients involves every patient admitted to the ward having a CPE screen and a repeat screen every 7 days of their hospital stay.
In October 2018 the hospital Executive Management Board approved 6.0 WTE HCA to assist with further implementation of the national CPE screening programme. The additional staff resources were allocated to 7 clinical areas in order to ensure compliance with the CPE screening guidelines. The Coronary Care Unit and the Dialysis Units also commenced CPE screening in October 2018. As the criteria for CPE screening for admitted patients is complex and consequently could lead to error UHW took the decision to screen all patients admitted to the areas.

The National Clinical Lead for HCAI/AMR indicated that there would be an expectation that UHW should complete circa 750 CPE screens per month. Since the introduction of the additional resources in October 2018, UHW has exceeded the expected level of screening – September 320, October 572, November 245 and December 928 screens.

- Ineffective managerial oversight of the facilities located in the hospital basement

Since the monitoring visit on 24th January 2019 a number of remedial actions have been instigated to address the identified risk:

- Managerial oversight of the facility has been examined and measures put in place include a twice daily inspection of the area by the UHW Hygiene Services Coordinator and a twice weekly visit by the Deputy General Manager.
- Approval is now granted by the Estates Manager to proceed with the redesign plan of the area to meet requirement for the appropriate segregation of work flow processes and equipment. This however requires retendering of the 2016 design brief in order to secure updated pricing costs. This is in progress.
- The laundering of the reusable cleaning textiles will on an interim basis be managed through the hospital laundry.
- The area has received an in-depth clean by industrial cleaners and a housekeeping rota is in place.

Post the HIQA unannounced inspection in 16th December 2015, a design plan was drawn up to have this area remodelled to address the deficits identified.

The design plan included:

- moving the Contract Cleaning Company’s washing/drying equipment
- a self-contained unit for the supplies held in the area
- breaking into the main hospital Laundry area.

The work was issued for tender in 2016 and the cost identified was €113k plus VAT. This remedial work was ranked by the hospital as the number 2 priority in 2016 for minor capital funding and the number 1 priority in 2017. No funding was received.
I trust this reassures you that University Hospital Waterford has satisfactorily addressed the risk issues identified on the day of inspection.

Yours Sincerely,

Grace Rothwell,  
General Manager,  
University Hospital Waterford

CC: Mr Gerry O’ Dwyer, CEO, South/South West Hospital Group.  
Ms Mary Dunnion, Director of Regulation, Health Information and Quality Authority.
Appendix 4: Hospital governance organogram

QSR Organogram v23 July 2018

CEO / Leadership SSW HG

GM / UHW EMB

SIMT UHW

Safety + Quality Executive

Information Governance

Patient Partnership Forum

SSW HG QPS

UHW QPS Patient Services QA / Audit

UHW CRM

Medical Services

Perioperative Services

Diagnostic Services

Maternity + Neonates

Paediatrics

Elective Orthopaedics KROH

Clinical Services

End of Life

Meds + Therapeutics incl. AMR

Medical Devices

Point of Care Testing

Infection Prevention + Control

Healthcare Records

BT / Haemovigilance

Health + Safety

Clinical Deterioration

Radiation Safety

Resus

Functional Committees

Sub-committees

Med Safety

M+T Protocols

Decontamination

Environment Monitoring

Hygiene

Water Governance
For further information please contact:

Health Information and Quality Authority
Dublin Regional Office
George’s Court
George’s Lane
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