Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at Cork University Hospital.

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

Date of on-site inspection: 07 November 2018

About the Health Information and Quality Authority

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

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

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

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

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1.0 Introduction

HIQA monitors the implementation of the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*[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

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

Phase Three

Phase Three of this monitoring programme will focus on the reprocessing of reusable medical devices.

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

[†] 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.

Information about this inspection

This inspection report was completed following an unannounced inspection carried out at Cork University Hospital by Authorised Persons from HIQA; Kathryn Hanly, Noreen Flannelly Kinsella and Kay Sugrue. The inspection was carried out on 07 November 2018 between 09:20hrs and 15:50hrs.

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:

- **Ward 1B:** which was a 35-bedded medical ward. The ward comprised four six-bedded wards, one two-bedded ward, one four-bedded ward, and five single rooms. All rooms with the exception of the four-bedded ward had ensuite facilities.
- **Ward 1A**: which was a 35-bedded medical and acute care of the elderly ward. The ward comprised four six-bedded rooms and one four-bedded, one two-bedded room in addition to five single rooms. All rooms with the exception of the four-bedded and one single room had en-suite facilities.
- **Ward 5B:** which was a 20- bedded adult cystic fibrosis and respiratory ward. The ward comprised eight negative pressure isolation rooms with en-suite facilities and three four-bedded rooms with en-suite facilities.

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

2.0 Findings at Cork University Hospital

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

The report is structured as follows:

- Section 2.1 outlines high risks identified during this unannounced inspection.
- Sections 2.2 and 2.3 present the general findings of this unannounced inspection which are aligned to the lines of inquiry.

2.1 High risks identified during this unannounced inspection

Following an unannounced inspection carried out by HIQA at Cork University Hospital against the *National Standards*[1], a number of high risks were identified in relation to the management of an ongoing outbreak of CPE at the hospital.

While the hospital had acted to implement outbreak control measures to manage the ongoing CPE outbreak, the evidence viewed at the time of the inspection did not provide assurance that the measures implemented were sufficiently effective or in line with *National Standards*[1] and guidelines.[3,12] Risks identified during this inspection included the following:

- non- compliance with the Health Service Executive guideline on screening patients for CPE.[4]
- re-opening the outbreak ward (1B) to admissions while the outbreak continued; contrary to advice from the infection prevention and control team
- the cohorting of three patients with CPE in a multi-bed room without toilet, shower or hand hygiene facilities
- cleaning, monitoring and audit were not in accordance with required standards to effectively deal with an outbreak situation
- insufficient staffing levels within the infection prevention and control team
- management also reported insufficient numbers of housekeeping staff.

Details of these risks will be discussed further in Section 2.3.

Details of risks identified on the day of inspection were communicated to senior management during the inspection. Cognisant of the ongoing outbreak and that a declaration of a National Public Health Emergency to address CPE was issued by the Minister for Health on 25 October 2017, HIQA sought written assurance from the Chief executive Officer (CEO) regarding the management of CPE within Cork University Hospital.

In response, the CEO informed HIQA that CPE was added to the hospital risk register and outlined key actions which the hospital had introduced following the inspection to mitigate the risks identified by HIQA.

This correspondence also outlined that a submission detailing the requirements for implementing the national CPE screening[4] and management[3,12] guidelines had been submitted to the hospital group in January 2018 requesting additional funding. In response, to support increased screening for CPE the hospital had received approval to recruit two medical scientists and one clerical officer. However the CEO informed HIQA that approval to recruit other grades of staff including housekeeping staff had not been received.

A copy of the letter issued to the CEO of Cork University Hospital to seek assurance regarding the risks identified and a copy of the response received from the CEO are shown in Appendices 2 and 3 respectively.

2.2 Governance and Risk Management

Cork University Hospital is a model four[5] tertiary referral centre and university teaching hospital. The hospital has 694 inpatient beds and is owned and managed by the Health Service Executive (HSE), and is a member of the South/South West Hospital Group.[‡] Within the South/South West Hospital Group, Cork University Hospital also forms part of Cork University Hospital's group with Cork University Maternity Hospital, Mallow General Hospital and Bantry General Hospital.

During the 2018 inspection inspectors found that governance arrangements for the prevention and control of healthcare-associated infection needed to be further developed. A number of these findings were similar to those identified by HIQA through the 2017 inspection[6] at the hospital indicating that they had not been fully addressed. This will be discussed in further detail below.

<u>The Infection Prevention and Control Committee</u>

The CEO of the hospital held overall accountability and responsibility for the prevention and control of healthcare-associated infection at the hospital and was the chair of the Infection and Prevention and Control Committee. Inspectors were informed that the Infection Prevention and Control Committee reported to the Executive Quality and Safety Committee which was one of five high-level oversight committees at the hospital. The Executive Quality and Safety Committee reported to the Executive Management Board.

The Infection Prevention and Control Committee met regularly with good attendances demonstrated. However, similar to the 2017 HIQA inspection, clinical representation from surgical and medical directorates on the committee was not evident in minutes of meetings reviewed. The lack of clinical representation at

[‡] The South/Southwest Hospital Group comprises of nine hospitals operating across the counties Cork, Kerry, Waterford, Tipperary and Kilkenny. This group is led by a Group Chief Executive Officer with delegated authority to manage statutory hospitals within the group under the Health Act 2004.

committee meetings was of concern to HIQA, and did not meet the terms of reference of this committee. This requires review following this inspection.

Outbreak control committee:

The hospital reported an outbreak of CPE in July 2018. An Outbreak Control Committee was convened and minutes of meetings were maintained. However, the hospital's response did not include an outbreak report that detailed findings of an epidemiological investigation into the CPE outbreak. An outbreak control report would describe the situation and identify opportunities for improvement in line with national guidelines.[3]

The Outbreak Control Committee was reconvened to oversee the management of a second CPE outbreak in October 2018. This committee was led by the Chief Operating Officer (COO).

Inspectors were informed that latest surveillance and microbiology laboratory updates were discussed at Outbreak Control Committee meetings. However, this could not be verified as minutes outlining discussions and actions arising from the meetings were not recorded. This deficiency reiterates the need for strengthened clinical governance arrangements to be in place in the hospital.

The Infection Prevention and Control Team Resources

The infection prevention and control service was delivered by a specialist infection prevention and control team who reported to the Infection Prevention and Control Committee. Similar to the 2017 inspection findings, HIQA found that there were significant reported deficiencies across the infection prevention and control service at the hospital. These had the potential to impact on the effective implementation of the infection prevention and control programme and initiatives at the hospital.

Inspectors were informed that due to the retirement of key personnel, the position of clinical lead for infection prevention and control had remained vacant since April 2018. It was reported that this depletion within key roles had severely impacted the infection prevention and control service. As a result scheduled infection prevention and control team meetings had not taken place during this period. Inspectors were also informed that, due to resource constraints the infection prevention and control team had not produced an annual report in 2017. In addition it was reported that the hospital had not participated in the 2017 or 2018 national point prevalence surveys of hospital-acquired infections and antimicrobial use.

Despite recommendations in previous HIQA reports, progress to date in relation to addressing the identified deficiencies relating to the infection prevention and control service had been limited. Following the recent retirement of one consultant microbiologist the clinical microbiology services, including out of hours cover, was now provided by 1.5 whole time equivalent (WTE) consultant microbiologists across the four hospitals within Cork University Hospitals Group. Inspectors were informed

that this arrangement included informal structures to provide patient specific microbiological advice to physicians at Bantry and Mallow General Hospital. While the recruitment process was ongoing at the time of the inspection, inspectors were informed that it was unlikely that this post would be filled before early 2019.

The clinical lead for infection prevention and control presented a case to management for an increase to 10 infection prevention and control nurses in the 2018 annual plan. However, the formal allocation of infection prevention and control nurses in Cork University Hospital was 4.6 WTE, unchanged from 2017. One position on the team had been temporarily vacant since 2016 and had not been filled. This meant that at the time of this inspection, the team was operating day-to-day with 3.6 WTE infection prevention and control nurses. Subsequent to this inspection inspectors were informed that the compliment had returned to 4.6 WTE infection prevention and control nurses.

Risk Management

Infection prevention and control risks were amalgamated on the hospital's corporate risk register into one overarching risk of non-compliance with the *National Standards*.[1]

Risk management across the hospital was overseen by the Executive Quality and Safety Committee. However a review of minutes of Executive Quality and Safety Committee meetings did not provide any evidence that there was regular identification of risk relevant to infection prevention and control at the hospital.

The Infection Prevention and Control Committee formally reported to the Executive Quality and Safety Executive on an annual basis. However, in light of the ongoing National CPE Public Health Emergency and given that there had been two reported outbreaks of CPE in the hospital in 2018, it was of concern to HIQA that risks in relation to CPE had neither been formally escalated to the Executive Quality and Safety Executive Committee nor included on the hospital's risk register at the time of the inspection.

2.3 Prevention and control of Carbapenemase-Producing *Enterobacteriales*

The hospital had reported an increase in the number of CPE cases identified over recent months. This increase was partly attributable to an increase in screening. Surveillance data reviewed showed that there were 17 cases of CPE colonisation[§] detected to date in 2018. However, reports indicated that the prevalence of CPE related bloodstream infections remained low throughout 2018.

[§] Individuals found to carry CPE in their bowel are referred to as being colonised with the bacteria. However in a small proportion of vulnerable patients colonisation may result in urinary tract infection, or more seriously - bloodstream or heart infection.

On the day of inspection there were seven inpatients with confirmed CPE colonisation and a further 15 CPE contacts[**]. A CPE outbreak had been declared on ward 1B on 20 October 2018.

Inspectors were initially informed by senior management that all inpatients known to be colonised with CPE were confined to ward 1B. However during the course of the inspection, inspectors were subsequently informed that the total of seven patients colonised with CPE were located across four different wards. Four of these patients were accommodated in single ensuite rooms while three patients were cohorted together in a multi-bed room.

Evidence of good practice

Inspectors looked at hospital-wide systems and processes in place at the hospital to prevent and control CPE. The infection control team informed inspectors that they had incorporated elements National Health Service Public Health England Toolkit[††] in their control of CPE.[7] Measures included but were not limited to:

Communication and education

- An outbreak control committee had been convened and the local Public Health Department had been informed.
- 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. Daily CPE updates were circulated hospital wide.
- Infection prevention and control training was mandatory for staff at induction and every two years thereafter. In addition both formal and informal CPE education sessions and briefing updates were provided for staff.

Hand hygiene

- HIQA notes that the hospital had adopted a multimodal strategy[8] in improving hand hygiene practices. Hand hygiene training was mandatory for staff at induction and every two years thereafter in line with national hand hygiene guidelines.[9] The hospital had met the HSE's national target of 90% since May/June 2016.

[**] 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.

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

Environmental hygiene

- A specific standard operating procedure for cleaning rooms accommodating patients with CPE had been developed for cleaning staff.
- Cleaning and decontamination of surfaces in isolation and cohort rooms was performed twice daily by a dedicated team.
- A pilot in relation to separation of cleaning and catering duties, as highlighted in HIQA's inspection in 2017 was underway in wards 1A and 1B at the time of this inspection.

Opportunities for improvement

A number of factors which likely contributed to the current outbreak were identified on the day of inspection including;

Screening and microbiological testing

- Contrary to national guidelines[4] patients that had been inpatients in Cork University Hospital or any other hospital in Ireland or elsewhere within the previous 12 months and residents of long term care facilities were not routinely screened on admission. Continuing to exclude these patient groups in the context of the recent CPE outbreak was a significant concern and needs to be reviewed and addressed as a matter of urgency.
- In addition, inspectors also noted a lack of clarity among staff around screening of patients on transfer from other hospitals. A recent audit of compliance with screening patients directly transferred or repatriated from another healthcare facility to general wards in Cork University Hospital found 71% non-compliance with the hospital's guidelines.
- While the hospital had recently initiated measures to broaden the level of CPE screening within the hospital, inspectors were informed that insufficient resources within the infection control team and laboratory posed a key challenge in meeting full compliance with national CPE screening guidelines. The hospital had appointed an additional laboratory scientist and was awaiting the appointment of a second laboratory scientist.
- 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. However inspectors were also informed that the microbiology laboratory did not have resources to perform molecular testing of all specimens tested for CPE. The hospital had submitted a 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 1-2 hours.

Patient placement

- There were 126 single rooms with ensuite facilities in the hospital. Inspectors were informed that current number of single rooms was deemed insufficient to manage the ever-increasing number of patients requiring isolation for infection prevention and control reasons. These deficiencies were reflected in the hospital's risk register.
- Four patients colonised with CPE were accommodated on ward 1B. A further four CPE patient contacts on this ward were isolated with transmission based precautions. Inspectors were informed that this ward had recently re-opened to admissions while the outbreak continued. This was contrary to advice from the infection prevention and control team.
- Visiting restrictions were not in place on ward 1B. If visiting is to continue, the hospital should implement restricted visiting, as per local visiting policy.
- A CPE patient contact was isolated in a high-risk ward where particularly vulnerable patients were accommodated.

Communication and education

- An electronic infection prevention and control flag system was used to identify patients colonised with CPE. However, an audit of this alert system had not been undertaken in line with national guidleines.[3] In addition, a formal alert on the healthcare record of all suspected and confirmed CPE cases was not in place as recommended in national guidelines.[3]
- Access to specialist infection control surveillance software to track patients and their associated clinical data as they moved through the hospital was not available to the infection prevention and control team. National guidelines[10] recommend that a robust local surveillance system is vital to ensure that all new suspected and confirmed CPE cases are carefully reviewed by the infection prevention and control team in a timely manner.
- Additional audits of staff compliance with transmission based precautions had not been undertaken on ward 1B, as recommended in national guidelines.[3]
- Documentation reviewed showed that only 18.5% of hospital staff had completed mandatory infection prevention control training in relation to the "breaking the chain of infection[‡‡]."

[‡‡] Breaking the Chain of Infection. One of the basic infection control principles is the chain of infection. Transmission of infection in a hospital requires at least three elements: a source of infecting microorganisms, a susceptible host and a means of transmission for bacteria and viruses.

Infrastructure and facilities

- Dated hospital infrastructure had been an identified challenge at the hospital for many years and had the potential to increase the risk of transmission of healthcare-associated infection to inpatients.[11]
- The general infrastructure on ward 1B did not support effective infection prevention and control practices or outbreak management. Deficiencies identified on the day of inspection included:
    - three patients with CPE were cohorted in a multi-bed room without en-suite shower/toilet facilities or a clinical hand wash sink.
    - minimal spatial separation[§§] between beds in this CPE cohort room did not comply with best practice guidelines.[12]
    - there was no door at the entrance to the clean utility room on ward 1B.

Environmental hygiene, monitoring and audit

- Although the patient environment was generally clean on ward 1B, several of the surfaces and finishes including wall paintwork and finishes around hand hygiene sinks were in a state of disrepair and did not facilitate effective cleaning.
- Cleaning frequencies for toilet facilities that were shared by patients colonised with CPE were not were not in line with national guidelines.[12] Toilets have been found to be reservoirs in hospitals with endemic CPE issues; the cleaning frequencies were under the recommended norms.[3]
- Investment in additional cleaning resources including a system to decontaminate patient rooms with hydrogen peroxide vapour[***] following patient discharge had been recommended by the infection prevention and control team. However this had not been introduced at the time of the November 2018 inspection as the delay in introduction was contingent on a satisfactory product demonstration by the service provider.
- Auditing and assurance processes and oversight around environmental hygiene were insufficient with a failure to effectively address deficiencies identified in previous audits.
    - An environmental hygiene audit carried out by a multidisciplinary audit team on ward 1B in July 2018 demonstrated 74% compliance with desired standards. This did not meet the hospital's desirable target

[§§] 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.
[***] Hydrogen peroxide vapour is a substance that destroys or eliminates all forms of microbial life in the inanimate environment, including all forms of vegetative bacteria, bacterial spores, fungi, fungal spores, and viruses

compliance should have been considered one which required immediate remedial action and re-audit. In light of the ongoing CPE outbreak combined with previous poor compliance it was of concern that an audit on ward 1B had not been undertaken since the identification of the outbreak.

- Environmental screening had not been performed on ward 1B.

Patient equipment

Similar to previous HIQA inspections, opportunities for improvement were identified regarding equipment hygiene and oversight for same. For example;

- The average hospital wide compliance for medical equipment hygiene in 2017 was 71%; according to local guidelines an audit score below 75% should have been considered one which required immediate remedial action.
- There was no clearly defined process for identifying patient equipment which needed to be cleaned or identifying equipment that had been cleaned.
- Local equipment cleaning checklists viewed on the three wards inspected were not comprehensive and cleaning duties were not clearly allocated.
- Daily cleaning checklists for patient equipment were not consistently completed on the wards inspected.
- Equipment storage space on wards inspected was limited resulting in excess equipment being stored on the corridor.
- Opportunities for improvements were identified on Ward 1B with regard to formal checks of equipment cleaning. There were insufficient local assurance mechanisms in place to ensure that patient equipment was cleaned in accordance with national guidelines.
- Opportunities for improvement were also observed in relation to patient equipment hygiene in ward 1A. For example, extensive brown staining was observed on a damaged shower chair.

Antimicrobial stewardship

The hospital had an established antimicrobial stewardship programme in place which was coordinated by a multidisciplinary antimicrobial stewardship team. However, inspectors found that the overall antimicrobial stewardship programme needed to be further developed and resourced in order to progress. For example;

- Antimicrobial stewardship committee meetings were on hold due to retirement of key personnel on the committee.
- The frequency of stewardship rounds on the CPE outbreak ward had not increased as recommended in national guidelines.[3]

- The hospital had introduced national guidelines[13] for restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic meropenem[†††], which is a last line antibiotic used to treat serious gram-negative infection. However, the number of grams of meropenem issued from pharmacy each week was not reported to HSE Business Intelligence Unit[‡‡‡] as required by the HSE.[14]

Dress code

- Observations during the inspection, combined with discussions in meetings with hospital staff, suggested that staff compliance with and oversight of the hospital's dress code policy continued to be an issue.
- Inspectors also observed inappropriate storage of staff clothing in clinical storage rooms in two of the wards visited.

[†††] 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.
[‡‡‡] The Business Intelligence Unit is responsible for the routine monitoring of acute hospitals in the HSE. Information is gathered by the BIU from hospitals on the number of grams of meropenem issued from pharmacy each week, so that there is visibility around how much of this antibiotic is used in the interest of encouraging prudent usage. Meropenem is of critical importance as it is a one of the last line antibiotics available for use in treating certain types of infection.

3.0 Conclusion

The findings from this inspection raised significant concerns for HIQA around the overall approach taken at Cork University Hospital to effectively manage risks to patients from infection and antimicrobial resistance. Similar to findings during the 2017 HIQA inspection, inspectors found that governance arrangements at the hospital needed to be significantly strengthened in relation to the prevention and control of healthcare-associated infection. In addition, high risks relating to outbreak management that required escalation following the inspection indicated to HIQA that the approach taken around outbreak management at the hospital also need to be further developed and fully formalised.

In light of the scale, complexity and geographical spread of responsibilities of consultant microbiologists in Cork University Hospital, 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 within Cork University Hospitals Group. This had also impacted on the team's capacity and capability to deliver the wider infection prevention and control programme. The hospital should as part of its response to this inspection report, implement better workforce contingency and succession planning for key specialist infection prevention and control staff, to seamlessly continue to deliver a safe, effective and sustainable service as staff leave or transfer to other parts of the service.

Despite the implementation of a number of measures by hospital management and staff to manage the CPE outbreak, this inspection identified multiple factors that significantly increased the risk of spreading multidrug-resistant organisms, including CPE. Observations made at the time of this inspection and subsequent information provided by the hospital did not assure HIQA that this ongoing issue was being comprehensively managed by the hospital at the time of the inspection. It is HIQA's view that more needs to be done locally by the hospital to effectively address the high risks identified during this inspection.

If the risk of further CPE outbreaks are to be mitigated at the hospital, national guidelines[3,12] recommend that multifaceted interventions are required to mitigate the risks posed by CPE in the hospital environment including;

- compliance with national CPE screening guidelines
- addressing deficiencies in frontline staffing and cleaning resources
- enhancement of the antimicrobial stewardship programme
- improvements to the infrastructure in inpatient wards
- improvements in equipment and environmental hygiene
- improvements in mechanisms for hospital management to assure themselves that the physical environment, facilities and resources are developed and

managed to minimise the risk of service users, staff and visitors acquiring a healthcare associated infections

- ensuring adherence to best practice advice around the management of outbreaks when they occur. This should include closure of relevant wards until such time as the outbreak is fully managed, as recommended by the infection prevention and control team.

In addition Cork University Hospital, as a member of the South/ South West Hospital Group, needs to be supported within group and national structures to effectively address issues in relation to hospital infrastructure and resources in order to facilitate compliance with the *National Standards*[1] and other existing national healthcare standards.[3,4,12] A request to the Department of Public Health to support an epidemiological study could also be considered by the Outbreak Control Committee.[3]

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5.0 Appendices

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

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

Appendix 2: Copy of the letter issued to Cork University Hospital regarding the high risk identified during HIQA's inspection at Cork University Hospital

Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Tony McNamara
Chief Executive Officer
Cork University Hospital
Wilton
Cork
tony.mcnamara@hse.ie

09 November 2018

Ref: PCHCAI 2018/84

Dear Tony

Following an unannounced inspection carried out 07 November 2018 by the Health Information and Quality Authority (HIQA) at Cork University Hospital (CUH) against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services, a number of high risks were identified in relation to the management of an ongoing outbreak of Carbapenemase Producing Enterobacteriales at the hospital.

Cognisant that a declaration of a National Public Health Emergency Plan to address CPE was issued by the Minister for Health on 25 October 2017, inspectors identified that the hospital had not ensured compliance with the Health Service Executive guideline on screening patients for Carbapenemase Producing Enterobacteriales[1] (CPE).

[1] Health Service Executive. Requirements for Screening of Patients for Carbapenemase-Producing Enterobacteriales (CPE)1 in the Acute Hospital Sector February 2018. Available online from: http://www.hpsc.ie/az/microbiologyantimicrobialresistance/strategyforthecontrolofantimicrobialresistanceinirelandsari/carbapenemresistantenterobacteriaceaecre/guidanceandpublications/Requirement%20for%20screening%20of%20patients%20for%20CPE%2016Feb18_Final.pdf

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The evidence gathered on inspection indicates that the outbreak of CPE is not being managed in line with the National Standards. Examples of evidence include;

- re-opening the outbreak ward to admissions while the outbreak continues; contrary to advice from the infection prevention and control team
- the cohorting of patients with CPE in a multi-bed room without toilet, shower or hand hygiene facilities
- cleaning, monitoring and audit were not in accordance with required standards to effectively deal with an outbreak situation.

Nothwithstanding the above, HIQA note that the current staffing level within the infection prevention and control team would appear to be notably below operational norms as identified during other inspections under this programme, and when considered in the context of the size and complexity of the services provided at the CUH. It is suggested that the current level of resourcing of this team be evaluated at the hospital.

The above issues were brought to the attention of senior management at the hospital during the 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 formally report back to HIQA by **5pm on 13 November 2018** to qualityandsafety@hiqa.ie outlining the measures that have been enacted to mitigate the identified risks.

Yours sincerely

KATHRYN HANLY
Authorised Person

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Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

CC: Mary Dunnion, Director of Regulation, Health Information and Quality Authority
Gerry O'Dwyer, CEO, South/South West Hospitals Group

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Appendix 3: Copy of letter received from Cork University Hospital following the announced inspection carried out on 07 November 2018

Cork University Hospital,
Wilton,
Cork.
Ireland.

Telephone: 021 – 4922133
Fax: 021 - 4342690

12th November, 2018.

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

Re: Unannounced Inspection at Cork University Hospital – 7th November 2018

Dear Ms. Hanley,

I acknowledge receipt of your letter dated 09th November 2018 in relation to the unannounced inspection at Cork University Hospital on the 7th November 2018.

Specifically in relation to the risks identified the following is the current status:

1. **Screening Protocols**

   - CUH has employed one Scientist and await the appointment of a second to achieve the full screening protocol.
   - Frontline staff will be reminded of the selection of patients for screening based on source location/admission history.

2. **Re-opening the Outbreak Ward**

   - On the balance of risks and priorities, it became necessary to re-open the beds in this 35 bed ward as the occupancy reduced below 50%. This was required as a balance of clinical priorities.
   - In order to take cognisance of the challenges of dealing with the two populations, all staff for the CPE/contact group and non-contact groups were separated – dedicated individual teams for each group.
   - With respect to cohorting of patients in a room with inadequate toilet facilities - these patients are being relocated to alternative accommodation with appropriate facilities.

3. **Cleaning, Monitoring and Audit**

- We continue to seek to expand our cleaning staff to ensure appropriate frequency of cleaning as per the guidelines.
- Audit of the environment has been undertaken today, 12th of November 2018.
- Cleaning staff are separated from other duties.

4. **Infection Control Nurse Staffing**

- A long term sick leave staff member has returned to work today, increasing the compliment to 4.7 WTE

5. **Risk Register**

- CPE will be added to the hospital Risk Register

6. **Re Audit of Ward 1B**

- An announced Environmental Hygiene Re-Audit of Ward 1B was completed on the afternoon of the 12th November 2018 and the recorded overall score is 87.5%

7. **Staffing Levels**

- I note your reference to the staffing levels in CUH and that they would appear to be notable below operational norms as identified during other inspections under this programme.

- In January 2018 a request was received form the South/South West Hospital Group requesting a submission outlining the requirements for implementing the Screening Programme for CPE in CUH. [redacted] Consultant Microbiologist (now retired) collated a response under a number of headings. I have attached a copy of this correspondence for your information.

- In June 2018 I wrote to Mr. G. O'Dwyer, Group CEO, South/South West Hospital Group in relation to the resources allocated nationally for the management of CPE. Subsequently and as outlined earlier in this correspondence CUH received approval to recruit 2 WTE Scientist and 1 Clerical Officer. To date we have not received approval to recruit the other grades of staff required in particular Housekeeping staff.

It is imperative that the necessary resources are made available to CUH to allow for the prompt management of CPE.

Yours sincerely,

J. A. McNamara,
Chief Executive Officer.

cc Members of the Executive Management Board, CUH.

For further information please contact:

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