Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at Kilcreene Regional Orthopaedic Hospital, Kilkenny.

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: 25 April 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
- 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 *Enterobacteriaceae* (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 and HIQA will commence onsite inspections in this regard in due course.

Kilcreene Regional Orthopaedic Hospital profile:

Kilcreene Regional Orthopaedic Hospital, Kilkenny is a statutory specialist hospital owned and managed by the Health Service Executive (HSE) and is a part of the South/South West Hospital Group.[‡] However, a lot of services are provided to the hospital by St Luke's Hospital, Kilkenny which is aligned to a different hospital group; the Ireland East Hospital Group.

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

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

Elective orthopaedic services are provided at the hospital by consultant orthopaedic surgeons, all based at Waterford University Hospital.

The hospital has a bed capacity of 31 beds (20 in-patient beds, five day-case beds and six day-case spaces) and two operating theatres.

Information about this inspection

This inspection report was completed following an unannounced inspection carried out at Kilcreene Regional Orthopaedic Hospital, Kilkenny by Authorised Persons from HIQA; Noreen Flannelly-Kinsella and Kathryn Hanly. The inspection was carried out on 25 April 2018 between 09:40hrs and 14:30hrs.

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

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

Inspectors spoke with hospital managers and staff, and a member of the Infection Prevention and Control Team. Inspectors requested and reviewed documentation and data and observed practice within one clinical area at the hospital. Inspectors also visited a pre-assessment clinic and a link corridor used as a storage facility at the hospital.

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 Kilcreene Regional Orthopaedic Hospital, Kilkenny

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

- Section 2.1 outlines a risk identified during this unannounced inspection.
- Sections 2.2 to 2.4 present the general findings of this unannounced inspection which are aligned to the lines of inquiry.

2.1 Risk identified during this unannounced inspection

At the time of this inspection, the hospital had not ensured the full and reliable implementation of the most recent national screening guidelines[3] in relation to CPE.

Screening[§] for CPE is considered an essential infection prevention and control strategy. Considering this in the context of the activation of the National Public Health Emergency Plan to address CPE in our health system, HIQA sought assurance regarding arrangements that are in place to ensure compliance with the national guidelines on screening for CPE at Kilcreene Regional Orthopaedic Hospital, Kilkenny.

The general manager provided written assurance in response to HIQA's letter stating that the hospital was now in compliance with HSE guidelines around screening patients for CPE. The general manager also confirmed to HIQA that there was sufficient resource in the laboratory at University Hospital Waterford to facilitate compliance with the national policy on screening for CPE at Kilcreene Regional Orthopaedic Hospital. Additionally an algorithm used as a quick reference guide for staff in relation to screening for CPE, had been updated by the hospital to reflect the latest national screening guideline in relation to CPE.

A copy of the letter issued to the general manager of Kilcreene Regional Orthopaedic Hospital to seek further assurance regarding the risk identified and a copy of the response and associated assurance and action plan received from the general manager of Kilcreene Regional Orthopaedic Hospital are shown in Appendices 2 and 3 respectively.

2.2 Governance and risk management

The general manager, based at University Hospital Waterford, was responsible for both Kilcreene Regional Orthopaedic Hospital and University Hospital Waterford.

Kilcreene Regional Orthopaedic Hospital was managed on a day-to-day basis by the director of nursing. Inspectors were informed that the chief operating officer from

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

University Hospital Waterford attended an Executive Management Team meeting held at Kilcreene Regional Orthopaedic Hospital on a monthly basis. Minutes of these meetings were shared with the general manager of University Hospital Waterford.

HIQA found governance and management arrangements in relation to infection prevention and control at Kilcreene Regional Orthopaedic Hospital were fragmented and most significantly, not fully aligned to the hospital group structure. Such arrangements do not facilitate clear oversight and accountability at both group and service-delivery level which is required to create and sustain a safe infection prevention and control environment at the hospital.

Lines of responsibility and accountability in relation to essential elements of the infection prevention and control programme at the hospital were unclear. Established links and legacy arrangements were still in place with St Luke's General Hospital (part of the Ireland East Hospital Group). This was compounded by the fact that the hospital was no longer represented on some oversight committees in relation to services provided to the hospital by St Luke's General Hospital. This meant that the delegated person accountable and responsible for safe and effective infection prevention and control practices at the hospital was not involved.

HIQA acknowledges that these multi-faceted and complex governance arrangements had been highlighted as an area of concern by local hospital management and escalated accordingly. There is a need for a corporate group-wide coordinated plan to be put in place to provide clear governance and management structures in relation to the infection prevention and control programme for staff at Kilcreene Regional Orthopaedic Hospital.

Of note, similar concerns in relation to governance and management arrangements were identified in a previous HIQA inspection in relation to a medication safety inspection undertaken at the hospital in 2017.[4]

Policies and procedures

Current HSE policy states that hospital policies, procedures and guidelines should be reviewed every three years.[5] Inspectors found on the day of inspection that the majority of policies, procedures and guidelines in relation to infection prevention and control at Kilcreene Regional Orthopaedic Hospital were due to be reviewed.

Infection prevention and control policies, procedures and guidelines at the hospital were produced by a Regional South East Infection Prevention and Control Committee (referred to page seven of this report). It was practice that hospital policies, procedures and guidelines in respect of infection prevention and control were then ratified by local hospital infection prevention and control committees at each hospital.

The Infection Prevention and Control Team

HIQA found that the reporting arrangements in relation to infection prevention and control for Kilcreene Regional Orthopaedic Hospital were fragmented and unclear and therefore not aligned with National Standards. This lack of clarity is of concern. Concerns included:

- the Infection Prevention and Control Team reporting arrangement. The infection prevention and control programme at the hospital was provided by an Infection Prevention and Control Team based at St Luke's General Hospital, Kilkenny which meant that the team reported into two different hospital group structures.

- the contractual arrangement for the consultant microbiologist. The team was led by a consultant microbiologist, jointly appointed between St Luke's General Hospital and University Hospital Waterford. The consultant microbiologist had no contractual onsite arrangement with Kilcreene Regional Orthopaedic Hospital.

- reporting arrangements for the infection prevention and control clinical nurse specialist (IPC CNS) in infection prevention and control. The IPC CNS covered both Kilcreene Regional Orthopaedic Hospital and St Luke's General Hospital. This meant that the IPC CNS also reported into two different hospital group structures.

- the assigned antimicrobial pharmacist (0.5 WTE) had no onsite presence at the hospital and was based at St Luke's General Hospital.

The IPC CNS attended Kilcreene Regional Orthopaedic Hospital two days each week (0.5 whole-time equivalent (WTE)).[**] It was reported by management that considerable support was provided by the IPC CNS to the hospital in relation to infection prevention and control.

The surveillance scientist based at University Hospital Waterford compiled surveillance data for both Kilcreene Regional Orthopaedic Hospital and St Luke's General Hospital.

Hospital management told inspectors that 24 hour seven-days-a-week microbiology advice was available by telephone to staff at the hospital provided on a rotational basis by consultant microbiologists all based at University Hospital Waterford.

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

The Infection Prevention and Control Committee

As a result of the complex governance and management arrangements, the Infection Prevention and Control Team reported to both the:

- SLGH/KROH (St Luke's General Hospital and Kilcreene Regional Orthopaedic Hospital) Infection Prevention and Control Committee
- South/South West Hospital Group.

Membership of the SLGH/KROH Infection Prevention and Control Committee included the director of nursing and IPC CNS for Kilcreene Regional Orthopaedic Hospital, and corporate, clinical and public health representatives.

This committee reported into both the Ireland East and South/South West Hospital groups through:

- direct reporting to the Quality and Safety Committee, St Luke's General Hospital
- sharing minutes with the general manager and chief operating officer based at University Hospital Waterford
- the director of nursing from Kilcreene Regional Orthopaedic Hospital reporting on infection prevention and control-related issues to the Quality and Safety Committee at University Hospital Waterford.

Regional South East Infection Prevention and Control Committee

In addition, a Regional South East Infection Prevention and Control Committee was also in operation in the region. This comprised four hospitals (Kilcreene Regional Orthopaedic Hospital, St Luke's General Hospital, South Tipperary General Hospital and Wexford General Hospital) from two different hospital groups, and one Community Health Organisation. This was a legacy arrangement originating from the previous HSE South East Region and remained unchanged when the new hospital governance structures were formed. The monthly meeting, chaired by a consultant microbiologist, was in relation to strategic infection prevention and control work including policy development.

Feedback from meetings was presented by infection prevention and control nurses at their respective local hospital infection prevention and control committee meeting.

HSE South East Healthcare-Associated Infection/Antimicrobial Stewardship Group

Documentation reviewed by inspectors showed that a HSE South East Healthcare-Associated Infection/Antimicrobial Stewardship Group was in place in the region. Representatives from infection prevention and control teams in the South East region attended these meetings.

South/South West Hospital Group Infection Prevention and Control Committee

Inspectors were informed that this committee was in place but Kilcreene Regional Orthopaedic Hospital had not been represented at this meeting. Membership of this committee should be reviewed going forward.

A South/South West Infection Prevention and Control Nurse Group meeting had also recently convened and was attended by the infection prevention and control clinical nurse specialist for Kilcreene Regional Orthopaedic Hospital.

Risk management

The hospital had an up-to-date risk register. Risk management and the risk register were a standing agenda item at the joint SLGH/KROH Infection Prevention and Control Committee quarterly meeting at St Luke's General Hospital. Notably, an infection prevention and control progress report for quarter one and two 2017 in relation to Kilcreene Regional Orthopaedic Hospital showed that due to workload issues, the infection prevention and control risk register was not reviewed for these meetings.

A risk register[††] for Kilcreene Regional Orthopaedic Hospital reviewed by inspectors showed that twelve risks in relation to infection prevention and control were included. High-rated risks on the risk register included but were not limited to:

- layout of the operating theatre and central sterile supplies department
- implementation of the national CPE guidelines and screening
- lack of en-suite facilities in patient rooms
- multi-bedded bays and bed spacing
- consultant microbiologist staffing position.

To address significant risks identified, a number of control measures to mitigate or manage risks had been implemented, for instance:

- the design phase had been completed in relation to reprocessing facilities within the footprint of the theatre department: this issue had been identified as a risk in a previous HIQA inspection in 2016
- the hospital had appointed a central sterile supplies operative position in the reprocessing facility at the theatre department
- relevant nursing staff had completed a recognised training course in relation to medical device decontamination.

[††] 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.

Clinical risk forms completed at a local level were escalated to nursing administration at the hospital and to the clinical risk manager based at University Hospital Waterford. The clinical risk manager reported on clinical risk and incident management at monthly Executive Management Team meetings held at Kilcreene Regional Orthopaedic Hospital. Inspectors were informed that clinical risk management and incident reviews relevant to infection prevention and control were tracked and trended and presented by the clinical risk manager at monthly Quality and Safety meetings held at University Hospital Waterford.

Infection prevention and control education

At the time of inspection 100% of relevant hospital staff on the ward inspected were up-to-date with infection prevention and control training. Infection prevention and control training was mandatory for staff at induction and every two years thereafter at the hospital. This included both formal and informal lectures supplemented with ward-based education sessions and hands-on training.

Hand hygiene training was also mandatory at induction and every year thereafter. Inspectors were informed that 100% of relevant hospital staff had completed this training in the previous rolling year.

2.3 Infection surveillance

Governance and management in relation to water-borne infection at Kilcreene Regional Orthopaedic Hospital was provided by technical services and the Environmental Monitoring Committee at St Luke's General Hospital, Kilkenny. In line with national recommendations membership of environmental monitoring committees should include healthcare facility managers who have overall responsibility for ensuring that national recommendations are implemented. It was reported to inspectors that Kilcreene Regional Orthopaedic Hospital was no longer represented on the Environmental Monitoring Committee at St Luke's General Hospital. Membership of this committee needs to be reviewed going forward.

Additionally minutes of the SLGH/KROH Infection Prevention and Control Committee meetings showed that feedback from this committee was not a standing agenda item. The hospital must ensure that there is ongoing monitoring and review of surveillance data in relation to water-borne infection test results as recommended in national guidelines. A formal legionella hospital site risk assessment had been performed at the hospital in July 2017.[6]

The infection surveillance programme at Kilcreene Regional Orthopaedic Hospital also included surveillance of:

- 'alert' organisms and 'alert' conditions[‡‡]
- multidrug-resistant organisms and healthcare-associated infection
- clusters or outbreaks of infection
- hospital-acquired bloodstream infections.

Hospital management monitored and regularly reviewed performance indicators in relation to the prevention and control of healthcare-associated infection in line with HSE national reporting requirements[7] and the HSE's Business Information Unit.[8]

Data reviewed by inspectors following this inspection showed that the rate of new cases of hospital-acquired *Staphylococcus aureus* bloodstream infection and *Clostridium difficile* infection was in line with the national HSE performance indicator in 2017. Minutes of SLGH/KROH Infection Prevention and Control Committee meetings reviewed by inspectors showed that a root cause analysis was undertaken for all cases of hospital-acquired *Staphylococcus aureus* bloodstream infection and *Clostridium difficile* infection in line with National Standards.

The surveillance scientist at University Hospital Waterford with the infection prevention and control nurse produced surveillance reports with a breakdown of cases of infection for the hospital. This report was presented at SLGH/KROH Infection Prevention and Control Committee meetings and circulated locally to consultant surgeons, nurse managers and hospital management. Surveillance reports were also presented and discussed at local Executive Management Team meetings held monthly at Kilcreene Regional Orthopaedic Hospital.

Surgical site infection and invasive-device surveillance

National guidelines recommend healthcare-associated infection surveillance in relation to surgical site infection, central venous access device-related infection, urinary catheter-associated urinary tract infection and ventilator-associated pneumonia.[9,10,11] The hospital did not routinely perform invasive-device related infection surveillance. As inclusion of multiple outcome measures ensure complete evaluation of the effectiveness of the infection prevention and control programme it is recommended that this is progressed at the hospital.

The hospital did not have a policy in relation to the prevention of surgical site infection. Based on best practice guidelines, such a policy should be developed.[12,13,14,15]

Surgical site infection surveillance represents good practice and demonstrates a commitment to monitoring the quality of patient care and is an important patient safety and quality assurance initiative. Hospital management informed inspectors

[‡‡]Alert conditions include physical symptoms such as skin rashes, vomiting, diarrhoea, respiratory illness that could be due to an infectious illness.

that plans for the infection prevention and control nurse to undertake training and commence a pilot programme in relation to surgical site infection surveillance at the hospital were underway.

Documentation reviewed by inspectors showed that a root cause analysis was performed on all cases of orthopaedic joint infections at the hospital.

Care bundles

A care bundle is a group of evidence-based practices that improves the quality of care when consistently applied to all patients. Kilcreene Regional Orthopaedic Hospital had a programme of audit, feedback and quality improvement plans in relation to peripheral vascular devices and urinary catheters at the hospital. Care bundles implementation had been well advanced and embedded in the hospital.

Care bundle audits were undertaken on a monthly basis and results showed 100% compliance for peripheral vascular catheter care bundle and urinary catheter care bundle compliance from January to March 2017 in the clinical area inspected.

Antimicrobial stewardship

Kilcreene Regional Orthopaedic Hospital had guidelines available in relation to restricted antimicrobial prescribing and surgical prophylaxis to support staff at the hospital. However, the hospital did not have representation on the Drugs and Therapeutic committee held at St Luke's General Hospital.

National guidelines[16] recommend that hospitals have a process in place to facilitate pre-authorisation for the use of all carbapenem antibiotics by an infection specialist (Consultant or Specialist Registrar in Clinical Microbiology or Infectious Diseases). St Luke's General Hospital had introduced restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic meropenem which is a last line antibiotic used to treat serious gram-negative infection. In additional antimicrobial consumption data for both sites was reported to the Health Protection Surveillance Centre (HPSC) for comparative analysis nationally.

A regional antimicrobial stewardship team with responsibility for antimicrobial stewardship was in place and reported to both the SLGH/KROH Infection Prevention and Control Committee meeting and the Drugs and Therapeutic Committee held at St Luke's General Hospital.

Inspectors were told by hospital management that the hospital participated in a national point prevalence survey of hospital-acquired infections and antimicrobial use in May 2017 which was part of a European-wide point prevalence study. This demonstrates a commitment by the hospital to proactively identify areas for improvement in the hospital.

2.4 Prevention and control of healthcare-associated infections and multidrug-resistant organisms

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

Surveillance of antimicrobial-resistant bacteria

An infection surveillance programme to ensure a rapid and effective response to healthcare-associated infections and antimicrobial-resistance trends was in place at the hospital in line with National Standards. Notwithstanding this, on the day of inspection, scope for improvement was identified relating to screening for Vancomycin-related *Enterococci* (VRE)[17] and CPE[3] in line with national guidelines.

In addition to infection surveillance, the hospital had the following in place:

- patient assessment to determine if previous colonisation or infection with a transmissible microorganism was undertaken in the pre-assessment clinic prior to admission to the ward
- an algorithm was available as a quick reference guide for staff in relation to screening for CPE
- a comprehensive document for the pathway of care for patients having major joint surgery at the hospital included an infection prevention and control assessment with prompts in relation to screening for multidrug-resistant organisms
- the IPC CNS advised staff in relation to screening, control measures and isolation requirements for patients colonised[§§]or infected with a transmissible organism
- relevant patient information leaflets were provided to patients identified with a specific transmissible organism
- an infection prevention and control alert system was available on existing hospital information systems which identified patients previously colonised or infected with a transmissible infection in other hospitals in the region and group
- screening of patients for colonisation or infection with Methicillin resistant *Staphylococcus Aureus* (MRSA) was performed at the pre-assessment clinic in line with national guidelines.[18]

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

Outbreak management

Staff told inspectors that there had been no outbreaks of infection at the hospital in the preceding 12 months.

The hospital did not achieve the target of 40% flu vaccination uptake among health care workers set by the HSE for the seasonal influenza vaccine period of 2017-2018. This vaccine is recommended so as to protect the health care worker themselves, their families and their patients. Furthermore, hospital management had identified this as a concern in October 2017. An action to mitigate this was that a staff member had been identified as a peer vaccinator to encourage staff uptake of the vaccine at the hospital. Inspectors noted that flu vaccination uptake by staff at the hospital still remained below target in May 2018.

Hand hygiene

The hospital participated in national hand hygiene audits, twice a year. The hospital achieved 92% compliance rate in the national hand hygiene audit in November 2017 which is above the current required compliance target of 90% set by the HSE.

Local hand hygiene compliance audits were also undertaken by the IPC CNS on a monthly basis. Monthly hand hygiene audits in the ward inspected showed that staff in this area achieved 97% compliance for hand hygiene compliance in October and November 2017.

Alcohol hand gel was available at the point of care in the clinical area inspected. The infection prevention and control service monitored performance in respect of the following indicators:

- mandatory hand hygiene training uptake by current healthcare staff who interact with patients in the rolling 24 month period
- percentage compliance of hospital staff with the World Health Organisation's five moments of hand hygiene
- alcohol hand rub consumption.

Patient environment

The open plan structure of the main ward inspected did not effectively support infection prevention and control practices and did not comply with best practice guidelines for the following reasons:

- minimal spatial separation between beds
- three shared patient toilets and two showers on the main corridor in total which, as reported by staff was not sufficient to comfortably meet patients' needs

- inadequate storage provision with items of patient equipment stored along corridors
- damage to floor, wall and door surfaces in some areas
- exposed pipe work and radiator design not facilitating effective cleaning.

The ward could accommodate 20 in-patient beds and comprised the main 12-bedded ward which was subdivided into three bays, and eight single rooms of which three had en-suite facilities. However despite infrastructural challenges the ward was generally clean. Dedicated cleaning staff were assigned to the ward. Cleaning sign-off sheets were consistently completed.

Local environmental and patient equipment hygiene audits were undertaken on a monthly basis at the hospital. Hygiene audit results for February 2018 in the ward inspected showed 95% and 100% compliance with desirable environmental and patient equipment hygiene audits respectively. A validatory audit undertaken by the IPC CNS in March 2018 showed similar high compliance as 98% and 100% compliance was achieved in this audit. Hygiene audit results and associated quality improvement plans were discussed at quarterly local hospital Hygiene Services Team meetings held at the hospital.

Equipment

Overall, patient equipment in the clinical area inspected was generally clean and well maintained with some exceptions. Improvement of the oversight of cleaning of some equipment was needed as some items were evidenced as requiring more detailed cleaning.

Cleaning specifications were in place which clearly identified environmental surfaces and fixtures to be cleaned, the required frequency of cleaning and the staff discipline responsible in line with national cleaning guidelines.[19]

Procedure trays used for medications for injection were decontaminated in a washer disinfector in a 'dirty' utility.[***] An infection prevention and control risk-based approach should be undertaken to ensure that this practice facilitates clear separation of clean disinfected items and potentially contaminated equipment or surfaces.

In addition, inspectors noted that large amounts of equipment, supplies and extraneous items (crutches, walking aids and confidential patient medical records) were not stored in a safe manner. These items were housed in an unsecured link

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

corridor where the ceilings, walls and floor surfaces were noted to be in a state of disrepair and the environment was dusty and damp.

3.0 Conclusion

Overall HIQA found that staff at Kilcreene Regional Orthopaedic Hospital were committed to improving infection prevention and control practices in the hospital and were endeavouring to fully implement the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services.*

Multidrug-resistant gram-negative bacteria, including Carbapenemase Producing *Enterobacteriaceae* (CPE), place patients at risk of potentially untreatable infection.[20] Inspectors found that the hospital had not fully ensured that screening patients for CPE was fully aligned to the latest national guidelines. In light of the current national public health emergency, HIQA considered this to be a high risk that required escalation to hospital management. The general manager provided written assurance in response to HIQA's letter stating that, following this inspection, the hospital was now in compliance with HSE guidelines around screening patients for CPE.

HIQA acknowledges the hospital's positive progress and compliance levels in relation to:

- hand hygiene standards
- hospital hygiene standards despite infrastructural challenges
- care bundle implementation; intravascular devices, and urinary catheter were well advanced and embedded in the hospital.

However, HIQA identified during this inspection that overarching governance and management arrangements in relation to the infection prevention and control programme at Kilcreene Regional Orthoapedic Hospital and at a wider hospital group level required considerable improvement. The multi-faceted and complex governance arrangements had been highlighted as an area of concern by local hospital managers at Kilcreene Regional Orthopaedic Hospital and escalated accordingly. A coordinated response at a corporate group level is now required between the South/South West and Ireland East Hospital Groups, to put structures and processes in place for Kilcreene Regional Orthopaedic Hospital that provide clear lines of accountability and responsibility in relation to all essential components of the infection prevention and control programme at the hospital. Such a response needs to consider the following issues:

- the governance and management arrangements around the prevention and control of healthcare-associated infection at the hospital were confusing and fragmented and not fully aligned to their revised South/South West Hospital Group hospital group structure

- legacy arrangements for some services were still in place which meant that that the Infection Prevention and Control Team for the hospital reported to both the Ireland East and South/South West Group hospital structures
- the hospital was not formally linked with either hospital group in relation to some committees
- while the hospital had systems in place to identify and manage risk in relation to the prevention and control of healthcare-associated infections, oversight and governance of infection prevention and control-related incidents and risks at Kilcreene Regional Orthopaedic Hospital, and between St Luke's General Hospital and University Hospital Waterford were not formalised
- current arrangements in relation to a consultant microbiologist position for the hospital need to be risk-assessed and reviewed.

In conclusion it was apparent that Kilcreene Regional Orthopaedic Hospital was endeavouring to fully implement the National Standards. However the hospital needs to be fully supported at a hospital group level with issues that are beyond their individual capacity to deal with.

4.0 References

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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 Kilcreene Regional Hospital, Kilkenny regarding the high risk identified during HIQA's inspection at Kilcreene Regional Hospital, Kilkenny

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

Richard Dooley
General Manager
Kilcreene Regional Orthopaedic Hospital
Kilkenny
Richard.dooley@hse.ie

27 April 2018

Ref: PCHCAI 2018/28

Dear Richard

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

The Health Information and Quality Authority (HIQA) carried out an unannounced inspection at Kilcreene Regional Orthopaedic Hospital, Kilkenny against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services on 25 April 2018.

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

[*]Health Service Executive. Requirements for Screening of Patients for Carbapenemase-Producing *Enterobacteriales* (CPE) 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

Head Office
Unit 1301, City Gate, Mahon,
Cork, Ireland.
Tel: +353 (0) 21 240 9300
Fax: +353 (0) 21 240 9600

Dublin Regional Office
George's Court, George's Lane,
Dublin 7, Ireland
Tel: +353 (0) 1 814 7400
Fax: +353 (0) 1 814 7499

e-mail: info@hiqa.ie www.hiqa.ie

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

Please provide this information to HIQA by close of business on **3 May 2018** to qualityandsafety@hiqa.ie. Should you have any queries, please do not hesitate to contact me at qualityandsafety@hiqa.ie.

Yours sincerely,

Noreen Flannelly-Kinsella

Noreen Flannelly-Kinsella
Authorised Person

CC: Mary Dunnion, Director of Regulation, Health Information and Quality Authority
Gerry O' Dwyer, CEO, South/South West Hospitals Group
Liam Woods, National Director of Acute Services, Health Service Executive
Kay Slattery, Director of Nursing, Kilcreene Regional Orthopaedic Hospital

Head Office
Unit 1301, City Gate, Mahon,
Cork, Ireland.
Tel: +353 (0) 21 240 9300
Fax: +353 (0) 21 240 9009

Dublin Regional Office
George's Court, George's Lane,
Dublin 7, Ireland
Tel: +353 (0) 1 814 7400
Fax: +353 (0) 1 814 7409

e-mail: info@hiqa.ie **www.hiqa.ie**

Appendix 3: Copy of the response letter received from Kilcreene Regional Orthopaedic Hospital, Kilkenny regarding the high risk identified during the HIQA inspection of Kilcreene Regional Orthopaedic Hospital, Kilkenny

Ospidéal Ollscoile Phort Láirge
University Hospital Waterford
Regional Cancer Centre South East

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

4th May 2018

Ms. Noreen Flannelly-Kinsella,
Authorised Person HIQA,
Head Office,
Unit 1301, City Gate,
Mahon,
Cork

Re: ***National Standards for the prevention and control of healthcare associated infections in Acute Healthcare Services Monitoring Programme***

Dear Ms. Flannelly-Kinsella,

I refer further to your letter re the above dated 27th April last. Please accept my apologies for the delay in response.

I wish to confirm that I have had this matter reviewed and am happy to state that Kilcreene Regional Orthopaedic Hospital is now compliant with HSE guidelines around screening patients for CPE. In this regard I also confirm that there is sufficient resource in the laboratory in UHW to facilitate this compliance.

For completeness I set out below the HSE screening guideline for CPE and the current status regarding Kilcreene Regional Orthopaedic Hospital.

a) *All contacts of a patient with CPE. Where patients have been discharged, their record should be marked to ensure screening on next admission.*
Status KROH: Compliant

b) *All admissions to critical care areas (Intensive Care Units, High Dependency Units), on admission and weekly thereafter*
Status KROH: Not Applicable

c) *All admissions to haematology and transplant wards on admission and weekly thereafter.*
Status KROH: Not Applicable

d) *All patients who have received cancer chemotherapy in the previous 12 months.*
Status KROH: Compliant

e) *All patients who were transferred from any other hospital in Ireland or elsewhere.*
Status KROH: Compliant

f) *All patients who have been inpatients in any hospital in Ireland or elsewhere any time in the previous twelve months. Any hospital includes previous admissions to the hospital to which they are now being admitted. (2,5)*
Status KROH: Compliant

g) *Renal dialysis patients at first dialysis in a unit, periodically during dialysis treatment (at intervals of not less than six months), and on return from dialysis elsewhere*
Status KROH: Not Applicable

h) *All patients who normally reside in a long term care facility.*
Status KROH: Compliant

*Please also find attached the current algorithm for **KROH** showing full compliance.*

I trust the foregoing is in order.

Sincerely Yours,

Mr. Richard Dooley
General Manager
University Hospital Waterford
Kilcreene Regional Orthopaedic Hospital

For further information please contact:

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

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