



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at Our Lady's Children's Hospital Crumlin Dublin.

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: 15 June 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.

Table of Contents

1.0 Introduction	1
2.0 Findings at Our Lady's Children's Hospital, Crumlin.....	3
2.1 Risk identified during this unannounced inspection	3
2.2 Governance and Risk Management	4
2.3 Infection Surveillance	6
2.4 Prevention and control of healthcare-associated infections and multidrug-resistant organisms	8
3.0 Conclusion	11
4.0 References	12
5.0 Appendices.....	14
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.....	14
Appendix 2 Copy of the letter issued to Our Lady's Children's Hospital Crumlin regarding the high risk identified during HIQA's inspection at Our Lady's Children's Hospital, Crumlin	15
Appendix 3: Copy of response letter from Our Lady's Children's Hospital, Crumlin regarding the high risk identified during HIQA's inspection at Our Lady's Children's Hospital, Crumlin	17
Appendix 4: MDRO Screening Algorithm	20

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.

Phase Two

Using the revised assessment methodology HIQA commenced a programme of unannounced inspections against the National Standards in public acute Hospitals in May 2017. 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

* 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/>

to the increase of Carbapenemase Producing *Enterobacteriales* (CPE)[†] in Ireland. In light of the on-going 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 2018.

Information about this inspection

This inspection report was completed following an unannounced inspection carried out at Our Lady's Children's Hospital, Crumlin by Authorised Persons from HIQA; Kathryn Hanly, Noreen Flannelly Kinsella and Kirsten O'Brien. The inspection was carried out on 15 June 2018 between 09.40hrs and 15.50 hrs.

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

Inspectors spoke with hospital managers, 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 in Our Lady's Children's Hospital Crumlin which included:

- St Michaels Ward: (General medical, respiratory and Cystic Fibrosis unit)
- Our Lady's Ward: (surgical ward).

All low level findings observed in the areas inspected were reported to the local ward managers to inform ongoing improvement measures.

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

[†] 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.

2.0 Findings at Our Lady's Children's Hospital, Crumlin

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

Inspectors identified that Our Lady's Children's Hospital, Crumlin was not in full compliance with the national screening guidelines³ in relation to Carbapenemase Producing *Enterobacteriaceae* (CPE). Specifically, the hospital was not routinely screening all patients who had been inpatients in any hospital in Ireland, including Our Lady's Children's Hospital, Crumlin in the previous twelve months.

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 Our Lady's Children's Hospital, Crumlin.

The chief executive officer (CEO) and the consultant microbiologist replied and set out evidence from their approach to CPE screening. It was explained that the hospital began screening for CPE in June 2011. Due to differing multidrug-resistant organism's epidemiology in paediatric and adult settings, the hospital considered it appropriate to modify the national CPE screening guidelines. HIQA was informed that the adapted approach was risk assessed based on clinical opinion, previous screening and national surveillance data. To date the hospital has not had a case of CPE cross transmission within the hospital.

A copy of the letter issued to the CEO of Our Lady's Children's Hospital, Crumlin to seek further assurance regarding the risk identified and a copy of the response and associated assurance and action plan received from the CEO are shown in Appendices 2 and 3 respectively.

In addition, inspectors also noted a lack of clarity among staff on Our Lady's Ward around screening of patients on transfer from all other Irish hospitals.

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

2.2 Governance and Risk Management

Our Lady's Children's Hospital, Crumlin is Ireland's largest paediatric hospital and is responsible nationally for the provision of the majority of tertiary care services for children. It is the National Centre in Ireland for a range of paediatric specialities including childhood cancers and blood disorders, cardiac diseases, major burns, cystic fibrosis and rheumatology.

The infection prevention and control programme at the hospital was delivered by a specialist multidisciplinary team (MDT) in line with National Standards.¹ The team was led by a consultant clinical microbiologist and reported to the Infection Prevention and Control Committee (IPCC).

The IPCC was responsible for operational implementation of the infection control programme. This committee was chaired by the consultant microbiologist.

The Prevention and Control of Healthcare-Associated Infections (PCHCAI) Committee was a steering committee responsible for the oversight and management of the prevention and control of healthcare-associated infections in the hospital. This committee was chaired by the director of nursing. It was explained by management that the hospital planned to review the existing committee structures.

There was evidence that the senior management actively sought assurance in relation to infection prevention and control. Monthly performance updates in relation to infection prevention and control were reported to the hospital's Corporate Management Team and the Hospital Board. The IPCT submitted a quarterly report to IPCC and formally presented to the Quality, Patient Safety and Risk Governance Committee on an annual basis.

Members of the Corporate Management Team conducted regular quality and safety walk-rounds. These walk-rounds provided an opportunity for frontline staff to identify and discuss their safety concerns related to clinical risks including infection prevention and control.⁴

The hospital also had an established multidisciplinary Hygiene Services Committee, which was responsible for overseeing hygiene services for the hospital. This committee was chaired by the director of operational services and membership included senior management and infection prevention and control team members.

Infection prevention and control policies, procedures and guidelines were approved by the consultant microbiologist prior to implementation. The review cycle for local policies, procedures and guidelines was every three years which was in line with national guidelines.⁵ Inspectors observed that up-to-date versions of infection prevention and control policies, procedures, protocols and guidelines were readily

available to staff in clinical areas in both hard copy and on the hospital's controlled document management system.

Infection Prevention and Control Education

The Infection Prevention and Control Team provided a range of both formal and informal ongoing educational sessions to personnel on infection prevention and control programmes, procedures and practices. Inspectors were informed that infection prevention and control training was delivered according to the national framework⁶ for such knowledge and skills.

All new staff commencing in the hospital received infection prevention and control education as part of their induction programme. Standard infection control precautions training was mandatory for specific individual clinical groups within the hospital.⁶ However, documentation reviewed indicated that in April 2018, 64% of relevant clinical staff had attended standard infection control precautions training in the previous two years.

Annual hand hygiene education was mandatory for staff which was over and above the HSE mandatory two year training recommendation. At the time of inspection, inspectors were informed that 83% of hospital staff had attended hand hygiene training in the previous year. However, a breakdown of hand hygiene training attended in 2018 for each staff group showed that only 53% of consultants had attended hand hygiene training in the previous year. It is recommended that targeted training and education is provided in order to drive improvement.

Risk Management

The infection prevention and control service used multiple-outcome measures to support the evaluation of the effectiveness of infection prevention and control best practice including:

- surveillance data
- key performance indicator data
- clinical audit findings
- patient concerns and complaints
- incident reports.

Infection prevention and control risks in relation to the potential risk of transmission of healthcare-associated infections to patients were amalgamated into one overarching risk which was escalated to the hospital's corporate risk register.⁵ This

⁵ 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.

included the potential for transmission of hospital-acquired infection due to environmental challenges or non-compliance with agreed infection prevention and control guidance in the hospital. Existing control measures included adherence to infection prevention and control policies and guidelines, surveillance and audit programmes.

The complexity and age of the hospital's water management system was also reflected in the hospital's risk register. A formal legionella hospital site risk assessment had been performed at the hospital in 2017 and an action plan had been implemented in relation to the findings. Hospital management reported that internal control and preventative measures in relation to water-borne infection had been implemented.

Hospital management informed inspectors that it was hospital policy to report incidents of healthcare-associated infection on the hospital's incident management system. Minutes of the IPCC meetings reviewed by inspectors showed that incident reports were presented. The clinical risk manager and members of senior management were members of the IPCC, thus ensuring communication of relevant information at appropriate levels within the hospital.

2.3 Infection Surveillance

Arrangements were in place to measure and report on the service's overall performance in infection prevention and control. Screening and alert pathogen surveillance at the hospital was extensive, and broadly in compliance with *National Guidelines*.^{7, 8} In compliance with the National Standards¹, the infection prevention and control programme included an extensive infection surveillance programme which included surveillance of:

- 'alert' organisms and 'alert' conditions**
- multidrug-resistant organisms
- catheter-related bloodstream infection (CRBSI),^{††} catheter-related urinary tract infections (CRUTI) and ventilator-assisted pneumonia (VAP) in the Intensive Care Unit
- surgical site infection surveillance among cardiothoracic surgical patients
- bloodstream infections.

Inspectors were informed that surgical site surveillance programme had expanded to include surveillance of surgical site infections following orthopaedic surgery. However inspectors did not find evidence that this had been fully implemented at the time of inspection.

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

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

Surveillance data was also fed back to the Hospital Board via monthly infection prevention and control quality data reports. 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 requirements⁹ and the HSE's Business Information Unit.¹⁰

The surveillance scientist produced a monthly report for each ward detailing the healthcare-associated infections that occurred among patients being cared for in those areas. Details of infection prevention and control performance data including local surveillance data, hand hygiene compliance, care bundle compliance, numbers of invasive device infections and multidisciplinary audit results were displayed publicly on quality notice boards in clinical areas.

Care bundles⁺⁺ and invasive device management

The hospital had successfully introduced care bundles for peripheral venous catheter, peripherally inserted central catheters, central venous catheters, permacath and vascath, urinary catheters and peritoneal dialysis. Similar to the 2016, HIQA inspections, care bundles were well embedded in the hospital and staff in the clinical areas visited had very good awareness and knowledge of care bundles.

Compliance with care bundle compliance was formally audited on a weekly basis in clinical areas. Care bundle compliance audits were also performed by clinical facilitators in the hospital. Documentation reviewed indicated that care bundle practice compliance was consistently high in 2018.

Invasive-device surveillance

Surveillance in relation to CRBSI, CRUTI and VAP was carried out in the Intensive Care Units.^{11,12}

In addition, care bundle surveillance forms were returned to the surveillance scientist on a monthly basis and used in the calculation of device-free infections rates. Days free of urinary catheter, central line and peripheral catheter infection were displayed on Quality Boards at ward level. Device free infections rates were also reported to Corporate Management and clinical teams.

⁺⁺ A care bundle is a small, straightforward set of evidence-based practices that, when performed collectively and reliably, have been proven to improve patient outcomes.

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

It was reported that had been no outbreaks of infection recorded at the hospital throughout 2017 or 2018 to date. Inspectors were informed that the hospital had never experienced an outbreak or cross transmission of CPE. This was attributed to infection control interventions implemented to curtail the spread of CPE which had been first introduced in 2011. Examples of interventions included but were not limited to:

- algorithms in relation to screening for CPE
- algorithms in relation general multidrug-resistant organism screening
- MDT team meetings prior to admission of known CPE positive patients
- preemptive contact precautions were applied to transfers from hospitals with a known CPE outbreak or from abroad
- allocation of dedicated 1:1 nursing staff to care for patients with CPE
- allocation of dedicated medical equipment to CPE positive patients
- an extensive environmental screening programme
- on discharge isolation rooms are terminally cleaned, screened and remain closed/empty pending negative CPE environmental screening results.

Antimicrobial stewardship

The hospital had an antimicrobial stewardship programme in place which was coordinated by a multidisciplinary antimicrobial stewardship team. The Antimicrobial Stewardship Committee provided updates to the Drugs and Therapeutic Committee on a quarterly basis. Antimicrobial consumption data was also reported to the Health Protection Surveillance Centre (HPSC) for comparative analysis nationally.

In 2017 the hospital participated in the European paediatric and neonatal antimicrobial web-based point prevalence survey.

In line with national guidelines¹³ the hospital had successfully introduced restricted antimicrobial prescribing rights for the broad-spectrum carbapenem antibiotic meropenem; a last line antibiotic used to treat serious Gram-negative infection.

Patient placement

The hospital had 138 single rooms, of which only 48 had en-suite facilities. Rooms without en-suite facilities often cannot be used to isolate patients effectively. On the day of inspection all patients colonised and or infected with a transmissible infection were isolated in a single room as appropriate. Inspectors observed that appropriate signage to communicate transmission-based precautions was in place on isolation room doors.

The hospital had a computerised system that alerted staff in situations when at risk patients were readmitted to the hospital.

However, it was reported that the current number of single rooms with en-suite facilities was insufficient to manage the ever-increasing number of patients requiring both protective^{§§} and source isolation.^{***} Inspectors were informed that the expertise of the infection prevention and control team is sought regarding isolation prioritisation whenever suitable rooms are not readily available.

Hand Hygiene

The hospital had adopted a multimodal strategy in improving hand hygiene practices.¹⁴ The hospital had embedded a 'Bare Below the Elbow'^{†††} policy for all health care workers which aimed to improve the effectiveness of hand hygiene performed by health care workers.

The hospital participated in national hand hygiene audits, the results of which are published twice a year. The hospital achieved 98% compliance rate in the national hand hygiene audit in October 2017 which is above the current required compliance target of 90% set by the HSE.

Environment

HIQA notes that the fabric and infrastructure of parts of the hospital were outdated and continued to present ongoing challenges to prevention and control of healthcare-associated infection. However, good local ownership was identified in relation to infection prevention and control from local through to senior management level despite the challenging circumstances posed by the unit infrastructure. Overall, the general environments in both areas inspected were clean and well maintained with some exceptions.

The hospital had a number of effective assurance processes in place in relation to the standard of hospital hygiene. Records viewed showed that unannounced environmental hygiene audits were performed by a multidisciplinary audit team on a cyclical basis whereby each clinical area was audited every six months. Average hospital wide compliance was 86% in 2017. The high levels of compliance achieved in environmental hygiene audits were also reflected on the day of inspection.

Audit results were reviewed and discussed at the Hygiene Services Committee meetings and non-conformances escalated to Corporate Management Team and facilities management where appropriate.

^{§§} Protective isolation is used to segregate the susceptible patient/resident to prevent them from acquiring an infection from other patients.

^{***} Source isolation is to segregate the infected patient/resident in a single room to prevent the spread of infection to other patients.

^{†††} 'Bare Below the Elbow' recommends that the absence of wristwatches facilitates more effective hand washing thus reducing healthcare-associated infections.

Staff in clinical areas also audited hygiene in clinical areas every six months. Results of these audits were tracked and trended by management and this information was used to identify and address any deficiencies. Additional household hygiene audits and contract cleaning audits were performed monthly.

Patient equipment

Both clinical equipment and patient toys inspected on St Michael's Ward were clean without exception. However, opportunities for improvement were identified in the cleanliness of some items of equipment on our Lady's Ward. For example, a number of unclean commodes trays were observed in the dirty utility room. Such a finding does not provide assurance that all equipment was cleaned completely on a daily basis in line with local cleaning schedules.

A defined cleaning schedule for cleaning toys was in place. A green tagging system which alerted staff to when patient equipment was last cleaned was also in use on both wards inspected, however inspectors also found evidence that this system was not consistently used on Our Lady's Ward.

An equipment cleaning checklist reviewed on Our Lady's Ward was not comprehensive and cleaning duties were not clearly allocated. It was highlighted to inspectors that staff responsible for cleaning patient equipment were not regularly allocated time to perform routine cleaning due to competing demands.

The multidisciplinary audit team audit tool also included patient equipment. Results showed varying levels of compliance throughout 2018. Patient equipment hygiene should be a focus for further improvement following this inspection.

3.0 Conclusion

Overall HIQA found that Our Lady's Children's Hospital, Crumlin was endeavouring to fully implement the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services. Effective leadership, governance and management arrangements were evident around the prevention and control of healthcare-associated infection.

Inspectors found that the hospital was not fully aligned to the national CPE screening guidelines.³ In light of the current national public health emergency, HIQA considered this to be a high risk that required escalation to hospital management following the inspection. In response the hospital provided assurances to HIQA that their modified approach to CPE screening was risk assessed based on previous screening and national surveillance data. HIQA acknowledges that the hospital has not identified any cases of CPE transmission within the hospital to date.

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

- clear oversight of performance across all clinical areas in relation to infection prevention and control was facilitated by on-going surveillance, monitoring and audit programmes led by the infection prevention and control team. Well-presented surveillance reports compiled by the surveillance scientist were publicly displayed on quality boards in ward areas
- a high level of compliance with the multidrug-resistant organisms screening guidelines
- extensive environmental screening programme
- hand hygiene standards
- environmental hygiene standards, despite infrastructural challenges.

HIQA recommends that the hospital puts measures in place to address the further opportunities for improvement identified in this report with particular emphasis on the following matters:

- improvements in equipment hygiene and oversight of same
- CPE screening guidelines must be uniform across all inpatient wards
- as variation in performance among disciplines affects overall hospital hand hygiene compliance scores, it is recommended that targeted educational and audit is performed within the consultant group in order to drive improvement in hand hygiene compliance.

Our Lady's Children's Hospital, Crumlin as a member of the Children's Hospital Group, needs to be supported within group and national structures to ensure the hospital has the necessary capability and capacity to manage the on-going threat presented by multidrug-resistant organisms to the patients under the hospital's care.

4.0 References

1. Health Information and Quality Authority. National Standards for the prevention and control of healthcare-associated infections in acute healthcare services. Dublin: Health Information and Quality Authority; 2017. Available online from: <https://www.hiqa.ie/sites/default/files/2017-05/2017-HIQA-National-Standards-Healthcare-Association-Infections.pdf>
2. Health Information and Quality Authority. Guide to the monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections. Dublin: Health Information and Quality Authority; 2015. Available online from: <https://www.hiqa.ie/sites/default/files/2017-05/Guide-monitor-National-Standards-healthcare-associated-infections.pdf>
3. Health Service Executive. Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae* (CPE) in the Acute Hospital Sector. February 2018. Available online from: <http://www.hpsc.ie/az/microbiologyantimicrobialresistance/strategyforthecontrolofantimicrobialresistanceinirelandsari/carbapenemresistantenterobacteriaceae/guidanceandpublications/>
4. Health Service Executive. *Quality and Safety Walk-rounds. A Co-designed Approach Toolkit and Case Study Report*. 2016. <http://www.hse.ie/eng/about/Who/QID/governancequality/qswalkrounds/>
5. Health Service Executive. HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs). Health Service Executive; December 2016. Available online from: <http://www.hse.ie/eng/about/Who/QID/Use-of-Improvement-Methods/nationalframeworkdevelopingpolicies/HSE-National-Framework-for-Developing-Policies-Procedures-Protocols-and-Guidelines-PPPGs-2016.pdf>
6. Health Service Executive. Core infection prevention and control knowledge and skills. A framework document. Dublin: Health Service Executive; 2015. [Online]. Available online from: <https://www.hse.ie/eng/about/Who/QID/nationalsafetyprogrammes/HCAIAMR/CoreInfectionPreventionandControl.pdf>
7. Royal College of Physicians of Ireland Clinical Advisory Group on Healthcare Associated Infections. Guidelines for the prevention and control of multidrug resistant organisms (MDRO) excluding MRSA in the healthcare setting. Dublin: Royal College of Physicians of Ireland/Health Service Executive; 2014. [Online]. Available online from: <http://www.hpsc.ie/az/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/File,12922,en.pdf>

- 8 National Clinical Effectiveness Committee. Prevention and Control Methicillin-Resistant Staphylococcus aureus (MRSA). National Clinical Guideline No.2. Dublin: Department of Health; 2013. Available online from: <http://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/File,14478,en.pdf>
9. Health Service Executive. *National Service Plan 2018*. [Online]. Available online from: <https://www.hse.ie/eng/services/publications/serviceplans/national-service-plan-2018.pdf>
10. Carbapenemase producing *Enterobacteriales* (CPE) in HSE acute hospitals. Monthly report for the National Public Health Emergency Team (NPHE) April 2018. [Online]. Available online from: <http://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/strategyforthecontrolofantimicrobialresistanceinirelandsari/carbapenemresistantenterobacteriaceae/surveillanceofcpeinireland/cpemonthlysurreillancereports/NPHE CPE March%202018%20v1.0%206%204%2018.pdf>
11. SARI Working Group, Health Protection Surveillance Centre. Guidelines for the Prevention of Ventilator-associated Pneumonia in adults in Ireland. Dublin: Health Service Executive, Health Protection Surveillance Centre; 2011. [Online]. Available online from: <https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12530,en.pdf>
12. Strategy for the Control of Antimicrobial Resistance in Ireland (SARI) Subgroup. Guidelines for the prevention of catheter-associated urinary tract infection. Dublin: Health Protection Surveillance Centre; 2011. [Online]. Available online from: <https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12913,en.pdf>
- 13 Health Service Executive.National Policy on Restricted Antimicrobial Agents. Health Service Executive; 2016. Available online from: <https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/hcaiamr/hse-policy-on-restricted-antimicrobials-july-2016.pdf>
- 14 World Health Organization. *A Guide to the Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy*. Revised August 2009. [Online]. Available from: http://www.who.int/gpsc/5may/tools/system_change/en/.

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 Our Lady's Children's Hospital Crumlin regarding the high risk identified during HIQA's inspection at Our Lady's Children's Hospital, Crumlin



Helen Shortt
Chief Executive Officer
Our Lady's Children's Hospital, Crumlin
Crumlin
Dublin 12
ceo@olchc.ie

18 June 2018

Ref: PCHCAI 2018/61

Dear Helen

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 Our Lady's Children's Hospital, Crumlin against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare services on 15 June 2018.

Inspectors identified that while patient screening, environmental screening and alert pathogen surveillance at the hospital was extensive, the hospital was not in full compliance with the Health Service Executive guideline around screening patients for Carbapenemase Producing Enterobacteriaceae¹ (CPE).

¹ Health Service Executive, Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae* (CPE) in the Acute Hospital Sector. Dublin: Health Service Executive; February 2018. Available online from: <http://www.hpsc.ie/a-z/microbiology/antimicrobial-resistance/strategy-for-the-control-of-antimicrobial-resistance-in-ireland/sari/carbapenem-resistant-enterobacteriaceae/cpe/guidance-and-publications/>

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

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.

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 **25 June 2018** to qualityandsafety@hiqa.ie. Should you have any queries, please do not hesitate to contact me at qualityandsafety@hiqa.ie.

Yours sincerely,



Kathryn Hanly
Authorised Person

CC: Mary Dunnion, Director of Regulation, HIQA
Eilish Hardiman, CEO, National Children's Hospital Group
Group
Liam Woods, National Director of Acute Services, Health Service Executive

Head Office:
Unit 1301, City Gate, Mahon,
Cork, Ireland.
Tel: +353 (0) 21 240 9300
Fax: +353 (0) 21 240 9800

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

Appendix 3: Copy of response letter from Our Lady's Children's Hospital, Crumlin regarding the high risk identified during HIQA's inspection at Our Lady's Children's Hospital, Crumlin

OFFICE OF THE CHIEF EXECUTIVE

Not for prescription purposes

Tel: +353 (01) 4096313

www.olchc.ie

Email: noreen.johnson@olchc.ie

HS/NJ/G/CEO/HIQA/Hanly PCHCAI Unannounced Inspection 15 June



22nd June, 2018.

Ms. Kathryn Hanly,
Authorised Person,
Health Information and Quality Authority,
Unit 1301, City Gate,
Mahon, Cork.
c/o: qualityandsafety@hiqa.ie

Re:- National Standards for the prevention and control of healthcare-associated infections in acute healthcare
Your ref: PCHCAI 2018/61

Dear Kathryn,

Further to your letter of 18th June notifying Our Lady's Children's Hospital, Crumlin of the outcome of an unannounced inspection against the National Standards for the prevention and control of healthcare-associated infections in acute healthcare on 15th June, please find attached correspondence from Dr. Niamh O'Sullivan, Consultant Microbiologist.

Dr. O'Sullivan's letter and accompanying documents, set out evidence from extensive and longstanding screening for CPE by the hospital, and her clinical opinion regarding compliance with one of the National guidelines, namely that relating to screening of children who are regularly re-admitted to OLCHC (within one year).

Dr. O'Sullivan's letter also refers to a network of consultant microbiologists working within the paediatric settings who hold similar clinical opinions.

Thank you for acknowledging the extensive patient screening, environmental screening and alert pathogen surveillance at OLCHC.

Yours sincerely,

Helen Shortt,
CHIEF EXECUTIVE.

Encls.

c.c. Ms. E. Hardiman, Chief Executive, Children's Hospital Group
c/o: ceo@ceo@nchg.ie

Not for prescription purposes

Division of Pathology & Laboratory Medicine

Tel: + 353 (0)1 4096430
Fax: + 353 (0)1 4096218
Website: www.olchc.ie



20th June 2018

Dear Ms. Hanly,

Our Lady's Children's Hospital have been screening for CPE (Carbapenemase Producing Enterobacteriaceae) since June 2011. We identified our first case in June 2012 in a child repatriated from a London hospital. At the time we screened extensively but identified no other cases within our patient cohort. The London hospital was alerted to the problem via the Consultant Microbiologist and the Infection Control Doctor. We subsequently had three further children transfer back to us with the same CRE strain. This London outbreak was halted when the Director of Public Health alerted his English counterpart and an outbreak was declared at the London site. I explain this scenario to illustrate that we are competent with our screening methodology and take transmission of CRE as a serious threat. The English laboratory were utilising an outdated screening methodology which failed to identify the 'VIM' CPE isolates.

Since those initial cases we have identified a total of 30 children colonised with CPE. Many of these children have chronic illnesses and are frequent attendees as both inpatients and outpatients. To date we have not had any case of cross transmission within the hospital. I suggest that the only acute tertiary/quaternary hospitals with zero hospital acquired CPE cases are paediatric and maternity services. There have been no paediatric facility CPE outbreaks nationally. Children from Limerick were screened for a number of years without a single positive case. Limerick Hospital has been deleted from our compulsory screening list while Tallaght hospital is listed.

We review our CPE algorithms each time there is a change in our mandatory screening list or a new directive is obtained from the HSE. I attach our screening figures from 2011 to 2017 inclusive. We had to decrease environmental screening last year to maintain our routine microbiology service.

Division of Pathology & Laboratory Medicine

Tel: + 353 (0)1 4096430

Fax: + 353 (0)1 4096218

Website: www.olhc.ie

I understand your issue is point F of "Requirements for Screening of Patients for Carbapenemase Producing Enterobacteriales (CPE) in the Acute Hospital Sector" which states: - "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." As explained there has never been a National Paediatric CPE outbreak. All the microbiologists charged with management of paediatric care do communicate regularly if their unit has an outbreak of any organism. None of us are complacent about the prospect of a paediatric problem. To screen readmissions within our hospital would entail an additional 2,697 screens, which would achieve nothing, as we do not have an outbreak problem. As it stands we already performed 3,616 patient screens last year.

You have seen our CRE policy, which has just been updated, yet again, and are aware that we adopt strict isolation policies with one to one nursing for inpatients and a segregated room for OPD attendances.

I strongly refute the suggestion that our actions are "high risk" and consider that our record stands for itself. We have not been provided with additional funding to perform this increased workload. Frankly, even if funding was made available I do not believe that this is a cost effective use of a scarce resource.

All national guidelines and policies require modification for a paediatric service. We have risk assessed based on previous screening and national surveillance data. The most invaluable resource is the paediatric microbiology network where microbiologists inform one another in a timely manner about outbreaks and clusters within their service.

Yours faithfully



Niamh O'Sullivan,

M.D., M.B BCh, B.A.O, LRCP & S.I., MA. (j.o.), B.Sc., Dip.TROP MED., FRCPath.. FF Path
RCPI.

Consultant Microbiologist

Appendix 4: MDRO Screening Algorithm

Algorithm for screening of patients attending OLCHC

Organism	Patients to be screened	Screen required	Timeframe
MRSA	<ul style="list-style-type: none"> Children inpatient > 1 month Recurrent admission Previously colonized/infected Burns * PICU admissions National/International transfers Cardiothoracic Pre op * Orthopaedic pre ops * Haem-oncology children Patients on dialysis Children with chronic illness Cardiac children * Recent admission to any healthcare facility within the last 6 months As directed by IPCT 	<ul style="list-style-type: none"> Nasal Nasal both Throat Axilla both Groin both Umbilical in infant Sputum if present Any wound site Any medical device site Previous positive site Wound swab 	<ul style="list-style-type: none"> On admission At OPD At preadmission clinics Scheduled for OT No previous record
MSSA	<ul style="list-style-type: none"> Cardiac children * Cardiothoracic Pre ops * Burns * Orthopaedic Pre op * Open wounds including post operatives 	As above	<ul style="list-style-type: none"> On admission Preadmission Scheduled for OT

For * send one set of swabs only but remember to request both MRSA and MSSA on the lab request form.

CRE	<ul style="list-style-type: none"> Inpatients for > 1 month Children with chronic illness Cardiothoracic Recurrent admissions Previously colonized/infected Transfer from other facility Inpatient in other healthcare facility abroad As directed by IPCT Admitted to PICU, St Johns Cardiac 	<ul style="list-style-type: none"> Stool samples x 2 seven days apart. See CRE algorithm 	<ul style="list-style-type: none"> On admission At preadmission clinic No previous record
VRE	<ul style="list-style-type: none"> Inpatients for > 1 month Children with chronic illness Cardiothoracic Recurrent admissions Previously colonized/infected Transfer from other facility Inpatient in other healthcare facility abroad As directed by IPCT Admitted to PICU, St Johns Cardiac 	Stool sample	<ul style="list-style-type: none"> On admission At preadmission clinic No previous record
ESBL	<ul style="list-style-type: none"> Inpatients for > 1 month Children with chronic illness Cardiothoracic Recurrent admissions Previously colonized/infected Transfer from other facility Inpatient in other healthcare facility abroad As directed by IPCT Admitted to PICU, St Johns Cardiac 	Stool sample	<ul style="list-style-type: none"> On admission At preadmission clinic No previous record

Prepared by PB, TN & FON on behalf of the IPCC March 2017.

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**

© Health Information and Quality Authority 2018