



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at Our Lady's Hospital, Navan, Co Meath.

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: 11 August 2017

About the Health Information and Quality Authority

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

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

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

- **Setting Standards for Health and Social Services** — Developing person-centred standards, based on evidence and best international practice, for health and social care services in Ireland.
- **Regulation** — Registering and inspecting designated centres.
- **Monitoring Children's Services** — Monitoring and inspecting children's social services.
- **Monitoring Healthcare Safety and Quality** — Monitoring the safety and quality of health services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **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.	Introduction.....	1
2.	Findings at Our Lady's Hospital, Navan	3
2.1	Governance	3
2.2	Risk management.....	8
2.3	Policies, procedures and guidelines.....	9
2.4	Staff training and education	10
2.5	Implementation of evidence-based and best practice.....	11
2.5.1	Prevention of invasive device-related infection	11
2.6	Systems to prevent and manage healthcare-associated infections and multi drug resistant organisms.....	12
2.6.1	Preventing the spread of antimicrobial resistant organisms	12
2.6.2	Other measures to prevent the transmission of infection.....	14
2.6.3	Quality improvement initiatives	16
2.7	Progress since the previous HIQA inspection	17
3.	Conclusion.....	18
4.	References	20
5.	Appendix 1	23
	Lines of enquiry for the monitoring programme undertaken against the <i>National Standards for the prevention and control of healthcare-associated infections in acute healthcare services</i>	23

1. Introduction

HIQA monitors the implementation of the *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services*¹ in public acute hospitals in Ireland to determine if hospitals have effective arrangements in place to protect patients from acquiring healthcare-associated infection. The *National Standards for the prevention and control of healthcare-associated infections in acute healthcare services* will be referred to as the National Standards in this report.

In 2017, HIQA commenced a revised monitoring programme against the National Standards. The aim of this revised monitoring programme is to assess aspects of the governance, management and implementation of designated programmes to prevent and control healthcare-associated infections in hospitals. This monitoring programme comprises Phases One, Two and Three which will be described next.

The National Standards were updated in 2017 and therefore supersede the previous version. Hospitals should work towards implementing these revised National Standards.

Phase One

All public acute hospitals were requested to complete and return a self-assessment tool to HIQA during April and May 2017. The self-assessment tool comprised specific questions in relation to the:

- hospital infection prevention and control programme and associated oversight arrangements
- training of hospital personnel to implement policies, procedures, protocols, guidelines and evidence-based practice in relation to the prevention and control of infection
- the systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug-resistant organisms.

The hospital Chief Executive Officer or General Manager and the Health Service Executive (HSE) Hospital Group Chief Executive Officer were asked to verify that the information provided to HIQA accurately reflected the infection prevention arrangements within the hospital at that time.

Phase Two

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

Specific lines of enquiry were developed to facilitate monitoring in order to validate some aspects of self-assessment tools submitted by individual hospitals. The lines of enquiry which are aligned to the National Standards are included in this report in Appendix 1.

Further information can be found in the *Guide to the monitoring programme undertaken against the National Standards for the prevention and control of healthcare-associated infections*² which was published in May 2017 and is available on HIQA's website: www.hiqa.ie

Phase Three

Phase Three of this monitoring programme will focus on the reprocessing of reusable medical devices and HIQA will commence onsite inspections in this regard in 2018.

Information about this inspection

This inspection report was completed following an unannounced inspection carried out at Our Lady's Hospital, Navan by Authorised Persons from HIQA; Aileen O' Brien and Shane Grogan. The inspection was carried out on 11 August 2017 between 09:30hrs and 17:15hrs.

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

During this inspection, inspectors spoke with hospital managers and staff, and members of the Infection Prevention and Control Team. Inspectors requested and reviewed documentation and data and observed practice within the clinical environment in a small sample of clinical areas which included:

- an orthopaedic ward

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

- prevention and control of transmission of antimicrobial-resistant bacteria (Section 2.6.1)
- safe injection practice (Section 2.6.2)

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

2. Findings at Our Lady's Hospital, Navan

The following sections 2.1 to 2.8 present the general findings of this unannounced inspection which are aligned to monitoring lines of enquiry.

2.1 Governance

Line of enquiry 1.1

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

Governance arrangements

Our Lady's Hospital, Navan is a statutory hospital owned and managed by the Health Service Executive (HSE) and is part of the Ireland East Hospital Group governance structure. Prior to joining the Ireland East Hospital Group, Our Lady's Hospital was part of the Louth/Meath hospital group which included Our Lady of Lourdes Hospital, Drogheda and the Louth Hospital, Dundalk.

Governance and management structures at the hospital had been revised following integration into the Ireland East Hospital Group Hospital in 2015 and were therefore relatively recently established. From an operational perspective governance and management arrangement in respect of clinical microbiology services were not aligned to the current hospital group structure. Management informed inspectors that there was a defined reporting structure for the Infection Prevention and Control Committee. The General Manager of the hospital held overall responsibility for the prevention and control of healthcare-associated infection at Our Lady's Hospital. The Infection Prevention and Control Team at the hospital reported to the Infection Prevention and Control Committee and this committee reported to the Quality and Risk Committee which was temporarily chaired by and also reported to the General Manager. The Quality and Risk Committee was established in May 2017 with the appointment of the Quality and Safety Manager at the hospital. It was planned that a clinical director position would chair this group but at the time of inspection this position was unfilled.

The General Manager reported to the Deputy Chief Executive Officer of Ireland East Hospital Group who reported to the hospital group Chief Executive Officer.

Organisational diagrams provided to HIQA did not reflect the governance structure described by hospital management, specifically in relation to hospital oversight

committees. These require review so that governance arrangements at the hospital are clear. Documentation reviewed indicated that there were 22 hospital committees at Our Lady's Hospital. HIQA has identified through prior monitoring work that other similar sized hospitals have acted to address the challenges inherent in such an arrangement, through the rationalisation of the number of hospital committees reporting into an oversight committee in order to strengthen governance arrangements.³

Infection prevention and control committee

The Infection Prevention and Control Committee was chaired by the Consultant Microbiologist and the General Manager was the deputy chairperson of the committee. The committee's functions included ratification of local policies, monitoring surveillance trends, identification and investigation of outbreaks of infection, provision of advice in relation to infection prevention and control, decontamination of equipment and staff training and education needs.

Membership included the General Manager, the Infection Control Team, a public health doctor, and representatives from occupational health, housekeeping, supplies/central sterilising department, pharmacy, technical services, nursing, consultant anaesthetist and other stakeholders as relevant.

The committee met quarterly and the committee's terms of reference specified that the committee chairperson formally reported to the Executive Quality and Safety Committee on a quarterly basis using an agreed template.

Infection prevention and control and microbiology services

Provision of a clinical microbiology service at the hospital was operationally aligned to the former Louth/Meath hospital group structure. Inspectors were informed that the process of aligning this service to the Ireland East Hospital Group structure was under review.

The Infection Prevention and Control Team consisted of one consultant microbiologist and two infection prevention and control nurses (1.1 WTE). Both infection prevention and control nurses had completed post-graduate training in relation to infection prevention and control. At the time of inspection there were no allocated resources at the hospital in relation to administrative support for the team, surveillance scientist input or an antimicrobial pharmacist position. Hospital management had received approval to progress the appointment of a part-time antimicrobial pharmacist.

The hospital did not have a formalised locally governed antimicrobial stewardship programme. It was reported that the consultant microbiologist advised on antimicrobial prescribing and oversaw antimicrobial consumption at the hospital.

Hospital management informed inspectors that restricted antimicrobial prescribing was in place. In addition the consultant microbiologist provided education to prescribers in relation to antimicrobial stewardship. The consultant microbiologist, the head of pharmacy and the practice development coordinator from Our Lady's Hospital were members of a drugs and therapeutics committee which also included representatives from Our Lady of Lourdes Hospital, Drogheda and the Louth Hospital, Dundalk. Hospital management informed inspectors that plans were in place to establish an Our Lady's Hospital drugs and therapeutics committee in September 2017 and that antimicrobial stewardship would be formally overseen at this forum.

The clinical microbiology service at Our Lady's Hospital included attendance at the hospital by one consultant microbiologist on one day each week onsite, and in addition consultant microbiologist advice was available by telephone to clinical staff twenty-four hours a day every day and this was provided on a rotational basis by three consultant microbiologists two of whom were based in Our Lady of Lourdes Hospital, Drogheda. Our Lady of Lourdes Hospital is part of the Royal College of Surgeons in Ireland Hospital Group. Documentation reviewed showed that there was no onsite presence of a consultant microbiologist for a period of three months in 2017 because scheduled leave arrangements had not been temporarily filled at the hospital. It is recommended that governance and management arrangements in respect of clinical microbiology services at the hospital are reviewed and strengthened.

Consultant microbiologist input included advice and support in relation to infection prevention and control at Our Lady's Hospital. However, inspectors were informed that there was no formalised contractual agreement for the provision of infection prevention and control advice by a consultant microbiologist at the hospital. This represents a potential weakness in relation to the management of the prevention and control of healthcare-associated infection at the hospital and should be reviewed.

The Infection Prevention and Control Team met formally on a weekly basis and their workload included microbiological surveillance, audit of hand hygiene compliance, hospital hygiene and care bundles, staff education. The team also advised on the development of new facilities, procurement, tendering for support and clinical services, introduction of new practices and any clinical issues arising in relation to infection prevention and control. In addition to membership of the Infection Prevention and Control Committee the team was involved in a number of other hospital committees and groups in relation to environmental monitoring, hospital hygiene, building projects/estates group, decontamination and drugs and therapeutics.

Monitoring and evaluation

Hospital management monitored the following performance indicators in relation to the prevention and control of healthcare-associated infection in line with HSE national reporting requirements:

- hospital-acquired *Staphylococcus aureus* bloodstream infection
- Hospital-acquired *Clostridium difficile* infection.

In addition to the above parameters, hospital management also monitored performance in respect of the following prevention and control of healthcare-associated infection performance indicators in line with Ireland East Hospital Group performance reporting requirements:

- bloodstream infections due to vancomycin-resistant Enterococci in the Intensive Care Unit
- catheter-related bloodstream infections in the Intensive Care Unit.

Monthly hospital performance meetings with the hospital group Chief Executive Officer were attended by the General Manager, the Clinical Director, the Director of Nursing and other members of the Executive Management Team.

The Infection Prevention and Control Team also monitored the following parameters:

- surveillance of 'alert' organisms and 'alert' conditions*
- clusters or outbreaks of infection
- data reported to the European Antimicrobial Resistance Surveillance Network (EARS-Net)[†]
- alcohol hand gel consumption
- percentage compliance of hospital staff with the World Health Organisation 5 moments of hand hygiene
- mandatory hand hygiene uptake by current healthcare staff who interact with patients in the rolling 24 month period.

Findings in respect of microbiological surveillance were presented in detailed quarterly surveillance reports. These were reviewed at meetings of the Infection Prevention and Control Committee and minutes of meetings included actions agreed to address issues of concern. Detailed analyses were performed by the Infection and

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

[†] EARS-Net performs surveillance of antimicrobial susceptibility of bacteria causing infections in humans including; *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Acinetobacter* species, *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Enterococcus faecalis* and *Enterococcus faecium*.

Prevention and Control Team of cases of healthcare-associated *Staphylococcus aureus* blood stream infection and *Clostridium difficile* infection. Findings were discussed at meetings of the Infection Prevention and Control Committee and presented in surveillance reports.

Our Lady's Hospital participated in a national point prevalence survey of hospital-acquired infections and antimicrobial use which was part of a European-wide point prevalence study. Information for this study was collected at the hospital during the month of May 2017. Data from this study should be used to proactively identify areas for improvement at the hospital. The hospital had also participated in previous annual antimicrobial stewardship point prevalence surveys.

Hospital management told inspectors that environmental hygiene standards were monitored at the hospital on a cyclical basis whereby each clinical area was audited every three months by designated trained auditors. Poorer performing areas were reaudited and a process was in place to address findings. Documentation reviewed showed that hospital hygiene audit results were tracked and trended by hospital management.

The infection prevention and control team conducted audits across the hospital in 2016 in relation to:

- hand hygiene
- environmental hygiene
- mattress condition
- 'dirty' utility rooms[‡]
- Peripheral vascular catheter care bundle implementation
- Decontamination in the central decontamination unit.

Hospital management informed inspectors that it was hospital policy to report incidents related to the prevention and control of healthcare-associated infection on the hospital incident management system.

Complaints received from patients were referred to the Infection Prevention and Control Team if concerns around infection prevention and control were identified.

[‡] Rooms 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.

2.2 Risk management

Line of enquiry 1.2

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

Risks in relation to the prevention and control of infection should be identified and effectively mitigated or managed.

Risk management was overseen by the Quality and Risk Committee established in May 2017. It was planned that the committee would meet on a monthly basis going forward and infection prevention and control would be a standing agenda item.

Risks included on the hospital's corporate risk register in respect of the prevention and control of healthcare-associated infection were reviewed by inspectors. A risk assessed as in terms of likelihood and impact by the hospital was entered on the register in January 2015 included deficiencies in respect of the older hospital infrastructure which included multi-occupancy nightingale style wards, lack of single ensuite rooms, insufficient bathroom facilities and aspects of the general hospital environment. Risks were also recorded in relation to the need to replace older endoscopic equipment and requirements for structural repair works and water system upgrades.

To address the identified risks, the hospital had made a capital submission to the Ireland East Hospital Group for a new building with 50 single rooms. At the time of inspection, hospital management had not received confirmation from the HSE in respect of funding for this development. A submission had also been made to the hospital group for funding to refurbish the orthopaedic ward. Hospital management told inspectors that there were short-term plans to upgrade three rooms in this ward.

Designs for a new laboratory at the hospital had been supported and approved by the hospital group.

2.3 Policies, procedures and guidelines

Line of enquiry 2

The hospital has policies, procedures and guidelines in relation to the prevention and control of infection and hospital hygiene.

Current HSE policy states that hospital policies, procedures and guidelines should be reviewed every three years.⁴

The hospital had an infection prevention and control manual for staff which was revised in 2016 and had been approved by the Infection Prevention and Control Committee as appropriate. Staff had access to this document on the hospital's electronic document access system in clinical areas.

Inspectors reviewed other hospital policies which related to the management of invasive devices. Local policies for invasive device management were either due for review or absent. The hospital did not have a policy for surgical site infection prevention.

On the orthopaedic ward inspectors found that hard copy policies procedures and guidelines were out of date. Policies and procedures stored electronically on the ward were not well organised and many of these were out of date. National guidelines were in the same electronic folder as local policies and procedures. It is recommended that the storage and management of hospital policies and procedures is improved so that staff only have access to the most up to date version of these documents. Hospital policies and procedures should also be kept up to date.

2.4 Staff training and education

Line of enquiry 3

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

Prevention and control of healthcare-associated infection training sessions were scheduled on a regular basis for hospital staff. Inspectors reviewed documentation in relation to the content of the infection control training programme. Training provided included detailed education in relation to hand hygiene and standard precautions and how infection is spread. This training was mandatory for relevant staff every two years in line with national recommendations.⁵ It is recommended that staff training sessions around infection prevention and control is aligned to national guidance for such knowledge and skills and expanded further to include more information about transmission-based precautions and aseptic technique for clinical staff involved in direct patient care.⁶

Staff training sessions were provided monthly by the infection prevention and control nurses and also as requested in clinical areas. Staff were required to attend face to face training sessions and in addition staff were required to complete practical training either by completing an e-learning programme or by completing a training session using interactive software technology which was made available to staff on a rotational basis in clinical areas.

Once-off training was provided to nursing staff during intravenous medication study days and also during venepuncture and peripheral vascular catheter insertion training days. Documentation reviewed showed that 79% of relevant hospital staff had completed training in relation to hand hygiene and that 68% of relevant hospital staff had completed training in relation to both hand hygiene and standard precautions in the preceding 24 months. Uptake of hand hygiene training by medical staff required improvement. Staff attendance at training was recorded using an electronic system which facilitated central tracking and trending of attendance by each staff discipline.

All staff at the hospital had access to advice from the Infection Prevention and Control Team and clinical staff had access to advice from a consultant microbiologist. Infection prevention and control education was provided to non-consultant hospital doctors at induction. Additional training was provided as requested or as indicated in clinical areas.

2.5 Implementation of evidence-based and best practice

Line of enquiry 4.1

The hospital has implemented evidence-based best practice to prevent intravascular device-related infection and urinary catheter-associated infection, ventilator-associated pneumonia and surgical site infection.

2.5.1 Prevention of invasive device-related infection

The surveillance[§] of healthcare-associated infection is one of the core components of an effective infection prevention and control programme.^{7,8,9} 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.^{10,11,12} Other health systems have advanced the surveillance of healthcare-associated infection to the benefit of both patients and health service providers by demonstrating reductions in these type of infections.^{13,14}

Care bundles in relation to peripheral vascular catheters and urinary catheters had been implemented at the hospital. Trended care bundle audit results were not provided on the day of inspection. Inspectors were informed that these audit results were fed back to the Practice Development Committee. It is recommended that care bundle audit results are tracked and trended in order to identify any opportunities for improvement. Policies in relation to intravascular device management should include care bundles elements and such policies should be kept up to date and easily accessible to staff in clinical areas. Surveillance of central venous access device-related infection was performed in the Intensive Care Unit at Our Lady's Hospital which is good practice. Surveillance of urinary catheter-associated urinary tract infection and ventilator-associated pneumonia was not performed at the hospital.

In addition, surveillance of surgical site and prosthetic implant-related infection was not performed at the hospital which provided a regional elective orthopaedic surgical service. HIQA acknowledges that the undertaking of such surveillance would require additional specialist staff. Collaboration with other hospitals in the group in this regard should be explored.

[§] Surveillance is defined as the ongoing, systematic collection, analysis, interpretation and evaluation of health data closely integrated with the timely dissemination of these data to those who need it.

2.6 Systems to prevent and manage healthcare-associated infections and multi drug resistant organisms

Line of enquiry 4.2

The hospital has systems in place to detect, prevent, and respond to healthcare-associated infections and multidrug resistant organisms in line with national guidelines.

2.6.1 Preventing the spread of antimicrobial resistant organisms

Inspectors looked at implementation of aspects of transmission-based precautions and measures to prevent the spread of antimicrobial-resistant organisms to patients.

Hospital isolation facilities

There were 101 inpatient hospital beds and 16 day-patient beds in Our Lady's Hospital, of which 94 inpatient beds were occupied on the day of inspection. The hospital did not have any purpose built isolation rooms with specialised ventilation. Hospital management reported that there were only 13 single rooms and that 11 of these had ensuite facilities. All patients for whom isolation precautions were indicated were accommodated in single rooms on the day of inspection as appropriate.

Orthopaedic ward

The orthopaedic ward could accommodate 23 inpatients and six day patients. There was one single room with ensuite facilities. There were five two-bedded rooms and two six-bedded rooms all with ensuite facilities. The orthopaedic day ward was located within the ward and comprised six beds in one room. All patients requiring isolation in the orthopaedic ward were appropriately accommodated on the day of inspection.

The hospital had systems in place to identify patients with transmissible infection at the time of admission to hospital. A computerised system helped staff to identify patients colonised with resistant bacteria so that appropriate screening and accommodation could be arranged.

Inspectors reviewed patient admission and transfer documents. Nursing admission and transfer records had been developed to clearly identify any infection prevention and control risks in respect of patients upon admission to the hospital and upon transfer to other wards or healthcare facilities.

The nursing admission and transfer record included a designated section on infection control and facilitated recording of information such as a history of colonisation with multi-drug resistant organisms and any gastrointestinal or respiratory illness suggestive of infection. In addition, the nursing admission record prompted nurses to admit potentially infectious patients to a single room. The nursing transfer record included a reminder to notify by telephone, the ward or facility receiving a patient if isolation facilities were required. Additionally, the nursing transfer record detailed the type, date of insertion and site of indwelling intravascular devices and urinary catheters.

The patient environment was mostly visibly clean in the orthopaedic ward inspected but there were some exceptions which included a number of alcohol gel dispensers and ceiling light fittings which were unclean.

Opportunities for improvement were observed in relation to patient equipment hygiene. Items of patient equipment were visibly clean but surfaces of patient equipment were sticky. One commode was stained and a commode without a receiver was stored inappropriately in a patient toilet. Three bed frames, the side rails of a vacant bed and a patient armchair were unclean. The design of some older type beds used in the ward did not facilitate effective cleaning and the hospital had replaced a number of older beds in the ward.

A patient equipment cleaning logbook reviewed by inspectors showed that cleaning frequencies for some items of patient equipment were not aligned to recommended national guidelines. Commodes were not included in the logbook. Items that could be cleaned weekly were included in a daily checklist. Inspectors also found that the cleaning logbook was not consistently completed which does not provide assurance that patient equipment was regularly cleaned. Inspectors were informed that staff responsible for cleaning patient equipment had competing demands on their time such as direct patient care. Local arrangements and specifications for cleaning of patient equipment in this ward should be reviewed and there should be sufficient resources allocated to patient equipment cleaning every day.

The older infrastructure of the orthopaedic ward did not facilitate effective cleaning. Environmental surfaces and finishes in all patient rooms and ensuite facilities in the ward required upgrading. Inspectors observed damaged wall surfaces in three patient rooms which included deep plaster cracks which extended from ceiling to skirting board. Floor coverings in patient rooms were worn in places and were not flush with walls. Surfaces and sanitary fittings in the plaster room in this ward required upgrading.

Hygiene audits performed locally in the orthopaedic ward showed 94% compliance with desirable hygiene standards in the February to March audit cycle in 2017.

Weekly audits were performed in the 'dirty' utility room to check that surfaces were clean and that equipment was working. Staff in the ward had recently checked the condition of all mattresses on patient beds in the ward to identify any mattresses that required replacement which is good practice. In addition, staff had recently identified that a number of waste bins in the ward required replacement, this should be progressed.

Safe injection practice

Inspectors looked at implementation of aspects of standard precautions to assess safe injection practice in the clinical areas inspected. Staff spoken with were able to describe recommended practice in relation to giving injections safely.

Inspection of the clinical environment showed that there was good practice in relation to the storage and management of medication for injection and related supplies with some exceptions. Multi-dose vials of insulin were not designated single patient use, it is recommended that multi-dose vials should be designated and labelled to indicate single patient use. Inspectors found that the orthopaedic ward inspected had a clearly designated area for medication preparation within a clean utility room as appropriate. The clinical hand wash sink in this room required upgrading as did.

Red stains were visible on a blood glucose monitor and two of three blood glucose monitor storage boxes were unclean. Inspectors were informed that it was practice to bring blood glucose monitor storage boxes along with supplies for multiple blood glucose testing procedures to patient's bedsides in this ward. Staff should only bring the supplies needed for a single procedure to the bedside so as to reduce the risk of contaminating multiple clean supplies with blood.

The hospital had implemented the use of needles and peripheral vascular catheters with safety-engineered protection mechanisms to protect staff against inoculation injuries in line with current legislation.¹⁵

2.6.2 Other measures to prevent the transmission of infection

Hand hygiene

Our Lady's Hospital participated in national hand hygiene audits, results of which are published twice a year. The hospital achieved 90% hand hygiene compliance among staff in May/June 2017 which was in line with the HSE's desirable target of 90% hand hygiene compliance. A breakdown of hand hygiene compliance by staff discipline showed that compliance among medical staff was 76% for this period. This needs to be addressed through targeted education measures in this group.

Documentation reviewed showed that in January 2017, 93% of relevant staff had undertaken hand hygiene training in the previous two years. Most recent hand hygiene audit results were not available for the orthopaedic ward on the day of inspection.

Records reviewed by inspectors showed that 81% of relevant staff in the orthopaedic ward were up to date with hand hygiene and standard precautions training at the time of inspection.

Alcohol gel was available at the point of care in the clinical areas inspected in line with best practice guidelines. The design of clinical hand wash sinks in the orthopaedic ward was not in line with recommended guidelines.¹⁶

Legionella prevention

A formal legionella risk assessment had been performed at the hospital in June 2015. A quality improvement plan was developed in respect of water management. Inspectors were informed that some but not all of the recommendations included in the risk assessment report had been completed in the interim and that this work was ongoing. In the past six months the hospital had funded the completion of hospital water system schematics. Some improvements required in relation to the hospital water system were included in the hospital risk register. The hospital should be supported to address required improvement works in this regard.

Hospital management had drafted a detailed 'water management policies and procedures' document for the hospital and these were in the process of being reviewed. Legionella control measures which were overseen by the hospital's Environmental Monitoring Committee included the following:

- an ongoing programme of chemical and thermal treatment of the water supply, regular outlet flushing, servicing, water storage tank inspection and cleaning.
- monitoring arrangements included water temperature testing and regular microbiological testing of water from a sample of water sources. The hospital also had continuous monitoring arrangements for chlorine dioxide levels.

Going forward, it is recommended that water supply risk assessment and risk assessment review are performed within the timeframes recommended in national guidelines.^{17,18}

2.6.3 Quality improvement initiatives

Hospital management were asked to provide inspectors with information about any quality improvement initiatives that had been implemented in relation to the prevention and control of infection at the hospital. Efforts to enhance the prevention and control of healthcare-associated infection at the hospital included the following:

- A quality management system was successfully implemented in the hospital's central decontamination unit which was awarded the ISO 13485 quality standard by the National Standard's Authority Ireland in January 2017.
- The hospital opened a new endoscopy unit in November 2016. Work was underway in the Endoscopy Unit towards 'Joint Advisory Group on Gastrointestinal Endoscopy' accreditation
- Weekend testing of clinical specimens for *Clostridium difficile* was implemented to facilitate faster turnaround of results
- Hospital management was developing a 'water management policies and procedures' document for the hospital covering all aspect of local governance, local management and monitoring arrangements and the management of cases or outbreaks of legionnaire's disease.
- The Infection Prevention and Control Team produced a newsletter for staff in 2017 and the first edition contained information about staff dress codes, hygiene audits and waste segregation.
- The Infection Prevention and Control Team took part in the 'One Million Global Catheters Peripheral Intravenous Catheter' study focused on reducing infection related to peripheral vascular catheters in March 2015
- The hospital had won a bursary for being the hospital with the most improved influenza vaccination uptake among staff since the previous year. Efforts to improve vaccine uptake included peer vaccination and staff education sessions.

2.7 Progress since the previous HIQA inspection

Inspectors reviewed the quality improvement plan developed by the hospital following a HIQA inspection in 2014. Issues identified by HIQA during that inspection had largely been addressed by hospital management.

Bedpan washers had been replaced throughout the hospital and there was a rolling painting and flooring programme in place. Some ancillary rooms had been upgraded. A mattress replacement programme had also been implemented. Additional patient equipment had been purchased.

3. Conclusion

Our Lady's Hospital had an established infection prevention and control programme which was overseen and supported by a consultant microbiologist who chaired the Infection Prevention and Control Committee. From an operational perspective governance and management arrangements in respect of clinical microbiology services were aligned to the previous Louth/Meath Hospital Group structure rather than current Ireland East Hospital Group structure. This needs to be addressed in light of the need to formally allocate provision of infection prevention and control advice by a consultant microbiologist at the hospital and to review of resources required in respect of surveillance scientist input. The antimicrobial stewardship programme at the hospital needs to be progressed with the anticipated appointment of an antimicrobial pharmacist. Again, governance arrangements in this regard need to be formalised.

There were good monitoring and evaluation arrangements in place in relation to the prevention and control of healthcare-associated infection at the hospital with regular reporting to hospital management and Ireland East Hospital Group.

The hospital had an up to date infection prevention and control manual for staff but local policies for invasive device management were either due for review or absent. Access to and organisation of electronic and hard copy documents required improvement.

Inspectors found that the content of the infection prevention and control training programme included education in relation to hand hygiene and standard precautions. This needs to be expanded to include transmission-based precautions and aseptic technique for clinical staff involved in direct patient care.

The older infrastructure of the orthopaedic ward did not facilitate effective cleaning. Overall, the environment in the clinical area inspected was generally clean but surfaces and finishes in all patient rooms and ensuite facilities in that ward required upgrading.

Opportunities for improvement were identified in relation to some aspects of patient equipment cleaning which requires dedicated resources and oversight. In addition, opportunities for improvement were identified in relation to the use of multi-dose vials and the cleaning of blood glucose testing equipment.

A lack of isolation facilities, nightingale style multi-occupancy wards and the older hospital infrastructure, some of which dates back to the mid 1900's does not readily facilitate the implementation of the National Standards. This needs to be addressed in the site development plan going forward.

The hospital achieved 90% hand hygiene compliance among staff in May/June 2017 which was in line with the HSE's desirable target of 90% hand hygiene compliance.

Surveillance of central venous access device-related infection was performed in the Intensive Care Unit at Our Lady's Hospital which is good practice. Surveillance of surgical site and prosthetic implant-related infection was not performed at the hospital which provided a regional elective orthopaedic surgical service. Provision of resources and collaboration with other hospitals in the hospital group in this regard should be progressed.

The hospital was actively working to improve processes and facilities in relation to the decontamination of reusable medical devices. A quality management system was successfully implemented in the hospital's central decontamination unit which was awarded the ISO 13485 quality standard by the National Standard's Authority Ireland in January 2017. The hospital opened a new endoscopy unit in November 2016.

4. 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 Information and Quality Authority. Review of progress made at the Midland Regional Hospital, Portlaoise, in implementing recommendations following HIQA's investigation. Dublin: Health Information and Quality Authority; December 2016. Available online from: https://www.hiqa.ie/sites/default/files/2017-02/MRHP_Review_Report.pdf
4. 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>
5. Royal College of Physicians of Ireland Clinical Advisory Group on Healthcare Associated Infections. *Guidelines for Hand Hygiene in Irish Healthcare Settings Update of 2005 Guidelines*. Dublin: Royal College of Physicians of Ireland/Health Service Executive; 2015. Available online from: <https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,15060,en.pdf>
6. Health Service Executive. *Core infection prevention and control knowledge and skills. A framework document*. Dublin: Health Service Executive; 2015. Available online from: <https://www.hse.ie/eng/about/Who/QID/nationalsafetyprogrammes/HCAIAMR/CoreInfectionPreventionandControl.pdf>
7. World Health Organization. Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Healthcare Facility

Level. Geneva: World Health Organization; 2016. Available online from:
<http://www.who.int/gpsc/ipc-components/en/>

8. Zingg W, Holmes A, Dettenkofer M, Goetting T, Secci F, Clack L, et al. Hospital organisation, management, and structure for prevention of health-care-associated infection: a systematic review and expert consensus. *Lancet Infect Dis*. 2015;15(2):212-24.

9. Haley RW, Culver DH, White JW et al. The efficacy of infection surveillance and control programs in preventing nosocomial infections in US hospitals. *American Journal of Epidemiology* 1985; 121: 182–205.

10. 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. Available online from: <https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12530,en.pdf>

11. 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. Available online from: <https://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12913,en.pdf>

12. Royal College of Physicians of Ireland. Prevention of Intravascular Catheter-related Infection in Ireland. Partial update of 2009 National Guidelines. 2014. Available online from: <http://www.hpsc.ie/A-Z/Hepatitis/GuidanceforRenalUnits/File,4115,en.pdf>

13. Centres for Disease Control (CDC), Healthcare Associated Infections (HAIs) Progress Report, US CDC, Atlanta, 2016. Available online from: <https://www.cdc.gov/HAI/pdfs/progress-report/hai-progress-report.pdf>

14. Bärwolff S, Sohr D, Geffers C, et al. Reduction of surgical site infections after Caesarean delivery using surveillance. *Journal of Hospital Infection*, 2006; 64: 156–61. Available online from: [http://www.journalofhospitalinfection.com/article/S0195-6701\(06\)00297-0/pdf](http://www.journalofhospitalinfection.com/article/S0195-6701(06)00297-0/pdf)

15. Irish Statute Book. S.I. No. 135/2014 - European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations 2014. Available online from: <http://www.irishstatutebook.ie/eli/2014/si/135/made/en/print>

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

17. O'Donnell J and Legionnaires' Disease Subcommittee, Health Protection Surveillance Centre. *National Guidelines for the Control of Legionellosis in Ireland, 2009: Report of Legionnaires' Disease Subcommittee of the Scientific Advisory Committee*. Dublin: Health Protection Surveillance Centre; 2009. Available online from: <https://www.hpsc.ie/A-Z/Respiratory/Legionellosis/Publications/File,3936,en.pdf>

18. Knowles S and The Prevention and Control of Infection from Water Systems in Healthcare Facilities Sub-Committee of the HPSC Scientific Advisory Committee. Health Protection Surveillance Centre. *Guidelines for the Prevention and Control of Infection from Water Systems in Healthcare Facilities* Available online from: <http://www.hpsc.ie/AboutHPSC/ScientificCommittees/Sub-CommitteesofHPSCSAC/WaterGuidelinesSub-Committee/File,14451,en.pdf>

5. 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 multi-drug 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,

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 2017