



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at the Coombe Women & Infants University Hospital, 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: 31 May 2017

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

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1. 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.
- The 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 individual self-assessment tools completed by 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 the Coombe Women & Infants University Hospital by Authorised Persons from HIQA; Noreen Flannelly-Kinsella, Aileen O'Brien, Siobhan Bourke and Shane Grogan. The inspection was carried out on 31 May 2017 between 10.00hrs and 15.45hrs.

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 the;

- Neonatal Centre (this includes a neonatal intensive care unit, a high dependency unit and a special care baby unit)
- Postnatal ward.

Inspection 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 the following;

- Prevention of invasive device-related infection (Section 2.5.1)
- Prevention and control of transmission of antimicrobial-resistant bacteria (Section 2.6.1)
- Safe injection practice (Section 2.6.2)
- Prevention of aspergillosis during dust-generating building, renovation and maintenance works (Section 2.6.3).

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 the Coombe Women & Infants University Hospital

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

Inspectors found that there were clear lines of accountability and responsibility in relation to governance and management arrangements for the prevention and control of healthcare-associated infection in the Coombe Women & Infants University Hospital.

The hospital is a voluntary hospital governed by a Board of Guardians and Directors who appoint a Master* as Chief Executive for a period of seven years. The Hospital has a service level agreement with the Health Service Executive (HSE) to allow for state funding, under Section 38 of the Health Act 2004. The hospital is part of the Dublin Midlands Hospital Group. The hospital group Chief Executive Officer is accountable for the planning and performance of this hospital group under the HSE Accountability Framework. The Master of the hospital attended monthly performance meetings with the Dublin Midlands Hospital Group.

The infection prevention and control service was led by a consultant microbiologist and was delivered by a specialist multi-disciplinary team comprising the Assistant Director of Midwifery/Nursing in Infection Prevention and Control, the lead Consultant Microbiologist, the Surveillance Scientist, the Antimicrobial Pharmacist, and the Chief Medical Scientist in Microbiology. Consultant Microbiologist advice was available to clinical staff twenty four hours a day, seven days a week, in line with National Standards. The Microbiology Department in the hospital was accredited by the Irish National Accreditation Board.

This team reported into the hospital Infection Prevention and Control Committee comprising multi-disciplinary membership, which with seven other hospital committees reported to the Master, who was also the hospital's Clinical Director. The Master reported from these hospital committees to both the Senior Management

* The Master also works as a Consultant Obstetrician/Gynaecologist in the hospital.

Team and the Hospital Management Executive Committee. The Master and the Hospital Senior Management Team reported to the Board of Guardian and Directors.

The Infection Prevention and Control Committee's membership included executive management team representation. The committee was chaired by the Consultant Microbiologist and had defined terms of reference. The committee met quarterly and documentation reviewed showed that meetings followed a standardised agenda which included feedback and consideration of the following issues;

- Evaluation and monitoring including audit
- Policies, procedures, guidelines and related documentation
- Staff education and communication
- Hospital hygiene
- Staff health
- Management of non-conformances and complaints
- Hospital infrastructure and procurement.

Minutes of committee meetings reviewed showed that attendance at meetings by some members was variable. The terms of reference for this committee did not detail rotation of chairperson role or required quorum at meetings.

The infection prevention and control team held weekly meetings and undertook daily ward rounds in relation to infection prevention and control. Additionally, the infection prevention and control team provided expert advice to hospital committees and departments in relation to decontamination, antimicrobial stewardship, risk management, procurement of equipment and supplies, hospital infrastructure and facilities.

Monitoring and evaluation

The hospital management team was clearly focused on monitoring both process and outcome measures in relation to healthcare-associated infection at the hospital. This comprehensive approach to monitoring facilitated evaluation of the efficacy of measures implemented in the hospital to prevent and control healthcare-associated infection and in addition, the identification of opportunities for improvement.

Performance in relation to the following types of indicators was continuously monitored at the hospital by the infection prevention and control team and was presented monthly to the hospital clinical teams and quarterly to the Infection Prevention and Control Committee and Hospital Management Executive Committee;

- Cases of infectious disease
- Cases of colonisation or infection with transmissible micro-organisms including multidrug-resistant organisms

- Immunisation uptake
- Cases of mastitis
- Positive blood cultures
- Episodes of bloodstream infection and cases of sepsis
- Number of contaminated blood cultures
- Hospital activity levels
- Ventilator-associated pneumonia episodes
- Caesarean section surgical site infections
- Hand hygiene compliance by staff
- Uptake of hand hygiene education by relevant staff
- Antimicrobial consumption
- Alcohol hand gel usage
- Environmental water and food sample results.

Other process measures monitored at the hospital included care bundle compliance, and hospital hygiene standards and data in this regard was also presented at the Infection Prevention and Control and Hospital Management Executive Committee quarterly meetings.

The hospital identified infection prevention and control objectives for 2017 in their annual programme and these included the following;

- Continued reduction in late onset neonatal sepsis
- Change in practice in relation to pre-operative skin preparation to reduce the risk of caesarean section surgical site infection
- Improvement of surgical site infection surveillance methodology
- Continued reduction of contamination of adult blood cultures
- Implementation of a new hospital policy for testing urine specimens to identify infection
- Improvement of hospital information technology system to identify patient's positive for multidrug-resistant organisms
- Improvement of electronic audit report generation with transfer of infection prevention and control records and documents to a new hospital electronic document management system.

It is recommended that the hospital infection prevention and control annual programme for 2017 is reviewed to include the targets identified for the year which are listed in the annual report 2016.

The hospital also monitored and reported the following performance indicators in relation to the prevention and control of healthcare-associated infection in line with Health Service Executive national reporting requirements;

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

Regular leadership quality walk-arounds were undertaken by senior management in the hospital. Documentation received demonstrated that aspects of the walk-around included meeting with staff, listening to their insights on infection prevention and control, identifying examples of good practice and areas for improvement. Hygiene and facilities were also reviewed and audited with actions required documented and persons responsible identified. Patient and staff feedback was also discussed during these walk-arounds.

The hospital had implemented new information technology software to facilitate audit of both hospital hygiene and clinical practice in January 2017. This system facilitated electronic recording of audit findings and trending and analysis of audit results and communication of issues that require action to the hospital management team. At the time of inspection, it was noted that staff in clinical areas could not freely access audit results in relation to the infection prevention and control programme. It was explained by hospital management that staff at a local level would have access to these records once the new electronic audit and reporting system was fully implemented.

2.2 Risk management

Line of enquiry 1.2

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

The hospital had systems in place to identify and manage risks in relation to the prevention and control of healthcare-associated infections. Inspectors were informed that regular review of risk was undertaken at the hospital's clinical risk management committee meetings.

The Master/Chief Executive Officer stated that risks that could not be effectively mitigated at a local hospital level were escalated to both the hospital Board of Guardians and Directors and the hospital group through risk management reporting structures.

HIQA was informed that risks in relation to the Neonatal Intensive Care Unit infrastructure had been placed on the hospital risk register and had been escalated to hospital group level.

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.

Inspectors found that the hospital had a comprehensive suite of infection prevention and control policies in relation to standard precautions, transmission-based precautions and the prevention of invasive device-related infection. It was practice that hospital policies relevant to infection prevention and control were ratified by the Infection Prevention and Control Committee which is appropriate.

The hospital had comprehensive specifications for hospital hygiene detailing the elements to be cleaned, the required cleaning method, frequency of cleaning and staff discipline responsible, which is recommended in line with national guidelines.¹⁰

Hospital policies reviewed by inspectors were up-to-date and available in a folder to staff in the clinical areas inspected. The hospital had implemented an electronic quality management system for document control and was in the process of transferring infection prevention and control policies to the new system.

2.4 Staff training and education and access to information

Line of enquiry 3

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

The Coombe Women & Infants University Hospital had implemented a number of different measures to promote education and training of clinical staff which demonstrated a commitment to promoting safer patient care.

Documentation provided by the hospital showed that hand hygiene training was mandatory for staff at induction and thereafter every two years in line with national guidelines.³ At the time of the inspection, 79% of hospital staff had attended hand hygiene training in the previous two years. Data breakdown showed 78% of midwifery/nursing and healthcare assistant staff and 94% of all medical staff were up-to-date in May 2017. The hospital is providing leadership in relation to hand hygiene training uptake by medical staff which is commendable.

Infection prevention and control education was provided to relevant hospital staff at induction. The hospital was aligning this training to national guidance for such knowledge and skills which included training in relation to standard and transmission-based precautions, and aseptic non-touch techniques.⁴ Documentation reviewed showed that 100% of medical non-consultant hospital doctors were up-to-date with infection prevention and control education at the time of inspection.

A competency-based training programme for midwifery and nursing staff was provided in relation to intravenous cannulation upon commencement of their employment at the hospital. Training programmes were also provided at induction for newly appointed medical staff with responsibility for insertion of intravascular catheters. The hospital had developed an e-learning project in relation to peripherally inserted central catheters in neonates for clinical staff.

Staff stated that access to expert clinical microbiology and infection prevention and control advice was available as required.

2.5 Implementation of evidence-based 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

Care bundles to reduce the risk of different types of infection have been implemented across many health services over the past number of years and there have been a number of guidelines published in recent years recommending their introduction in Irish hospitals.^{5,6}

Peripheral vascular catheter care bundles had been in place in all inpatient clinical areas in the hospital for a number of years. Central venous catheter care bundles had been implemented in the Neonatal Intensive Care Unit. Care bundle compliance was audited on a monthly basis and results were gathered using an electronic audit system, collated centrally and overseen by hospital management. The peripheral vascular catheter care bundle had been updated recently.

Peripheral vascular catheter care bundle compliance audit results in the neonatal unit showed 100% compliance for March and April 2017.

Peripheral vascular catheter care bundle compliance audit results in the postnatal ward showed 50% compliance during May 2017. The hospital had addressed deficiencies in relation to care bundle compliance audit by implementing a quality improvement plan. This represents good practice and demonstrates a commitment to monitoring and improving quality of care. Urinary catheter care bundles for the prevention of catheter-associated urinary tract infections had been introduced in the hospital.

The hospital was actively working to implement evidence-based care bundles in order to reduce the risk of invasive device-related infection.

2.5.2 Surveillance of surgical site infection

Surgical site infection represents one of the most common categories of healthcare-associated infections. Surveillance with feedback and implementation of quality improvement initiatives have been shown to be an important element in reducing the incidence of surgical site infections.^{7,8,9}

The hospital performed limited surveillance in respect of caesarean section surgical site infection which was designed to provide some assurance to management and

staff. However, expanding this surveillance programme had been identified in the hospital's quality improvement plan following the last HIQA inspection in 2016, but there was no agreed timeframe by which this would be progressed. Change in practice in relation to the hospital skin antisepsis protocol prior to surgery had been implemented to address an area identified for improvement through surveillance.

2.6 Systems to prevent and manage healthcare-associated infections and multidrug-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.

The Coombe Women & Infants University Hospital had systems in place to prevent, detect and manage healthcare-associated infections and multidrug-resistant organisms in line with national guidelines as discussed in Section 2.1. Additionally, a comprehensive surveillance programme was in place to ensure a rapid and effective response to the identification of healthcare-associated infections and antimicrobial resistance.

The hospital also had systems in place for the early detection of potentially infectious patients. It was reported that screening of patients for colonisation or infection with transmissible infection was performed in line with national guidelines. Adult patients at the hospital who required transmission-based precautions were isolated in single rooms on the day of inspection. There were 58 single rooms available for adult patients at the hospital, of which 36 had en-suite facilities. There were three single rooms available in the Neonatal Centre, inspectors were informed that demand for isolation rooms for neonates was significantly lower when compared to adult patients.

2.6.1 Preventing the spread of antimicrobial resistant organisms

Inspectors looked at implementation of aspects of transmission-based precautions by using a monitoring tool to assess the prevention and control of transmission of antimicrobial resistant bacteria. Measures to prevent the spread of antimicrobial resistant organisms were reviewed in both of the clinical areas inspected.

The Neonatal Intensive Care Unit

Inspectors observed that the design of the Neonatal Intensive Care Unit was dated and did not meet desirable standards of a modern facility or facilitated implementation of effective infection prevention and control measures. There was limited spacing between incubators. Due to inadequate ancillary facilities, equipment such as incubators was stored in an isolation room in the unit.

The Postnatal Ward

The infrastructure in the postnatal ward was also dated. The 31-bedded ward included four five-bedded multi-occupancy rooms which with cots, provided limited space between beds. None of the multi-occupancy or three single rooms had en-suite facilities.

Neither area inspected had a cleaning equipment room for the management and storage of cleaning equipment which is recommended in national cleaning guidelines.¹⁰ A dedicated mobile cleaning cart was assigned to each clinical area and was stored and maintained in a central location in the hospital which is less than ideal.

Environment and patient equipment hygiene

Overall the environment and patient equipment hygiene in both areas inspected appeared clean with very few exceptions.

Comprehensive cleaning specifications were in place which clearly identified all the elements of both environmental surfaces and patient equipment to be cleaned and the required cleaning method, frequency of cleaning and staff discipline responsible in line with national cleaning guidelines.^{10,11}

Patient equipment cleaning checklists reviewed on the postnatal ward showed that cleaning had been performed in line with daily and weekly schedules.

It was reported that environmental and patient equipment hygiene was audited on a monthly basis. The hospital had implemented an electronic system to record audit findings and were in the process of refining report generation so as to facilitate tracking and trending of results.

Cumulative hygiene audit results for the hospital, which included both the Neonatal Unit and the Postnatal Ward, achieved 90% and 96% compliance in December 2016 and Quarter One 2017 respectively.

2.6.2 Safe injection practice

Inspectors reviewed elements of safe injection practice and implementation of aspects of standard precautions in both areas inspected. Staff spoken with were able to describe recommended safe injection practices.

The postnatal ward and the Neonatal Intensive Care Unit did not have dedicated clean utility rooms for the storage and preparation of medications which is recommended. In the Neonatal Intensive Care Unit medications were prepared on designated stainless steel trolleys in the absence of sufficient space within the

patient zone. In the postnatal ward, medication storage and preparation was performed in a busy multi-purpose office which is not an appropriate location.

In the Special Care Baby Unit, a blood analyser stored in a clean utility room was found to have visible splashes of blood. It is recommended that blood analysers are not located in the same room as clean supplies. A blood analyser in the Neonatal Intensive Care Unit was appropriately located.

In line with European Union Sharps Directive and Regulations 2010/32/EU¹² the hospital had introduced safe needle technology for adult patients to prevent sharps injuries among staff and options to implement similar safe needle technology for neonatal care were being explored.

2.6.3 Other measures to prevent the transmission of infection

Hand hygiene compliance

Essential components of the World Health Organization (WHO) multimodal improvement strategy¹³ were evident in the Coombe Women & Infants University Hospital. The hospital participated in national hand hygiene audits, the results of which are published twice a year. The hospital achieved 92% compliance rate in the national hand hygiene audit in October/November 2016 exceeding the required HSE national hand hygiene compliance target of 90%. Documentation received from the hospital showed that the hospital achieved 93% compliance with hand hygiene practice in May 2017 which is a further improvement on the previous measurement period.

Local hand hygiene audits were performed monthly in clinical areas. Documentation reviewed showed that clinical areas inspected either achieved or exceeded the national target as the Neonatal Unit achieved 97% compliance and the postnatal ward achieved 90% compliance with hand hygiene in May 2017 which is commendable.

Prevention of healthcare-associated invasive aspergillosis[†]

There is potential risk to people with impaired immune systems of acquiring invasive aspergillosis during construction or renovation activities in hospitals, therefore specific controls need to be put in place to prevent such occurrences. On the day of inspection, a phased refurbishment programme was in progress in an out-patient clinic. Infection prevention and control team members informed inspectors that they were involved in all aspects of the planning process of this refurbishment to reduce potential risk of infection. Inspectors viewed the area under refurbishment and staff

[†] Healthcare-associated invasive aspergillosis is an infection that can be potentially life threatening in patients with impaired immune systems. It is caused by fungal spores that may be transmitted in dust created by excavation and building work.

working in the clinical area were aware of the controls in place. Method statements[‡] were reviewed by inspectors and recommended environmental controls were found to be in place in line with best practice.¹⁴

Prevention of water-borne infection

A hospital policy in relation to ensuring the provision of safe water and water systems was available in the Coombe Women & Infants University Hospital. Hospital management reported that they had implemented preventative measures relevant to water-borne infection. A formal Legionella site risk assessment had been performed at the hospital in 2015. It was reported that the water system was due to be upgraded in 2018, following which the Legionella risk assessment would be reviewed. National guidelines recommend that Legionella risk assessments are reviewed on an annual basis or if significant changes to the water distribution system and independently audited every two years.¹⁵

[‡] A method statement helps manage the work and ensures that the necessary precautions have been communicated to those involved.

2.7. Quality improvement initiatives

Productive ward

The postnatal ward was part of a productive ward initiative¹⁶ since 2011. It was reported that redesigning work practices allowed for increased efficiency and more time for direct patient care. The ward appeared generally well ordered and free from clutter.

Patient engagement

A patient-centred service seeks and responds to all types of feedback from service users including complaints to improve the service. Hospital management reported that they actively addressed patient feedback to identify areas for improvement and reported weekly to the senior management team.

The hospital undertook a patient experience survey May 2017 to seek feedback in relation to gynaecology patients' experience in the hospital using a similar methodology to the National Patient Experience Survey 2017. This locally driven initiative demonstrates a strong commitment to a patient-centred service.

Printed information leaflets highlighting the importance of hand hygiene and information in relation to multidrug-resistant bacteria were available for patients in the ward inspected.

The neonatal bug busting team

The hospital had what was described as a 'bug busting' team. The team was focused on reducing infection risks in the neonatal unit through interdisciplinary involvement and provision of education sessions in relation to infection prevention and control.

Auditing of hospital hygiene and clinical practice

The hospital had implemented an electronic system to facilitate auditing of both hospital hygiene and aspects of clinical practice. The hospital had also developed new checklists to record cleaning of the patient environment. These checklists were reviewed by inspectors and appeared to be thoughtfully laid out, clearly organised and easy to complete by staff undertaking cleaning duties.

2.8. Progress since the previous HIQA inspection

HIQA reviewed the quality improvement plan¹⁷ developed by the hospital following the 2016 HIQA infection prevention and control inspection.

Inspectors were informed that risks in relation to reprocessing facilities in the operating theatre had been addressed whereby in the absence of appropriate decontamination facilities, the hospital had ceased the use of flexible cystoscopes.

Infrastructural deficiencies which could not be adequately mitigated locally had been escalated through the HSE hospital group structure. In respect of the Operating Theatre Department extension and upgrades, initial funding had been allocated by HSE estates to engage a design team for the project. Hospital management confirmed that the tendering process for the design team had commenced. Following the design phase a business case would be submitted to HSE Capital Group in respect of capital funding for proposed building works.

It was reported that the proposed plans could also address infrastructural deficiencies in the Neonatal Intensive Care Unit. Such development was also required in the Neonatal Intensive Care Unit in order to implement a new national information technology system for maternal and newborn care.

It is acknowledged that risks in relation to hospital infrastructure cannot be mitigated until building works are complete. In the longer term, there is a proposed national plan that the Coombe Women & Infants University Hospital will move to a new site on the grounds of St James's Hospital.

3. Conclusion

Effective leadership, governance and management arrangements were evident around the prevention and control of healthcare-associated infection in the Coombe Woman & Infants University Hospital. The hospital had systems in place to identify and manage risks in relation to the prevention and control of healthcare-associated infections.

The hospital had up to date policies, procedures and guidelines in relation to the prevention and control of infection and were in the process of implementing a controlled document management system going forward. The hospital had implemented a number of different measures to promote education and training of clinical staff which represented a commitment to promoting safer patient care. This was demonstrated by high level of training and education uptake by medical staff and provides positive example for other hospitals.

The most recent hand hygiene compliance audit results showed that the hospital achieved 93% compliance with hand hygiene compliance exceeding the required Health Service Executive national target which is commendable.

A commitment to implementing evidence-based practice and to producing infection process and outcome-based information to inform any improvements needed was commendable in the Coombe Women & Infants Hospital. This demonstrates a strong focus on patient safety and patient-centred care. The hospital was providing positive leadership in this regard and this provides good example for other service providers.

The hospital had implemented evidence-based care bundles for intravascular devices and performed audit of care bundle implementation. Audit results reviewed by inspectors showed some variation in care bundle compliance. The Infection Prevention and Control Team had developed Quality Improvements Plans to address these findings which is good practice. Care bundles had also been introduced at the hospital in respect of urinary catheter care; however, overall usage of indwelling urinary catheters at the hospital was very low.

Overall, patient equipment and the patient environment were generally clean in the areas inspected. There was good ownership in relation to hospital hygiene and evidence of clear processes and responsibilities from clinical areas through to executive management level. Hospital auditing practices were transitioning from a paper-based system to an electronic system to facilitate regular trending and analysis of audit results at both local and senior management level.

HIQA acknowledge that infrastructural deficiencies impacting on infection prevention and control in the hospital cannot be addressed in the short-term. This includes the less than ideal infrastructure of the Neonatal Intensive Care Unit. HIQA previously

identified deficiencies relating to the infrastructure of the Operating Theatre Department during an inspection in 2016. The hospital confirmed that initial funding had been allocated by HSE estates to engage a design team for the project. Following the design phase a business case would be submitted to HSE Capital Group in respect of capital funding for proposed building works. Inspectors were informed that this development could potentially accommodate a new Neonatal Intensive Care Unit pending the allocation of resources from the HSE.

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5. Appendix

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,

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