



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at Naas General Hospital.

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

Date of on-site inspection: 21 June 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.
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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 Standards¹ were updated in 2017 and therefore supersede the previous version. Hospitals should work towards implementing these revised National Standards.

Phase One

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

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

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

Phase Two

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

Specific lines of enquiry were developed to facilitate monitoring in order to validate some aspects of 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 Naas General Hospital by Authorised Persons from HIQA; Siobhan Bourke, Aileen O' Brien, Noreen Flannelly-Kinsella and Shane Grogan. The inspection was carried out on 21 June 2017 between 10:00hrs and 16:45hrs.

Prior to this inspection, inspectors 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 also reviewed documentation and data and observed practice within the clinical environment in a small sample of clinical areas which included:

- a medical ward and
- the Intensive Care Unit.

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 Naas General 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

HIQA found that there were clear lines of accountability and responsibility for the prevention and control of healthcare-associated infections at Naas General Hospital.

Naas General Hospital is a statutory hospital owned and managed by the Health Service Executive (HSE) and is part of the Dublin Midlands Hospital Group.

The Infection Prevention and Control Team was led by a consultant microbiologist who was appointed to the Hospital for 10 hours a week. The Infection Prevention and Control Team included three nursing positions giving a total of 2.0 whole-time equivalent (WTE) infection prevention and control nurses. The formal allocation of infection prevention and control nurses for the hospital was 1.5 WTE. To compensate for an increased infection prevention and control nursing input requirement the hospital had funded an additional 0.5 WTE position to support the team's workload. Inspectors were informed that a business case had been submitted to the Dublin Midlands Hospital Group for 0.5 WTE infection prevention and control nurse to formalise this additional post. The Infection Prevention and Control Team included a 0.5 WTE Surveillance Scientist. Clerical support for the Infection Prevention and Control Team was limited to three hours per week.

The hospital did not have a dedicated antimicrobial pharmacist position. Advice in relation to antimicrobial stewardship was provided by a clinical pharmacist who contributed to weekly antimicrobial stewardship clinical rounds with the Consultant Microbiologist. Inspectors were informed that clinical pharmacists contributed to antimicrobial stewardship activities on a daily basis at the hospital.

It was reported to HIQA that there was no protected time allocated for this role. The hospital should review the resources available to ensure the availability of an antimicrobial pharmacist with time dedicated to antimicrobial stewardship activities in line with National Standards.¹

Consultant microbiologist advice was available to clinical staff twenty-four hours a day, seven days a week, in line with National Standards. The Irish National Accreditation Board accredited the Microbiology Department in the hospital.

The Infection Prevention and Control Team were part of and reported into the Infection Prevention and Control Committee. The Infection Prevention and Control Committee reported quarterly to the Quality and Safety Committee, which in turn reported to the Executive Management Team.

Membership of the Infection Prevention and Control Committee listed in the terms of reference included the General Manager, the Director of Nursing, a consultant surgeon or physician, the Quality and Risk Manager, a public health doctor and a patient representative. The Committee was chaired by the Consultant Microbiologist who led the Infection Prevention and Control Team. Minutes of quarterly meetings reviewed by inspectors showed consistent attendance by members with the exception of a consultant surgeon or physician. Following this inspection, the Committee should include representation from major clinical specialities at the hospital.

The terms of reference for the Infection Prevention and Control Committee outlined the functions of the committee as being responsible for developing and ratifying policies and procedures in relation to infection prevention and control at the hospital and as a resource of expert advice. The Committee produced an annual infection prevention and control work plan and an annual report.

Infection prevention and control staff performed alert organism* and alert condition surveillance from Monday to Friday and advised on the placement of patients requiring isolation. The infection control nurses performed daily ward rounds to provide advice to staff where patients with suspected or confirmed transmissible infections were accommodated. Advice was also provided daily to bed management meetings at the hospital.

Review of documentation and discussion with staff showed that the Infection Prevention and Control Team provided advice to hospital committees in relation to health and safety, hygiene services, waste management, decontamination and Legionella.

* Alert organisms are micro-organisms that pose a significant risk of transmission to non-infected patients or staff, resulting in colonisation or healthcare-associated infection, or that pose a significant risk of transmission to non-infected people in the wider population or community.

Monitoring and evaluation

The Hospital reported 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.

The Infection Prevention and Control Team monitored performance in relation to the following indicators:

- alcohol hand rub consumption
- antibiotic consumption
- percentage of hospital staff compliant with the World Health Organisation 5 movements of hand hygiene
- mandatory hand hygiene uptake by current healthcare staff that interact with patients
- quarterly microbiology surveillance reports with a monthly breakdown of antimicrobial resistant bacteria were presented to hospital management identifying clinical areas in the hospital where new cases were diagnosed.

The Infection Prevention and Control Committee circulated this performance information to clinical nurse managers, hospital consultants and heads of departments every three months.

Documentation reviewed by inspectors showed that there was also oversight of the following issues at each Infection Prevention and Control Committee meeting:

- overview of alert organisms and alert condition surveillance
- outbreaks of infection
- antimicrobial stewardship
- staff hand hygiene compliance
- staff training in relation to infection prevention and control
- infection prevention and control guideline development
- overview of reported incidents and risks related to infection prevention and control
- hospital bed management in relation to requirement for isolation rooms.

The Committee also reviewed results of audit of implementation of peripheral vascular catheter and urinary catheter care bundle implementation in clinical areas across the hospital.

Hospital management informed inspectors that incidents of healthcare-associated infection were recorded and reported in the Laboratory Surveillance report and non-

compliance with infection prevention and control policies were recorded in the National Incident Management System[†].

Patient feedback was sought in relation to infection prevention and control in monthly nursing metrics[‡] where patients were asked about their satisfaction with the cleanliness of the hospital.

The hospital had participated in a national point prevalence survey of hospital-acquired infections and antimicrobial use that was part of a European-wide study. Information for this study was collected at the hospital in May 2017. Data from this study should be used to proactively identify areas for improvement at the hospital.

Hospital hygiene audits

Members of the management team and Infection Prevention and Control Team at the hospital performed environmental hygiene audits in clinical areas on a monthly basis. These audits were detailed and included action plans for corrective actions in response to findings. Inspectors reviewed overview reports of environmental hygiene audit findings for 2016. Environmental hygiene audit average results across all clinical areas were greater than 85% and results were trended for each clinical area.

Inspectors were informed that the Infection Prevention and Control Team performed patient equipment audits and each clinical area was audited twice a year. Clinical areas where desirable standards were not achieved were re-audited to identify issues requiring improvement. Patient equipment and environmental hygiene audits results were trended and clearly presented to hospital management in overview reports, which is good practice and facilitates the identification of areas for improvement.

[†] The State Claims Agency National Incident Management System is a risk management system that enables hospitals to report incidents in accordance with their statutory reporting obligation

[‡] Metrics are parameters or measures of quantitative assessment used for measurement and comparison or to track performance.

2.2 Risk management

Line of enquiry 1.2

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

Risk in relation to the prevention and control of infection should be identified and effectively mitigated and managed. Significant risks identified in relation to the prevention and control of infection at the hospital had been identified by hospital management and recorded in the hospital's corporate risk register. These risks had been escalated to the Chief Executive Officer of the Dublin Midlands Hospital Group for mitigation.

Risks identified included:

- lack of isolation rooms and inadequate bed spacing at the hospital
- non compliance with decontamination standards and
- lack of clinical hand wash sinks that were in line with recommended guidelines.

To address the identified risks, inspectors were informed that hospital management, in conjunction with Dublin Midlands Hospital Group was undertaking a Development Control Plan at the time of inspection. Inspectors were also informed that planning permission had been granted to develop a new endoscopy unit, an oncology day ward, a general day ward and physiotherapy and occupational therapy departments. The Hospital was awaiting funding approval to proceed to tender.

To mitigate these risks at local level, hospital management informed HIQA that the infection prevention and control nurses attended bed management meetings Monday to Friday to guide staff regarding isolation of patients. The hospital had also developed an isolation prioritisation policy to guide staff outside of office hours.

A rolling programme of replacement and installation of clinical wash hand sinks had commenced across the hospital.

Review of documentation showed that there was regular review of these risks relevant to infection prevention and control.

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.

A suite of infection prevention and control policies procedures, protocols and guidelines were readily available at the hospital. This comprised policies that covered aspects of standard precautions, transmission-based precautions and the prevention of invasive device-related infection and an isolation prioritisation policy.

The hospital had developed a guideline for the prevention of ventilator-associated pneumonia that was in draft format and awaiting approval. The hospital did not have a policy for staff on aseptic non-touch technique or an overarching policy on transmission- based precautions. This should be reviewed following this inspection.

It was practice that the Infection Prevention and Control Committee ratified hospital policies relevant to infection prevention and control, which is appropriate. Hospital policies, procedures and guidelines were made available to staff in electronic format in the clinical areas. The hospital had an electronic document management system to ensure staff had access to the most up to date version of hospital policies, procedures and guidelines.

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.

National hand hygiene guidelines recommend that hand hygiene training should be mandatory for relevant staff at induction and every two years thereafter.³

Documentation provided by the hospital showed that hand hygiene training was mandatory for staff in Naas General Hospital at induction and every two years thereafter. Education around basic principles of infection prevention and control for clinical staff which included standard and transmission-based infection control precautions was mandatory for staff at induction and thereafter every two years.

HIQA were informed that education sessions on hand hygiene and basic principles of infection prevention and control were provided on a monthly basis at the hospital. Staff also had access to e-learning in respect of hand hygiene training and basic principles of infection prevention and control.

At the time of inspection, documentation provided to inspectors showed that 80% of relevant hospital staff had undertaken hand hygiene education in the previous two years to the end of April 2017. Uptake of hand hygiene training was 76% and 55% for nursing staff and medical staff respectively for this time period. Inspectors were informed that targeted education had been provided to medical staff to improve attendance. Uptake of basic infection prevention and control training across the hospital was 70% for relevant staff.

In the clinical areas inspected, 95% of staff in the Intensive Care Unit had attended mandatory training in basic principles of infection control in the previous two years while 52% of staff had attended this training in the medical ward inspected. All relevant staff in the Intensive Care Unit had completed hand hygiene training in the previous two years while 87% of staff in the medical ward had completed this training in the same period.

Hospital management should ensure that all relevant staff avail of infection prevention and control training at recommended intervals.

The Infection Prevention and Control Team also provided targeted education to staff including the following;

- prevention of intravascular catheter-related infections
- Aspergillosis prevention

- respiratory mask fitting
- sharps education, and management of needle stick injuries.

It is recommended that mandatory staff training around infection prevention and control be aligned to national guidance for such knowledge and skills and expanded to include aseptic non-touch technique for clinical staff involved in direct patient care.⁴

The Infection Prevention and Control Team facilitated a hand hygiene awareness day in May 2017 and infection prevention control awareness days in December 2016.

All staff at the hospital had access to advice from the Infection Prevention and Control Team and in addition, clinical staff had access to advice from the Consultant Microbiologist and a clinical pharmacist in respect of antimicrobial prescribing.

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 and surgical site infection

Care bundles[§] to reduce the risk of different types of infection have been introduced across many health services over the past number of years, and there have been a number of guidelines^{5, 6, 7} published in recent years recommending their introduction across the Irish health system. The implementation of care bundles to prevent invasive device-related infection was reviewed in both of the clinical areas inspected.

Intensive Care Unit

Care bundles for intravascular devices, urinary catheter care and ventilator-associated pneumonia were used in the Intensive Care Unit. The hospital had recently developed guidelines for the prevention of ventilator-associated pneumonia in the Intensive Care Unit. Results of an audit of ventilator-associated pneumonia care bundle implementation showed 75% compliance in June 2017. A quality improvement plan had been developed locally to improve compliance. The hospital had developed guidelines for the management of central vascular catheters that included a central venous catheter nursing care plan, a specific care bundle and a checklist for the monitoring of insertion of central vascular catheters. Central venous catheter care bundles compliance results for June 2017 were 100%. Peripheral vascular catheter bundles results for March 2017 and June 2017 in the Intensive Care Unit were 100%.

The medical ward

Peripheral vascular catheter bundle results for the medical ward inspected were 62% in March 2017 and 73% in June 2017. Urinary Catheter care bundle compliance audit results were 100%.

Peripheral vascular catheter care bundles and urinary catheter care bundles were implemented across the hospital and it was reported that implementation was audited on a quarterly basis. Results reviewed for compliance with peripheral vascular care bundles across the hospital was 86% in September 2016, 72% in

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

March 2017 and 92% in June 2017. It was reported that an area identified for improvement across the hospital was documentation of twice daily checking of the device. To address this finding, the hospital was in the process of revising related documentation in order to improve documentation. Urinary catheter care bundle compliance audit results across the hospital for 2016 and 2017 were 100%.

The hospital had worked to progress the implementation of evidence-based care for patients through care bundle implementation.

2.5.2 Surveillance of invasive device-related and surgical site infection

The surveillance** of healthcare-associated infection is one of the core components of an effective infection prevention and control programme.^{8,9,10} 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.^{11,12,13}

Naas General Hospital did not perform surveillance of these types of healthcare infections. HIQA acknowledges that currently this is the case in many public hospitals of similar size and activity level in Ireland. Implementation of surveillance of healthcare-associated infection surveillance programme requires dedicated resources and expertise.

Inspectors were informed that the hospital had held two meetings to date with surgical staff to consider developing a programme of targeted surgical site infection surveillance at the hospital. It is recommended that surveillance of healthcare-associated infection be targeted in patients at greatest risk of infection or in areas where deficiencies have been identified. Cooperation with other hospitals in the context of the wider hospital group in this regard may also be worthy of further exploration.

The hospital did not have a policy in relation to the prevention of surgical site infection, this should be developed in line with best practice guidelines.^{14,15,16,17}

** 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.

Naas General Hospital had systems in place for the 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.^{18, 19}

The hospital had introduced an alert system to inform staff in the Emergency Department of patients who had been colonised or infected with a transmissible microorganism. It was reported that the Infection Prevention and Control Team had introduced a questionnaire for people presenting to the Emergency Department to identify patients who had attended other healthcare facilities with known outbreaks of carbapenamase producing Enterobacteriaceae^{††} (CPE) so that these patients could be isolated until initial screening results were available.

On the day of inspection, 16 patients required single room isolation for infection control purposes. Information provided by the hospital showed that there were 15 patients isolated in single rooms at the hospital and that all of these isolation rooms had ensuite toilets. However, during the inspection, inspectors identified that patients with transmissible organisms were sometimes accommodated in multi-occupancy rooms with patients without transmissible organisms if they had a risk of falls and/or if they required close observation by nursing staff. Patients with transmissible organisms should be isolated in line with national guidelines.¹⁸

Isolation rooms with specialised ventilation for patients with airborne infection were not available at the hospital. Inspectors were informed that some isolation rooms did not have clinical handwash sinks for staff. However, a rolling programme of replacement and installation of clinical handwash sinks had commenced at the hospital. In addition, HIQA was informed that there were no isolation facilities in the Emergency Department, which does not facilitate effective containment of transmissible infection.

^{††} Carbapenamase producing Enterobacteriaceae (CRE), are a family of bacteria that can cause infections that are difficult to treat because of high levels of resistance to antimicrobials.

2.6.1 Preventing the spread of antimicrobial resistant organisms

Inspectors looked at implementation of aspects of transmission-based precautions 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.

Intensive Care Unit

Environment surfaces and patient equipment inspected in the Intensive Care Unit were visibly clean with very few exceptions. Hygiene audit results reviewed for 2017 showed compliance with desirable standards to be consistently greater than 94% and this was observed on the day of inspection.

Comprehensive cleaning specifications were in place that 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.²⁰

The Intensive Care Unit did not have sufficient isolation facilities. There was one single room in the Intensive Care Unit. This meant that patients with transmissible organisms were accommodated in the open plan three-bedded area of the unit if the isolation room was occupied. This does not facilitate effective containment of transmissible infection.

As outlined in a previous inspection report²¹ there were insufficient facilities for storage of medical equipment and supplies in the Intensive Care Unit. Clean supplies were stored in the dirty utility room. This practice increases the risk of contamination of these supplies with bacteria or other infectious organisms.

Inspectors observed that doors into the open plan, patient care area of the Intensive Care Unit were open during the inspection. These doors should be kept closed in as far as possible to facilitate effective operation of the air-conditioning and air-changing system in the unit. The design of some clinical hand wash sinks in the Intensive Care Unit did not conform to Health Building Note 00-10 Part C: Sanitary Assemblies.²²

The medical ward

The medical ward had four single rooms, which was insufficient to accommodate all patients requiring isolation precautions on the day of inspection. Inspectors observed that doors to these isolation rooms were open throughout the inspection. This practice needs to be reviewed in line with national guidelines.¹⁸

Environmental surfaces and patient equipment inspected in the medical ward were visibly clean with minimal exceptions. Trended environmental hygiene audit results for the medical ward for 2017 were consistently above 85%, however, patient equipment audits scores varied between 59% in March 2016 to 89% in October 2016 to 70% in June 2017 and showed that compliance with desirable standards were not consistently greater than 85%. Daily and weekly patient equipment cleaning checklists on the ward were not consistently completed. Inspectors were informed that management were aware of the findings from these audits and were addressing deficiencies identified.

One patient accommodated in an isolation room for infection control reasons did not have dedicated patient equipment and this was attributed to an insufficient amount of equipment being available on the ward. Inspectors were informed that this equipment had been ordered.

Similar to the Intensive Care Unit, clean supplies were inappropriately stored in the 'dirty' utility room in this ward. This practice is not recommended.

The medical ward did not have a dedicated room for the storage and management of cleaning equipment and cleaning supplies were stored in an adjacent ward. Hospital wards should have a designated cleaner's room equipped with a janitorial sink, handwashing facilities and space for cleaning equipment.²³

2.6.2 Safe injection practice

Inspectors reviewed aspects of standard precautions to assess safe injection practice in the clinical areas inspected. Staff spoken with were able to describe recommended safe injection practices.

Observation of the clinical environment showed that there was good practice in relation to the storage and management of medication for injection and supplies with some exceptions.

Inspectors found that the designated area for medication preparation was cluttered with integrated sharps trays and store supplies on the medical ward on the day of inspection. It is recommended that a separate workspace for medication preparation is provided and that this area is free of stored supplies. There was storage of sterile supplies in close proximity to a clinical hand wash sink. This poses a risk of splash contamination with water and should be reviewed.

In the Intensive Care Unit, medication administration trays were observed in a clinical hand wash sink. Clinical hand wash sinks should be dedicated for handwashing only.³

A blood analyser in the Intensive Care Unit was located in a clean utility room. A second machine, which was not in use, was located in a clean storeroom. It is recommended that blood analysers are located in an appropriate location away from sterile and clean medical supplies to avoid the risk of contamination with blood.

Surfaces in the medication preparation room in the Intensive Care Unit and medical ward inspected were visibly clean. Small splashes of blood were observed on one glucometer on the medical ward. Staff addressed this immediately.

2.6.3 Other measures to prevent the transmission of infection

Hand hygiene

Implementation of essential components of the World Health Organization (WHO) multimodal improvement strategy²⁴ were evident at Naas General Hospital. The hospital participated in national hand hygiene audits, the results of which were published twice a year. Inspectors were informed that local hand hygiene audits were also performed quarterly in clinical areas.

Documentation reviewed by inspectors showed that the hospital achieved 88% compliance rate in the national hand hygiene audit for May 2017, which was below the current required target of 90% set by the HSE. This was a decrease from the previous period in October 2016 where a rate of 96% was achieved. Inspectors were informed that in response to this compliance rate, targeted hand hygiene training had been provided to the relevant staff groups.

The most recent hand hygiene compliance audit result in the Intensive Care Unit was 80% in May 2017, which is less than desirable for a critical care facility. Documentation reviewed showed that a further audit was planned for this area. The medical ward inspected achieved 93%, which is above the national target.

Alcohol gel was available at the point of care in the clinical areas inspected in line with best practice guidelines.

Hospital management carried out what were described as quarterly multidisciplinary walkabouts of clinical areas to raise awareness about the importance of hand hygiene among staff.

Outbreak management

Documentation reviewed showed that there had been a number of outbreaks of infection in the hospital in 2016. Outbreak reports reviewed showed that these outbreaks were effectively contained and managed. There were no outbreaks reported on the day of inspection. While outbreak reports reviewed by inspectors included recommendations for each outbreak, they did not identify potentially

preventable predisposing factors that may prevent further recurrence of outbreaks in line with national guidelines.²⁵ The hospital should ensure that these reports identify outbreak control learning points and that these are provided to staff to identify any areas for improvement.¹

***Clostridium difficile* infection**

The hospital reported the rate of new cases of *Clostridium difficile* infection cases monthly to the HSE. The rate of *Clostridium difficile* infection at the hospital was within the HSE target of less than two cases per 10,000 bed days used from January to March 2017. However, documentation reviewed from the hospital indicated that this target was exceeded for April 2017.

Inspectors were informed that in response, the hospital had introduced a *Clostridium difficile* infection care bundle^{‡‡} across the hospital in May 2017 and this tool was completed by the infection prevention and control nurses. It was reported that root cause analysis was undertaken for all *Clostridium difficile* infection.

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 installation of an emergency lighting programme was in progress across the hospital. Signage was displayed at the main hospital entrance to inform the public that this work was in progress. The Infection Prevention and Control Team were involved in all aspects of the planning of this programme and had provided education to staff and external contractors in relation to Aspergillosis and preventative measures required during dust-generating activities. Inspectors viewed the areas where this work was in progress and method statements^{***} were reviewed. Inspectors found that the recommended environmental controls were in place in line with best practice.²⁶

Prevention of water-borne infection

A formal Legionella risk assessment had been performed at the hospital in 2015 and it was reported that this was planned to be repeated in 2017. The hospital had developed a policy on control of Legionella for the hospital and had implemented preventative measures relevant to water-borne infection that included regular outlet

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

§§ 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.

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

flushing and water tank cleaning. Regular water sampling for Legionella bacteria was performed at the hospital.

2.7 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. A number of initiatives aimed at optimising infection prevention and control were implemented at the hospital and these included the following:

- the hospital had conducted a patient and service user hand hygiene perception survey in March 2016 and repeated the survey in January 2017. Results from this survey found an increase from 48% to 65% in the number of patients who reported that hospital staff explained the importance of hand hygiene to them. There was a 50% increase in the number of patients who reporting that they were offered the opportunity to wash their hands before eating while 77% of patients in 2017 compared with 29% in 2016 reported that they were offered the opportunity to clean their hands after using toilet facilities
- participation in a meticillin-resistant *Staphylococcus aureus* surveillance project in association with St James's Hospital, which was in the same hospital group
- an Infection Control Champion programme since December 2016 where 14 members of staff were provided with supplementary training and education relevant to infection prevention and control as an added resource for staff in the clinical areas
- the development of an infection prevention and control resource folder for each clinical area
- hand hygiene wipes for patients to ensure that all patients had the opportunity to clean their hands before meals
- a revised patient equipment cleaning checklist
- revision of peripheral vascular catheter bundle documentation to facilitate recording of care bundle implementation
- a trial of disposable washbasins for patients.

2.8 Progress since the previous HIQA inspection

HIQA reviewed the quality improvement plan²⁷ developed by the hospital following the 2015 inspection against the National Standards. The majority of issues identified by HIQA during the last inspection had been addressed at the hospital including the following:

- storage had been reviewed in the Intensive Care Unit
- damaged floor covering had been replaced
- the management and cleaning of medication fridges had been reviewed and monitored
- a new macerator had been purchased for the Intensive Care Unit.

Infrastructural deficiencies, which could not be adequately mitigated locally, had been escalated through the HSE hospital group structure. Funding had been received to replace and install clinical hand wash sinks across the hospital on a phased basis.

3. Conclusion

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

HIQA found that there were clear lines of accountability and responsibility around the prevention and control of healthcare-associated infection in Naas General Hospital.

Hospital management had identified significant risks in relation to infection prevention and control at the hospital, which included lack of isolation rooms, poor infrastructure, non-compliance with decontamination standards and lack of clinical hand wash sinks in line with recommended guidelines. These risks had been escalated to the HSE.

While there was a programme in place to replace the clinical hand wash sinks, planned developments to address lack of isolation rooms, non-compliance with decontamination standards should be progressed as a priority. The hospital should consider including information such as findings from outbreak reports, surveillance reports and reported incidents to ensure that all relevant risks in relation to infection prevention and control are identified, assessed and mitigated.

Inspectors found that the hospital had a suite of policies in relation to the prevention and control of infection and hospital hygiene. The hospital had implemented a training programme for staff in relation to the prevention and control of healthcare-associated infection and staff had access to advice from the infection prevention and control team. Clinical staff also had access to advice from the Consultant Microbiologist.

The hospital had implemented evidence based care bundles for intravascular devices and urinary catheters and performed audit of care bundle implementation. The hospital had recently implemented and audited a ventilator-associated pneumonia bundle and had developed draft guidelines for this at the time of inspection.

Naas General Hospital did not perform surveillance of surgical site infection, central venous access device-related infection, urinary catheter associated urinary tract infections or ventilator-associated pneumonia in line with national guidelines.^{28,29,30} HIQA acknowledges that currently this is the case in many public hospitals of similar size and activity level in Ireland. Implementation of a surveillance programme for healthcare-associated infection requires dedicated resources and expertise. Cooperation with other hospitals in the hospital group in this regard may be worthy of further exploration.

Hospital management should expand their oversight of healthcare-associated infection process and outcome measures to facilitate wider evaluation of the impact of infection prevention and control measures.

Overall, patient equipment and patient environment was generally clean with some exceptions. Scope for improvement in relation to patient equipment hygiene was identified in the medical ward inspected. There was good ownership in relation to hospital hygiene and evidence of auditing processes in relation to environmental and patient equipment hygiene.

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5. Appendix

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,

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