



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of inspections at Mayo University Hospital, Castlebar, Co. Mayo

Monitoring programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections

Date of on-site inspections: 31 May and 13 July 2016

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 and support services in Ireland. HIQA's role is to develop standards, inspect and review health and social care and support services, and support informed decisions on how services are delivered. HIQA's ultimate aim is to safeguard people using services and improve the quality and safety of 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 the Minister for Children and Youth Affairs, the Health Information and Quality Authority 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 and support services in Ireland.
- **Regulation** – Registering and inspecting designated centres.
- **Monitoring Children's Services** – Monitoring and inspecting children's social services.
- **Monitoring Healthcare Quality and Safety** – Monitoring the quality and safety 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 and support services.

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Appendix 1-Copy of letter issued to Mayo University Hospital following the unannounced inspection on 31 May 2016.

Appendix 2-Copy of response received from Mayo University Hospital to the letter issued by HIQA following the unannounced inspection on 31 May 2016.

1. Introduction

The Health Information and Quality Authority (HIQA) carries out unannounced inspections in public acute hospitals in Ireland to monitor compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections*.¹ The inspection approach taken by HIQA is outlined in guidance available on HIQA's website, www.hiqa.ie – *Guide: Monitoring Programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections*.²

The aim of unannounced inspections is to assess hygiene in the hospital as observed by the inspection team and experienced by patients at any given time. It focuses specifically on the observation of the day-to-day delivery of services and in particular environment and equipment cleanliness and compliance with hand hygiene practice. In addition, following the publication of the 2015 *Guide: Monitoring Programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections*,² HIQA began assessing the implementation of infection prevention care bundles. In particular this monitoring will focus upon peripheral vascular catheter and urinary catheter care bundles, but monitoring of performance may include other care bundles as recommended in prior national guidelines^{3,4} and international best practice.⁵

Assessment of performance will focus on the observation of the day-to-day delivery of hygiene services, in particular environmental and hand hygiene and the implementation of care bundles for the prevention of device-related infections under the following standards:

- Standard 3: The physical environment, facilities and resources are developed and managed to minimize the risk of service users, staff and visitors acquiring a Healthcare Associated Infection.
- Standard 6: Hand hygiene practices that prevent, control and reduce the risk of spread of Healthcare Associated Infections are in place.
- Standard 8: Invasive medical device-related infections are prevented or reduced.

Other standards may be observed and reported on if concerns arise during the course of an inspection. It is important to note that the standards are not assessed in their entirety during an unannounced inspection and therefore findings reported are related to a particular criterion within a standard which was observed during an inspection. HIQA uses hygiene observation tools to gather information about the cleanliness of the environment and equipment as well as monitoring hand hygiene practice in one to three clinical areas depending on the size of the hospital. HIQA's approach to an unannounced inspection against these standards includes provision

for re-inspection within six weeks if standards on the day of inspection are poor. This aims to drive improvement between inspections. In addition, in 2016, unannounced inspections will aim to identify progress made at each hospital since the previous unannounced inspection conducted in 2015.

Timeline of unannounced inspections:

An unannounced inspection was carried out at Mayo University Hospital on 31 May 2016. A re-inspection on 13 July 2016 examined the level of progress which had been made regarding the infection prevention and control risks identified during the 31 May inspection. This report was prepared after the re-inspection and includes the findings of both inspections and any improvements observed between the first and second inspections. A summary of the inspection schedule is shown in Table 1.

Table 1: Summary of inspections carried out at Mayo University Hospital in 2016

Date of inspection	Authorized Persons	Clinical areas inspected/visited	Time of inspection
31 May 2016	Aileen O’ Brien, Noreen Flannelly-Kinsella and Gearóid Harrahill	The Orthopaedic Ward and the Renal Dialysis Unit were inspected. The central location for the laundering of cleaning textiles was visited. The Oncology Day Unit was revisited.	10:50hrs- 18:10hrs
13 July 2016	Aileen O’ Brien, Noreen Flannelly-Kinsella and Gearóid Harrahill	The Orthopaedic Ward, the Renal Dialysis Unit and the central location for the laundering of cleaning textiles were revisited. The central location for the storage of household cleaning equipment was visited.	10.55hrs- 18.00hrs

HIQA would like to acknowledge the cooperation of staff during both inspections.

2. Findings

This section of the report outlines findings of inspections undertaken at Mayo University Hospital on 31 May 2016 and 13 July 2016.

Overview of areas inspected

The Orthopaedic Ward is a thirty two-bedded ward with patient accommodation comprising three six-bedded rooms, one five-bedded room, one four-bedded room and five single en-suite rooms.

The Renal Dialysis Unit has 15 dialysis stations of which 13 are located within an open plan area, and two dialysis stations are located in each of two single en-suite rooms.

The central location for the laundering of cleaning textiles and the central location for the storage of household cleaning equipment were visited.

Structure of this report

The structure of this report is as follows:

- **Section 2.1** describes the immediate high risk findings identified during the inspection on 31 May 2016 and the mitigating measures implemented by the hospital in response to the findings.
- **Section 2.2** summarizes the key findings relating to areas of non-compliance observed during the inspection on 31 May 2016 and the level of progress made by the hospital in response to these findings at the time of re-inspection on 13 July 2016.
- **Section 2.3** outlines the progress made by the hospital following the unannounced inspection by HIQA on 12 March 2015.
- **Section 2.4** describes the key findings relating to hand hygiene under the headings of the five key elements of the World Health Organization (WHO) multimodal improvement strategy.⁶
- **Section 2.5** describes the key findings relating to infection prevention care bundles.

This report outlines HIQA's overall assessment in relation to the inspections, and includes key findings of relevance. In addition to this report, a list of additional low-level findings relating to non-compliance with the standards has been provided to the hospital for inclusion in local quality improvement plans. However, the overall nature of all of the findings is fully summarized within this report.

2.1 Immediate high risk findings

Introduction

During the unannounced inspection on 31 May 2016, immediate high risk findings in relation to infection prevention and control were identified. Specifically, risks were identified in relation to:

- Control measures to prevent invasive aspergillosis during construction and renovation works.
- The standard of patient equipment and environmental hygiene.

Cumulative findings identified were such that HIQA deemed that a re-inspection was necessary within six weeks. Details of these risks were communicated to the hospital. A copy of the letter issued to the hospital regarding the findings of the inspection on 31 May 2016 and a copy of the response received from the hospital are shown in Appendices 1 and 2 respectively.

Control measures to prevent invasive aspergillosis during construction and renovation works

During the May 2016 inspection there was a lack of basic control measures to prevent invasive aspergillosis associated with construction and renovation works in the Orthopaedic Ward during internal renovation and external building and soil excavation works. Measures required to prevent dust from entering the ward during construction work which was in progress at the time of inspection, were not in place. Doors that separated the main ward corridor from external soil excavation work were not closed. Dust generated by internal renovation work within the ward had not been effectively controlled with the result that dust and debris was visible on the ward corridor and an adjacent stairwell. In addition, multiple external windows on the side of the hospital facing the construction site were not closed even though the hospital's construction risk assessment stated that these windows should be closed. Infection prevention and control measures required during such activities to protect at-risk patients from invasive aspergillosis were not instituted in line with national guidelines.⁷ These risks were brought to the attention of the hospital management team during the inspection.

Patient equipment hygiene

Orthopaedic Ward

The standard of patient equipment hygiene in the Orthopaedic Ward was not in line with national infection control standards.¹ There was red staining on a patient-controlled analgesia device. Reusable injection trays for intravenous medications were stained and it was observed that reusable injection trays were not consistently

decontaminated after use, in line with best practice. Brown staining was visible on commodes and on two patient armchairs. At local level, daily cleaning checklists for patient equipment were not consistently completed and therefore there did not appear to be appropriate managerial oversight of the cleaning of patient equipment.

Renal Dialysis Unit

Overall patient equipment in the Renal Dialysis Unit was generally clean.

Environmental hygiene

Orthopaedic Ward

The standard of environmental cleaning in the Orthopaedic Ward was not in line with national infection control standards and national cleaning standards.^{1,8} The cover and core of one mattress was badly stained and malodorous. Mattress covers and cores should be checked regularly and damaged mattresses should be replaced as necessary. Dust was observed on the undercarriages of some beds and on a patient trolley. These issues were addressed at the time of the inspection.

Brown staining was visible on toilet seats, on a raised toilet seat attachment and on most toilet cleaning brushes. In addition, a shower chair was unclean. Dust was present on multiple surfaces including floor edges, a worktop and shelving in the clean utility room, a staff workstation and an orthopaedic procedure trolley. A resuscitation trolley and a patient healthcare record trolley were also dusty. Some waste bins were unclean. Extract ventilation grilles in patient shower and toilet rooms were heavily coated with dust and fluff and did not appear to have been cleaned for some time. The upholstered surfaces of a patient procedure trolley, a chair and a long fixed sofa in a lobby outside the ward were damaged and therefore did not facilitate effective cleaning.

Reusable spray bottles for cleaning products were not managed in line with best practice guidelines. Poorly maintained spray containers may facilitate the growth of bacteria and subsequent use may result in environmental contamination.

Inspectors found that the frequency of environmental cleaning was not in line with recommended national minimum cleaning frequencies. Similar to patient equipment cleaning, daily cleaning checklists were not consistently completed and therefore there did not appear to be appropriate managerial oversight of environmental cleaning.

There was a lack of clarity locally in relation to the frequency of environmental hygiene audits and the results of these audits. Documentation reviewed showed that the Orthopaedic Ward achieved 98% compliance with desirable standards in

environmental hygiene audits performed from January to May 2016. This level of compliance was not evident on the day of inspection.

Renal Dialysis Unit

Opportunities for improvement in relation to environmental hygiene were observed in the Renal Dialysis Unit. Unacceptable levels of heavy dust were observed on the undercarriages of six beds inspected. Multiple surfaces in the staff workstation were very dusty. Dust was also present on floors, on extract ventilation grilles, on window sills and on some horizontal ledges. There was a lack of clarity regarding the allocation of responsibility for the cleaning of bed undercarriages. Other findings included a brown stain on the cover and core of one mattress. Mattress covers and cores should be checked regularly and damaged mattress covers should be replaced as necessary. Local supervision and management arrangements did not appear to have identified these deficiencies in cleaning. Additionally, local environmental hygiene audits did not identify these issues and therefore did not provide assurance in relation to the standard of environmental hygiene in this unit. Documentation reviewed showed that the Renal Dialysis Unit achieved 97% compliance in environmental hygiene audits conducted between January and May 2016. This level of compliance was not evident on the day of the inspection. Renal Dialysis Units are regarded as very high risk functional areas and should be cleaned in line with national minimum cleaning frequencies.⁹

Re-inspection 13 July 2016

The next section of this report outlines the progress made by the hospital following the unannounced inspection in May 2016.

Control measures to prevent invasive aspergillosis during construction and renovation works

The hospital reported that risks in relation to measures to prevent invasive aspergillosis during construction and renovation works had been mitigated immediately as described by the hospital in Appendix 2.

Patient equipment hygiene

Orthopaedic Ward

There was significant improvement in patient equipment cleaning processes since the May 2016 inspection. The hospital had devised a comprehensive cleaning schedule and checklist for patient equipment in individual clinical areas in line with national guidelines.⁸ All elements of patient equipment that required cleaning, in addition to the frequency of cleaning, the responsible person and cleaning methods were clearly defined. Going forward, it is recommended that there is appropriate

managerial oversight to ensure that the patient equipment cleaning specification is implemented.

Environmental hygiene

Significant scope for improvement was again identified in relation to environmental hygiene in both the Orthopaedic Ward and the Renal Dialysis Unit during the re-inspection in July 2016.

Orthopaedic Ward

Similar to the May 2016 inspection, dust was noted on the undercarriages of some beds. The side rails of one bed were also unclean. Varying levels of dust was noticed on some floors and horizontal surfaces.

Cleaning of ventilation extract grilles identified during the May 2016 inspection had not been addressed. National minimum cleaning frequencies recommend that areas should be adequately ventilated with ventilation units cleaned and serviced accordingly and that ventilation grilles have a full external clean weekly and a full clean twice yearly.⁸ The hospital did not appear to have an established weekly cleaning schedule for ventilation extract grilles, which is of concern. It was reported that the hospital was in the process of addressing this finding.

Cleaning sessions in the Orthopaedic Ward had been revised since the previous inspection. Cleaning of multi-occupancy wards commenced at midday coinciding with patients' lunch time, it is recommended that this arrangement is reviewed.

An audit of mattress integrity had been performed in the ward and the hospital was planning to implement regular mattress audits as recommended. The hospital had invested in some new mattresses since the May 2016 inspection.

A local environmental hygiene audit performed in the Orthopaedic Ward following the May 2016 inspection showed only 52% compliance with desirable standards. This finding highlights the need to significantly improve environmental hygiene in this clinical area.

Renal Dialysis Unit

There was only minimal improvement in the overall standard of environmental hygiene in the Renal Dialysis Unit since the HIQA inspection in May 2016. Dust was again observed on the undercarriages of patient beds, on floor areas and in light fittings. Heavy dust was observed on some horizontal surfaces in the staff workstation. Appropriate cleaning arrangements had not been implemented for the cleaning of dialysis beds. A local hygiene audit in the Renal Dialysis Unit, following the May 2016 inspection, showed only 50% compliance with desirable standards.

It was reported that the position of Hygiene Services Manager was vacant in the hospital which was also a finding in the 2015 HIQA inspection. Following the HIQA inspection in May 2016 the hospital had temporarily redeployed a staff member to oversee cleaning in the hospital. It was reported that the hospital was in the process of recruiting a permanent Hygiene Services Manager.

Hospital managers told inspectors that the frequency of environmental hygiene audits had been increased. Additionally the senior management team had commenced a schedule of regular visits to the clinical areas inspected to follow up on the implementation of recommendations.

Based on the findings of both HIQA inspections it is apparent that the management of environmental hygiene in the hospital requires significant revision and improvement. It is recommended that the hospital comprehensively reviews all aspects of environmental hygiene delivery and associated management to facilitate compliance with recommended hospital hygiene standards and guidelines.^{1, 8, 10} Such a review should include identification of all elements to be cleaned in the hospital, cleaning methods, cleaning frequency, allocation of cleaning responsibilities and resource requirements. Training of staff, supervision, management and assurance arrangements need to be improved upon.

2.2 Key findings of the 2016 inspections

The key findings observed during the May 2016 unannounced inspection and progress made between that inspection and the re-inspection in July 2016 are presented below.

Safe injection practice

There was no clearly identifiable surface for the preparation of intravenous medications in the clean utility room in the Orthopaedic Ward. It is recommended that a clearly defined space for medication preparation is identified. Inspectors noted that there was lack of clarity in relation to the procedure for cleaning blood glucose monitors. It was reported that disposable supplies for multiple blood glucose test procedures were brought to the patients' bedside. It is recommended that only the equipment required for a single procedure should be brought to a patient bedside, to reduce the risk of transmission of blood-borne viruses. The method for cleaning blood glucose monitors should be clearly defined.

Re-inspection 13 July 2016

The hospital had not sufficiently addressed findings in relation to the medication preparation area in the clean utility room. It was reported that the hospital planned to reconfigure storage facilities within this room. In the interim it is again recommended that a clearly defined space for medication preparation is provided.

Healthcare risk waste management

The storage of injection trays with integrated sharps containers was not ideal in the Orthopaedic Ward. These trays were stacked on the sill of an open window located on a floor above ground level facing the front of the hospital. The temporary closing mechanisms on these sharps containers were not engaged and some sharps containers were overfilled. It is recommended that sharps containers are not stored near open windows as this presents a potential risk of serious injury to persons in the hospital grounds. Healthcare risk waste should be managed in line with current best practice guidelines.¹¹

Re-inspection 13 July 2016

Issues identified in relation to the safe storage and management of sharps containers in the Orthopaedic Ward during the May 2016 inspection had not been addressed. This was again highlighted to the hospital management team. Additional healthcare risk waste management training for hospital staff is recommended.

Transmission-based precautions

The door to an isolation room accommodating a patient requiring transmission-based precautions was open at the time of inspection in the Orthopaedic Ward which was not in line with best practice. Doors to rooms of patients requiring transmission-based precautions should be kept closed as much as possible.

There was a lack of clarity regarding ventilation settings in isolation rooms in the Renal Dialysis Unit. HIQA recommends that the hospital review arrangements regarding isolation room pressure settings to ensure that ventilation settings are appropriate and that there is clear understanding of this at local level.

The central location for the laundering of cleaning textiles

There was a failure to separate clean and dirty functions in a room in which the laundering and reprocessing of cleaning textiles was performed and this posed a risk of contaminating items such as cleaning cloths and reusable spray containers for cleaning detergents. There were no designated hand hygiene facilities for staff in this area or appropriate personal protective equipment in this room. Surfaces in the room were not clean and there was inappropriate storage of clean stock supplies next to cleaning equipment. The hospital was advised to review arrangements for the laundering of cleaning textiles and the management of reusable spray containers.

Re-inspection 13 July 2016

It was reported to HIQA that the hospital had discontinued the practice of laundering cleaning textiles onsite and that this function had been transferred to an external laundry facility. However, poor practice was again identified in relation to the separation of clean and dirty functions in a room where dirty mop heads were collected. As identified in the previous inspection, this again posed a risk of contaminating reusable spray containers for detergent and stock items stored in the same room.

Poor practice was also identified in relation to the management of machines used to scrub and dry floors. These machines were stored inappropriately on a corridor next to an open external door. The scrubber dryer machine tank was emptied after use into an external drain where there was no protection from weather conditions. This unhygienic arrangement did not facilitate decontamination of the scrubber dryer water tank which is a requirement in order to prevent bacterial contamination. In addition, there were no designated hand hygiene facilities for staff performing this work. Poorly maintained floor scrubber dryers can result in the release of contaminated aerosols into the hospital environment.

It was recommended that the use of reusable spray bottles and the use of scrubber dryers in the hospital be discontinued as appropriate procedures for reprocessing these had not been established. Practices in relation to the use of equipment for wet cleaning require significant improvement. Alternative arrangements should be put in place until there are formal procedures for managing these items which are in line with best practice guidelines. Equipment used for cleaning should not contribute to the dispersal of micro-organisms.

Storage and facilities

Storage space in the Renal Dialysis Unit was very limited. Equipment including a dialysis bed, a moving and handling hoist and an armchair were stored inappropriately in the en-suite toilet of an occupied isolation room. Sterile supplies were inappropriately stored in open shelving on a corridor and also in a cupboard containing patient healthcare records.

One ancillary room in the Renal Dialysis Unit was used as an office but also contained an examination couch for patient's which was in direct contact with the office desk. Use of this room as both an office and a consultation room is not appropriate and requires review.

There was inappropriate storage of patient equipment in the Orthopaedic Ward, the designated equipment storage room was dusty and the design of the room did not facilitate the storage of equipment off floor level.

Re-inspection 13 July 2016

Some improvement had been made in relation to storage facilities in the Renal Dialysis Unit at the time of re-inspection. Plans were underway to reconfigure storage facilities for supplies in the unit.

Significant improvements had been made in the patient equipment storeroom in the Orthopaedic Ward which facilitated cleaning and the storage of equipment off floor level.

Maintenance

It was reported that there was delays in processing maintenance requests in the Orthopaedic Ward. The hospital reported that the position of maintenance manager had been vacant for a number of months in 2016. Outstanding issues in relation to hospital maintenance need to be addressed.

2.3 Progress since the unannounced inspection on 12 March 2015

In 2015, HIQA conducted an unannounced inspection at Mayo University Hospital. The Quality Improvement Plan (QIP) published by the hospital following the 2015 inspection was reviewed.¹² Some, but not all issues listed in the QIP, had been addressed by the hospital. It is of concern to HIQA that findings from the previous HIQA inspection showed that deficiencies in relation to hospital cleaning had not all been successfully addressed. The lack of a hygiene services manager was identified as a significant deficiency in an unannounced inspection carried out by HIQA in Mayo University Hospital in 2015. It was of concern to HIQA that this post was still not filled on inspection in 2016. The hospital needs to review and enhance the management structures it has in place to ensure a coordinated approach to the delivery of hygiene services.

It was reported that a locum consultant microbiologist position had been filled. Scheduling of patients in the Oncology Day Ward had been revised and as a result this had reduced the number of patients in the unit at any one time. The storage of sterile supplies in mobile carts in the Oncology Day Unit remained outstanding and needs to be addressed. During the May 2016 inspection it was reported that additional resources were required to facilitate cleaning in the Oncology Day Unit. A business case for this deficiency had been submitted by the hospital to the HSE. This deficiency needs to be addressed.

Inspectors were told that the hospital had performed a legionella risk assessment in June 2015. It was reported that legionella bacteria had been isolated from some elements of the hospital water supply system. This issue was being addressed by the hospital. It is recommended that any risks identified in the legionella risk assessment

are addressed effectively and that legionella control measures are managed in line with current national guidelines.¹³

2.4 Key findings relating to hand hygiene

2.4.1 System change ⁶: *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene.*

- Clinical hand wash sinks in patients rooms in both the Renal Dialysis Unit and the Orthopaedic Ward inspected conformed to Health Building Note 00-10 Part C: Sanitary assemblies.¹⁴ Hand washing sinks in two ancillary rooms in the Orthopaedic Ward had knee operated taps which did not conform to Health Building Note 00-10 Part C. On the day of inspection not all staff appeared to be familiar with the operation of these facilities.
- Hand hygiene facilities were not available in the centralized areas for the laundering of cleaning textiles and storage of cleaning equipment.
- Alcohol gel dispensers were available at each point of care in both the Renal Dialysis Unit and the Orthopaedic Ward.
- Access to clinical hand wash sinks in multi-bedded rooms in the Orthopaedic Ward was partially restricted due to the location of some sinks behind doors.

2.4.2 Training/education ⁶: *providing regular training on the importance of hand hygiene, based on the 'My 5 Moments for Hand Hygiene' approach, and the correct procedures for hand rubbing and hand washing, to all healthcare workers.*

- Hospital records for hand hygiene training compliance demonstrated that 74% of relevant staff were up to date with mandatory training requirements in the previous two year period.
- In the Orthopaedic Ward and Renal Dialysis Unit, 68% and 79% of staff respectively were up to date with hand hygiene training. It is recommended that relevant healthcare staff receive hand hygiene training every two years. Uptake of hand hygiene training among staff in the hospital requires improvement.

2.4.3 Evaluation and feedback ⁶: *monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among healthcare workers, while providing performance and results feedback to staff.*

National hand hygiene audit results

Mayo University Hospital participates in the national hand hygiene audits which are published twice a year. The hospital was not in compliance with the required Health Service Executive (HSE)¹⁵ national compliance target of 90% as shown in Table 2. Documentation reviewed showed that hospital hand hygiene compliance for May/June 2016 was 83%, which again remains below the desirable national target. The hospital needs to significantly improve overall performance going forward.

Table 2: Mayo University Hospital national hand hygiene audit results

Time period	Result
March/April 2011	61.9%
October/November 2011	69.4%
May/June 2012	76.2%
October/November 2012	82.2%
May/June 2013	83.8%
October/November 2013	86.7%
May/June 2014	91.4%
October/November 2014	81.9%
May/June 2015	82.4%
October/November 2015	81.0%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.¹⁶

Local hand hygiene audits

- The results of the most recently available hand hygiene compliance audits for the Orthopaedic Ward show compliance of 76% for March 2016. This requires improvement.
- A hand hygiene compliance audit had not been performed in the Renal Dialysis Unit in 2016.
- The hospital needs to ensure that targeted education and timely re-audit is undertaken when hand hygiene compliance is poor. Hand hygiene audits should be performed regularly in high risk clinical areas such as renal dialysis units.

Observation of hand hygiene opportunities

Hand hygiene practices were not audited by inspectors during this inspection.

2.4.4 Reminders in the workplace⁶: *prompting and reminding healthcare workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.*

- Hand hygiene advisory posters were up to date, clean and appropriately displayed in the areas inspected and visited.

2.4.5 Institutional safety climate⁶: *creating an environment and the perceptions that facilitate awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels.*

- The unannounced inspection in May 2016 coincided with the hospital's 'Hand Hygiene Awareness Day'.
- In March 2016, the hospital invested in what was described as an ongoing staff education initiative entitled 'Back 2 Basics', which aims to promote infection prevention and control awareness among staff. As part of this initiative each clinical area has appointed a hand hygiene champion to promote best practice. This is a positive development.

2.5 Key findings relating to infection prevention care bundles*

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 published in recent years recommending their introduction across the Irish health system.^{3, 4}

Peripheral vascular catheter and urinary catheter care bundles had been implemented in the Orthopaedic Ward. Results of a hospital wide care bundle audit for 2015 showed that compliance with care bundle implementation varied significantly across clinical areas. The Orthopaedic Ward only achieved 40% compliance with peripheral vascular catheter care bundle implementation in the audit. Compliance data in relation to care bundles was not available for the Renal Dialysis Unit. The hospital's nursing metric audits include limited information in relation to the implementation of care bundles. It is recommended that targeted education is focused in poorly performing areas and that the frequency of care bundle compliance auditing is increased.

3. Summary

Following an unannounced inspection at Mayo University Hospital on 31 May 2016, a number of deficiencies were identified in relation to effectively implementing control measures to prevent invasive aspergillosis during construction and renovation works and poor standards of environmental and patient equipment hygiene. Cumulative findings were poor enough to be considered an immediate high risk finding and a re-inspection which was carried out on 13 July 2016.

At the time of re-inspection HIQA found that significant progress had been made in relation to measures to prevent invasive aspergillosis during construction and

* A care bundle consists of a number of evidence based practices which when consistently implemented together reduce the risk of device related infection.

renovation works and improving patient equipment hygiene in the Orthopaedic Ward. However, there remained significant scope for improvement in relation to the standards of environmental hygiene in both the Orthopaedic Ward and the Renal Dialysis Unit.

Findings of both inspections did not provide assurance that environmental hygiene was being effectively managed in line with best practice guidelines. It is of concern to HIQA that this was similar to findings from unannounced inspections in both 2014 and 2015. A collective approach to the implementation of good practice by all staff is needed. This will require more effective leadership at all levels, and more effective governance at a senior level within the hospital to promote best practice in environmental hygiene. A full review of all aspects of environmental hygiene service delivery and associated management in the hospital is recommended as a matter of priority.

The hospital was not in compliance with the required Health Service Executive (HSE) national hand hygiene compliance target of 90%. The hospital therefore, needs to continue to improve overall performance in relation to hand hygiene. The hospital has implemented care bundles across clinical areas. It is recommended that there is regular audit of care bundle implementation and that aspects of device-related care requiring improvement are identified and addressed.

Mayo University Hospital, as a member of the wider Saolta Hospital Group, should be supported within the group structure in order to facilitate compliance with national standards.

4. Next steps

Mayo University Hospital must now revise and amend its quality improvement plan (QIP) that prioritizes the improvements necessary to fully comply with the standards. This QIP must be approved by the service provider's identified individual who has overall executive accountability, responsibility and authority for the delivery of high quality, safe and reliable services. The QIP must be published by the hospital on its website within six weeks of the date of publication of this report and at that time, provide HIQA with details of the web link to the QIP.

It is the responsibility of Mayo University Hospital to formulate, resource and execute its QIP to completion. HIQA will continue to monitor the hospital's progress in implementing its QIP, as well as relevant outcome measurements and key performance indicators. Such an approach intends to assure the public that the hospital is implementing and meeting the standards, and is making quality and safety improvements that safeguard patients.

5. References[¥]

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Appendix 1- Copy of letter issued to Mayo University Hospital following unannounced inspection on 31 May 2016



Charlie Meehan
General Manager
Mayo University Hospital
Castlebar
Co Mayo

Charlie.meehan@hse.ie

02 June 2016

Ref: PCHCAI/635

Dear Charlie

National Standards for the Prevention and Control of Healthcare Associated Infections (NSPCHCAI) Monitoring Programme

I am writing as an Authorized Person under Section 70 of the Health Act 2007 (the Act) for the purpose of monitoring against the *National Standards for the Prevention and Control of Healthcare Associated Infections (NSPCHCAI)* pursuant to Section 8(1)(c) of the Act.

Under section 8(1)(c) of the Act, authorized persons from the Health Information and Quality Authority (HIQA) carried out an unannounced inspection at Mayo University Hospital, Castlebar on 31 May 2016.

During the course of the unannounced inspection, authorized persons identified specific issues that may present a serious risk to the health or welfare of patients, visitors and staff and immediate measures need to be put in place to mitigate these risks.

The findings identified were such that a second unannounced re-inspection will be conducted within six weeks. The risks identified at Mayo University Hospital included, but were not limited to:

- **Aspergillus control** - failure to implement measures to protect at-risk patients in the hospital while internal renovation activity and external

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building and soil excavation works were in progress on site on the day of inspection.

- **Environmental and patient equipment hygiene** – the quality of environmental and equipment cleaning in the Orthopaedic Ward was poor and cleaning processes were not in line with best practice. Responsibilities in respect of cleaning duties in the Renal Dialysis Unit were unclear and the majority of patient beds were dusty.

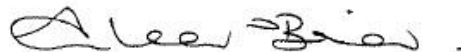
Given the potential risks of infection associated with an unclean patient environment, unclean patient equipment and the risk of construction related fungal aerosol pollution; there is an urgent requirement to mitigate these risks. The above issues were brought to the attention of the senior hospital management team during the inspection.

While these issues and this correspondence will be referred to in the final inspection report, HIQA believes it is important that these risks are brought to your attention now, in advance of this. This is being done so that you may act to mitigate and manage the identified risks as a matter of urgency and in preparation for a re-inspection by HIQA within six weeks.

Please formally report back to HIQA by **5pm on 07 June 2016** to qualityandsafety@hiqa.ie, outlining the measures that have been enacted to mitigate the identified risks. Details of the risks identified will be included in the report of the inspection. This will include copies of HIQA's notification of high risks and the service provider's response.

Should you have any queries, please do not hesitate to contact me at qualityandsafety@hiqa.ie. Please confirm receipt of this letter by email (qualityandsafety@hiqa.ie).

Yours sincerely,



Aileen O'Brien
Authorized person

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Cork, Ireland.
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e-mail: info@hiqa.ie www.hiqa.ie

CC: Maurice Power, Group Chief Executive Officer, Saolta Hospital Group
Liam Woods, National Director of Acute Services, Health Service Executive
Mary Dunnion, Director of Regulation, Health Information and Quality
Authority

Appendix 2-Copy of response received from Mayo University Hospital in response to letter issued by HIQA following unannounced inspection on 31 May 2016



Western Area,
Health Service Executive,
Mayo University Hospital,
Castlebar,
Co. Mayo,
Ireland.

Tel: (094) 9042000
Fax: (094) 9021454

Our ref: CM/FMH/fn

7th June 2016

Ms Aileen O'Brien
Authorised Person
Health Information and Quality Authority
Head Office
Unit 1301, City Gate
Mahon
Cork
info@hiqa.ie

Dear Ms O'Brien,

Re: National Standards for the Prevention and Control of Healthcare Associated Infections (NSPCHAI) Monitoring Programme

Further to your communication dated 2nd June 2016 regarding the unannounced inspection at Mayo University Hospital on the 31st May 2016 and the specific issues identified under Section 8(1) C of the Act, please find enclosed a report which outlines the measures which have been enacted to mitigate the risks.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Charlie Meehan".

Charlie Meehan
General Manager
Mayo University Hospital

c.c. Mr Maurice Power, Group Chief Executive Officer, Saolta Hospital Group
Mr Liam Woods, National Director of Acute Services, Health Service Executive
Ms Mary Dunning, Director of Regulation, Health Information and Quality Authority

Mayo University Hospital
Unannounced HIQA Inspection – 31st May 2016

<i>Risk</i>	<i>Action/Measures Taken</i>	<i>Timeframe</i>
<p><i>Aspergillus control</i> <i>Failure to implement measures to protect at-risk patients in the hospital while internal renovation activity and external building and soil excavation works were in progress on site on the day of inspection.</i></p>	<p><u><i>External Building precautions</i></u></p> <p>1. <u><i>Awareness and reinforcement</i></u></p> <p>General Manager issued a directive to all Heads of Departments for attention of all staff in relation to keeping windows closed and outlining the escalation process if a breach is discovered.</p>	Immediate
	<p>2. <u><i>Signage</i></u></p> <p>New signage outlining the rationale for control measures to be placed on all designated windows and doors.</p>	Immediate
	<p>3. <u><i>Monitoring</i></u></p> <p>Managers in the designated areas to monitor compliance on a continuous basis to ensure directive is adhered to.</p>	Immediate
	<p>4. <u><i>Audit</i></u></p> <p>Daily audit by Infection Control team and by ADONs at weekends and Bank Holidays to ensure compliance with directive.</p>	Immediate
	<p>5. <u><i>Policy</i></u></p> <p>MUH will review its Infection control guideline for the prevention of nosocomial invasive aspergillosis during construction/renovation. The guideline will be updated in line with the draft National Guideline for the prevention of nosocomial aspergillosis from the HPSC (latest draft, 22nd March 2016)</p>	30th June 2016
	<p>6. <u><i>Soil excavation works</i></u></p> <p>Main Contractors through Technical Services notified and will be assigning personnel to reclose windows. Photographic evidence will be produced of same.</p>	8 th June 2016

	<p><u>Precautions for on-going internal building works</u></p> <p><u>7. Immediate response</u></p> <p><i>Suspension of construction works in Orthopaedic Dept by external building contractors pending review of the method statement by Infection Control Team and Maintenance Department. All debris cleared.</i></p> <p><u>8. Awareness and Reinforcement</u></p> <p><i>Memo to be forwarded to all Maintenance staff regarding the guidelines for the prevention of nosocomial invasive aspergillosis during construction/renovation.</i></p> <p><u>9. Education</u></p> <p><i>A schedule for further education to be arranged for staff in affected areas in relation to precautions regarding nosocomial invasive aspergillosis during construction/renovation.</i></p> <p><u>10. Future Developments</u></p> <p><i>In future all method statements will be submitted to Infection Control Team and Maintenance Department on site to ensure compliance with the guidelines for the prevention of nosocomial invasive aspergillosis during construction/ renovation.</i></p> <p><i>Continue to proactively recruit a maintenance Manager</i></p>	<p><i>Immediate suspension and review by the 16th June 2016</i></p> <p><i>7th June 2016</i></p> <p><i>31st July 2016</i></p> <p><i>Immediate</i></p> <p><i>Ongoing</i></p>
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<p>Environmental and patient equipment hygiene – the quality of environmental and equipment cleaning in the Orthopaedic Ward was poor and cleaning processes were not in line with best practice. Responsibilities in respect of cleaning duties in the Renal Dialysis Unit were unclear and the majority of patient beds were dusty.</p>	<p>1. <u>Immediate Response</u></p> <p>Immediately act to address the specific areas of non-conformance identified by the HIQA team. Equipment and environment.</p>	<p>Immediate</p>
	<p>2. <u>Gap analysis</u></p> <p>Gap analysis to be carried out in both Renal Dialysis Unit and Orthopaedics to identify gaps that exist between the current cleaning schedules on the wards. A written schedule of tasks to be drawn up and assigned to relevant teams. This will entail clarification of roles and responsibilities of both in-house and contact cleaners.</p>	<p>Immediate</p>
	<p>3. <u>Personnel</u></p> <p>Immediate appointment of a hygiene co-ordinator for an initial period of three months who will report directly to the Director of Nursing and Midwifery and the General Manager in the immediate term.</p> <p>Review of staffing levels and contracts in both areas once schedules are drawn up.</p>	<p>Immediate</p>
	<p>4. <u>Audit</u></p> <p>Immediate implementation of the National Hygiene Audit tool and a schedule be drawn in conjunction with DONM and GM. Weekly audit schedule to be drawn up by hygiene co-ordinator. Action plans to be implemented based on audit to ensure that processes are in line with best practices and no gaps in cleaning routines.</p>	<p>24th June 2016</p>
	<p>5. <u>Back to Basics</u></p> <p>Progress with the back to Basics project plan by department. To achieve accreditation for each clinical area. Accreditation is defined as</p> <ul style="list-style-type: none"> ▪ Hand hygiene audit results >90%. ▪ Equipment cleanliness audit results >90%. ▪ Environmental Hygiene audit results >85%. 	<p>Monthly Review</p>

	<ul style="list-style-type: none"> ▪ <i>Linen room should have linen only</i> ▪ <i>Waste store room should have waste bags placed in the correct collection container</i> ▪ <i>IV care bundle audits >90% (where applicable).</i> ▪ <i>Urinary catheter care bundle audits >90% (where applicable).</i> ▪ <i>Personal Protective equipment audits >90% compliance.</i> ▪ <i>Department must be above 90% compliance in Infection Prevention Training attendance (2 yearly minimum per staff member).</i> ▪ <i>All staff must have watched the ANTT video on IV management and be able to state safe practice for IV insertion and management.</i> <p><i>6. <u>Monitoring and reassurance</u></i></p> <p><i>Weekly review of this action plan by General Manager and the Director of Nursing and Midwifery, who will report progress at weekly Hospital Management Team.</i></p>	<p><i>Immediate</i></p>
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End of report

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