Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at Letterkenny University Hospital, Co. Donegal

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

Date of inspection: 28 June 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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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 the 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 practice of the implementation of infection prevention care bundles. In particular this monitoring focused 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 [2] 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.

An unannounced inspection was carried out at Letterkenny University Hospital on 28 June 2016 by Authorized Persons from HIQA**,** Aileen O' Brien, Noreen Flannelly-Kinsella and Gearóid Harrahill between 09.20hrs and 17.15hrs. The areas assessed were:

- **Medical 3 Ward** which comprises 16 single en-suite rooms, of which four are negative pressure isolation rooms.
- The **Renal Dialysis Unit** which comprises 14 dialysis stations located in two geographically separate clinical areas. The main dialysis unit is configured such that there are nine dialysis stations within an open plan area and a dialysis station in each of two single rooms. An additional three dialysis stations are located in a separate smaller area on the floor directly above the main dialysis unit.

In addition, the Orthopaedic Ward and Medical 2 Ward, which were inspected during an unannounced inspection by HIQA on 18 June and a reinspection on 23 July 2015, were revisited to assess the level of progress which had been made in the interim.

HIQA would like to acknowledge the cooperation of staff with this unannounced inspection.

2. Findings

This report outlines HIQA's overall assessment in relation to the inspection, and includes key findings of relevance. 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 the key areas of non-compliance is within this report.

This report is structured as follows:

- **Section 2.1** outlines the level of progress made since the last inspection on 23 July 2015.
- **Section 2.2** presents the key findings of the unannounced inspection on 28 June 2016.
- **Section 2.3** 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] during the unannounced inspection on 28 June 2016.

- **Section 2.4** describes the key findings relating to infection prevention care bundles during this unannounced inspection.

2.1 Progress since the last unannounced inspection on 23 July 2015

HIQA reviewed the Quality Improvement Plan (QIP)[7] published by the hospital following the June and July 2015 HIQA inspections. The QIP indicated that issues identified in the last HIQA inspection had been addressed. A significant level of improvement was evident on the day of inspection in this regard and the hospital has shown that it is clearly endeavouring to implement the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1] Observations made during this inspection indicated that actions identified in the QIP in relation to preventative measures to control nosocomial aspergillosis had not been fully implemented. Findings will be discussed further in this report.

Environment and equipment hygiene

Since the last inspection, the hospital had undertaken a comprehensive revision and improvement of all aspects of environmental and equipment hygiene process management.

The hospital had a programme of regular environmental hygiene audits, the results of which were overseen by a newly established Hygiene Services Action Plan Group. Membership of this group comprised senior hospital managers who met weekly to oversee hospital environmental hygiene audit results and to follow through the implementation of audit action plans in poorer performing areas.

Environmental room cleaning checklists had been revised for individual clinical areas which clearly identified all of the elements of the environment that required cleaning. Cleaning checklists had also been developed for bed spaces, patient equipment and 'dirty'* utility rooms. In the QIP, the hospital reported that it had developed a patient environment hygiene policy and had provided refresher training for staff responsible for cleaning in addition to defining roles and responsibilities in this regard.

* A 'dirty' utility room is a temporary holding area for soiled/contaminated equipment, materials or waste prior to their disposal, cleaning or treatment.

Equipment and facilities

Since the last inspection, the hospital had invested in improvement and upgrade works in some clinical areas and has an ongoing patient area renovation programme. A leak around a large window which extended over multiple levels on the front of the hospital building had been addressed. In the Orthopaedic Ward, three isolation rooms with en-suite facilities had been renovated and refurbished and there were plans for further improvement of patient areas and ancillary rooms. In addition, corridors and a number of patient rooms had been repainted. The hospital had also invested in new equipment including commodes, bedside lockers, bedside tables and drip stands. A mattress and bed replacement programme was in place so that damaged mattresses could be replaced. There were regular checks of mattress integrity.

Safe injection practices

It was reported to HIQA that multi-dose vials were now designated as single patient use across the hospital. This was evident in Medical 2 Ward and the Orthopaedic Ward during this inspection where multi-dose vials of insulin bore a pharmacy label indicating named patient use. The hospital QIP showed that safe injection practice in the Operating Theatre Department had been addressed and that there were plans to install a new medication dispensing system in the Operating Theatre Department.

Other issues

The QIP indicated that issues in respect of hand hygiene, transmission precautions, storage of sterile supplies and aspergillus control identified at the last HIQA inspection had been addressed.

2.2 Key findings of the unannounced inspection on 28 June 2016

Patient equipment

Overall, patient equipment in the Renal Dialysis Unit was generally clean with very few exceptions. There was a red stain, sticker residue and surface damage on one dialysis bed and there was light dust on the undersurface of one dialysis chair. The core of one mattress was stained, indicating that the cover was no longer moisture proof. Findings were immediately addressed during the inspection. There was evidence of good local ownership in respect of hygiene in general. Staff in the unit had introduced the practice of stamping the healthcare record of patients who had a finger-stick blood glucose test with a message to indicate that the blood glucose monitor had been cleaned before and after use. This was then signed by the staff member who had cleaned the device.

Patient equipment was generally clean in Medical 3 Ward with some exceptions. Brown staining was present on the undersurface of three patient armchairs and organic matter was noticed under one of these chairs. Light dust was observed on the base of a drip stand and on the undercarriage of two beds. In addition, staining was visible on two electronic thermometer holders. These issues were addressed at the time of the inspection. It was observed that patient equipment checklists had not been consistently signed off to indicate that cleaning had been performed.

Environmental hygiene

Overall, the environment in the Renal Dialysis Unit was clean with very few exceptions. Light dust was present on surfaces including computer keyboards on the staff workstation in the main unit. The environment in Medical 3 Ward was also generally clean with very few exceptions. Light dust was visible on the staff workstation and heavy dust was present on healthcare record trolleys. Cleaning of ward workstations and medical storage trolleys should be included in local cleaning specifications. Roles and responsibilities in this regard should be clearly defined. Both the Renal Dialysis Unit and Medical 3 Ward scored above 85% compliance with desirable standards in hygiene audits performed in the most recent audits in 2016.

Cleaning checklists did not clearly identify how often local area managers and cleaning supervisors were required to check and counter-sign that cleaning had been performed.

Renal Dialysis Unit infrastructure

The infrastructure of the Renal Dialysis Unit was not in line with desirable modern standards for such facilities and as such did not facilitate effective infection prevention and control.[8] Eleven dialysis stations were located within the main dialysis unit. An additional three dialysis stations were located outside the main unit in a separate clinical area on a level above the main dialysis unit. This configuration is less than ideal and poses additional challenges in respect of staffing arrangements and managerial oversight.

Spatial separation between dialysis stations located within the main unit and in the three-bay dialysis area was limited and should be reviewed going forward in order to facilitate effective infection prevention and control.

The three bay dialysis area was not fully self-contained and the 'dirty' utility room opened directly into the open plan patient care area which was not ideal. There was very little designated storage space for equipment and sterile supplies. Linen was stored on a ledge near a dialysis station and sterile supplies were stored in a cart with open-top drawers within the open plan area.

Neither of the two isolation rooms in the main dialysis unit had a separate ventilation system, nor were there anterooms for putting on and removing personal protective equipment. These rooms were small in size and only one of these single rooms had an en-suite toilet. One of the rooms had two doors, of which one opened directly into the main unit; this is not in line with best practice. It was reported that sometimes patients with a transmissible infection were managed in the open plan area of the unit. There should be sufficient isolation facilities in the unit to facilitate compliance with hospital infection prevention and control guidelines. Patients with a transmissible infection should be managed in line with the renal dialysis unit infection control policy. Isolation rooms need to be adequately sized to comfortably accommodate a patient, equipment and staff as required.

At the time of inspection the door between an occupied isolation room and the main unit was ajar. Isolation room doors should be kept closed as much as possible and there should be adequate staffing arrangements to facilitate this.

The main dialysis unit which could be occupied by up to eleven patients had only one patient toilet. It was reported that patients used clinical hand wash sinks in the open plan dialysis unit to cleanse the skin over the arteriovenous fistula site prior to dialysis. It is not recommended that patients use clinical hand wash sinks but that sufficient toilet facilities are provided with suitable hand hygiene facilities for patient use.

It was reported that the hospital had included an extension to the Renal Dialysis Unit in its site development plan. It is recommended that the Renal Dialysis Unit is brought into line with international best practice guidelines for renal dialysis units[8] and that this recommendation is supported at both hospital group and national HSE level.

Renal Dialysis Unit facilities

At the time of inspection there were two dialysis machines running in each of three occupied dialysis stations. It was reported that it was sometimes practice to heat up a dialysis machine in anticipation of use while a patient was on dialysis on another machine, meaning that there were two machines at an occupied dialysis station. The operational norm in most dialysis units is that dialysis machines can be heated up for patients in a designated area other than an occupied dialysis station. It is recommended that this practice is reviewed due to risk of dialysis machine contamination. Only those supplies and equipment needed for an individual dialysis cycle should be brought into the dialysis station.

Storage facilities were insufficient in the Renal Dialysis Unit. Patient equipment including multiple dialysis machines, extra dialysis chairs and boxes of clean supplies were stored along corridors. Items including a moving and handling hoist, an electrocardiograph machine and hoist slings were stored in a stairwell landing. A wooden pallet stacked with drums of dialysis fluid was located at the main entrance to this unit and a trolley for transporting supplies and a pallet jack were stored along the main unit corridor. Patient equipment that is not in use should be cleaned and stored in an appropriate location, not a public corridor. Clean supplies should be stored in an appropriate storeroom.

Inspectors observed that sterile items were stored in open trolleys on corridors in Medical 3 Ward. Sterile items should be stored as described in the hospital QIP. A similar finding was successfully addressed in Medical 2 Ward following the 2015 HIQA inspection. Storage of sterile supplies should be reviewed across the hospital.

Renal Dialysis Unit staffing resources

It was reported during the inspection that a key clerical role within the unit had been temporarily vacated and that consistent role replacement had not been provided. It is recommended that vacated key staff positions within this unit are fully replaced should the need arise.

Preventative measures to control nosocomial aspergillosis

Preventative measures to protect at-risk patients from possible infection due to fungal spores generated during building works had not been fully implemented on the day of inspection. Several windows in the hospital facing an area where soil had been excavated were open despite the finding that keeping adjacent windows closed was a locally determined control measure and signage was in place indicating that windows should remain closed. A door to a room undergoing renovation in the Orthopaedic Ward was not fully sealed and there was no signage to indicate restricted access. These issues were brought to the attention of the hospital manager on the day of the inspection. Preventative measures to control nosocomial aspergillosis should be monitored regularly as described in the hospital QIP.

General hospital maintenance

Opportunities for improvement were identified in relation to the maintenance of the main hospital entrance lobby and public toilet facilities in this area. Paintwork on walls and skirting in the main lobby was damaged and worn, particularly on surfaces near alcohol gel dispensers. Surfaces, finishes and sanitary fixtures in the public toilets in the main entrance lobby were dated and did not facilitate effective

cleaning. It is recommended that these issues are addressed in the hospital maintenance and development programme.

Legionella control

Evidence viewed at the time of inspection indicated that a risk assessment for the prevention and control of legionella was last carried out at Letterkenny University Hospital in 2014 by an external contractor. Water outlet flushing records were not consistently completed in the Renal Dialysis Unit. Water flushing records should be checked regularly by supervisory staff to ensure that hospital policy in this regard is implemented. It is recommended that legionella control risk assessments are reviewed in accordance with national recommendations.[9]

Transmission-based precautions

Transmission-based precautions were not fully implemented at the time of this inspection on Medical 3 Ward. Some staff did not put on plastic aprons before entering isolation rooms to remove meal trays which is not in line with hospital isolation policy. A door to an occupied isolation room in the Renal Dialysis Unit was ajar at the time of inspection; isolation room doors should be kept closed as much as possible.

Revisits to Medical 2 Ward and the Orthopaedic Ward

Overall the standard of cleaning of patient equipment and the ward environment in both Medical 2 Ward and the Orthopaedic Ward had significantly improved since the last HIQA inspection. A few exceptions were noted in the Orthopaedic Ward in that the undercarriages of two beds were dusty and the design of these beds did not facilitate effective cleaning. There was no hand hygiene sink in the cleaning equipment room and a dust control mop head was stored such that it was in direct contact with clean cloths and clean mop heads. The infrastructure of the 'dirty' utility room in the Orthopaedic Ward was very dated. It was reported that this room was scheduled for renovation.

2.3 Key findings relating to hand hygiene

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

- Alcohol hand rub dispensers were available at each point-of-care area in both the Renal Dialysis Unit and Medical 3 Ward.
- Clinical hand wash sinks in the Renal Dialysis Unit were not compliant with Health Building Note (HBN) 00-10 Part C: Sanitary Assemblies standards.[10] There was exposed pipe work beneath these sinks and tiled splash backs which did not facilitate effective cleaning. Sealant between sinks and splash backs was not intact. The hospital reported that it was undertaking a clinical hand wash sink replacement programme. Clinical hand wash sinks in higher risk clinical areas should be prioritized for replacement.
- Similar to the 2015 HIQA inspection there was poor water pressure and inconsistent water temperature at clinical hand wash sinks in Medical 2 Ward and Medical 3 Ward. These sinks did not comply with the most recent Health Building Note 00-10 Part C: Sanitary Assemblies, published in 2013.[10] Technical problems that create potential barriers to effective hand hygiene should be addressed.

2.3.2 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 staff are offered practical onsite hand hygiene training or the HSELanD e-learning training programme (the HSE's online resource for learning and development).[11] Hospital staff were deemed to be trained in hand hygiene if they had completed one or both training modes.
- 92% of relevant staff in the hospital were up to date with HSE mandatory hand hygiene training requirements. Hand hygiene training uptake was lowest among medical staff in that only 44% of locum consultant medical staff and 76% of consultants had completed hand hygiene training. Uptake of hand hygiene training among medical staff requires improvement.
- 100% of relevant staff were up to date with hand hygiene training in the Renal Dialysis Unit and in Medical 3 Ward. Over 90% of relevant staff in Medical 2 Ward and in the Orthopaedic Ward were up to date with hand hygiene training.
- It was reported that nursing staff in the Renal Dialysis Unit were required to provide evidence of up to date hand hygiene training in order to self-roster work shifts which facilitated clear oversight of hand hygiene training and uptake by nurses.

- Use of disposable gloves by some staff on Medical 3 Ward was not in line with best practice guidelines. Training in relation to hand hygiene and standard precautions should include information regarding appropriate indications for glove usage.

2.3.3 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 audits

Letterkenny University Hospital participates in the national hand hygiene audits which are published twice a year. The results for the hospital are presented in Table 1. The hospital achieved compliance with the HSE target of 90%[12] in 2014 and 2015. The hospital has exceeded the HSE's national target of 90% since October/November 2014 which is commendable. The hospital reported an overall hand hygiene compliance rate of 93% among hospital staff for May/June 2016 which demonstrates further improvement and an ongoing commitment to improving hand hygiene practice.

Table 1: Letterkenny University Hospital national hand hygiene audit results.

Time period	Result
May/June 2012	76.6%
October/November 2012	79.0%
May/June 2013	92.4%
October/November 2013	89.5%
May/June 2014	90.0%
October/November 2014	91.4%
May/June 2015	96.7%
October/November 2015	91.9%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.[13]

Local hand hygiene audits

- In addition to twice yearly national hand hygiene audits, local hand hygiene audits were performed monthly across patient care areas. Targeted hand hygiene education was provided by the Infection Prevention and Control Nurse or link nurse at clinical level where there is poor compliance.
- Hand hygiene audit results were shared with staff, patients and visitors on notice boards at the entrance to clinical areas.
- The Orthopaedic Ward, the Renal Dialysis Unit, Medical 3 Ward and Medical 2 Ward all scored between 90 and 100% in the most recent hand hygiene audits.

Observation of hand hygiene opportunities

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

2.3.4 Reminders in the workplace[6]: *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 available, up-to-date, clean and appropriately displayed in the areas inspected and revisited.

2.3.5 Institutional safety climate[6]: *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*.

- Infection prevention and control link nurses promoted hand hygiene at clinical level.
- Documentation provided by the Infection Prevention and Control Team showed that the hospital was developing an education strategy entitled 'In the Spotlight' and planned to hold monthly workshops to raise awareness regarding infection prevention and control.

2.4 Key findings relating to infection prevention care bundles[†]

Authorized persons looked at documentation and spoke with staff relating to infection prevention care bundles in the areas inspected. Similar to the 2015 HIQA inspections, care bundles were well embedded in the hospital and staff in the clinical areas visited had very good awareness and knowledge of care bundles. It was

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

evident that care bundle compliance was audited regularly and results were shared with staff in order to identify any opportunities for improvement.

Care bundles had been implemented in the Renal Dialysis Unit in relation to intravascular access management to optimize the care provided in respect of arteriovenous fistulae and tunnelled intravascular devices for patients undergoing renal dialysis. As identified during the previous HIQA inspection the hospital is providing leadership and demonstrating good practice in relation to care bundle implementation.

It was reported that there were significant waiting times for patients requiring surgery to form an arteriovenous fistula to provide vascular access for dialysis. It is recommended that the hospital accurately quantify the extent of any delays and associated risks. Risks identified should be managed and mitigated within the HSE risk management process.

Information regarding care bundle compliance, Meticillin Resistant *Staphylococcus aureus* bloodstream infection and *Clostridium difficile* infection episodes and other care related data was openly shared with patients, staff and visitors on clinical area notice boards.

3. Summary

A significant level of improvement was evident in relation to hospital hygiene compared to the last HIQA inspection in 2015 and the hospital has shown that it is clearly endeavouring to implement the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1]

The environment and patient equipment in the Renal Dialysis Unit and Medical 3 Ward were generally clean with a few exceptions. The infrastructure of the Renal Dialysis Unit was not in line with desirable modern standards for such facilities and this needs to be addressed. Plans for an extension to the unit have been included in the hospital site development plan.

Preventative measures to control nosocomial aspergillosis need to be implemented in line with national guidelines in order to protect at risk patients. Opportunities for improvement were identified in relation to the maintenance of the main hospital entrance lobby and public toilet facilities in that area.

Overall the standard of hygiene was significantly improved in the Orthopaedic Ward and Medical 2 Ward since the last HIQA inspection with some exceptions.

Care bundles for intravascular devices and urinary catheters were well embedded in the hospital. The hospital is providing leadership and consistently demonstrating

good practice in relation to care bundle implementation particularly in relation to care bundle documentation and audit and also care bundle implementation in the renal dialysis setting.

4. Next steps

Letterkenny 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 Letterkenny 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.

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