Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at the University Maternity Hospital, Limerick

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

Date of on-site inspection: 5 November 2014

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is the independent Authority established to drive high quality and safe care for people using our health and social care services. HIQA's role is to promote sustainable improvements, safeguard people using health and social care services, support informed decisions on how services are delivered, and promote person-centred care for the benefit of the public.

The Authority's mandate to date extends across the quality and safety of the public, private (within its social care function) and voluntary sectors. 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 those health and social care services in Ireland that by law are required to be regulated by the Authority.
- **Supporting Improvement –** Supporting services to implement standards by providing education in quality improvement tools and methodologies.
- **Social Services Inspectorate** – Registering and inspecting residential centres for dependent people and inspecting children detention schools, foster care services and child protection services.
- **Monitoring Healthcare Quality and Safety** – Monitoring the quality and safety of health and personal social care services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health Technology Assessment** – Ensuring the best outcome for people who use our health services and best use of resources by evaluating the clinical and cost effectiveness of drugs, equipment, diagnostic techniques and health promotion activities.
- **Health Information** – Advising on the efficient and secure collection and sharing of health information, 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

Preventing and controlling infection in healthcare facilities is a core component of high quality, safe and effective care for patients. In order to provide quality assurance and drive quality improvement in public hospitals in this critically important element of care, the Health Information and Quality Authority (the Authority or HIQA) monitors the implementation of the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1]

These Standards will be referred to in this report as the Infection Prevention and Control Standards. Monitoring against these Standards began in the last quarter of 2012. This initially focused on announced and unannounced inspections of acute hospitals' compliance with the Infection Prevention and Control Standards.

The Authority's monitoring programme will continue in 2014, focusing on unannounced inspections. This approach, outlined in guidance available on the Authority'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] – will include scope for re-inspection within six weeks where necessary. The aim of re-inspection is to drive rapid improvement between inspections.

The purpose of unannounced inspections is to assess hygiene as experienced by patients at any given time. The unannounced inspection focuses specifically on observation of the day-to-day delivery of hygiene services and in particular environment and equipment cleanliness and adherence with hand hygiene practice. Monitoring against the Infection Prevention and Control Standards[1] is assessed, with a particular focus, but not limited to, environmental and hand hygiene under the following standards:

- Standard 3: Environment and Facilities Management
- Standard 6: Hand Hygiene.

Other Infection Prevention and Control Standards may be observed and reported on if concerns arise during the course of an inspection. It is important to note that the Standards may not be assessed in their entirety during an unannounced inspection and therefore findings reported are related to a criterion within a particular Standard which was observed during an inspection. The Authority 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. Although specific clinical areas are assessed in detail using the hygiene observation tools, Authorised Persons from the Authority also observe general levels of cleanliness as they follow the patient's journey through the

hospital. The inspection approach taken is outlined in guidance available on the Authority's website.[2]

This report sets out the findings of the unannounced inspection by the Authority of University Maternity Hospital Limerick's compliance with the Infection Prevention and Control Standards.[1] It was undertaken by Authorised Persons from the Authority, Alice Doherty, Katrina Sugrue, Noelle Neville and Leanne Crowe on 5 November 2014 between 11:35hrs and 16:30hrs.

The areas assessed were:

- M3 Ward
- Neonatal Unit.

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

2. University Maternity Hospital Limerick profile*

University Maternity Hospital Limerick is a stand-alone Maternity Hospital and is the sole provider of obstetric/midwifery and neonatology services in the Midwest region. The Hospital serves the counties of Limerick, Clare and Tipperary North Riding, catering for a population of approximately 360,000 people.

The Hospital, which opened in 1960, has 83 obstetric beds and 19 neonatal cots, and is a tertiary referral unit. There are seven birthing rooms, two operating theatres, a 24-hour Maternity Emergency Unit, two post-natal wards and one antenatal ward. In addition there are outpatient facilities including antenatal clinics, outreach antenatal clinics, ultrasonography services, physiotherapy services, parent education classes and a colposcopy service. A post-natal community midwifery service facilitates early discharge and selective visiting up to eight days post-discharge within a confined catchment area.

In 2012, there were 4,901 live births, 6,648 obstetric admissions and 926 admissions to the neonatal unit. In addition, there were 30,369 new and 13,479 review outpatient attendances respectively in 2012.

The Hospital is a clinical placement site for midwifery and medical training and is affiliated to the University of Limerick.

* The hospital profile information contained in this section has been provided to the Authority by the hospital, and has not been verified by the Authority.

3. Findings

Overview

This section of the report outlines the findings of the unannounced inspection at University Maternity Hospital Limerick on 5 November 2014. The clinical areas which were inspected were M3 Ward and the Neonatal Unit.

M3 Ward is a 29-bedded ante-natal unit and consists of three five-bedded wards, a three-bedded ward, a two two-bedded ward and seven single ensuite rooms. The single rooms are used for the isolation of patients colonised or infected with transmissible infective diseases or multidrug resistant organisms when required. There were no patients isolated at the time of the inspection.

Neonatal is a 19-bedded unit comprising of a four-bedded Intensive Care Unit, a nine-bedded High Dependency Unit and a six-bedded Special Care Unit. There are four isolation rooms used for the isolation of patients colonised or infected with transmissible infective diseases or multidrug resistant organisms when required. One patient was isolated at the time of the inspection.

This report is structured as follows:

- **Section 3.1** of the report outlines the key findings relating to non-compliance with the Standards which include environment and facilities management at University Maternity Hospital Limerick. In addition, a detailed description of the findings of the unannounced inspection undertaken by the Authority is shown in Appendix 1.
- **Section 3.2** presents the findings relating to hand hygiene at University Maternity Hospital Limerick under the headings of the five key elements of a multimodal hand hygiene improvement strategy.
- **Section 4** provides an overall summary of findings

3.1 Key findings relating to non-compliance with Standard 3

The Authority found evidence during the inspection of both compliance and non-compliance with Standard 3 of the Infection Prevention and Control Standards.[1] An overview of the most significant non-compliances relating to these Standards is discussed below. Please see Appendix 1 for further details of findings.

Patient equipment

Opportunities for improvement were noted in the cleanliness and management of patient equipment on M3 Ward. Several items of patient equipment including temperature probes, ultrasound machines and oxygen saturation probes were unclean. It was noted that one temperature probe contained a used cover indicating

that the probe had not been cleaned after patient use. A blood glucose monitor charging unit was dusty and unclean and a blood glucose monitor box was unclean.

Varying levels of dust were visible on several items of frequently used patient equipment including an intravenous stand and pump, a resuscitation trolley, the container of a blood pressure monitoring stand, two dressing trolleys, a defibrillator, a wheelchair and the bases of several blood pressure monitoring stands.

The Authority was informed that patient equipment on M3 Ward should be cleaned after patient use and on a weekly basis. The date of cleaning is recorded on a laminated sheet attached to the equipment. However, the Authority noted that the labels on several items of patient equipment indicated that they had not been cleaned weekly and some items which were labelled as being cleaned in the previous week were visibly unclean indicating shortfalls in the cleaning processes adopted on M3 Ward.

Opportunities for improvement were also noted in the maintenance of some frequently used patient equipment in the Neonatal Unit. Light dust was visible on the top of an oxygen tank, the interior of two glucose blood monitor holders and a tray on the bottom shelf of an electrocardiograph machine. Paper residue was also observed inside the cover of one glucose blood monitor holder.

In accordance with national and evidence-based guidelines, direct contact patient equipment should be clean[3] and equipment which is shared by patients should be cleaned and decontaminated between each use.[4]

Environment and facilities management

The Authority noted that improvements were required in the cleanliness and maintenance of the physical environment on M3 Ward. Varying levels of dust were present in patient areas assessed including floor edges and corners, the end of beds, wheel areas of beds, the undercarriages of beds, a wall ledge adjacent to a curtain rail and on overhead lamp shades. It is of concern that the cleaning checklist in one of the patient areas assessed was signed for the day of the inspection and a second patient area where dust was visible was deep cleaned the day before the inspection.

Unacceptable levels of dust were also observed in patient washrooms. Similar to the findings in patient areas, at the cleaning checklist in one of the patient washrooms where dust was observed was signed for the morning of the inspection and a second patient washroom where dust was observed was deep cleaned two days before the inspection. The undersurface of a toilet seat was unclean and the fixtures where the toilet seat attached to the toilet were also unclean.

Several items of cleaning equipment on M3 Ward were unclean including flat head mops and cleaning trolleys. Residue was visible in cleaning buckets and dust was present on the base of a cleaning trolley. Cleaning equipment was stored in the 'dirty' utility[†] room which is not in line with best practice.

Ceiling fans were present and operating in some patient areas in M3 Ward which is not advised, as their use in the clinical area can increase the risk of transmission of Healthcare Associated Infections.

The clinical areas of the Neonatal Unit were generally clean. However, unacceptable varying levels of dust were visible on floor edges and corners of some areas assessed. Light dust was observed on the bases of three incubators, on the frame and shelving of an equipment trolley in the High Dependency Unit and on a ledge under a radiator. Staining was observed on a mattress in the equipment store room that had been labelled as having been cleaned. Neonates are particularly vulnerable to the risk of acquiring Healthcare Associated Infections due, in part, to an immature immune system. Therefore an environment in which neonates are accommodated in hospital should be managed and well maintained to a very high standard in order to reduce risk.

Several hand wash sinks inspected in the Neonatal Unit contained a plastic insert in the sinks' outlets, hindering effective cleaning. Staining and residue were visible on these inserts, and the areas of the outlets behind the inserts were unclean. Staining was observed on the surface and base of the hand wash sink, and water was also leaking from the base of the sink. In a discussion with a member of the cleaning staff, the Authority was told that they did not have an instrument that would facilitate the effective cleaning of these outlets, so they clean as much of the outlet as they can reach. Ineffective cleaning of distal ends of plumbing systems such as sinks, taps, sink drains and sink traps may pose a risk of contamination with pathogens such as *Pseudomonas aeruginosa.*[5] *Pseudomona aeruginosa* are organisms that are widespread in soil, water and other moist environments and have the ability to cause major healthcare associated infection outbreaks.[6] It is important that the hospital takes the necessary measures to mitigate the risk of the spread of Healthcare Associated Infection, particularly *Pseudomonas aeruginosa* and other possible water borne pathogens.

The Authority was informed that deficits in resources exist with regard to staff designated to clean medical and patient equipment on M3 Ward and the Neonatal Unit. The Authority notes that these sub-optimal findings are indicative of deficits in the cleaning processes adopted on M3 Ward and reflective of deficits identified with regard to cleaning staff in University Maternity Hospital Limerick. However, the

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

Authority was informed by hospital management that a recruitment process for additional cleaning staff was nearing completion which should rectify these deficits.

3.2 Hand Hygiene

Assessment of performance in the promotion of hand hygiene best practice occurred using the Infection, Prevention and Control Standards[1] and the World Health Organization (WHO) multimodal improvement strategy.[7] Findings are therefore presented under each multimodal strategy component, with the relevant Standard and criterion also listed.

WHO Multimodal Hand Hygiene Improvement Strategy

3.2.1 System change[7]: *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene*.

Standard 6. Hand Hygiene

Hand hygiene practices that prevent, control and reduce the risk of the spread of Healthcare Associated Infections are in place.

Criterion 6.1. There are evidence-based best practice policies, procedures and systems for hand hygiene practices to reduce the risk of the spread of Healthcare Associated Infections. These include but are not limited to the following:

- the implementation of the *Guidelines for Hand Hygiene in Irish Health Care Settings, Health Protection Surveillance Centre*, 2005
- the number and location of hand-washing sinks
- hand hygiene frequency and technique
- the use of effective hand hygiene products for the level of decontamination needed
- readily accessible hand-washing products in all areas with clear information circulated around the service
- service users, their relatives, carers, and visitors are informed of the importance of practising hand hygiene.

- The design of some clinical hand wash sinks in M3 Ward did not conform to Health Building Note 00-10 Part C: Sanitary assemblies.[8]
- A wall mounted alcohol hand rub dispenser in a patient area in M3 Ward was empty.
- Insufficient alcohol hand rub dispensers were available at the point of care in all areas on M3 Ward. In addition, hand hygiene toggles, which enable small containers of alcohol hand rub to be attached to the clothing of staff, are not used by staff. The lack of availability and accessibility of alcohol hand rub at the

point of care is likely to have a negative effect on hand hygiene compliance as it means that staff would be required to leave the patient zone each time a hand hygiene opportunity presents itself.

3.2.2 Training/education[7]: *providing regular training on the importance of hand hygiene, based on the 'My 5 Moments for Hand Hygiene' approach, and the correct procedures for handrubbing and handwashing, to all healthcare workers*.

Standard 4. Human Resource Management

Human resources are effectively and efficiently managed in order to prevent and control the spread of Healthcare Associated Infections.

Criterion 4.5. All staff receive mandatory theoretical and practical training in the prevention and control of Healthcare Associated Infections. This training is delivered during orientation/induction, with regular updates, is job/role specific and attendance is audited. There is a system in place to flag non-attendees.

Hospital training

- Several staff members of University Maternity Hospital Limerick, are hand hygiene champions. This list comprises seven midwifery managers, five staff midwives and four medical consultants. The hospital has one lead auditor and Clinical Midwife Managers act as local auditors for their respective areas.
- Following a meeting between the Directorate Management Team and the Infection Prevention & Control Department, all staff are in the process of being re-trained in order to improve compliance across the hospital. The re-training of doctors had been completed at the time of the inspection.
- The Authority was informed that a high percentage of staff at University Maternity Hospital Limerick have been trained in 2014.

Local area training

- The Authority was informed that all midwifery staff on M3 Ward have been trained by the Ward Manager since January 2014 and 100% of staff have been trained in the Neonatal Unit during the same period.

3.2.3 Evaluation and feedback[7]: *monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among health-care workers, while providing performance and results feedback to staff*.

Criterion 6.3. Hand hygiene practices and policies are regularly monitored and audited. The results of any audit are fed back to the relevant front-line staff and are used to improve the service provided.

The following sections outline audit results for hand hygiene.

National hand hygiene audit results

The national hand hygiene audits are published twice a year.[9] From March/April 2011 to May/June 2013, University Maternity Hospital Limerick participated in the national hand hygiene audits as part of the Mid Western Regional Hospital Dooradoyle. University Maternity Hospital Limerick, together with five other hospitals, is a member of the University of Limerick Hospitals Group (UL Hospitals Group). Since October 2013, the UL Hospitals Group commenced reporting data as a group in the national hand hygiene audits and submits under three Directorates. University Maternity Hospital Limerick has submitted its hand hygiene data as part of the UL Hospitals Group Maternal and Child Health Directorate. Since May/June 2012, Mid Western Regional Hospital and the UL Hospitals Group have failed to meet national targets in compliance.[9]

Period 1-7	Result
Period 1 March/April 2011 (Mid Western Regional Hosptal Dooradoyle)	78.1%
Period 2 October/November 2011 (Mid Western Regional Hosptal Dooradoyle)	83.8%
Period 3 May/June 2012 (Mid Western Regional Hosptal Dooradoyle)	77.6%
Period 4 October/November 2012 (Mid Western Regional Hosptal Dooradoyle)	82.4%
Period 5 May/June 2013 (Mid Western Regional Hosptal Dooradoyle)	83.8%
Period 6 October/November 2013 (UL Hospitals Group)	88.6%
Period 7 May/June 2014 (UL Hospitals Group)	88.1%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.[9]

Hospital hand hygiene audit results

- National hand hygiene audits are carried out by the Infection Prevention Control Nurse twice yearly. The University of Limerick Hospitals Maternal and Child Health Directorate achieved a compliance of 88.1%. Seven wards participated in the audit and two wards achieved above 90% compliance; one of which was M3. The overall level of compliance is below the national target, and corrective action included re-training in the '5 moments of hand hygiene and correct technique'. Further to this, four Midwifery staff and one Health Care Attendant were trained to provide hand hygiene training to staff in order to increase compliance. Documentation viewed by the Authority demonstrated that regular hand hygiene audits are carried out in the hospital. Twenty seven audits were completed from 3 January 2014 to 30 October 2014, eleven of which achieved 90% compliance. The overall compliance for the 27 audits completed was 85.8%.

Local hand hygiene audit results

- The Authority was informed that local hand hygiene audits are performed on M3 Ward by the Infection Control Clinical Midwife Manager 2. However, recent local hand hygiene audits had not been performed on the ward. The result of the most recent audit conducted in June 2014 was 93.3%.

- Documentation viewed by the Authority indicated that levels of hand hygiene compliance in the Neonatal Unit have fluctuated throughout 2014. Seven audits were conducted from 3 January to 2 October 2014 and showed an overall compliance rate of 88.5%. In the most recent audits carried out, the Neonatal Unit achieved 80% in September and 83.3% in October 2014 which demonstrates a fall in compliance from audits conducted in January and February 2014 when 100% and 93% compliance was achieved respectively. The Authority was informed that re-training of hospital staff was being undertaken in order to drive improvement in compliance.

Observation of hand hygiene opportunities

Authorised Persons observed hand hygiene opportunities using a small sample of staff in the inspected areas. This is intended to replicate the experience at the individual patient level over a short period of time. It is important to note that the results of the small sample observed is not statistically significant and therefore results on hand hygiene compliance do not represent all groups of staff across the hospital as a whole. In addition results derived should not be used for the purpose of external benchmarking.

The underlying principles of observation during inspections are based on guidelines promoted by the WHO[11] and the HSE.[12] In addition, Authorised Persons may observe

other important components of hand hygiene practices which are not reported in national hand hygiene audits but may be recorded as optional data. These include the duration, technique[ϒ] and recognised barriers to good hand hygiene practice. These components of hand hygiene are only documented when they are clearly observed (uninterrupted and unobstructed) during an inspection. Such an approach aims to highlight areas where practice could be further enhanced beyond the dataset reported nationally.

- The Authority observed 18 hand hygiene opportunities in total during the inspection. Hand hygiene opportunities observed comprised the following:
  - six before touching a patient
  - two after touching a patient
  - nine after touching patient surroundings
  - one where there were two indications for one hand hygiene action (one before touching a patient and one after touching patient surroundings).
- Sixteen of the hand hygiene opportunities were taken. The two opportunities which were not taken comprised the following:
  - one before touching a patient
  - one after touching patient surroundings.
- Of the 16 opportunities which were taken, the hand hygiene technique was observed (uninterrupted and unobstructed) by the Authorised Persons for 14 opportunities. Of these, the correct technique was observed in 13 hand hygiene actions.

In addition the Authorised Persons observed:

- fourteen hand hygiene actions that lasted greater than or equal to (≥) 15 seconds as recommended.

3.2.4 Reminders in the workplace[7]: *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 both areas inspected at University Maternity Hospital Limerick.

[ϒ] The inspectors observe if all areas of hands are washed or alcohol hand rub applied to cover all areas of hands.

3.2.5 Institutional safety climate[7]: *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 UL Hospitals Maternal and Child Health Directorate achieved 88.1% compliance in the national hand hygiene audit carried out in May/June 2014 which is below the HSE target of 90%.[10] A 'snap shot' observation of hand hygiene practices observed by the Authority during the inspection showed that 88.9% (16 out of 18) of hand hygiene opportunities were taken. The UL Hospitals Maternal and Child Health Directorate, of which University Maternity Hospital Limerick is a member, needs to continue to build on compliances achieved to date regarding hand hygiene to ensure that good hand hygiene practice is improved and maintained in all clinical areas and across all staff groups and that national targets are attained.

4. Summary

The risk of the spread of Healthcare Associated Infections is reduced when the physical environment and equipment can be readily cleaned and decontaminated. It is therefore important that the physical environment and equipment is planned, provided and maintained to maximise patient safety.

Overall, the Authority found that there was an opportunity for improvement in the maintenance and management of the patient environment and the cleanliness of some patient equipment on M3 Ward. The Authority found that in the Neonatal Unit there was an opportunity for improvement in the maintenance and management of the patient environment relating to dust levels in some areas and the storage of patient equipment, particularly after cleaning the equipment. The Authority also noted that several of the outlets of hand wash sinks in the Neonatal Unit were unclean, which is not in line with best practice. The findings in relation to the patient environment and equipment are reflective of deficits in the cleaning processes and staffing deficits identified to the Authority. However, at the time of the inspection, measures were being undertaken by hospital management to address these staffing deficits.

The hospital's 2013 quality improvement plan (QIP)[13] was also reviewed as part of the inspection. Authorised Persons observed that similar findings relating to environmental hygiene were identified which would suggest that the measures introduced to address the findings from the inspection by the Authority in 2013 were not effective. The Authority recommends that University Maternity Hospital Limerick review the processes and practices in place to assure itself that the patient environment, particularly hand hygiene facilities, and patient equipment are effectively managed and maintained to reduce the risk of patients and staff acquiring a Healthcare Associated Infection.

Hand hygiene is recognised internationally as the single most important preventative measure in the transmission of Healthcare Associated Infections in healthcare services. It is essential that a culture of hand hygiene practice is embedded in every service at all levels.

Overall, the Authority found that regular hand hygiene audits are carried out in the University Maternity Hospital Limerick in addition to national hand hygiene audits. The hospital has demonstrated a commitment to promoting best practices in hand hygiene and is working towards improving compliance and achieving the HSE's national compliance target of 90%[10]. The hospital should continue to build on hand hygiene compliance achieved to date to ensure that the importance of hand hygiene is embedded within all staff groups in the hospital, that good hand hygiene practice is improved and national targets are achieved.

University Maternity Hospital Limerick must now revise and amend its QIP[13] that prioritises the improvements necessary to fully comply with the Infection, Prevention and Control 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 the Authority with details of the web link to the QIP.

It is the responsibility of University Maternity Hospital Limerick to formulate, resource and execute its QIP to completion. The Authority 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 Infection Prevention and Control Standards and is making quality and safety improvements that safeguard patients.

5. References[‡]

1. Health Information and Quality Authority. *National Standards for the Prevention and Control of Healthcare Associated Infections.* Dublin: Health Information and Quality Authority; 2009. Available online from: http://www.hiqa.ie/publication/national-standards-prevention-and-control-healthcare-associated-infections.
2. Health Information and Quality Authority. *Guide: Monitoring programme for unannounced inspections undertaken against the national standards for the prevention and control of Healthcare Associated Infections.* Dublin: Health Information and Quality Authority; 2014. Available online from: http://www.hiqa.ie/publications?topic=17&type=All&date%5Bvalue%5D%5Byear%5D=.
3. Health Service Executive. *National Cleaning Manual Appendices*. [Online]. Available from: http://www.hse.ie/eng/services/publications/Hospitals/HSE_National_Cleaning_Standards_Manual_Appendices.pdf.
4. Loveday, H.P., Wilson, J.A., Pratt, R.J., Golsorkhi, M., Tingle, A., Bak, A., Browne, J., Prieto, J., Wilcox, M. Epic 3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *Journal of Hospital Infection*. 2014; S1-70. Available online from: http://www.sciencedirect.com/science/article/pii/S0195670113600122.
5. Loveday, H.P., Wilson, J.A., Kerr, K., Pithcers, R., Walker, J.T., Browne, J. Association between healthcare water systems and *Pseudomonas aeruginosa* infections: a rapid systematic review. *Journal of Hospital Infection*. 2014; 86(1): pp7-15. Available online from: http://www.sciencedirect.com/science/article/pii/S0195670113003344#.
6. Hota, S., Hirji, Z., Stockton, K., Lemieux, C., Dedier, H., Wolfaardt, G., Gardam, M.A. Outbreak of Multidrug-Resistant Pseudomonas aeruginosa Colonization and Infection Secondary to Imperfect Intensive Care Unit Room Design. *Journal of Infection Control and Hospital Epidemiology*. 2009; 30(1): pp25-33. Available online from: http://www.aahid.org/pdf/Paerug_Sink_Hota_ICHE_30_1.pdf.
7. World Health Organization. *A Guide to the Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy.* [Online]. Available from: http://www.who.int/gpsc/5may/tools/system_change/en/.
8. Department of Health, United Kingdom. *Health Building Note 00-10 Part C: Sanitary Assemblies.* [Online]. Available from: http://www.dhsspsni.gov.uk/hbn_00-10_part_c_l.pdf.
9. The Health Protection Surveillance Centre. *National Hand Hygiene Audit Results.* [Online]. Available from: http://www.hpsc.ie/hpsc/A-Z/Gastroenteric/Handwashing/HandHygieneAudit/HandHygieneAuditResults/.

[‡] All online references were accessed at the time of preparing this report.

10. Health Service Executive. *National Service Plan 2014.* [Online]. Available from: http://www.hse.ie/eng/services/Publications/corporate/serviceplan2014/nationalserviceplan2014.pdf.
11. World Health Organization. *Guide to Hand Hygiene in Healthcare and WHO Hand Hygiene Technical Reference Manual*. [Online]. Available from: http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf?ua=1.
12. Health Service Executive. *Hand Hygiene Observation Audit Standard Operating Procedure April 2013*. [Online]. Available from: http://www.hpsc.ie/hpsc/A-Z/Gastroenteric/Handwashing/HandHygieneAudit/HandHygieneAuditTools/File,12660,en.pdf.
13. Health Service Executive. *Quality Improvement Plans based on the recommendation by HIQA Report following unannounced focused monitoring assessment at the University Maternity Hospital, Limerick on 10th July 2013* [Online]. Available from: http://www.hse.ie/eng/services/list/3/hospitals/ulh/about/qps/qips/umhQIP2013.pdf.

6. Appendix 1 - Detailed description of findings from the unannounced inspection at University Maternity Hospital Limerick on 5 November 2014

In this section, non-compliances with Criterion 3.6 and 3.7 of Standard 3, 5.1 of Standard 5 and 7.6 of Standard 7 of the Infection Prevention and Control Standards[1] which were observed during the inspection are listed below.

Standard 3. Environment and Facilities Management

The physical environment, facilities and resources are developed and managed to minimise the risk of service users, staff and visitors acquiring a Healthcare Associated Infection.

Criterion 3.6. The cleanliness of the physical environment is effectively managed and maintained according to relevant national guidelines and legislation; to protect service-user dignity and privacy and to reduce the risk of the spread of Healthcare Associated Infections. This includes but is not limited to:

- all equipment, medical and non-medical, including cleaning devices, are effectively managed, decontaminated and maintained
- the linen supply and soft furnishings used are in line with evidence-based best practice and are managed, decontaminated, maintained and stored.

M3 Ward

Overall, M3 Ward required considerable improvements in the cleaning of patient equipment and the cleaning and maintenance of the environment.

Patient equipment

- Varying levels of dust were visible on many items of frequently used patient equipment. For example, dust was present on an intravenous stand, an intravenous pump and the base of the stand, the top shelf and bottom rail of a resuscitation trolley, the wheel and tray areas of two dressing trolleys, the monitor on a defibrillator, the frame of a wheelchair and the bases of several blood pressure monitoring stands. The container on one of the blood pressure montoring stands was also dusty and rust-coloured staining was visible on the frame of the container. In addition, the charging unit for a blood glucose monitor was dusty and unclean and the box used to hold the blood glucose monitor was also unclean.

- Several temperature probes and one holder were unclean. One probe contained a used cover indicating that the probe had not been cleaned after patient use.
- Four monitoring machines assessed were unclean and dusty. For example, gel was visible on the surface of several probes. Dust was present on the machines, on the probe holders, on the drawer supports and hinges, and on the interior surfaces of some machine legs where the end covers on the legs were missing. One of the monitoring machines was labelled as being cleaned the day before the inspection.
- Two oxygen saturation probes were unclean.

General cleanliness and maintenance

- Varying levels of dust were present in patient areas assessed including floor edges and corners, the end of beds, wheel areas of beds, the undercarriages of beds, a wall ledge adjacent to a curtain rail and on overhead lamp shades. The shades on some overhead lamps were also bent out of shape. In one of the patient areas assessed, the cleaning checklist was signed for the day of the inspection and in a second patient area assessed, it was noted that the area had been deep cleaned the day before the inspection.
- Sticky residue was visible on the gridded base of a bed.
- Staining was visible on a sheet of a newly dressed bed.
- Dust and chipped paint were visible on bedside tables. Staining and sticky residue were also visible on one bedside table and the end cover on one of the table legs was missing potentially exposing the interior surface to dust.
- Residue was present under two hand wash sinks in patient areas, on the ridges in the splashbacks under the sinks and on the nozzle of the tap on one of the sinks. Dust was also present in the ridge of one of the splashbacks. Black staining was visible on the sealant behind the two hand wash sinks. A hand hygiene poster at one of the hand wash sinks was unclean.
- The opening on a packet of sanitising wipes stored in a patient area was unclean and the plastic container for a second packet of wipes stored in the corridor was broken.
- A radiator in a patient area was stained and unclean.
- Ceiling fans were present and operating in some patient areas which is not advised, as their use in the clinical area can increase the risk of transmission of Healthcare Associated Infections.
- A wall vent in a patient area was unclean.
- The floor covering in one of the patient areas did not extend to the skirting board.
- Chipped paint was observed on some areas of the ward.
- Personal patient items were stored on a window ledge.
- Needles were stored in an open trolley beside the nurse's station.

Ward facilities

- The following non-compliances were observed in the clean utility room:
  - Light dust was present on the floor and the floor covering did not fully extend to the cupboards.
  - Dust was present on a suction pump.
  - Staining was visible around the taps on the hand wash sink and on the worktop and at the edge of the sink.
  - Signage above the hand wash sink and on the worktop were stained.
  - The interior edges of drawers and some cupboards were unclean. The surfaces of some cupboard doors and shelves were chipped.
- The following non-compliances were observed in the 'dirty' utility[§] room:
  - There was residue on the taps at the hand wash sink.
  - Residue was also present on a shelf in a cupboard under the hand wash sink and the edge of a shelf was chipped. Cupboard doors under the hand wash sink were also scratched.
  - Dust was present on the edges of the floor.
  - The interior surface of a bed pan stored on a rack to dry was unclean.
  - Residue was visible on two wall tiles, another wall tile was cracked and holes were present in other tiles.
  - One paper based sign was not laminated.
  - Cupboard doors and the edges of shelving in the store room were chipped. Sticky residue was present on cupboard doors. Dust was present on open shelving, floor edges and the window ledge. There was chipped paint on the door frame and the window ledge.

Sanitary facilities

- Varying levels of dust were present in several areas. For example, dust was present on floor edges and corners, pipe work and the skirting boards behind toilets and bidets, ceiling vents, a ledge under a window and a radiator. In one of the patient washrooms where dust was observed, the cleaning checklist had been signed for the morning of the inspection. In a second patient washroom where dust was observed, it was noted that the area had been deep cleaned two days before the inspection.
- The undersurface of a toilet seat was unclean and the fixtures where the toilet seat attached to the toilet were also unclean.
- A jug full of urine was sitting on a shelf in a patient washroom. Liquid residue was present in another jug and staining was present on the label of a urine test strip container.

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

- Rust-coloured staining was visible on floor tiles behind a toilet. There was a small amount of water on the floor behind the toilet and bidet suggesting that there may have been a leak.
- The areas around the handrails in two patient showers were unclean and the area around the water dial in one shower was also unclean.
- Staining was visible on the sealant in patient showers and on the grouting between some wall tiles.
- A hand wash sink was cracked. Residue was visible on taps on hand wash sinks and a bidet and the coating on the taps was worn. The cover on a hot water tap was missing and the exposed area under the cover was dusty and unclean.
- Staining was visible on the skirting board behind a door in a patient washroom, on the door hinges and on the back of the door.

Cleaning Room

- Cleaning equipment was stored in the 'dirty' utility room which is not in line with best practice.
- Several items of cleaning equipment were unclean including flat head mops and cleaning trolleys. Residue was visible in cleaning buckets and dust was present on the base of a cleaning trolley. Warning signs used to indicate 'cleaning in progress' were also unclean.

Neonatal Unit

Patient Equipment

- Light dust was observed on several pieces of patient equipment, including the top of an oxygen tank, the interior of two blood glucose monitor holders and a tray on the bottom shelf of an electrocardiograph (ECG) machine.
- Paper residue was observed inside the cover of one blood glucose monitor holder.

General cleanliness and maintenance

- Light dust was visible on the bases of three incubators, the frame and shelving of an equipment trolley, a ledge under a radiator and the floor corners of several clinical areas.
- Two keyboards inspected were dusty.
- Staining was observed on a mattress in the equipment storage room that was labelled as clean.
- Staining was observed on one hand wash sink, and a leak at the base of the sink had resulted in water damage to surrounding area. The outlets of several hand wash sinks inspected contained a plastic insert, hindering effective cleaning. Sticky residue was observed on several inserts, and the areas of the outlets

behind these inserts were unclean. The sealant around the edge of one sink was not intact.

Ward facilities

- The following non-compliances were observed in the clean utility room:
  - Sticky residue was visible on the shelves of a drugs fridge.
  - Staining and sticky residue was observed on the interior surfaces of a storage unit.
  - A shelf in a cupboard was stained.
  - Heavy dust was observed in a floor corner.
- The following non-compliances were observed in the 'dirty' utility room:
  - Equipment that required cleaning was stored in the dirty utility, which resulted in the room being cluttered during the inspection.
  - Sticky residue was visible on the walls of the dirty utility.
  - Light dust was observed on the floor edges.
- The equipment store room was cluttered. Some boxes were stored on the floor and dust was observed on the shelving of a storage unit. Dust was observed on the frame of a cot that had been labelled as clean in the equipment room.

Linen

- Heavy dust was visible on the floor of the linen cupboard.
- A cleaning schedule on the door of the linen cupboard had not been updated since February 2014.

Standard 5. Communication Management

A communication strategy is in place which ensures information relating to Healthcare Associated Infections is communicated and responded to in an efficient, timely, effective and accurate manner.

Criterion 5.1. A communication strategy is in place to ensure all service users, relatives, carers, visitors and staff are made aware of the importance of the prevention, control and reduction in Healthcare Associated Infections. This includes but is not limited to:

- clear, easy to understand and effective signage relating to the prevention and control of Healthcare Associated Infections.

Isolation facilities

- In an isolation room in the Neonatal Unit, the appropriate signage alerting individuals to the required precautionary measures was missing. On discussion with the ward manager, the Authority was informed that a risk assessment had been carried out and that signage was not placed on the door because all staff are made aware of the precautions required when a patient is in isolation and access is limited to the unit. However, a QIP developed by the Infection Prevention and Control Team in response to a recent outbreak in the unit identified that precautionary signage was required for the entrance to the High Dependency Unit to alert staff not assigned to that room.
- The Authority recommends that University Maternity Hospital Limerick reviews its policy and practices relating to isolation precautions to assure itself that the spread of communicable/transmissible diseases is prevented, managed and controlled.

Waste

Criterion 3.7. The inventory, handling, storage, use and disposal of hazardous material/equipment is in accordance with evidence-based codes of best practice and current legislation.

M3 Ward

- The temporary closing mechanism on an infectious waste container was not engaged.
- The lid of the non-clinical waste disposal bin in the 'dirty' utility room was unclean.

Neonatal Unit

- The temporary closing mechanism of one sharps waste disposal box was not fully engaged.
- A clinical waste bin was available in the 'dirty' utility. However, due to the room being heavily cluttered, it was not accessible.
- Two needleless syringes were found in a domestic waste bin in a single room. The University Hospitals' policy on the disposal of syringes does not differentiate between food (needleless) syringes and other sharps, and requires that all syringes be disposed of in yellow sharps waste disposal boxes.
- The lid of a domestic waste bin in the Intensive Care Unit was unclean.

Communicable/Transmissible Disease Control

Standard 7. Communicable/Transmissible Disease Control

The spread of communicable/transmissible diseases is prevented, managed and controlled.

Criterion 7.6. Evidence-based best practice, including national guidelines, for the prevention, control and management of infectious diseases/organisms are implemented and audited.

- Records of weekly water flushing viewed by the Authority on the Neonatal Unit were not complete. For example, sheets were incomplete in the parents' room, staff toilet and staff kitchen. The Authority was informed by the ward manager and a member of cleaning staff that water flushing is conducted when the rooms are cleaned, but the relevant records may not have been signed.
- The Authority recommends that the hospital should review the management of Legionella to assure itself that the risk to the patient of acquiring Legionellosis is fully mitigated and ensure compliance with national guidelines[9] and the Infection Prevention and Control Standards.[1]

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For further information please contact:

Health Information and Quality Authority
Dublin Regional Office
George's Court
George's Lane
Smithfield
Dublin 7

Phone: +353 (0) 1 814 7400

Email: qualityandsafety@hiqa.ie

URL: www.hiqa.ie