Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of inspections at the National Maternity Hospital, Holles Street, Dublin 2.

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

Date of on-site inspections: 7 October and 17 November 2015

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, or the Authority) 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 will assess the practice in relation to the implementation of infection prevention care bundles. In particular this monitoring programme 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 invasive medical device related infections under the following Standards:

- Standard 3: 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.
- 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. Authorised Persons (inspectors) use 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 2015, unannounced inspections will aim to identify progress made at each hospital since the previous unannounced inspection conducted in 2014.

Timeline of unannounced inspections:

An unannounced inspection was carried out at the National Maternity Hospital on 7 October 2015. A re-inspection on 17 November 2015 examined the level of progress which had been made since the previous 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 these inspections is shown in Table 1.

Table 1: Summary of inspections carried out at the National Maternity Hospital in 2015

Date of Inspection	Authorised Persons	Clinical Areas Inspected/Visited	Time of Inspection
7 October 2015	Katrina Sugrue Aileen O' Brien	Delivery Ward inspected. Neonatal Intensive Care Unit (NICU) visited.	10.00hrs – 18.10hrs
17 November 2015	Katrina Sugrue Aileen O' Brien Sean Egan	Delivery Ward re-inspected. Theatre Department inspected.	10.50hrs – 16.25hrs

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

2. Findings

This section of the report outlines the findings of the inspections undertaken at the National Maternity Hospital on 7 October 2015 and 17 November 2015.

Overview of areas inspected:

The Delivery Ward which comprises nine single delivery rooms and one two bedded delivery room. Two of these rooms have ensuite shower and toilet facilities and one room has ensuite toilet facilities.

The Operating Theatre Department which comprises three operating rooms.

An area visited but not inspected by Authorised Persons during the course of the inspections was the Neonatal Intensive Care Unit. Inspectors visit clinical areas to follow up on information received during an inspection or to determine progress on the implementation of a quality improvement plan (QIP). The Neonatal Intensive Care Unit was inspected in 2014 and was revisited during the October 2015 inspection to follow up progress made in implementing the QIP prepared after the 2014 unannounced inspection.

Structure of this report

The structure of the remainder of this report is as follows:

- **Section 2.1** describes the immediate high risk findings identified during the inspection on 7 October 2015 and the mitigating measures implemented by the hospital in response to the findings. A copy of the high risk letter sent to the hospital regarding the findings and the response received from the hospital are shown in Appendices 1 and 2 respectively.
- **Section 2.2** summarises the key findings relating to areas of non-compliance observed during the inspection on 7 October 2015 and the level of progress made by the hospital in response to these findings at the time of the re-inspection on 17 November 2015.
- **Section 2.3** outlines the progress made by the hospital following the unannounced inspection by HIQA on 30 September 2014.
- **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] during the inspections on 7 October 2015 and 17 November 2015.
- **Section 2.5** describes the key findings relating to infection prevention care bundles during the unannounced inspection on 7 October 2015.

This report outlines HIQA's overall assessment in relation to the inspection, 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 completion. However, the overall nature of all of the findings are fully summarised within this report.

2.1 Immediate high risk findings

Introduction

During the unannounced inspection on 7 October 2015, a number of high risks were identified, the composite of which presented an immediate high risk finding. Risks were identified regarding infrastructure and facilities, safe injection practices, environmental hygiene, the cleanliness of patient equipment and waste management. Cumulative findings were such that HIQA deemed that a re-inspection was necessary within six weeks.

Details of these risks were communicated to the hospital. Copies of the high risk letter sent to the hospital regarding the findings and the response received from the hospital are shown in Appendices 1 and 2 respectively.

Inspection on 7 October 2015

Delivery Ward

Environmental and patient equipment hygiene

The standard of environmental hygiene observed by inspectors at the time of the unannounced inspection was not in line with national infection control standards,[1] national best practice guidelines for hospital cleaning[7] and international guidelines[5] for hospital hygiene. Overall environmental hygiene in the Delivery Ward was very poor with evidence of organic contamination on surfaces, insufficient dust control measures and suboptimal cleaning observed in most areas inspected. Inconsistent adherence to standard infection prevention and control precautions was also observed.

Organic contamination was observed on several surfaces including the under surfaces of patient beds, on wall surfaces located within patient areas and on patient equipment. This was of particular concern as it presented a risk of contamination of sterile supplies stored within the patient environment. Multiple surfaces including ledges, ventilation grilles, floor edges and flooring underneath beds, skirting boards and radiators were dusty. Adhesive tape residue was present on a number of surfaces.

Inadequate cleaning of patient equipment was observed during the October inspection. Dust was present on bedside observation monitoring equipment inspected. Theatre transport trolleys stored on the ward were dusty. Left over intravenous medication in a tray at a bedside had not been discarded following patient discharge. In addition, stains were observed on suction equipment, on a resuscitaire, a trolley holding a baby scales and the base of a baby cot. Ultrasound gel residue was evident on a handheld sonogram. Substandard environmental hygiene was observed in one delivery room which had been cleaned following a patient discharge.

Evidence viewed showed that blood glucose monitoring equipment was brought to the patient bedside in a holder containing multiple clean supplies for blood sampling. This practice has the potential to contaminate clean supplies in the holder and increase the risk of transmission of blood borne viruses and is not in line with best practice guidance.

Red stains were present on the interior surfaces of a trolley used to transport equipment for decontamination. The same finding was made during the 2014 inspection. The trolley was unsecured and stored inappropriately on a communal corridor within the delivery ward. Inspectors were not assured that this trolley was scheduled for regular cleaning.

The design of patient beds did not facilitate effective cleaning or inspection of mattress cores. There were poor processes in place for bed cleaning. Three different staff disciplines were involved in cleaning different components of each patient bed. Patient beds viewed during the inspection had not been effectively cleaned as mentioned earlier. HIQA recommended that cleaning processes be reviewed to ensure there are clear lines of responsibility for staff so that cleaning processes are effective.

Records viewed showed that environmental hygiene audits were performed regularly. Audit results indicated high levels of compliance in relation to environmental hygiene in the Delivery Ward in August and September 2015. A high level of compliance with desirable cleaning standards was not evident in the October HIQA inspection.

It was reported by the hospital management team that high levels of activity particularly in recent months made it difficult to access delivery rooms for cleaning.

It was apparent that cleaning resources allocated to the ward were insufficient and did not facilitate effective cleaning of patient areas in the setting of rapid patient throughput. At the time of the inspection, three delivery rooms were unoccupied and a fourth room was vacated following a patient discharge. Vacant rooms provide

access and time for enhanced cleaning, monitoring and assessment of hygiene. Given the challenges described by the hospital such opportunities should be utilised for enhanced cleaning. In addition, consideration should be given to the allocation of a rapid response cleaning team to facilitate effective cleaning during periods of high activity. Sharing of information relating to effective hygiene processes between hospitals with similar activity levels may also be of value.

Other factors that may have contributed to the overall poor standard of hygiene in the Delivery Ward were deficiencies in relation to the poor infrastructural condition of the ward, cleaning processes, allocation of cleaning duties and related facilities. The relatively small size of delivery rooms combined with increasing bedside equipment requirements and insufficient storage facilities did not facilitate cleaning.

Infrastructure and activity levels

The National Maternity Hospital was originally built in the late 1800's. While numerous improvements to the facility have occurred since its opening, the fundamental challenges posed by the constraints of the current site remain. On inspection of the Delivery Ward, it was reported to HIQA that the number of delivery rooms on the ward is insufficient for the level of activity it caters for. There are 10 delivery rooms in a unit which is projected to accommodate the delivery of over 9,000 babies in 2015. In contrast, the plans for the new site maternity hospital development which is intended to replace the National Maternity Hospital includes up to 24 delivery rooms.

The infrastructure of the Delivery Ward is less than optimal, and does not facilitate effective cleaning. Space in the Delivery Ward is very limited; the design is outdated and does not comfortably meet the needs of this patient population. There is insufficient space within the current ward footprint to facilitate expansion. Delivery rooms are small in size relative to the amount of equipment deemed necessary in each room. Ward corridors are narrow. Operating theatre transport trolleys are stored on the ward corridor. Ancillary rooms such as those required for sterile equipment and medication storage, cleaning equipment management, decontamination and equipment storage and staff facilities are either absent, poorly designed or too small. Not all patient rooms have ensuite toilet/shower facilities. The design and finish of shared patient toilets/showers did not facilitate effective cleaning. Large mobile waste containers are stored on the first floor back stairwell corridor and because of space restriction these have to be transported through the main ward corridor to the lift for removal. Surfaces and finishes in this stairwell corridor are degraded and do not facilitate effective cleaning.

HIQA acknowledges that National Maternity Hospital staff work in a compromised physical environment dealing with a high level of activity, very complex cases and or

multiple birth scenarios. Despite these challenges the hospital reports low perinatal mortality rates and low bloodstream infection rates.

Layout and use of Delivery Rooms

Five of ten delivery rooms were linked such that access to one delivery room was only through the two delivery rooms on either side. This effectively meant that delivery rooms were a thoroughfare for staff, visitors and waste and clean supply transportation. One of these delivery rooms contained two beds. Inspectors observed a patient bed which was located in a lobby outside patient delivery rooms in a storage area used for clean supplies; this is not an appropriate patient care area. This infrastructure does not facilitate patient's dignity, confidentiality or privacy and does not facilitate effective infection prevention and control.

There was a failure to adequately segregate functional areas in the ward which meant that not all the delivery rooms were designated for patient case management in line with best practice.[8] One delivery room was used for multiple functions including sterile supply storage, clean linen storage, antiseptic hand hygiene, preparation of procedure trolleys and preparation of cleaning and disinfection products. In addition, the room also contained a medication fridge, a blanket warming cabinet and extraneous patient equipment. Insufficient storage facilities were evident throughout the ward with clutter in some areas and storage of equipment and supplies in appropriate areas. Sterile consumables were stored inappropriately on open shelves in delivery rooms in close proximity to clinical hand wash sinks and/or patient beds. Because of the risk of contamination, sterile supplies in delivery rooms should be kept to a minimum and should be stored in fully enclosed storage units. There were two surgical scrub sinks adjacent to the sterile supply storage area in a delivery room which posed a risk of splashing and supply contamination. Inspectors observed that the sinks were used for purposes other than hand hygiene during the inspection which is not in line with national guidelines.[9-10]

HIQA was informed that there were plans to reconfigure adjoined delivery rooms so that each room had its own access door. This plan should be progressed as a matter of priority.

Delivery Ward 'Dirty' Utility Room[±]

The 'Dirty' Utility Room was a small sized, poorly ventilated room used inappropriately for multiple functions. Environmental contamination was evident on a number of surfaces in the room. It was reported that the room was used for manual

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

segregation of healthcare risk waste and the processing and storage of clinical specimens. Tissue samples for pathology testing were processed in this room which further increased the likelihood of environmental contamination. Clinical specimens were not packaged or stored appropriately and there was evidence of spillage from specimen containers. There was a strong odour of chemical preservative in the room. The processing of tissue specimens in this manner in this room and the use of irritant chemicals in a poorly ventilated area is not in line with best practice and should cease. Tissue sampling, when necessary following delivery, should take place in an appropriate controlled environment.

A spray hose attached to a water outlet over a sluice hopper was used to clean contaminated containers, this practice poses a health and safety risk to staff as it may result in exposure to blood borne viruses and or bacterial pathogens.

The designated hand wash sink in the room was small in size and was not in line with recommended specifications.[11] Access to this sink was further restricted by a hose pipe used for detergent concentrate dilution.

Inappropriate storage of cleaning equipment and products was also evident and will be discussed below.

Cleaning processes and the management of cleaning equipment

Cleaning equipment and related products were inappropriately stored and managed in the 'dirty' utility room rather than in a dedicated cleaning equipment room. Reusable spray bottles for detergent were not used appropriately in that bottles were reconstituted in a contaminated environment. These bottles were unlabelled and there was no defined process or appropriate area in which to reprocess bottles following each cleaning session. Poorly maintained spray containers may facilitate the growth of bacteria and subsequent use may result in environmental contamination. Neonates in the Delivery Ward are highly susceptible to infection and it is therefore recommended that these reusable spray containers for detergent are not used in this area.

Environmental contamination observed in the 'dirty' utility room at the time of the October inspection was of particular concern due to the potential for contamination of the cleaning equipment and products stored in this area.

A single mop head was used to clean up body fluid spillages in multiple rooms. Such practice is not compliant with recommended infection control measures, as it increases the risk of cross contamination between areas.

Ward Pantry

An open plan food and beverage preparation area was located in the centre of the main Delivery Ward corridor which was unusual and not suited to a clinical environment. The open environment of the pantry had the potential to compromise food safety.

Condition and maintenance of the patient environment

The condition and maintenance of the patient environment was of concern to HIQA at the time of the October inspection.

Surfaces, finishes and some furnishings in patient rooms including windows, wall paintwork, wall coverings, woodwork, wood finishes and a bed head were worn and poorly maintained and as such did not facilitate effective cleaning. Some ceiling tiles were damaged or ill fitting and there was exposed plasterwork behind a radiator. Open ventilation grilles which were not removed following decommissioning of a ward ventilation system facilitated the accumulation of dust and were difficult to access for cleaning. Gaps were present around electrical switches, sockets and wall trunking. Multiple ledges in addition to electrical conduit and exposed pipe work on walls did not facilitate effective cleaning. Ceramic tiles had been painted over in one delivery room and some of this paintwork was flaking and damaged. The quality of wall finishes in all clinical areas should be durable, smooth, hard, seamless and impervious so that they can be easily cleaned.[12,13]

The hospital management team attributed poor maintenance and poor cleaning to bed occupancy in excess of 100% at times and related difficulty in accessing areas to facilitate cleaning and maintenance works.

Safe injection practice

Multiple syringes containing reconstituted intravenous medications were insufficiently labelled and stacked in an unclean tray in a refrigerator in a delivery room. Labelling on some of the syringes indicated that the medications were drawn up several days prior to the inspection. It is recommended that intravenous medication should be prepared immediately prior to administration. In addition, the refrigerator in which the medications were stored was unclean and ice build up was present indicating unmonitored temperature control. Fridges should be included in the ward cleaning schedule. Hospital managers were informed of the findings at the time of the inspection.

Waste management

Deviation from national guidelines on waste management [14] was observed in the Delivery Ward during the October inspection. Inspectors observed clinical waste in uncovered and overfilled rigid bins which had been transported from the patient area or point of generation to the 'dirty' utility room. It was reported to Authorised Persons that this waste was manually segregated and the rigid bins used were then manually washed and reused. These rigid bins are not designed to be re-used.

Biological tissue waste was not managed in line with a hospital policy which was displayed on a poster in the 'dirty' utility room. Biological tissue requiring disposal was packaged in black waste bags in uncovered rigid bins which were insufficiently labelled. Incontinence sheets were used inappropriately to absorb fluid leakage. There was no designated waste storage room.

Neonatal Intensive Care Unit capacity

Overcrowding in the Neonatal Intensive Care Unit was observed by Authorised Persons at the time of the October inspection. Forty six babies were accommodated in a unit designed to accommodate 36 babies.

The hospital attributed overcrowding in the unit to varying demands on this specialised tertiary service. It was explained that such varying demands on critical care beds was a regular occurrence, and was considered part of the normal working environment within this unit. Notwithstanding this, inadequate bed spacing has the potential to significantly increase the risk of cross infection particularly in a population of vulnerable neonates. There is an increased risk of infection spread in overcrowded environments particularly with respiratory and gastrointestinal infections.

Inspectors also noted that a fire exit was partially obstructed by a baby cot at the time of the inspection. Another cot was in close proximity to a clinical hand hygiene sink which may pose a risk of waterborne infection.[9,15]

HIQA acknowledges the capacity challenges faced by the hospital in accommodating neonates in this unit given its role as a tertiary referral centre. In addition, the Neonatal Intensive Care Unit's good performance in relation to blood stream infection rates over the last five years is likewise acknowledged by the Authority. However, the practice of continuing to admit babies to an overcrowded unit remains a significant risk. The ongoing need to admit unwell neonates above the units design and staffing capacity must be assessed in the context of the risks posed to babies already accommodated in this high risk clinical area.

Re-inspection on 17 November 2015

Delivery Ward

Environmental and patient equipment hygiene

Significant improvement in environmental and patient equipment hygiene was evident during the re-inspection in November. It was reported that a deep clean of the Delivery Ward commenced immediately following the October inspection and took three weeks to complete.

Beds in the Delivery Ward were dismantled to facilitate cleaning of all elements of bed frames. A new bed design was being piloted on the ward at the time of the re-inspection which has reportedly reduced the time taken to clean a bed. The new bed design also facilitates the monitoring of mattress cores which should be examined for non integrity on a regular basis. Improvement in the cleanliness of patient beds in general was observed. Authorised Persons were informed that it is planned to replace all beds on the ward.

Improvement in the management of patient trolleys is still required as the undercarriage of a patient transport trolley on the ward was unclean.

Similar to the initial inspection, insufficient cleaning of a transport trolley for contaminated equipment was observed. The trolley was unsecured and inappropriately stored. In addition, the manner in which contaminated equipment was contained for transport did not fully protect the handler or the trolley interior from inadvertent contamination. These findings demonstrate poor compliance with best practice[16] and the hospital's policy on the transportation of contaminated equipment and should be addressed as a priority.

Deficiencies in cleaning resources were acknowledged by the hospital during both inspections and the requirement for appropriate additional multidisciplinary cleaning resources were identified following the October inspection. However, cleaning resource deficiencies were not fully addressed at the time of the re-inspection. It was reported that allocated cleaning resources in the Delivery Ward have remained relatively unchanged for several years despite increased activity levels. Inspectors were informed that since the October inspection, an additional cleaner (for the hospital) has been recruited. Although this additional resource provides some assistance on the Delivery Ward if required, the allocation of cleaning resources in the Delivery Ward remains less than adequate. It was reported that there is one cleaner allocated per shift in the Delivery Ward. The cleaner allocated to cover the night shift has dual cleaning and catering duties which further dilutes the cleaning resource and may hinder the effectiveness of cleaning practices. Dual cleaning and

catering duties is not recommended and should be reviewed. The reported cleaning resources allocated to the Delivery Ward did not provide assurance that the cleanliness of the physical environment can be effectively managed and maintained or is sufficient to respond to the level of cleaning required in this busy clinical area. This issue needs to be addressed as a matter of priority.

It was reported to inspectors that regular spot checks had been carried out in the Delivery Ward between inspections. However, a comprehensive follow up hygiene audit was not conducted to determine the progress made in the areas of concern. Inspectors were informed that an audit was scheduled to take place in November. Hygiene audits can provide a measurement of compliance with agreed cleanliness performance levels and assurance that all elements within a functional area are clean.[17]

A cleaning specification for the Delivery Ward was not available at the time of the re-inspection. This document is an important reference guide for staff and should provide clarity in relation to cleaning frequency, methodology, responsibility and resources required for cleaning. Ensuring staff competency with respect to cleaning is particularly important in a clinical area which uses complex patient equipment. Inspectors were informed that cleaning processes were under review and that a cleaning practices document was being developed.

Hospital hygiene plays an important role in the prevention and control of healthcare associated infections and should be a key priority for all healthcare organisations.[5] A clean environment not only reduces the risk of acquiring an infection but also promotes patient and public confidence and demonstrates the existence of a positive safety culture.[17] It is clear from the findings of this report that improvements are required in the management of the cleanliness of the physical environment and in how the quality of the hygiene services are monitored and evaluated.

Layout and use of Delivery Rooms

Some preliminary works had begun and upgrading of one delivery room had been completed. Stores and sterile supplies have been relocated from a delivery room to more suitable areas away from clinical activities. Removal of some redundant fixtures and fittings had occurred. Plans for infrastructural changes were developed following the October inspection and it is planned to implement the works on a phased basis allowing for patient activity. It was reported to HIQA that the closing of the unit to facilitate these works is not an option as there is no suitable area for the Delivery Ward to temporarily relocate to.

Inspectors were informed that it is planned to reconfigure room partitions, create a larger 'dirty' utility room and provide a designated cleaner's room.

Delivery Ward 'Dirty' Utility Room

A number of issues identified in the 'dirty' utility room during the October 2015 inspection were not addressed by the time of re-inspection. For example, the spray hose attached to the water outlet of the sluice hopper remained in place despite being highlighted as a risk to staff at the time of the first inspection. There was some improvement in the cleanliness of the room however, environmental contamination was again evident.

Clinical specimen processing and the use of chemical preservatives was unchanged and requires revision. The current process for obtaining placental tissue samples as described to inspectors needs to be revised as a priority. Restricted access to the clinical hand wash sink had not been addressed.

Ward Pantry

The ward pantry was completely removed and alternative arrangements were in place to provide catering services.

Condition and maintenance of the patient environment

Authorised Persons were informed that many of the issues identified during the October inspection will be addressed as part of planned infrastructural changes and delivery room upgrading.

Cleaning processes and the management of cleaning equipment

Although some cleaning practices were revised in the Delivery Ward there was evidence that significant improvements were still required. Floor cleaning materials and practices were under review. Cleaning equipment was still stored inappropriately in the 'dirty' utility room. Authorised Persons were informed that there were imminent plans to create a dedicated cleaning equipment room. Reusable spray bottles for detergent were still in use and were again stored and maintained inappropriately in the 'dirty' utility room as identified previously. As stated this practice poses a risk of environmental contamination with bacteria and should cease immediately.

Waste management

In response to non compliances identified relating to waste management, practice had changed and segregation of waste now takes place at the point of care where clinical risk waste is generated. Clinical risk waste bins were now managed in line with hospital policy and best practice.

Safe injection practice

In response to concerns relating to injection practices, the hospital reported that the issues identified had been addressed immediately. The fridge was removed from the Delivery Room.

However, HIQA found during the re-inspection that this issue has not been fully addressed. Evidence was not provided to demonstrate that training, auditing or hospital wide dissemination of learning relating to this risk had occurred.

Inspectors observed that intravenous anaesthetic medications were still being pre-prepared in advance of emergency use in the Delivery Ward similar to the October inspection. This practice was also observed with regard to anaesthetic medications in the Theatre Department which was inspected during the November 2015 inspection. To reduce the risk of transmission of infection to patients, intravenous medications should be prepared in a clean environment using an aseptic non touch technique immediately prior to use where possible.[18]

The hospital has indicated through discussion and in its response to HIQA (Appendix 2) a commitment to reviewing and addressing practice relating to the preparation and administration of intravenous medication, particularly relating to anaesthetic medication, to assure itself that the potential risks to patients in this regard are fully mitigated.

Overcrowding in the Neonatal Intensive Care Unit

The hospital fully acknowledged the issue of overcrowding in the neonatal intensive care unit. HIQA were informed that the risk of overcrowding in the Neonatal Intensive Care Unit cannot be mitigated due to current space restriction in the hospital and national demand for neonatal intensive unit beds.

It was reported to inspectors that there are not enough cots and not enough appropriately skilled specialised staff to meet increases in activity levels. Chronic overcrowding and staffing deficiencies appear to be tolerated and accepted as the day to day reality for the hospital. Inspectors were not fully assured that this issue was being managed effectively at local or national level.

HIQA was informed that plans for a new custom built maternity hospital to be located on the campus at St Vincent's Hospital are at an advanced stage and the planning application was due to be submitted by the end of 2015. However, the multiple risks identified during this inspection need to be effectively managed in the interim of a new hospital being opened.

It is recommended that overcrowding issues in the National Maternity Hospital are prioritised and addressed, with the assistance of the wider Ireland East Group and at a national level, within an agreed timeframe.

2.2 Additional key findings of the 2015 inspections

Introduction

During both inspections, HIQA identified other areas of non-compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections* which, although not deemed to represent an immediate high risk to patients, still warranted improvement. An overview of these findings is contained in the following section.

Operating Theatre Department

The Theatre Department was inspected during the November 2015 inspection. Overall the environment in two vacant operating theatres inspected was generally clean and well maintained with some exceptions.

Deficiencies relating to general design and infrastructure of the operating theatre complex were observed. While one of the three operating rooms within the complex was upgraded within the last five years, the remaining theatres were small in size with outdated facilities.

There was a lack of storage space in the theatre complex and no designated cleaning equipment room. Inappropriate storage of equipment and supplies observed in operating theatres and corridors was exacerbated by the excessive volume of sterile supplies stored there. The complex was not self contained which meant that the recovery ward was located outside the operating theatre complex. There was one 'dirty' utility room which was multifunctional and shared between three theatres.

A scrub room was shared between Theatres 1 and 2. One of these theatres was used for emergency procedures and therefore was infrequently used. The space allocated in the scrub room was limited and did not comply with recommended specifications.[19] The room size did not allow for movement of staff within the room without the risk of environmental contamination or staff contaminating each other.

The door leading from the corridor to the scrub room was left open on two occasions during the inspection. This issue was communicated to staff for immediate mitigation. There is a potential risk of pressure gradients within and between two theatres being compromised in circumstances where a scrub room is shared which can impact on infection prevention and control measures.[19] This risk is compounded when doors are left open when a procedure is in progress.

The door of the sterile set up room was open at the time of the inspection. This issue was communicated to staff for immediate mitigation. Light levels of dust were observed on some surfaces. The dated infrastructure of the room was a likely contributing factor to dust levels observed.

Some improvements were required regarding maintenance issues relating to paint work, wood finishes and floor covering. There were small areas of damage to the floor in Theatre 3 which could impact on effective cleaning. The wood finish on doors and door frames leading from the main corridor to operating Theatres 1 and 2 was damaged. The double doors of operating Theatre 2 when closed did not seal the doorway which is not in line with best practice. High risk functional areas such as operating theatres should be appropriately maintained. Identified maintenance issues should be prioritised and addressed to facilitate effective infection prevention and control practices.

HIQA notes that the age and limited footprint of the hospital building is a key barrier to improvement in the theatre infrastructure. The current infrastructure and design of the theatre complex does not meet international best practice guidelines for operating theatre infrastructure.[19] Notwithstanding the challenges posed by the infrastructure, the implementation of effective infection prevention and control measures is a priority for this high risk area. Any changes and measures that can be implemented to address the issues identified and to enhance infection prevention and control practices should be instigated and reviewed regularly.

Management of blood spillages

Inconsistent management of spillages of blood was evident in the Theatre Department and the Delivery Ward and were not in line with hospital policy or best practice guidelines. Spillages of blood and other body fluids may transmit blood borne viruses. The safe management of blood and body fluid spillages is one of the standard infection control precautions that should be consistently implemented.

Safe injection practice

Issues related to safe injection practice were observed during the inspection of an operating theatre which were similar to findings in the Delivery Ward during the October inspection. Multiple bags of intravenous fluid were primed and hanging on intravenous stands and several pre-prepared syringes of anaesthetic intravenous medications were stored in a tray on the anaesthetic trolley in an operating room.

Hospital managers were informed of findings at the time of the inspection.

2.3 Progress since the unannounced inspection on 30 September 2014

HIQA reviewed the QIP[20] published by National Maternity Hospital following the 2014 inspection. Refurbishment and upgrade of the Neonatal Intensive Care Unit completed since the 2014 inspection has significantly improved the infrastructure. Inspectors were informed that the general cleanliness of the unit had improved but some issues related to cleaning resources still remain unresolved. The unit achieved 88% in a hygiene audit carried out in September 2015. It was reported that there has been an increased awareness regarding environmental hygiene since the 2014 inspection which was achieved through regular discussions during staff meetings. Hygiene supervision has also improved. Lessons learnt from the 2014 inspection were shared across the hospital through heads of department meetings. Blood transfusion bags are now stored appropriately post transfusions.

Nine extra cleaning staff were trained to rotate in and out of the unit. It was explained to inspectors that there were no dedicated cleaning staff allocated solely to the Neonatal Intensive Care Unit which meant that staff could be shared with other units. The lack of designated staff assigned to the unit for the cleaning of patient equipment was highlighted and discussed during the 2014 inspection and was identified as a potential impediment to effective cleaning of patient equipment. The operational norm seen in other neonatal units inspected by HIQA is dedicated cleaning staff assigned to the unit. The HSE Cleaning Manual for Acute Hospitals describes the benefits of dedicated cleaning staff to ward cleaning management systems which are reflected in the following statement:

'*Experience shows that cleaning services are best delivered in circumstances where cleaning staff are permanently attached to a ward / department, and where users have a considerable say in setting standards, making judgements about performance, requiring changes and being able to realistically reflect the needs and expectations of their patients.*'[7]

Dedicated cleaning teams in high risk functional areas such as the Neonatal Intensive Care Unit can promote consistency, reduce variability in hygiene levels and facilitate more effective oversight. A high standard of hygiene is expected to reduce the risk of transmission of infection through environmental contamination. HIQA recommends that the allocation of a dedicated cleaning team to the unit should be reviewed particularly in the context of the complexity of care provided there and competencies required to clean the intricate equipment used therein.

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 observed in the Delivery Ward and some of those in the Theatre Department did not comply with HBN 00-10.[11]
- A room used essentially as a 'clean' utility room in the Delivery Ward did not have a clinical hand wash sink.
- Wall mounted bar soap holders were present over scrub sinks in a delivery room which were no longer in use and should have been removed. The soap holders were removed following the October inspection.
- Scrub sinks in the Delivery Ward were not designated for hand hygiene only in line with best practice guidelines. The location of scrub sinks in the Delivery Ward did not facilitate easy access.

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*.

- It was reported that 91% of clinical staff received hand hygiene training within the last two years.
- New staff are required to complete hand hygiene training using the online HSE e-Learning programme [21] (the HSE's online resource for learning and development) prior to commencing work at the hospital. Face to face training is also provided by the infection prevention and control nurse to new staff. Hand hygiene training is facilitated at ward level.

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

National hand hygiene audit results

The National Maternity Hospital participates in the national hand hygiene audits, results of which are published twice a year.[22] The results in Table 1 are taken from publicly available data from the Health Protection Surveillance Centre's website. Hand hygiene compliance at the hospital was above the HSE national key performance indicator for hand hygiene compliance in May/June 2015.[23]

Table 1: National Maternity Hospital National hand hygiene audit results

Period 1-9	Result
March/April 2011	Not available
Oct/Nov 2011	72.4%
May/June 2012	89.5%
Oct/Nov 2012	85.7%
May/June 2013	94.3%
Oct/Nov 2013	85.7%
May/June 2014	88.6%
Oct/Nov 2014	88.1%
May/June 2015	91.0%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.[22]

Local hand hygiene audits

Unannounced local hand hygiene audits by link nurses which were carried out in 2014 were not carried out in the hospital at the time of the 2015 inspections. However, inspectors were informed that five hand hygiene auditors have been trained and it is planned to re-introduce internal hand hygiene audits at local level in the near future.

Observation of hand hygiene opportunities by HIQA inspectors

A sample of hand hygiene opportunities were not observed in the areas inspected because of the personal nature of care delivered in both the Delivery Ward and the Operating Theatre.

3.4.4 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*.

- In general, hand hygiene advisory posters were available, up-to-date, clean and appropriately displayed in the areas inspected at the National Maternity Hospital. However, hand hygiene signage in the 'dirty' utility room of the Delivery Ward was poorly positioned and needed to be replaced; this issue was addressed on re-inspection.

2.4.5 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*.

- Evidence viewed at the time of the inspections indicated that the hospital is working towards improving hand hygiene compliance at all levels.
- A 2014 patient hand hygiene satisfaction survey in which 230 patients participated showed a 97% patient satisfaction rate with hospital hand hygiene practices. Patient satisfaction surveys can be helpful in determining patient understanding, attitudes and overall satisfaction levels.
- The hospital has indicated that plans to increase monitoring of hand hygiene practice and compliance through the re-introduction of internal hand hygiene audits are in progress.
- The National Maternity Hospital has a regular hand hygiene training programme in place and its performance in national hand hygiene audits in May/June 2015 was in line with the national target set by the HSE. The hospital needs to build on the achievements to date to ensure that hand hygiene compliance is sustained.

2.5 Key findings relating to care bundles[1]

Peripheral vascular catheter care bundles are not in place in the Delivery Ward and the Theatre Department because of the short duration of peripheral vascular catheter placement. In general, the duration of placement of peripheral vascular catheters in the Delivery Ward ranges from four to eight hours. Midwives remove peripheral venous catheters following delivery and before the patient is transferred to the post natal ward unless the device is required for longer. Good practice was noted in that device insertion and removal details are recorded in the medication prescription record.

A policy on intravenous catheters is available which includes a peripheral vascular catheter care bundle. It was reported to inspectors that midwives are trained to insert peripheral venous catheters.

A study of urinary tract infection associated with urinary catheterisation was performed in the Delivery Ward. Data from this study is being analysed to examine the risk of infection in relation to intermittent catheterisation compared to indwelling urinary catheter placement. This is an example of good practice in that clinical staff are endeavouring to reduce the risk of infection for patients undergoing urinary catheterisation.

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

Good practice was observed in the Neonatal Intensive Care unit in relation to invasive device management. Central venous catheter insertion and maintenance care bundles are embedded in the Neonatal Intensive Care Unit. The condition of the device insertion site is checked and documented hourly. A device insertion checklist is completed by medical staff at the time of line insertion. Blood stream infection surveillance is performed in relation to central venous access devices and umbilical catheters. Care bundle implementation is audited every three months. There has been a steady decline in venous access device related blood stream infections in the unit since 2010. In the case of one Gram-negative blood stream infection a root cause analysis was performed in addition to environmental sampling. Enhanced infection control precautions were implemented on foot of findings. No further cases were identified. Positive blood stream isolates are reported to the unit by the hospital laboratory as they arise. Formal feedback of device related infection surveillance data is provided to staff every three months.

Peripheral vascular access catheter care bundle compliance audits are conducted six monthly across six clinical areas or more frequently as deemed necessary. Findings in respect of care bundle compliance audits, hand hygiene compliance and alcohol gel usage are reported to ward managers and to the executive management team.

Caesarean section surgical site infection surveillance

Caesarean section surgical site infection surveillance is performed in the hospital and patients are followed up where possible for 30 days post operatively. Performance of surgical site infection surveillance is in line with good practice guidelines. A wound care management policy has been revised for patients at greater risk of infection; this change in practice was informed by surveillance findings. Surgical site infection surveillance is performed by the infection prevention and control nurse in the hospital.

3. Summary

The initial unannounced inspection undertaken by HIQA against the *National Standards for the Prevention and Control of Healthcare Associated Infections* [1] at the National Maternity Hospital on 7 October 2015 revealed a significant need for improvement.

Following this inspection, the hospital acted to address the areas of non-compliance identified by HIQA. A commitment to addressing immediate high risks was evident during the re-inspection in November. However, improvements are still required in relation to environmental hygiene, overcrowding in the Neonatal Intensive Care Unit, safe injection practices, clinical specimen processing, maintenance, and infrastructure development. Standard infection control precautions should be consistently implemented.

At a most basic level, the clinical environment within a hospital must be clean and maintained to comply with Standard 3 of the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1] Notwithstanding the infrastructural challenges in the National Maternity Hospital, an issue shared with other older hospitals, an acceptable standard of basic cleanliness and maintenance is both essential and achievable. Improvements are required relating to cleaning processes, resources and the oversight of hospital hygiene. Older and poorly designed hospital infrastructure is more difficult to clean, this needs to be taken into consideration when allocating cleaning resources.

High activity levels and lack of resources were cited by hospital management as key barriers to improvement in ward infrastructure, including the upgrade of delivery rooms. HIQA acknowledges that it will be challenging for the hospital to address infrastructural deficits in the short term. The deficiencies outlined in relation to current facilities in the Delivery Wards and the Theatre Department do not facilitate effective infection prevention and control practices and should be addressed as a priority.

The proposed new hospital development will take a number of years to complete, in the interim it is recommended that improvements in the infrastructure in the Delivery Ward are progressed as planned. These improvements are necessary to promote patient dignity and privacy, to facilitate cleaning with the unit, to separate functional areas and to provide necessary ancillary rooms.

The National Maternity Hospital is a tertiary hospital and a member of the wider Ireland East Group. The hospital needs to be supported within the group structure to better address issues in relation to bed occupancy and ward infrastructure, in order

to facilitate compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1]

4. Next steps

The National Maternity Hospital must now revise and amend its Quality Improvement Plan (QIP) that prioritises 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 the National Maternity 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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Appendix 1 - Copy of letter issued to the National Maternity Hospital.

Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Rhona O' Mahony
Master/CEO of the National Maternity Hospital
National Maternity Hospital
Holles Street
Dublin 24
rmahony@nmh.ie

09 October 2015

Ref: PCHCAI/521

Dear Rhona

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

During the course of the unannounced inspection at the National Maternity Hospital on 7 October 2015, Authorised Persons[1] 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 risks included, but were not limited to;

- **Infrastructure and facilities –**
  The Authority found evidence of overcrowding in Neonatal Intensive Care Unit which posed an infection control risk to vulnerable neonates who were accommodated there. The newly opened unit was designed to accommodate 36 babies but on the day of the inspection, 46 babies were accommodated in the unit.

[1] Authorised Persons of the Health Information and Quality Authority (the Authority) under Section 70 of the Health Act 2007 (the Act) are authorised 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.

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Dublin 7, Ireland
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e-mail: info@hiqa.ie www.hiqa.ie

Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

In addition, there was failure to adequately segregate functional areas of the Delivery Ward such as the location of an open plan food and beverage preparation area within the ward, linked delivery rooms and the use of a delivery room for multiple functions was such that the risk of transmission of infection cannot be fully mitigated and therefore should be addressed as a priority.

- **Environmental and patient equipment hygiene** –
  The quality of cleaning on the Delivery Ward was insufficient on the day of inspection. Dust control measures were suboptimal and splashes of organic matter were present on patient beds, wall surfaces and patient equipment which posed a risk of transmission of blood borne viruses and other pathogens.
- **Safe injection practices –**
  The management and storage of intravenous medications was not in line with best practice**.** Anaesthetic drugs drawn up in syringes and as infusions were insufficiently labelled and stored unhygienically in the Delivery Ward. The integrity and sterility of these reconstituted medications could not be assured.
- **Waste Management –**
  The segregation, storage and managment of waste was not in line with best practice at the time of the inspection.

The above issues were brought to the attention of the Senior Management Team at the hospital during the inspection. This was done so that your hospital could act to mitigate and manage these identified risks as a matter of urgency. The findings identified were such that a second unannounced re-inspection will be conducted within six weeks.

Given the level of potential risk associated with these cumulative findings, please formally report back to the Authority by **2pm on 13 October 2015** 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 the Authority's notification of high risks and the service provider's response.

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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

KAY SUGRUE
Authorised Person

CC: Mary Dunnion, Director of Regulation, HIQA
Mary Day, Group CEO, Ireland East Hospital Group
Liam Woods, National Director of Acute Services, Health Service Executive

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Appendix 2 - Copy of letter received from National Maternity Hospital.

An tOspidéal Náisiúnta Máithreachais
The National Maternity Hospital
Founded in 1894

Sráid Holles, Baile Átha Cliath 2 • Holles Street, Dublin 2.
Telephone: (01) 6373100. Fax: 6766623. Web: www.nmh.ie

Máistir/ Master: Dr. Rhona Mahony

October 13, 2015

Ms. Kay Sugrue,
Health Information & Quality Authority,
Dublin Regional Office,
George's Court,
George's Lane,
Dublin 7.

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

Dear Ms. Sugrue,

Thank you for the report issued to the hospital on October 9th, 2015 regarding an unannounced inspection by HIQA at the National Maternity Hospital on October 7th, 2015.

I would firstly like to acknowledge that the hospital takes this report very seriously. As an immediate response a task force has been set up which has been charged with dealing with each of the issues raised as a matter of urgency.

We note that the critiques are regarding processes and not our clinical outcomes and we fully recognise and support the need for ongoing review and improvement of all processes.

This Hospital has had no major bloodstream infections (MRSA/VRE/CRE) for over 5 years.

Infrastructure and Facilities -

In relation to infrastructure and facilities we note and acknowledge the overcrowding in the neonatal intensive care unit. It must be appreciated that unpredictable peaks and troughs are part of the normal working environment at the National Maternity Hospital. Any one visit provides a snapshot of the unit and it should be acknowledged that during the last four weeks the number of babies on the unit has varied anything from 30 to 46. At times we make a decision to continue to admit babies although the unit is full and that may be because the risk of not doing so is greater and due to the unavailability of other options within the country. For example if a patient at 25 weeks gestation delivers unexpectedly which is normally the case, it may be safer to admit the baby to the unit despite overcrowding rather than attempt to transfer to another unit. In order to quantify the risk I think it is important to look at the actual infection rates and outcomes within the unit and a detailed report in this regard will follow.

In relation to the infrastructure on the labour ward we plan to immediately remove the open plan food and beverage preparation area. However, there are other infrastructural deficits that are not possible for us to change and indeed there are many infrastructural deficits throughout the hospital which pose us significant difficulty. Our labour ward has only ten labour rooms and we anticipate by the year end we will have delivered almost 9,500 babies within this facility during 2015. It is for this reason that we have consistently highlighted these problems and we ourselves have declared our hospital not fit for purpose. However, we are pleased to acknowledge that plans for a new custom built maternity hospital on the campus at St. Vincent's University Hospital are now at an advanced stage and we are hoping that the planning application for this project will be submitted at the end of this year.

Environmental and patient equipment hygiene -

In relation to the quality of cleaning on the Delivery Ward this has been addressed immediately. It should be acknowledged that on the morning of the visit all rooms were full and that it does take time and access to be able to perform the deep cleaning that is desirable in these units. It should be pointed out that in the preceding 12 hours 16 babies were born. Over the last four weeks in one 24 hour period we had 43 births and the average was 27 births per 24 hour period. We have no control over this level of activity and women presenting in labour must be delivered. Deep cleaning of each room requires access for a number of hours and due to volume of activity this often proves to be very challenging.

Safe injection practices -

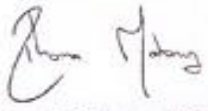
This issue has been dealt with immediately. Our Chief Pharmacist and Director of Anaesthetics are reviewing the practices and a pharmacist is being assigned sessions to the Labour Ward to manage drugs and to audit practices and provide ongoing training. The fridge in question had been removed.

Waste Management –

The practice has been reviewed and a new practice with new equipment is being introduced over the coming days.

We acknowledge this report but wish to point out that it must be put in context of the overall business of the hospital and the reality of childbirth. This is an unprecedentedly busy time and in the last three months 2,362 babies were born in this Hospital . It must also be acknowledged that these conditions are incredibly challenging for patients and staff. Our Perinatal mortality rates and low infection rates are exceptional by international standards considering the conditions and activity and we would appreciate if the context of our challenges are acknowledged.

Yours sincerely,



Rhona Mahony, MD., FRCPI., FRCOG.
Master

c.c **Mary Dunnion, Director of Regulation, HIQA**
Mary Day, Group CEO, Ireland East Hospital Group
Liam Woods, National Director of Acute Services, HSE

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