Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at the Mater Misericordiae University Hospital

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

Date of on-site inspection: 2 July 2015

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

The Health Information and Quality Authority (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 the Authority is 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]

Following the publication of the revised *Guide* [2] in 2015 the Authority will continue to assess environmental and hand hygiene but in addition will assess measures in place to prevent or reduce 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.

Monitoring of compliance with Standard 8 will focus initially on peripheral vascular catheter and urinary catheter care bundles and related metrics, but monitoring of performance may include other infection prevention and control care bundles as recommended in national guidelines.

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. 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. The Authority'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.

An unannounced inspection was carried out at the Mater Misericordiae University Hospital on 2 July by Authorised Persons from the Authority, Katrina Sugrue, Aileen

O Brien, Joan Heffernan and Rachel McCarthy between 10:25hrs and 17:40hrs. The areas assessed were:

- **St Monica's Ward**, which is a surgical ward and accommodates patients receiving colo-rectal surgery, hepatic, gynaecology and oncology care. It is a 31 bedded ward. It comprises four six-bedded wards, one two-bedded ward and five single rooms, three of which are ensuite. Three patients were isolated at the time of the inspection.
- **Intensive Care Unit**, which is an 18-bedded unit. There are five cubicles and the remainder are single rooms. At the time of the inspection, the unit was staffed to accommodate 15 patients.

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

2. The Mater Misericordiae University Hospital Profile[‡]

The Mater Misericordiae University Hospital is the main charitable and voluntary general hospital serving Dublin's north inner city. It is a university teaching hospital providing acute and tertiary specialist services. The population of its local catchment area is approximately 185,000. The hospital was established in 1861 under the auspices of Sr Catherine McAuley and the Sisters of Mercy. At full capacity it has approximately 600 beds including day beds. Approximately 18,000 patients are admitted annually, including 12,000 emergencies. Approximately 49,000 patients annually attend for day cases and 50,000 attend the Emergency Department each year. Outpatient attendances exceed 215,000 per annum. The Mater is a designated cancer care centre and is the national centre for:

- cardiac thoracic surgery
- heart and lung transplantation
- extra corporeal life support (ECLS)
- spinal injuries
- pulmonary hypertension
- National Isolation Unit
- bone anchored hearing aid
- Adult Congenital Heart Disease (ACHD) Service.

[‡] 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.

Other specialties include but are not limited to: cardiology, ophthalmology, haematology/oncology, nephrology, urology, infectious diseases, psychiatry, ear nose and throat, rheumatology, diabetes and endocrinology, neurology and stroke care, a multidisciplinary breast care centre, respiratory medicine, vascular surgery, interventional radiology, emergency and intensive care medicine, plastic surgery, general and colorectal surgery, orthopaedics, medicine for the elderly, pain and palliative care medicine.

In addition to medical and nursing training and its link with the postgraduate colleges and faculties it has significant teaching and research commitments in association with the largest university in Ireland, University College Dublin. The teaching and research commitments range from diagnostic radiology, oncology, cardiology and other clinical specialties to healthcare informatics.

3. Findings

This report outlines the Authority's overall assessment in relation to the inspection, and includes key findings of relevance. A list of additional low-level findings relating to non-compliance with the standards has been provided to the hospital for completion. However, the overall nature of the key areas of non-compliance are within this report.

This report is structured as follows:

- **Section 3.1** outlines the level of progress made by the hospital after the unannounced inspection on 20 February 2014.
- **Section 3.2** presents the key findings of the unannounced inspection on 2 July 2015.
- **Section 3.3** describes the key findings relating to hand hygiene under the headings of the five key elements of the World Health Organization (WHO) multimodal improvement strategy[3] during the unannounced inspection on 20 July 2015.
- **Section 3.4** describes the key findings relating to the prevention or reduction of invasive medical device related infection through the implementation of infection prevention care bundles during the unannounced inspection on 2 July 2015.

3.1 Progress since the last unannounced inspection on 20 February 2014

During the last inspection conducted by the Authority, opportunities for improvement with respect to maintenance on St John's ward were identified. Since that time, a comprehensive extensive programme of works has commenced within the hospital which should address the maintenance issues highlighted in the 2014 inspection of St John's Ward. A painting programme is in place and it is planned to upgrade

sanitary facilities on the ward. An updated QIP was not available to view at the time of the inspection, however it is notable that a gap analysis against the Standards has been completed and the hospital is working towards addressing the deficiencies identified. The gap analysis addresses some of the issues highlighted in the 2014 report.

The hand hygiene data base was updated to include trending relating to the compliance of staff groups within the hospital which was viewed by inspectors at the time of the inspection. An executive management dashboard displays key performance indicators relating to the prevention and control of healthcare associated infections.

3.2 Key findings of the unannounced inspection on 2 July 2015

General hospital environment

All wheelchairs located inside the main entrance of the Whitty building were unclean with stains visible on the metal parts and on some seat areas. It is recommended that these wheelchairs are included in local cleaning schedules.

Patient Environment

Improvements are required in the quality of cleaning on St Monica's Ward. Inspectors found varying unacceptable levels of dust on high and low surfaces in all areas assessed. Dust, fluff and grit were present on floor corners and edges in all patient and ancillary rooms inspected indicating that local systems for dust control were not effective. Dust was also present on air vents, computer keyboards, shelving in cupboards, the frames of units for the storage of sterile equipment. Two drug trolleys inspected were unclean. One of three mattresses inspected were compromised and red staining was visible on the cover of second mattress. Several pillows were assessed; one pillow cover was torn and visibly stained and red staining was present on another. Organic matter was present on the bedrails of one bed assessed.

The Authority observed several fans in use in patient areas in St Monica's Ward at the time of the inspection. Fans are not recommended for use in clinical areas.[4] However, inspectors were informed that fans were in use as a patient comfort measure in response to the increased temperatures experienced in the ward from the warm weather. It is of concern that several of the fans assessed were visibly very dusty and one was in poor repair. In addition, fans were not included as part of the daily ward cleaning schedule. The hospital has indicated that the cleaning of fans will be included in the revised cleaning schedule to be introduced. However, the Authority recommends that the use of fans in a clinical area that specialises in major abdominal surgery should be reviewed in the context of the potential infection

prevention and control risks posed. Other measures for the monitoring and control of ward environmental temperatures should be considered to ensure that a comfortable patient and working environment is provided.

Daily cleaning checklists were viewed and were found to be incomplete for June and up to the time of the inspection in St Monica's Ward. The checklists included water flushing records which meant that water outlets were not flushed in line with the check list schedule. Monitoring of the checklists by the ward manager was not evident.

The patient environment in the Intensive Care Unit was generally clean with some opportunities for improvement observed. The undercarriages of four beds inspected were dusty and stained in parts. Dust was present in storage units in patient rooms. Light dust was present on some high level surfaces. Sticky residue was present on some infusion pumps, syringe drivers and a computer mouse. Brown and black splashes and marks were visible on walls in patient rooms. Findings were the same in all patient rooms inspected indicating that similar areas had been consistently missed during cleaning. Shelf surfaces in the clean supply storeroom were dusty. Heavy dust was present on floor edges. Dust was observed on the shelving and floor of a clean supply storeroom and on high level surfaces in the main unit medication preparation area.

Assurance was not provided during the inspection of St Monica's Ward that reusable spray bottles containing detergent for general purpose cleaning were effectively cleaned and dried at the end of each cleaning session.

Environmental Hygiene Auditing

The overall compliance with self assessment hygiene audits by wards and departments within the hospital for 2014 was 36%. Poor compliance was also shown in 2011, 2012 and 2013. The hospital has set a target of 75% compliance for 2015. Records viewed by the Authority showed that St Monica's Ward had only conducted two out of 12 scheduled self assessment hygiene audits in 2014.

Environmental hygiene has also been monitored through audits conducted by the external cleaning company, the hygiene supervisor and scheduled senior management walkabouts. However, the audits showed varying levels of compliance for the assessed areas. For example, St Monica's achieved a minimum of 94% compliance in four audits carried out by the external cleaning company in 2015 and achieved 77% and 74% compliance in environmental quality audits conducted in January and February 2015 by the hygiene supervisor. It was explained to the Authority that this disparity may be due to different audit tools used. The inconsistencies shown in the audit results, the poor compliance with self assessment hygiene audits, the incomplete daily cleaning checklists and the suboptimal

cleanliness observed on St Monica's at the time of the inspection, indicated that there was a lack of local ownership with respect to hygiene performance, and did not provide assurance that the cleanliness of the ward was being monitored effectively.

The Authority notes that the hospital has recently changed to a new external cleaning company. A revised standardised audit tool is in draft and is due to be introduced across the hospital which should ensure that hygiene auditors are assessing the same elements relating to hygiene in each audit.

Patient room fixtures

The location of enclosed fluid disposal units within each patient room in the Intensive Care Unit was of concern to the Authority. These enclosed fluid disposal units were used to discard liquid body waste within the patient room in accordance with a local standard operating procedure. The location of the enclosed fluid disposal units was of concern from an infection prevention and control perspective in that the receptacle is situated adjacent to the head of the patient bed and the clinical hand wash basin. Curtains within the patient rooms were in direct contact with the exterior of this receptacle. It is recommended that the hospital carry out a full review with regard to the location and use of these enclosed fluid disposal units to fully assess, identify and manage any related infection control risks.

Patient equipment

There was evidence of insufficient cleaning of some patient equipment cleaning and equipment and opportunities for improvement were observed in both areas inspected. On St Monica's Ward, red staining was visible on two glucose monitors. Several intravenous pumps in use were visibly stained and thermometer probe holders assessed were unclean.

Red staining was visible on both arterial blood gas analysers and adjacent surfaces in the Intensive Care Unit. A tube of blood was present on a sharps box next to one blood gas machine. In addition, staff were observed handling blood tubes for blood gas analysis directly and without gloves, which is not in compliance with standard precautions.

Transmission based precautions

Insufficient advisory signage was displayed on the doors of rooms used to accommodate patients requiring transmission precautions at the time of inspection on St Monica's Ward. The signage did not inform staff or visitors what precautions were required on entering the isolation room. There was no signage on one isolation room door. Two doors of the isolation rooms were open at the time of the inspection. The Authority was informed that these doors were left open to facilitate

close observation of some patients. It was explained to inspectors that precautionary signage is under review, and only the advisory signs requesting visitors and staff to contact nursing staff prior to entering the room were in use at the time of the inspection.

Safe injection practice

During the inspection of the Intensive Care Unit, the Authority observed a number of insufficiently labelled syringes containing emergency drugs drawn up in anticipation of an emergency situation where they may be required. Reconstituted intravenous medication prepared for infusion and injection was stored directly on a shelf in the drug fridge, and was incompletely labelled. A syringe of medication prepared a week previously was also observed in a drug fridge. Used multiple dose vials of insulin were not all labelled with the date of opening and were not designated to single patient use in line with best practice guidelines. Inappropriate use of multi-dose vials has been linked to outbreaks of infection.[5] Syringes of medication for infusion were placed directly onto counter tops in patient rooms rather than into a clean injection tray. Partially used bags of glucose for intravenous use were located directly on a counter top in a communal medication preparation area. Extraneous items including medication delivery bags and boxes were stored directly on a medication preparation worktop in the communal area of the unit. The practice of pre preparing intravenous medication and the manner in which such medications were handled, stored and labelled on the day of inspection may result in an increased the risk of infection for patients. It is recommended that medications and infusions are prepared as close as possible to administration time. If routine prior preparation of medication is deemed necessary, such medications should be compounded in an aseptic environment such as the hospital pharmacy aseptic compounding unit. The Authority recommends that the hospital reviews local practices relating to the preparation, storage and administration of intravenous medication and the use of multiple dose vials to assure itself that the potential risks to patients in this regard are fully mitigated.

Sharps Management

The temporary closing mechanism was not activated in the majority of sharps bins viewed on St Monica's Ward. Red staining was visible on the surfaces of two sharps bins. Two sharps bins in the investigation room were overfilled and blood stained tubing was protruding through the opening of one. A staff member was observed to continue to use the overfilled sharps bin during the inspection. Inspectors requested that this issue be addressed at the time of the inspection.

The National Isolation Unit

The National Isolation Unit, was visited but not inspected, to view the facilities available there on the day of inspection. Direct access to the street allows patients to

be transferred to the unit without entering the main hospital. The Authority notes that not all rooms are single rooms with ensuite facilities which is not optimal. The Authority was informed by the hospital that treatment modalities including haemodialysis and mechanical ventilation can be provided in the National Isolation Unit if required. It was reported to the Authority that a self contained isolation pod is being considered to enhance existing isolation facilities.

3.3 Key findings relating to hand hygiene

3.3.1 System change[3]: *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene*.

- The design of clinical hand wash sinks in the two areas assessed did not conform Health Building Note 00-10 Part C: Sanitary assemblies.[6]
- Two of the alcohol hand rub dispensers were empty and two dispensers were broken at the time of the inspection.

3.3.2 Training/education[3]: *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*.

- Hand hygiene training is delivered annually to staff. Staff complete the HSE e-Learning hand hygiene programme (the HSE's online resource for learning and development).[7] A practical assessment of technique is also carried out by the infection prevention and control nurses.
- All but one staff member was up-to-date with hand hygiene training on St Monica's Ward. As of the end of May 2015, the Authority was informed that 80% of staff in the Intensive Care Unit had completed the HSELanD e-learning training programme and 66% of staff had completed blended learning of HSELanD and practical hand hygiene training.
- Overall, 72% of staff in the hospital had attended hand hygiene training. A breakdown of hand hygiene training compliance for each staff group was viewed. The figures showed that only 36% of medical staff and non consultant hospital doctors were up-to-date with hand hygiene training which is considerably lower than other staff groups.

3.3.3 Evaluation and feedback[3]: *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 audits

Mater Misericordiae University Hospital participates in the HSE national hand hygiene audits which are published twice a year.[8] Results contained in Table 1 are publically available on the Health Protection Surveillance Centre's website. The hospital has failed to achieve minimum compliance targets set by the HSE since October/November 2011 and has not achieved the HSE's 90% target set for 2014.[9]

Table 1: HSE national hand hygiene audit results

Period 1-8	Result
Period 1 March/April 2011	55.7%
Period 2 October /November 2011	73.3%
Period 3 May/June 2012	78.1%
Period 4 October /November 2012	79.0%
Period 5 May/June 2013	81.4%
Period 6 October /November 2013	74.8%
Period 7 May/June 2014	79.0%
Period 8 October /November 2014	85.2%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.[8]

Hospital hand hygiene audits

- In addition to twice yearly national hand hygiene audits, internal hand hygiene audits are also carried out locally across the hospital in all patient care areas by the Infection Prevention and Control Team. Detailed feedbacks of results are given to staff in the areas audited by the infection prevention and control nurses.
- A hand hygiene audit of seven randomly selected areas within the hospital was completed in May/June 2015 which showed 81.9% compliance. Only one of the seven areas audited achieved the HSE target of 90%. In the same audit Intensive Care Unit staff achieved 83.3% compliance. The Authority was informed that a second audit was carried out one week later and staff achieved a hand hygiene compliance rate of 96%.
- Poor compliance was demonstrated in a hand hygiene audit carried out in June 2015 in St Monica's Ward in which 70% compliance was achieved. Inspectors viewed an action plan devised in response to this.

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[10] and the HSE.[11] 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 40 hand hygiene opportunities in total during the inspection. Hand hygiene opportunities observed comprised the following:
  - 12 before touching a patient
  - four before a clean/aseptic procedure
  - nine after body fluid exposure risk
  - one after touching a patient
  - 14 after touching patient surroundings
- 25 of the 40 hand hygiene opportunities were taken. The 15 opportunities which were not taken comprised the following:
  - four before touching a patient
  - three before clean/aseptic procedure
  - two after body fluid exposure risk
  - six after touching patient surroundings
- Of the 25 opportunities which were taken, the hand hygiene technique was observed (uninterrupted and unobstructed) by the Authorised Persons for 15 opportunities and the correct technique was observed in 15 hand hygiene actions.

In addition the Authorised Persons observed:

- A wrist watch worn by a staff member performing hand hygiene in the healthcare zone. Another staff member failed to appropriately remove personal protective equipment and perform hand hygiene before leaving an isolation room

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

3.3.4 Reminders in the workplace[3]: *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 most of the areas inspected at the hospital.

3.3.5 Institutional safety climate[3]: *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*.

- Hand hygiene compliance observed by the Authority on the day of the inspection was 62.5%. The hospital's has failed to meet the HSE target of 90% in 2014 or previous targets set from 2011 to 2013. The performance of the Mater Misericordiae University Hospital in national hand hygiene audits needs to be improved considerably in order to achieve the national target set by the HSE.[12] The hospital needs to build on compliances achieved to date to ensure that good hand hygiene compliance is achieved and maintained across all clinical areas.

3.4 Key findings relating to peripheral vascular catheter (PVC) and urinary catheter care bundles

Central venous catheter care bundles were first introduced to the Intensive Care Unit in July 2014. The hospital had a recently revised guideline for central venous catheters in the critical care service which included care bundle insertion and maintenance checklists and care bundle information.

The Intensive Care Unit patient care information management system has been designed to capture comprehensive information regarding central venous catheter related management. Information gathered electronically was used to audit compliance with central line care bundles.

It was reported that an initial audit indicating poor compliance with central venous catheter care bundle implementation was followed up with feedback to staff and education sessions. Care bundle compliance was re audited and the hospital was in the process of collating and reviewing the most recent audit findings.

The Intensive Care Unit did not routinely calculate catheter related blood stream infection rates for patients with central venous access devices. However, a recent audit was performed to establish the rate of central venous catheter related blood stream infection in patients who received parenteral nutrition during 2014. Such results should be used to identify all opportunities for improvement in relation to the prevention of device related infection. It is noteworthy that the hospital has established an information technology resource in the Intensive Care Unit to capture

some of the information necessary to perform catheter related blood stream infection surveillance. As recommended in national guidelines ongoing quality assurance/improvement, risk management and surveillance programmes should be in place to monitor the incidence of infection associated with intravascular catheters.[13]

The hospital informed the Authority that peripheral vascular catheter care bundles and urinary care bundles were not in place in the hospital. A draft peripheral venous catheter care bundle has been developed and it is planned to implement peripheral venous catheter care bundles throughout the hospital by the end of 2015.

The Authority notes that the SSKIN care bundle[14] has been successfully piloted on St Monica's Ward. The bundle aims to reduce the number of pressure ulcers and improve patient outcomes by providing a standardised process of pressure ulcer prevention during the provision of patient care. The bundle includes a check of the surface on which the patient is lying or sitting, frequent skin inspection, ensuring the patient is regularly moving or changing position, assessment of incontinence and nutrition and hydration. The ward has attained the target of 70% compliance set out at the commencement of the pilot.

4. Summary

Opportunities for improvement were identified regarding the cleanliness of patient equipment and the cleanliness of the environment on St Monica's Ward and the Intensive Care Unit. Poor compliance was demonstrated with self assessment hygiene audits in most areas within the hospital from 2011 to 2014. Measurement and audit of cleanliness performance levels are important means of assessment that can provide assurance of the cleanliness of the hospital and where necessary, facilitate the implementation of improvement actions.[15] The hospital needs to address the deficiencies identified during the unannounced inspection relating to the management and monitoring of hospital cleanliness to mitigate the potential risks associated with environmental contamination which may contribute to the spread of infection.[16]

The use of fans in the clinical area should be reviewed in the context of potential infection prevention and control risks to patients following major abdominal surgery.

Safe injections practice is essential to prevent contamination of intravenous medications and medications administered to patients.[17] In view of the unsafe injection practices observed in the Intensive Care Unit, the Authority recommends that the hospital reviews the practice relating to the preparation and administration of intravenous medication, particularly relating to anaesthetic medication and multiple dose vials of insulin, to assure itself that the potential risks to patients in this regard are fully mitigated.

Infection prevention care bundles have been internationally recognised as a key measure to successfully reduce the incidence of Healthcare Associated Infection associated with invasive devices. Moreover, national guideline documents[13,18] and the *National Standards for the Prevention and Control of Healthcare Associated Infection*[1] have mandated their introduction across the health service over a number of years. Effective bundle implementation requires; routine implementation of evidence based measures, audit and feedback on adherence to policy, surveillance and reporting of associated device related infection, and effective staff and patient education. Examples of good practice noted by the Authority during this inspection was the implementation of central venous catheter care bundles in the Intensive Care Unit and the successful pilot of the SSKIN pressure ulcer bundle in St Monica's Ward. Following this inspection, Mater Misericordiae University Hospital needs to act to introduce other relevant infection prevention care bundles into practice in the short term, to better protect patients from device related Healthcare Associated Infection, and ensure compliance with national standards.

Poor uptake of hand hygiene training by medical staff is a concern to the Authority and should be addressed by the hospital as part of its QIP. The hospital needs to build on compliances achieved to date to ensure that good hand hygiene compliance is achieved and maintained across all clinical areas.

5. Next steps

The Mater Misericordiae University 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 the Authority with details of the web link to the QIP.

It is the responsibility of the Mater Misericordiae University Hospital 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 Standards, and is making quality and safety improvements that safeguard patients.

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