



**Health  
Information  
and Quality  
Authority**

An tÚdarás Um Fhaisnéis  
agus Cáilíocht Sláinte

# Report of the unannounced inspection at University Hospital Galway

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

Date of on-site inspection: 25 May 2016

## **About the Health Information and Quality Authority**

The Health Information and Quality Authority (HIQA) is an independent Authority established to drive high quality and safe care for people using our health and social care and support services in Ireland. HIQA's role is to develop standards, inspect and review health and social care and support services, and support informed decisions on how services are delivered. HIQA's ultimate aim is to safeguard people using services and improve the quality and safety of services across its full range of functions.

HIQA's mandate to date extends across a specified range of public, private and voluntary sector services. Reporting to the Minister for Health and the Minister for Children and Youth Affairs, the Health Information and Quality Authority has statutory responsibility for:

- **Setting Standards for Health and Social Services** – Developing person-centred standards, based on evidence and best international practice, for health and social care and support services in Ireland.
- **Regulation** – Registering and inspecting designated centres.
- **Monitoring Children's Services** – Monitoring and inspecting children's social services.
- **Monitoring Healthcare Quality and Safety** – Monitoring the quality and safety of health services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health Technology Assessment** – Providing advice that enables the best outcome for people who use our health service and the best use of resources by evaluating the clinical effectiveness and cost-effectiveness of drugs, equipment, diagnostic techniques and health promotion and protection activities.
- **Health Information** – Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information about the delivery and performance of Ireland's health and social care and support services.

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## 1. Introduction

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

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. They focus 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*,<sup>2</sup> HIQA began assessing the practice in the implementation of infection prevention care bundles. In particular this monitoring is focused upon peripheral vascular catheter and urinary catheter care bundles, but monitoring of performance may include other care bundles as recommended in prior national guidelines<sup>3-4</sup> and international best practice.<sup>5</sup>

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

- Standard 3: The physical environment, facilities and resources are developed and managed to 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. HIQA uses hygiene observation tools to gather information about the cleanliness of the environment and equipment as well as monitoring hand hygiene practice in one to three clinical areas depending on the size of the hospital.

HIQA's approach to an unannounced inspection against these Standards includes provision for re-inspection within six weeks if Standards on the day of inspection are poor. This aims to drive improvement between inspections. In addition, in 2016, unannounced inspections will aim to identify progress made at each hospital since the previous unannounced inspection.

An unannounced inspection was carried out at University Hospital Galway on 25 May 2016 by Authorized Persons from the HIQA, Katrina Sugrue and Kathryn Hanly between 08.45hrs and 16.45hrs. The areas assessed were:

- St Bernadette's Ward (Paediatric Ward) comprises 32 beds and is divided into three sections. There are two four-bedded rooms and the remainder are single rooms, three of which have ensuite facilities.
- Theatre Department comprises 12 theatres within the department and a 12 bay recovery area.

In addition, St Nicholas' Ward and St Michael's Ward, which were inspected during an unannounced inspection by HIQA on 21 May 2014, were re-visited to assess the level of progress which had been made after the 2014 inspection.

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

## **2. Findings**

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

This report is structured as follows:

- **Section 2.1** outlines the level of progress made by St Nicholas' Ward and St Michael's Ward after the unannounced inspection on 21 May 2014.
- **Section 2.2** presents the key findings of the unannounced inspection on 25 May 2016.
- **Section 2.3** describes the key findings relating to hand hygiene under the headings of the five key elements of the World Health Organization (WHO) multimodal improvement strategy<sup>6</sup> during the unannounced inspection on 25 May 2016.

- **Section 2.4** describes the key findings relating to infection prevention care bundles during the unannounced inspection on 25 May 2016.

## **2.1 Progress since the last unannounced inspection on 21 May 2014**

HIQA reviewed the quality improvement plans (QIPs)<sup>7,8</sup> published by University Hospital Galway following the 2014 inspection. Individual QIPs were developed for each of the areas inspected. Inspectors revisited St Nicholas' Ward and St Michael's Ward which were inspected during the unannounced inspection in 2014. It was evident that progress had been made in both areas and the majority of issues identified during the 2014 inspection were documented as completed on the QIPs.

A comprehensive patient equipment cleaning check list was developed on St Michael's Ward. HIQA was informed that all audit results were displayed on a notice board beside the nurses' station. Similar to the findings of the 2014 inspection, equipment daily cleaning checklists were also not consistently completed on St Nicholas' Ward at the time of the revisit.

New enclosed linen trolleys had been purchased for both areas.

A hospital wide equipment audit was carried out by the infection control team in 23 clinical areas between March and May 2016. Although compliance achieved ranged from 85%-100% in all areas audited, it is a concern that inadequate cleaning of glucometers was identified in 14 areas audited. Unclean glucometers were observed during the 2014 inspection which would indicate that more improvement is required with regard to this issue.

Hand hygiene audits carried out in quarter one of 2016 in both St Nicholas' Ward and St Michael's Ward demonstrated less than desirable compliance rates. For example, St Michael's Ward achieved 60% compliance in an audit undertaken in January 2016. St Nicholas' Ward achieved 65% in January and 70% in February 2016. HIQA notes that these audits were based on 15 opportunities which is less than the recommended sample and may not be a true reflection of day-to-day compliance.

Little improvement was evident relating to medical/dental staff compliance with mandatory hand hygiene training. This issue will be discussed further under key findings of the 2016 unannounced inspection.

## 2.2 Key findings of the unannounced inspection on 25 May 2016

Overall, both the Theatre Department and Paediatric Ward were generally clean at the time of the inspection. Opportunities for improvement were observed in the following areas.

### Safe injection practices

During the inspection of an operating room, authorized persons observed a number of syringes containing reconstituted intravenous medications, insufficiently labelled and stored directly on top of the anaesthetic trolley. Some of the pre-filled syringes observed were uncapped. Pre-prepared emergency intravenous medications were inappropriately stored among syringes of used medicines. The practices observed posed a significant risk of cross contamination and were not in line with best practice guidance.<sup>9,10</sup>

Assurance could not be provided that the integrity and sterility of these intravenous medications were maintained from compounding to administration. Both the theatre manager and senior management were informed of these findings at the time of the inspection for immediate mitigation of risks identified.

### Infrastructure and maintenance

The infrastructure and the design of the Paediatric Ward was outdated and as such had the potential to impact on effective infection control. Bed spacing with limited spatial separation was observed in the two four-bed wards and did not facilitate ease of movement of staff, patients, parents or visitors. Minimal spatial separation between beds did not comply with best practice guidelines<sup>1,11,12</sup> which was insufficient to enable the carrying out of clinical activities without compromising infection prevention and control practices. Limited accessibility and space in patient rooms increases the risk of cross infection.

The majority of single rooms on the Paediatric Ward did not have ensuite facilities. In addition, many of the rooms were very small with insufficient space to comfortably accommodate parents with their children. Insufficient storage space for personal belongings was observed and access to several of the hand wash sinks viewed was obstructed.

The Paediatric Ward was poorly maintained. The majority of surfaces and finishes throughout the ward, including wall paintwork, wood finishes on doors, door frames and skirting boards were damaged and poorly maintained and as such did not facilitate effective cleaning. Maintenance issues were also observed in the toilet

facilities in which casing behind toilets were degraded, floors were stained and evidence of leakage was present around toilet outlet pipes.

There was no domestic store room in the Paediatric Ward. Cleaning equipment and supplies were inappropriately stored in the 'dirty'<sup>±</sup> utility room. HIQA was informed that a swipe access system for doors to ancillary rooms had been requested. However, at the time of the inspection, access to ancillary rooms was not secured allowing unauthorized access to equipment, supplies, cleaning products and consumables. This is a particular concern in a paediatric unit and should be addressed as a priority.

There was no dedicated hand wash sink in the 'dirty' utility rooms serving the theatres. A stainless steel utility sink located directly beside the sluice hopper was used for hand washing. This presents a risk of contamination of staff hands with faecal organisms and is a potential risk factor in the spread of enteric bacteria which can cause infection. Appropriate clinical hand washing facilities should be provided in these rooms. Cleaning equipment and supplies were inappropriately stored in the 'dirty' utility rooms serving the theatres.

Windows in theatre 1 were not sealed. Insufficient storage was also observed resulting in inappropriate storage of equipment and supplies on the main corridors. Some damage to paintwork on walls of main corridors and the domestic store room was observed. Linen storage facilities were inappropriately located on open shelving in an oxygen compound.

It is recommended that risks identified in the both areas inspected are effectively addressed in line with current best practice and infrastructural guidelines.

### **Patient equipment**

Opportunities for improvement in the management of patient equipment was seen in the Paediatric Ward. A commode was stored in a patient bathroom. Intravenous stands with attached intravenous pumps were inappropriately stored in the 'dirty' utility room while waiting to be cleaned.

Two integrated sharps bins were not cleaned after use and one was visibly soiled. These issues were communicated to the ward manager at the time of the inspection for immediate mitigation.

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



It was reported in the Theatre Department that glucometers in their holders with sterile supplies are taken to the patient bedside. Only equipment required for each procedure should be taken to the patient point of care.

### **Cleaning resources**

It was reported to HIQA that cleaning resources allocated to the Paediatric Ward was insufficient to meet the daily activity levels. Cleaning resources are allocated up to 3pm each day and on call for the remainder of the day and night. HIQA recommends that the allocation of cleaning resources to the unit should be reviewed particularly in the context of the complexity of care provided there and varying activity levels.

### **Environmental monitoring and auditing**

Regular scheduled multidisciplinary hygiene audits are undertaken in the hospital twice weekly. A member of the hospital management team attends these audits on a monthly basis. The areas that are audited are randomly selected from areas deemed as high risk and low to medium risk. The total average monthly compliance achieved by areas audited each month was consistently above 92% between April and December 2015. Re-audits of areas achieving less than 90% are conducted within the month. However, the frequency of audit for very high risk functional areas such as operating theatres and critical care units, were not in line with national guidance<sup>13</sup> or best practice.<sup>14</sup> For example, Theatre 11 was the only area audited in the theatre department in 2015. Local auditing was not carried out. Similarly, documentation provided indicated that the Paediatric Ward was audited in May 2015 when 94% compliance was achieved.

HIQA recommends the frequency of hygiene audits (both technical and managerial) should be appropriate to the risk associated with the functional area and the cleanliness levels already achieved. More frequent auditing of very high risk areas is recommended in line with national guidance.<sup>13,14</sup>

### **Hand hygiene**

Poor compliance with attendance at mandatory hand hygiene training by medical/dental staff compared to other staff groups was a finding of the 2014 unannounced inspection. It was reported that there had been no improvement regarding this issue in the two year interim between inspections. Records viewed showed that 46% of medical staff had attended hand hygiene training over a rolling two year period by the end of April 2016 which was 13% lower than the attendance reported in April 2014.

Overall, 56% of all staff had attended hand hygiene training by April 2016. Records also show that nursing staff had the highest consistent compliance with hand hygiene training.

Effective hand hygiene practices are well recognized as the single most important intervention in preventing transmission of infection. Hand hygiene compliance can only be achieved if hand hygiene best practice is adopted by all healthcare professionals. All healthcare workers should attend hand hygiene training at induction and at least every two years in line with national guidelines.<sup>15</sup> While HIQA notes that hand hygiene sessions are regularly provided for all staff within the hospital, initiatives implemented to date have not achieved 100% compliance with mandatory hand hygiene education in a rolling two year period.

## **2.3 Key findings relating to hand hygiene**

**2.3.1 System change<sup>6</sup> :** *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene.*

- The design of clinical hand wash sinks did not conform to Health Building Note 00-10 Part C: Sanitary assemblies.<sup>16</sup>
- Access to hand hygiene sinks in some patient rooms were obstructed by armchairs and personal items in the Paediatric Ward.
- Some of the alcohol hand rub dispensers inspected in the Theatre Department were out-of-date.

**2.3.2 Training/education<sup>6</sup> :** *providing regular training on the importance of hand hygiene, based on the 'My 5 Moments for Hand Hygiene' approach, and the correct procedures for handrubbing and handwashing, to all healthcare workers.*

- The majority of staff were up-to-date with hand hygiene training in both areas inspected.
- It was reported that compliance with hand hygiene training is lowest amongst non nursing staff groups which is also reflected in hand hygiene audit compliance.
- HIQA was informed that hand hygiene education was provided in medical journal clubs as a new initiative to address deficiencies in hand hygiene training compliance with medical/dental staff group.

**2.3.3 Evaluation and feedback<sup>6</sup> :** *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

University Hospital Galway participates in the national hand hygiene audits as part of the Galway University Hospitals including Merlin Park University Hospital which are published twice a year. Results below taken from publically available data from the Health Protection Surveillance Centre's website <sup>17</sup> demonstrates a sustained improvement in hand hygiene compliance from June 2011 (Period 1) to October/November 2015 (Period 10). Compliance in October/November 2015 was above the national target of 90% set by the HSE.<sup>18</sup> An overview of Galway University Hospital's national hand hygiene audit results are presented in Table 1 overleaf.

Period 1-10	Result
Period 1 March/April 2011	54.8%
Period 2 Oct/Nov 2011	76.7%
Period 3 May/June 2012	83.3%
Period 4 Oct/Nov 2012	86.7%
Period 5 May/June 2013	89.5%
Period 6 Oct/Nov 2013	87.1%
Period 7 May/June 2014	87.6%
Period 8 Oct/Nov 2014	89.0%
Period 9 May/June 2015	89.0%
Period 10 Oct/Nov 2015	91.9%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.<sup>17</sup>

## Local hand hygiene audits

In addition to national hand hygiene audits undertaken twice a year, regular local hand hygiene audits are also carried out across the hospital by the Infection Prevention and Control Team on a weekly basis. Records from quarter one 2016 show that only five of the 43 areas audited achieved 90% compliance rate or above. However, four out five areas audited in May achieved a minimum of 93% compliance. Local hand hygiene audit results indicate that there is scope for

improvement in hand hygiene compliance across the hospital. As variation in performance among disciplines affects overall hospital hand hygiene compliance scores, it is recommended that targeted education and audit is performed in order to drive improvement in hand hygiene compliance.

### **Observation of hand hygiene opportunities**

Authorized 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<sup>19</sup> and the HSE.<sup>20</sup> In addition, authorized 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<sup>Y</sup> 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.

Authorized persons observed four hand hygiene opportunities in total during the inspection. Hand hygiene opportunities observed comprised the following:

- two after body fluid exposure risk
  - two after touching patient surroundings.
- Two of the four hand hygiene opportunities were taken. The two opportunities which were not taken comprised the following:
- two after body fluid exposure risk.

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<sup>Y</sup> The inspectors observe if all areas of hands are washed or alcohol hand rub applied to cover all areas of hands.

Of the two opportunities which were taken, the hand hygiene technique was observed (uninterrupted and unobstructed) by the authorized persons for two opportunities and the correct technique was observed in two hand hygiene actions.

The sample of hand hygiene opportunities observed in the areas inspected was very small due to activity levels at the time of the inspection and much of the patient care in the Paediatric Ward was delivered in single rooms which could not be observed.

**2.3.4 Reminders in the workplace<sup>6</sup>:** *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.

**2.3.5 Institutional safety climate<sup>6</sup>:** *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.*

- Discussion with hospital staff and review of hand hygiene training and audit results suggested that a culture of hand hygiene best practice was not yet embedded at all levels.
- However, the infection prevention and control annual work plan has identified hand hygiene training in non nursing staff groups as an area of focus for improvement in 2016. Documentation and discussion during the course of the inspection demonstrated the hospital's commitment to addressing the need to improve hand hygiene as a priority and to achieve the expected target of 100% compliance with hand hygiene training.
- Commitment by all health care professionals and strong leadership at all levels in the organisation are integral to achieving a sustained compliance with hand hygiene best practice.
- University Hospital Galway needs to continue to build on compliances achieved to date, to ensure that good hand hygiene practice is improved and maintained in all clinical areas and across all staff groups, and national targets are attained.

## **2.4 Key findings relating to infection prevention care bundles\***

Care bundles to reduce the risk of different types of infection have been introduced across many health services over the past number of years, and there have been a

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

number of guidelines published in recent years recommending their introduction across the Irish health system.<sup>3,4,5</sup>

Peripheral vascular and urinary catheter care bundles were in place in the hospital but not in the Theatre Department. It was reported that peripheral vascular catheters were implemented in the Paediatric Ward two months prior to the unannounced inspection. Urinary catheter care bundles were not generally required in the Paediatric Ward. Elements of care bundles were included in the patient individualised care plans and daily monitoring was documented in nursing notes. Nursing documentation viewed in the Paediatric Ward did not have a prompt for documenting the visual infusion phlebitis score. The system for recording daily checks for peripheral venous catheter complications in the nursing notes did not readily facilitate audit of bundle compliance.

Peripheral vascular and urinary catheter care bundle documentation viewed in St Nicholas' Ward during the revisit showed that the reason for insertion of a peripheral vascular catheter was not documented in one of these care bundles. While some elements relating to a urinary catheter care bundle viewed were documented in the patient care plan, reason for urinary catheter insertion was not recorded.

It was reported that auditing of peripheral vascular and urinary catheter care bundles is carried out each week as part of nursing metrics. Two patient healthcare records are reviewed each week in the Paediatric Ward with regard to these devices. Audit results for the Paediatric Ward demonstrated good compliance from March to September in 2015. Hospital wide Peripheral vascular and urinary catheter care bundles audits viewed for 2015 and quarter one 2016 demonstrated consistently high compliance.

It was reported that surveillance of central venous catheter and peripheral catheter device related Meticillin Resistant *Staphylococcus aureus* bloodstream infections is carried out. Blood stream infection rates are discussed monthly by the surveillance scientist and a research nurse. Quarterly reports on blood stream infection rates related to multi-drug resistant organisms were viewed which included device related blood stream infections.

The routine application of infection prevention care bundles has been proven to reduce device related infection internationally and has been recommended in relevant national guidelines and the *National Standards for the Prevention and Control of Healthcare Associated Infection*, for a number of years. University Hospital Galway needs to continue to build on the progress to date to implement infection prevention care bundles into routine practice.

It is recommended that device related infection metrics are used to assess the impact of care bundle implementation and that related feedback is provided to staff in all clinical areas.

### **3. Summary**

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

Both areas inspected were generally clean with some exceptions. Infrastructure and maintenance were an issue in the Paediatric Ward. Some maintenance issues were also seen in the Theatre Department. Opportunities for improvement were noted in management of some patient equipment, the patient environment, cleaning resources and the oversight of hospital hygiene. Environmental auditing of high risk areas should be reviewed to provide assurance that consistent high levels of cleanliness are maintained.

Opportunities for improvement relating to medication management and unsafe injection practices were also identified during the inspection. It is recommended that the hospital reviews the practice relating to the preparation and administration of intravenous medication to assure itself that the potential risks to patients in this regard are fully mitigated.

Hand hygiene is recognised internationally as the single most important preventative measure in the transmission of Healthcare Associated Infections in healthcare services. It is essential that a culture of hand hygiene practice is embedded in every service at all levels. Compliance with hand hygiene practice and training at University Hospital Galway needs to be improved to ensure that compliance is improved and national targets are attained.

HIQA notes the progress with regard to the implementation of infection prevention and control bundles. University Hospital Galway should continue to build on progress to date to provide assurance that device related infections are effectively reduced or prevented.

### **4. Next steps**

The University Hospital Galway 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 University Hospital Galway 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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