



**Health  
Information  
and Quality  
Authority**

An tÚdarás Um Fhaisnéis  
agus Cáilíocht Sláinte

# **Report of inspections at Cork University Hospital and Cork University Maternity Hospital**

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

**Date of on-site inspections:** 12 November 2014 and 14 January 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

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

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

The Authority's monitoring programme continued in 2014, focusing on unannounced inspections. This approach, outlined in guidance available on the Authority'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> – included scope for re-inspection within six weeks where necessary.

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

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

Other Infection Prevention and Control Standards may be observed and reported on if concerns arise during the course of an inspection. It is important to note that the Standards may not be assessed in their entirety during an unannounced inspection and therefore findings reported are related to a criterion within a particular Standard which was observed during an inspection. The Authority uses hygiene observation tools to gather information about the cleanliness of the environment and equipment as well as monitoring hand hygiene practice in one to three clinical areas depending on the size of the hospital. Although specific clinical areas are assessed in detail using the hygiene observation tools, Authorised Persons from the Authority also observe general levels of cleanliness as they follow the patient's journey through the hospital. As part of the inspection programme for 2014, hospitals were advised that

re-inspections would be carried out in some instances, the aim of which was to drive rapid improvement at the hospital.

### **Timeline of unannounced inspections**

An unannounced inspection was carried out in Cork University Hospital (CUH) and Cork University Maternity Hospital (CUMH) on 12 November 2014, followed by a re-inspection on 14 January 2015. The re-inspection examined the level of progress which had been made regarding (i) hand hygiene and (ii) environmental hygiene on two out of the four clinical areas which were inspected during the November inspection. In addition, two other clinical areas were randomly selected to be inspected during the re-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.

<b>Date of Inspection</b>	<b>Authorised Persons</b>	<b>Clinical Areas Inspected</b>	<b>Time of Inspection</b>
12 November 2014	Alice Doherty Katrina Sugrue Noelle Neville Shane Grogan	Ward 3B (CUH) Puffin Ward (CUH) Theatre (CUH) Neonatal Unit (CUMH)	08:20hrs-19:05hrs
14 January 2015	Alice Doherty Katrina Sugrue Noelle Neville Shane Grogan Sean Egan	Ward 3B (CUH) Puffin Ward (CUH) Ward 3D (CUH) Ward 4 South (CUMH)	08:10hrs-13:20hrs

**Table 1:** Summary of inspections carried out at CUH and CUMH in 2014 and 2015.

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

## **2. Cork University Hospital Profile<sup>‡</sup>**

CUH Group consists of CUH, CUMH, Mallow General Hospital (MGH) and Bantry General Hospital (BGH) and forms part of the South/South West Hospital Group. CUH (formally Cork Regional Hospital) is the largest university teaching hospital in Ireland and the only Level 1 Trauma centre in the country due to the presence of over 40 different medical and surgical specialties on the campus.

CUH is the tertiary referral centre for the Health Service Executive (HSE) Southern area, and the supra regional area of Limerick, Clare, Tipperary, Waterford and Kilkenny. CUH therefore acts as a regional centre for secondary and tertiary care for the catchment population of 550,000 served by the HSE Southern area and a supra-regional centre for a total a population of 1.1 million. In 2014 CUH had 65,000 ED presentations 8,000 births, 210,000 out-patient attendances 48,000 inpatient discharges and 86,000 day cases.

CUH has 800 beds and currently employs 3,269 (WTE) staff of multiple professions and is the primary teaching hospital for the Faculty of Health and Science in University College Cork.

CUMH which is located on the CUH campus opened in 2007 following the amalgamation of all maternity's service in the Cork area. CUMH provides a regional Obstetrics, Gynaecology and Neonatology Service. In 2014 CUMH had 15,000 inpatient discharges, 4,100 day cases, and 8,200 births annually, making it one of the busiest maternity hospitals in the country. The maternity department is a combined unit comprising antenatal, intranatal and postnatal services.

MGH is a Level 2 hospital and provides, General Medicine, General Surgery (Day Surgery), Emergency Medicine (Local Injuries Unit), HDU / CCU, OPD, Nurse Led Clinics, Preoperative Assessment, Radiology including CT, Laboratory services and Physiotherapy services. In 2014 MGH had 2,455 in-patient discharges, 3,300 day cases, 3,300 attendances at the Acute Medical Unit and 3,800 attendances at the Local Injuries Unit.

BGH is a Model 2 Remote rural hospital with unselected acute medicine and provides the following services: Medicine, High Dependency Unit, Acute Stroke Unit, Acute Medical Assessment Unit, Short-Stay beds, Endoscopy, Day Surgery, Local Injury Unit, Rehabilitation unit and Care of Elderly Unit. In 2014 BGH had 4,680 emergency presentations, 4,200 inpatient discharges to include same day Medical Assessment Unit, 2,220 day cases, 8, 790 OPD attendances 1, 280 Medical Assessment Unit admissions and 4,170 Local Injuries Unit attendances.

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<sup>‡</sup> The hospital profile information contained in this section has been provided to the Authority by the hospital, and has not been verified by the Authority.

### 3. Findings

This section of the report outlines the findings of the inspections undertaken at CUH and CUMH on 12 November 2014 and 14 January 2015.

#### Overview of areas inspected

**Ward 3B** is a 34-bedded ward and consists of three six-bedded wards, one five-bedded ward, one four-bedded ward, one two-bedded ward and five single rooms, four of which are ensuite. Four patients were isolated in single rooms at the time of the November inspection. Another two patients that required isolation precautions were accommodated in the five and four-bedded wards with patients who did not require isolation precautions. Generally, 24 of the 34 beds on the ward are used to accommodate orthopaedic patients and the remainder of the beds are assigned to patients requiring plastic surgery. There were five medical patients on the ward during the November inspection. During the re-inspection in January, five patients were isolated in the single rooms and another three patients who required isolation precautions were accommodated in a six-bedded ward, and the five and four-bedded wards, with patients who did not require isolation precautions.

**Puffin Ward** is a 50-bedded paediatric ward and consists of six six-bedded wards, four two-bedded wards and six single rooms. Forty-eight of the 50 beds are open for the admission of patients. There were no patients isolated on Puffin Ward during either of the unannounced inspections.

At the time of the November inspection, the **Theatre Department** comprised 12 theatres in total, nine of which were located in the main theatre area. The inspection was carried out in the main theatre area which has six functional bays in the recovery area and no isolation facilities. Patients who require isolation precautions are generally placed in the last recovery bay near a hand wash sink and the curtains are covered with white sheets to identify that isolation precautions are required. The governance structure in the Theatre Department had changed at the time of the re-inspection and now includes the theatres in CUMH, giving a total of 16 theatres.

The **Neonatal Unit** has the capacity to accommodate 50 cots, with six cots assigned to intensive care and six high dependency cots. Part of the unit was being painted at the time of the November inspection and as a result, there were 30 babies accommodated in the unit during the inspection. There were no babies isolated.

**Ward 3D** is a 25-bedded cardiac medical ward and consists of six two-bedded wards, one four-bedded ward and nine single rooms. Two patients were isolated in single rooms at the time of the re-inspection in January.

**Ward 4 South** is a 24-bedded ward and consists of ten two-bedded wards and four single rooms, one of which is an isolation room. There were 21 in-patients at the time of the re-inspection in January and no patients were isolated.

### **Structure of this report**

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

- **Section 3.1** describes the **immediate high risks** regarding **hand hygiene** and **environmental hygiene** that were identified during the November inspection, and the **mitigating measures** implemented by CUH in response to these findings. Copies of communications from the Authority and CUH regarding these findings are shown in **Appendices 1** and **2** respectively.
- **Section 3.2** summarises the **key findings** relating to areas of non-compliance observed during both unannounced inspections.
- **Section 3.3** outlines the key findings relating to good practices observed on the Neonatal Unit during the November inspection.
- **Section 4** provides an overall summary of the findings.

## 3.1 Immediate high risk findings

### Introduction

During the unannounced inspection on 12 November 2014, two immediate high risk findings were identified regarding **hand hygiene** and **environmental hygiene**. Details of these risks were communicated to CUH and escalated nationally (see Appendix 1). In response (see Appendix 2), CUH prepared a Quality Improvement Plan (QIP) which listed recommendations, the actions required to achieve improvement and the evidence required to demonstrate same. A responsible person was assigned to each action with an associated completion date. The level of progress regarding these immediate high risks was assessed during the re-inspection on 14 January 2015. The sections below describe the findings and the mitigating measures implemented by CUH in response to these findings.

#### 3.1.1 Hand hygiene

##### Auditing

The national hand hygiene audits commenced in 2011 and the majority of public acute hospitals in the country have participated in these audits since then, with the results of audits being published twice a year.<sup>3</sup> CUH/CUMH did not participate in national hand hygiene audits until May/June 2014 (Period 7) where a compliance of 73.3% was achieved. This was considerably lower than the HSE's national target of 90% for 2014.<sup>4</sup> The results of national hand hygiene audits for Period 8 had not been published at the time of the re-inspection, but documentation viewed by the Authority showed a compliance of 74.8% for CUH/CUMH, indicating that there has been little change between Periods 7 and 8. However, it is acknowledged that the Neonatal Unit (CUMH) was included in both Periods 7 and 8 and achieved compliances of 97% and 100% respectively. It is also noted that a second clinical area in CUMH which was included in both audits increased in compliance from 52% in Period 7 to 86.7% in Period 8.

A review of local hand hygiene audit results for CUH indicated that they were carried out on a limited and 'ad-hoc basis', with inadequate follow up with staff if results were poor. This approach to auditing was attributed to limited resources. The effect of limited auditing was evident on both Ward 3B and Puffin Ward from documentation provided by the hospital. The Theatre Department did not have a local auditor at the time of the November inspection and hand hygiene audits had not been undertaken. Hand hygiene compliance observed by the Authority in the recovery area in theatre during the November inspection was poor with only 33% (four out of 12) of the opportunities being taken. Similarly, the Authority was informed that local hand hygiene audits were not carried out in CUMH, although local auditors had been trained and it was planned that local auditing would

commence soon after the November inspection. The Authority was advised during the re-inspection that this work is in progress and is being led by an Assistant Director of Nursing.

In response to the poor hand hygiene compliance observed by the Authority during the November inspection, the CUH Group 'Hand Hygiene Strategy' and 'Implementation Plan' were approved by the Infection Prevention and Control Team and the Executive Management Board after the inspection. The strategy acknowledges that the approach previously taken by the CUH Group 'focused on education with limited impact' and is now based on the World Health Organization (WHO) multimodal improvement strategy<sup>5</sup>, which includes hand hygiene auditing. Since the November inspection over 60 local hand hygiene auditors have been trained and local hand hygiene audits on the wards have increased as a result. It is planned that monthly local audits will be carried out on each ward in future and the Infection Prevention and Control Team indicated that re-audits will be undertaken where compliance is below 70-75%. The hospital recognises that further work is required in terms of recording audit results and using these results to introduce a targeted auditing programme to drive improvement. Verbal feedback will be given to staff on the day of the audit and Clinical Nurse Managers will receive audit reports that will be used for reporting to the Senior Nursing/Midwifery Management Team. Daily walkabouts by Infection Prevention and Control Nurses to observe hand hygiene compliance were also planned as part of the hospital's QIP. Senior management also have a scheduled weekly inspection of different wards, which includes hand hygiene compliance.

Following the inspection in November, three local hand hygiene audits were carried out on Ward 3B and compliance at the time of the re-inspection had increased to 80%. Local audits were carried out by the Infection Prevention and Control Link Nurse on Puffin Ward, and the results of one local audit which was in progress during the re-inspection were viewed by the Authority. A local auditor is now available for the Theatre Department.

Hand hygiene compliance observed by the Authority during the November inspection was poor with only 54% (25 out of 46) of the opportunities being taken across the four clinical areas inspected, although it is noted that Neonatal Unit achieved 80% compliance (eight out of 10 opportunities were taken). In the re-inspection in January, hand hygiene opportunities were observed in two out of the four clinical areas inspected and a compliance of 82% (18 out of 22 opportunities) was observed.

## Training

Hand hygiene training in the CUH Group is mandatory every two years and is included as part of 90 minute training programme on the prevention and control of Healthcare Associated Infections. This training is held in the CUH main auditorium and consists of 30 minute sessions on hand hygiene, occupational exposure to blood and body fluids and healthcare waste management. Due to reported limited resources, the Infection Prevention and Control Team is not responsible for delivering this training. It is delivered in partnership with the Centre of Nurse Education with information content informed by the Infection Control Nursing Staff. In CUMH, staff also attend hand hygiene training carried out at ward level by an Infection Prevention and Control Nurse.

Staff attending the training in the auditorium are required to sign an attendance sheet to confirm attendance at each element of the training programme. However, the Authority was informed during the November inspection that staff could enter and leave the auditorium during the training and assurances could not be given that the staff who were recorded as having attended hand hygiene training in the two-year period up to 15 October 2014 (98%) were present for the entire session. The Authority was subsequently advised during the re-inspection that some staff had admitted to leaving the training in the auditorium before it was completed.

In addition, the Authority was informed that the hand hygiene presentation was updated in June 2014 to place a greater emphasis on the '5 Moments of Hand Hygiene' but only 13% of staff attended the amended training presentation in the period from June to November 2014. The Authority found that the hand hygiene education programme provided did not adequately address poor compliance achieved in local hand hygiene audits in a timely and effective manner.

In September 2014, there was a cluster of patients on Ward 3B with the same multi-drug resistant organism. In addition, poor hand hygiene and environmental audit results were observed in internal audits on the ward. Following the results of the hand hygiene audits, the Infection Prevention and Control Nurses scheduled four additional ward-based hand hygiene education sessions for staff in October 2014. However, at the time of November inspection the Authority noted that only two thirds of staff had attended these sessions and one of the sessions was in fact cancelled by ward staff.

At the time of the re-inspection, the Authority was informed that 92% of staff in CUH and 92.5% of staff in CUMH had completed the mandatory hand hygiene training programme in the previous two years. The Authority notes that the 'Hand Hygiene Strategy' states that this training will be 'supplemented by local ward-based teaching to ensure annual update of hand hygiene knowledge and practice' and that this was already in place in CUMH prior to the November inspection. This lack of

consistency in approach across the hospital group would indicate that the governance systems need to be reviewed to provide assurances that a cohesive approach to hand hygiene occurs. The Infection Prevention and Control Team indicated that a plan for ward-based hand hygiene training was being developed and would be rolled out in 2015. They also indicated that Ward Managers who are responsible for ensuring staff attend hand hygiene training and for maintaining records of attendance need to push the importance of ward-based training sessions. In response to the findings of the November inspection, face-to-face ward-based education sessions were provided by the Infection Prevention and Control Team for housekeeping staff and staff on the wards which were inspected in November.

### **Hand hygiene facilities**

The lack of availability of alcohol hand rub at the point of care was evident on Ward 3B during the November inspection. This was also highlighted during an internal audit on the ward in September 2014. In the four-bedded ward where a patient was isolated with contact precautions, alcohol hand rub dispensers were present on the ends of two out of the four patient beds, and a nozzle on one dispenser was missing. The hospital explained that they had been advised by the Fire Safety Office to remove alcohol hand rub dispensers from the ends of electrically-operated beds, as it was believed to be a safety risk due to the flammable nature of the hand rub. Hand hygiene toggles, which enable small containers of alcohol hand rub to be attached to the clothing of staff, were not used by staff on the ward in the absence of end of bed alcohol hand rub dispensers.

During the re-inspection, the Authority was informed that the decision to remove alcohol hand rub dispensers from the ends of electrically-operated beds had been reversed by the hospital. The Infection Prevention and Control Team indicated that they had not endorsed the original decision since they considered the risk associated with poor hand hygiene to be greater than the evidence-based low risk of fire, and that this had been escalated to the Senior Management Team. Alcohol hand rub dispensers were observed on the ends of all beds on Ward 3B during the re-inspection and the Authority was informed that additional wall mounted dispensers had been fitted throughout the ward. The use of hand hygiene toggles was being trialled on another ward and, depending on audit results, it was expected that toggles would be used throughout the hospital.

On Ward 4 South, alcohol hand rub was available throughout the ward but it was noted that there was only one alcohol hand rub dispenser wall mounted between the bed areas in the two-bedded wards. This does not facilitate easy access to alcohol hand rub at the point of care, particularly for 'Moments 2 and 3' of the '5 Moments of Hand Hygiene'.

## Conclusion

Improving hand hygiene compliance is complex and requires a multi-faceted approach which needs regular monitoring, review and reinforcement if a culture of good practice is to be attained and sustained at all levels.

It would appear that the overall management of hand hygiene compliance at CUH/CUMH up to the point of the first inspection by the Authority in November 2014 has been somewhat fragmented across the hospital campus. CUH/CUMH has been slow to start its approach in implementing a multimodal strategy to improve hand hygiene relative to many other public acute hospitals in Ireland. Local hand hygiene audits commenced in CUH at the end of 2012, albeit on a limited basis, but had still not commenced in CUMH by the time of the November 2014 inspection. Staff in both CUH and CUMH attend the mandatory hand hygiene training which is held in the auditorium, but staff in CUMH also receive face-to-face ward-based hand hygiene education sessions. The Infection Prevention and Control Team indicated that the auditorium training had been encouraged due to limited resources but this approach was changing as resources became available. It was stated that there was support at Senior Management level for both types of training. The Authority recommends that the hand hygiene education programme should address poor compliance in hand hygiene audits in a timely and effective manner.

The Infection Prevention and Control Team stated that interaction with Senior Management had been enhanced after the first inspection in November 2014 resulting in improved communication, and that ongoing support was expected.

The Authority recommends that in addition to the measures addressed in the 'Hand Hygiene Strategy' and 'Implementation Plan', that the hospital considers reviewing the overall management and monitoring of hand hygiene practices to ensure that the governance systems connect with and assure consistency of approaches across the hospital group. During the re-inspection, discussion with the Infection Prevention and Control Team reinforced this finding. It was explained to the Authority that they identified that there was potential for improved coordination between both CUH and CUMH and the team suggested that this might be enhanced through the establishment of a formal leadership position amongst the complement of Infection Prevention and Control Nurses. During the due process phase of writing this report, the hospital advised the Authority that an Assistant Director of Nursing had in fact already been assigned to oversight of this function in the hospital. Regardless of the solution arrived at by the hospital to best address this issue, it is important that uniform best practice is shared and implemented across both CUH and CUMH to ensure best possible performance for patients in both settings.

### **3.1.2 Environmental hygiene**

The immediate high risk finding identified during the November inspection which relates to environmental hygiene is discussed below in terms of cleaning practices on Ward 3B and the cleanliness of patient equipment on both Ward 3B and Puffin Ward.

#### **Cleaning practices**

During the November inspection, the Authority observed inappropriate cleaning practices performed by staff involved in the management of patients in the four-bedded ward on Ward 3B in which one patient was isolated. The practices observed did not adhere to best practice and did not comply with standard or transmission based precautions, thus significantly increasing the risk of spread of Healthcare Associated Infections, which could be particularly serious for orthopaedic patients on the ward.

In response to this finding, additional training was provided to housekeeping staff on cleaning and decontamination of the environment after the November inspection. A competency assessment tool, which includes a procedure for cleaning of isolation rooms, was also developed for staff involved in environmental cleaning. Competency assessment records were viewed by the Authority during the re-inspection and a strong awareness of appropriate cleaning practices was demonstrated by cleaning staff on Ward 3B. Staff also indicated that they had received extensive training in hand hygiene practice and awareness, waste guidelines, product familiarity and the appropriate use of cleaning equipment between the two unannounced inspections. The Authority was informed that the competency assessment tool will be implemented on all wards in due course.

#### **Patient equipment**

Temperature probe holders on Ward 3B and Puffin Ward were unclean during the November inspection and contained used probe covers suggesting that the equipment was not cleaned after each patient use in line with best practice. Oxygen saturation probes on both wards were also unclean. A red stain was observed on a blood glucose monitor on Ward 3B and commodes on the ward were also unclean. On Puffin Ward, the interior surfaces of two instruments used for ear examinations were unclean and a patient mobile monitoring trolley was not cleaned after patient use. A mattress on Puffin Ward was stained and the covers of two mattresses were torn. Poor practice was also observed regarding the monitoring of blood glucose. Varying levels of dust were observed on patient equipment on both wards.

During the re-inspection in January, improvements were observed in the management of patient equipment on both wards. The equipment cleaning checklist on Ward 3B was updated after the November inspection and individual pieces of

equipment are now listed with their corresponding codes, where available. All equipment is cleaned on a daily basis and the checklist is signed by the staff member who has cleaned the equipment, and also by the staff member responsible for checking that the equipment has been cleaned. Containers of detergent wipes were attached to blood pressure monitoring stands on Ward 3B and were also readily accessible on Puffin Ward to facilitate cleaning of patient equipment after each use. Overall, the cleanliness of patient equipment had improved on Ward 3B at the time of the re-inspection. However, it was noted that two temperature probe holders contained used probe covers, a red/brown stain was visible on a blood glucose monitor and a small area on the under surface of the seat on one commode was unclean.

The Authority was informed that individual responsibility for hand hygiene and the cleaning of patient equipment was regularly discussed at hand over time on Puffin Ward. The practice of monitoring blood glucose on the ward has changed since the November inspection. The procedure now is that only the equipment which is required for each patient is brought to the patient bedside. However, the Authority was informed that this was still a 'work in progress' and full compliance with the procedure was not fully embedded on the ward as some staff still habitually brought all equipment with them. Discussions with staff showed that there was a strong awareness of what was needed on the ward to improve hand and environmental hygiene, which was also demonstrated in the progress observed at the time of the inspection. Similar to Ward 3B, the overall cleanliness of patient equipment had improved at the re-inspection. However, it was noted that the interior surfaces of some thermometer probe holders were unclean which was attributed to the difficulty posed by the design of the holders. Two used paediatric tape finger sensors were observed on a trolley with equipment used to monitor patient observations, indicating that they were not disposed of in an appropriate manner.

### **3.2 Additional key findings**

During both inspections, the Authority identified other areas of non-compliance with the Infection Prevention and Control Standards 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.

#### **Hand hygiene**

During the November inspection, medical students on both Ward 3B and Puffin Ward were observed to be wearing long-sleeved white coats for direct patient contact, which is not in line with the hospital's 'Dress Code Policy'. Assurances were given at ward level during the re-inspection that this practice had stopped. The Authority was also informed that a new uniform is being sought for the students and that CUH is supporting hand hygiene training of medical and nursing students.

The inappropriate use of personal protective equipment such as gloves was observed on Puffin Ward during the November inspection. For example, two staff members were wearing gloves whilst pushing a trolley where there was no indication to do so. Another member of staff was observed applying gloves without taking the hand hygiene opportunity that is required prior to applying gloves.

The Authority was informed on Ward 4 South during the re-inspection that patients receive information on hand hygiene in their pre-admission pack but hand hygiene information leaflets are not available at ward level. In addition, hand hygiene posters were observed at hand hygiene sinks but not at sinks in en-suite facilities. It was observed that there was a potential to improve patient participation in improving hand hygiene compliance. For example, there were no prompts or posters on view which encouraged patients to ask staff to wash their hands.

### **Patient environment**

Varying levels of dust were observed in patient areas on Ward 3B such as floor edges, under beds, on bed rails, on alcohol hand rub dispensers and on casements over patient beds during the November inspection. Similarly, varying levels of dust were observed in patient areas on Puffin Ward including floors and floor edges, the undercarriages of beds, a patient locker and curtain rails. Staining was observed on an integrated sharps tray on Puffin Ward, the gridded bases of several beds and the inside of a blood ketone monitoring case. The covers were torn on the majority of chairs observed on Puffin Ward, hindering effective cleaning.

In contrast, dust levels on both wards had improved considerably during the re-inspection in January, which was attributed to increased targeted cleaning practices. Cleaning staff had also completed a competency assessment for cleaning practices since the November inspection.

Documentation viewed during the re-inspection demonstrated that regular environmental auditing was carried out in CUMH. The results showed that compliance achieved in audits conducted by the Infection Prevention and Control Nurse was lower than local audits and hygiene walkabouts. It was explained to the Authority that different tools were used for the different audits which may have contributed to the differences observed in the results. The Authority was concerned that compliance for audits completed by the Infection Prevention and Control Nurse were consistently below the required 85% pass rate from 2010 to 2014. The Authority was informed that non-compliances were addressed by a QIP developed at ward level however assurances were not provided that the QIPs were closed out effectively between 2010 and 2014, and that sufficient measures were put in place to address the consistent poor compliance achieved across the CUMH campus. This finding was accepted by the CUMH management and the Authority was informed that measures have been put in place to address the deficits identified.

## **Sanitary facilities**

Opportunities for improvement in the management of sanitary facilities were identified on Ward 3B during the November inspection. For example, two toilet seats and a raised toilet seat were unclean, and a plastic jug containing a small amount of liquid was sitting on the floor beside a toilet. Cleaning checklists for toilets and shower facilities on Ward 3B were not consistently completed with significant gaps in the checklists where there was no indication that cleaning had occurred. A raised toilet seat was also unclean during the re-inspection. The cleanliness of the facilities had improved at the time of the re-inspection and the Authority was informed that they will soon be refurbished.

## **Waste management**

Several clinical and non-clinical waste disposal bins on Ward 3B and Puffin Ward were unclean during the November inspection, and a large waste disposal trolley on Puffin Ward was visibly soiled with grime and dirt. On Ward 3B, used needles in plastic covers were sitting on the bottom shelf of a drug trolley. This was highlighted to staff who took immediate steps to mitigate the risk. A strong off-odour was evident from a clinical waste disposal bin and the interior surface of the bin was unclean. Some clinical waste disposal bins on the ward were not foot operated and, as a result, the lids had to be manually opened and closed, thus increasing the risk of contamination of workers hands. A piece of disposable apron was discarded on the floor beside one of these bins. On Puffin Ward, waste in one clinical waste disposal bin was not segregated appropriately and a non-clinical waste disposal bin in a patient washroom was full.

The temporary closing mechanisms on sharps waste disposal bins in the four clinical areas inspected during the November inspection were not engaged. This was also evident on Ward 3B, Puffin Ward and Ward 4 South during the re-inspection. The assembly details on three sharps waste disposal bins on Puffin Ward were also not complete, which has the potential to affect the traceability of the waste. The sub-collection area on Ward 4 South was also unlocked during the re-inspection and the interior surface of a waste collection bin was unclean and contained loose waste.

## **Isolation facilities**

The single rooms on Ward 3B, which are used to accommodate patients requiring isolation facilities, do not have clinical hand wash sinks which is not in line with national guidelines.<sup>6</sup> The doors of three of the rooms were open during the November inspection and one patient was observed sitting at the entrance to an isolation room. Books were stacked on the floor in a corner of an isolation room and a piece of a disposable apron was discarded on the floor instead of being disposed of in the appropriate waste disposal bin.

Due to a lack of additional single rooms on Ward 3B during both unannounced inspections, other patients who required isolation with contact precautions were accommodated in other areas of the ward with patients who did not require isolation facilities. There was no signage in these ward areas to indicate that isolation with contact precautions was required. During the re-inspection in January, the Authority was informed that signage is not used in the main ward areas due to concerns about patient confidentiality but yellow clinical waste disposal bins are placed at the ends of the patient beds to indicate to staff that isolation precautions are required. However, as outlined previously, cleaning practices on the ward during the November inspection suggested that all staff were not aware of these arrangements. It is also noted that an internal hand hygiene audit on the ward in September 2014 highlighted that a staff member was unaware that a patient had been isolated in a single room. The practice relating to the placement of yellow bins on Ward 3B is not consistent with the Theatre Department (see page 4).

There was no hand wash sink in the four-bedded ward on Ward 3B where patients were isolated during both unannounced inspections. The bowl and the outlet in the sink located outside the four-bedded ward were unclean during the November inspection, and a member of staff was observed filling a patient wash bowl at this sink which is not in line with best practice. The outlet was also unclean during the re-inspection in January and a staff member was observed emptying a patient wash bowl into the sink which is also not in line with best practice.

### **Legionella**

The risk assessment for the prevention and control of *Legionella* is not in line with national guidelines<sup>7</sup> and the Authority was informed at the time of re-inspection that the hospital had arranged to tender for a risk assessment in January 2015.

### **Aspergillosis**

Whilst assurances were provided that some risk mitigating measures were in place regarding the management of aspergillosis, the Authority was not assured that relevant staff and patients were educated on the prevention and control of aspergillosis in accordance with national guidelines.<sup>8</sup>

### **3.3 Good practices on the Neonatal Unit**

The format of inspection reports changed in 2014 with the expectation that hospitals were well on the way to achieving compliance with the Infection, Prevention and Control Standards. As a result, the reports focused only on areas of non-compliance observed during the course of inspections and did not reference areas of compliance that were also evident. However, the practices observed on the Neonatal Unit during

the November inspection were such that the Authority considered that it would be beneficial within the CUH Group and to all hospitals to highlight these practices.

Neonates are particularly vulnerable to the risk of acquiring Healthcare Associated Infections, due in part to an immature immune system; therefore the environment in which the neonates are accommodated in hospital should be managed and maintained to a very high standard in order to reduce this risk. Such standards were evident during the inspection of the Neonatal Unit.

There was a strong awareness of Infection Prevention and Control Standards on the unit which the Authority was informed was due in part to lessons learned from a previous outbreak in the unit. There was a particular emphasis on the cleaning of specialist equipment which included dismantling of equipment before cleaning and re-assembly afterwards. Training in infection prevention and control and hand hygiene is provided to cleaning staff by the Infection Prevention and Control Clinical Nurse Manager before cleaning staff commence working on the unit. Records are maintained for each shift listing the equipment that has been cleaned during the shift, as well as all remaining equipment that requires cleaning. Patient equipment is cleaned by staff dedicated to the unit and they are required to complete a competency assessment by a designated expert prior to being deemed competent to clean specialist equipment. The Authority was informed that the unit was in the process of developing refresher competency training, which would be carried out annually.

The importance placed on hand hygiene education in the unit was also outlined to the Authority. Every parent of a baby cared for on the unit is given a hand washing demonstration and a record of this demonstration is documented in the baby's notes by the nurse giving the demonstration.

## **4. Summary**

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

Six clinical areas across CUH and CUMH were inspected over the course of the two unannounced inspections in November 2014 and January 2015. Immediate high risks were identified during the November inspection relating to cleaning practices on Ward 3B and the cleanliness of patient equipment on Ward 3B and Puffin Ward. Management of the patient environment, sanitary facilities, waste and isolation rooms also raised concerns for the Authority during the November inspection, particularly on Ward 3B. During the re-inspection in January, considerable improvements were observed on both wards. Additional training was provided to housekeeping staff on cleaning and decontamination of the environment, and a competency assessment tool was developed. The equipment cleaning checklist on Ward 3B was updated with responsibilities assigned for cleaning and checking that equipment had been cleaned. The Authority was informed that the sanitary facilities on Ward 3B were due to be refurbished. The Theatre Department, the Neonatal Unit, Ward 3D and Ward 4 South were generally clean and well maintained. It is acknowledged that good practices were observed in the Neonatal Unit in particular.

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.

Hand hygiene compliance was also identified as an immediate high risk at the time of the November inspection, relating in particular to auditing, training and the lack of availability of alcohol hand rub at the point of care on Ward 3B. In response to these findings, the CUH Group 'Hand Hygiene Strategy' and 'Implementation Plan' were approved by the Infection Prevention and Control Team and the Executive Management Board after the inspection. Over 60 local hand hygiene auditors were trained and there has been an increase in local hand hygiene audits on the wards. It is recognised that further development of the auditing programme is necessary to ensure that it will drive improvement in all areas of the hospital. The lack of availability of alcohol hand rub at the point of care on Ward 3B was also addressed. The Authority recommends that the hospital reviews the overall management and monitoring of hand hygiene practices to ensure that a cohesive and consistent approach is applied in both CUH and CUMH. The performance of CUH/CUMH in national hand hygiene audits needs to be improved considerably in order to achieve the national target set by the HSE.

CUH/CUMH must now revise and amend its QIP that prioritises the improvements necessary to fully comply with the Infection, Prevention and Control Standards. This QIP must be approved by the service provider's identified individual who has overall executive accountability, responsibility and authority for the delivery of high quality, safe and reliable services. The QIP must be published by the hospital on its website within six weeks of the date of publication of this report and at that time, provide the Authority with details of the web link to the QIP.

It is the responsibility of CUH/CUMH to formulate, resource and execute its QIP to completion. The Authority will continue to monitor the hospital's progress in implementing its QIP, as well as relevant outcome measurements and key performance indicators. Such an approach intends to assure the public that the hospital is implementing and meeting the Infection Prevention and Control Standards and is making quality and safety improvements that safeguard patients.

## 5. References<sup>‡</sup>

1. Health Information and Quality Authority. *National Standards for the Prevention and Control of Healthcare Associated Infections*. Dublin: Health Information and Quality Authority; 2009. [Online]. Available from: <http://www.hiqa.ie/publication/national-standards-prevention-and-control-healthcare-associated-infections>.
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<sup>‡</sup> All online references were accessed at the time of preparing this report.

## Appendix 1 - Copy of letter issued to Cork University Hospital



Gerry O'Dwyer  
Chief Executive Officer  
South/South West Hospital Group  
Cork University Hospital  
Cork  
[rdni.south@hse.ie](mailto:rdni.south@hse.ie)

14 November 2014

Ref: PCHCAI/347

Dear Gerry

I am writing as an authorised person under Section 70 of the Health Act 2007 (the Act) for the purpose of monitoring against the ***National Standards for the Prevention and Control of Healthcare Associated Infections*** (Infection Prevention and Control Standards) pursuant to Section 8(1)(c) of the Act.

Under section 8(1)(c) of the Act, Authorised Persons of the Health Information and Quality Authority (the Authority) carried out unannounced inspections at **Cork University Hospital** and **Cork University Maternity Hospital** on 12 November 2014.

During the course of the inspection at **Cork University Hospital**, the authorised persons identified specific issues that they believe present a high risk to the health or welfare of patients and measures need to be put in place to mitigate these risks. The findings identified were such that a second unannounced re-inspection will be conducted at the hospital within six weeks. Please note that a re-inspection at **Cork University Maternity Hospital** is **not** deemed necessary at this time and the findings of this inspection will be collated and published in line with the Authority's standard practice.

The risks identified at **Cork University Hospital** included, but were not limited to;

**Hand Hygiene** – Documentation viewed by the Authority with respect to hand hygiene demonstrated that the performance of the hospital in the national hand

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hygiene audit in May/June 2014 and local hand hygiene audits is considerably lower than the target set by the Health Service Executive. The hospital has not participated in national hand hygiene audits carried out prior to 2014. The Authority observed poor hand hygiene compliance at the time of the inspection where 54% (25 out of 46) of opportunities were taken. Despite persistently poor local hand hygiene audit results, it was not evident to the Authority that this risk had been effectively mitigated by the hospital in a sufficiently timely manner.

**Environmental hygiene** – It was observed that cleaning practices performed in a room on Ward 3B where a patient requiring isolation precautions was accommodated with other patients did not comply with Standards 3 and 7 of the Infection Prevention and Control Standards. This potentially increased the risk of transmission of Healthcare Associated Infections on the Ward. In addition, several items of frequently used patient equipment on Ward 3B and Puffin Ward were unclean which posed a potential risk of inter-patient transmission of infective material.

While these issues and this correspondence will be referred to in the report of the inspection on its conclusion, the Authority believes it is important that these risks are brought to your attention now, in advance of this. This is being done so that you may act to mitigate and manage the identified risks as a matter of urgency and in preparation for a re-inspection by the Authority within six weeks.

Given the level of potential risk associated with these findings, and the urgent requirement for the mitigation of such risks, please formally report back to the Authority by **2pm on 21 November 2014** to [qualityandsafety@hiqa.ie](mailto: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.

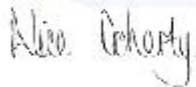
Should you have any queries, please do not hesitate to contact me at [qualityandsafety@hiqa.ie](mailto:qualityandsafety@hiqa.ie). Please confirm receipt of this letter by email ([qualityandsafety@hiqa.ie](mailto:qualityandsafety@hiqa.ie)).

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Yours sincerely




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**ALICE DOHERTY**

**Authorised Person**

**CC:** Mary Dunnion, Deputy Director of Regulation, Health Information and Quality Authority  
Tony O'Connell, National Director of Acute Services, Health Service Executive  
Philip Crowley, National Director of Quality and Patient Safety, Health Service Executive  
Tony McNamara, General Manager, Cork University Hospital

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## Appendix 2 - Copy of letter received from Cork University Hospital



21<sup>st</sup> November, 2014.

Cork University Hospital,  
Wilton,  
Cork,  
Ireland.

Alice Doherty,  
Authorised Person,  
Health Information and Quality Authority,  
Head Office,  
Unit 1301,  
City Gate,  
Mahon,  
Cork.

Telephone: 021 – 4922133  
Fax: 021 – 4342690

**Ref: PCECAL/347**

Dear Ms. Doherty,

Further to your correspondence dated 14<sup>th</sup> November 2014 addressed to Mr. Gerry O'Dwyer, CEO South/South West Hospital Group please find attached the Cork University Hospital Quality Improvement Plan. This plan incorporates a number of actions to address the concerns of the review team. Within the plan the responsible person is identified for each task as is the timeframe for completion. The implementation of the plan will be overseen by a group chaired by myself and including the Infection Control Nurses, Chairman of Infection Control Committee and senior members of the Infection Control Group.

I wish to draw the attention of HIQA in relation to the CUH Hand Hygiene Strategy which has now been approved by the Infection Control Team and the Executive Management Board (copy attached).

With regard to the second observation in your correspondence, intensive efforts are being made with our colleagues in the community and with the group CEO to resolve this issue and to transfer the patient to more appropriate accommodation in St. Finbarr's Hospital. These efforts will be intensified in the coming days.

Yours sincerely,

  
J. A. McNamara,  
Chief Executive Officer.

cc Mr. Gerry O'Dwyer, CEO, South/South West Hospital Group.

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