



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection at Our Lady's Children's Hospital, Crumlin

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

Date of on-site inspection: 9 April 2014

About the Health Information and Quality Authority

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

The Authority's mandate to date extends across the quality and safety of the public, private (within its social care function) and voluntary sectors. Reporting to the Minister for Health and the Minister for Children and Youth Affairs, the Health Information and Quality Authority has statutory responsibility for:

- **Setting Standards for Health and Social Services** – Developing person-centred standards, based on evidence and best international practice, for those health and social care services in Ireland that by law are required to be regulated by the Authority.
- **Supporting Improvement** – Supporting services to implement standards by providing education in quality improvement tools and methodologies.
- **Social Services Inspectorate** – Registering and inspecting residential centres for dependent people and inspecting children detention schools, foster care services and child protection services.
- **Monitoring Healthcare Quality and Safety** – Monitoring the quality and safety of health and personal social care services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health Technology Assessment** – Ensuring the best outcome for people who use our health services and best use of resources by evaluating the clinical and cost effectiveness of drugs, equipment, diagnostic techniques and health promotion activities.
- **Health Information** – Advising on the efficient and secure collection and sharing of health information, evaluating information resources and publishing information about the delivery and performance of Ireland's health and social care services.

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1. Introduction

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

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

The Authority's monitoring programme will continue in 2014, focusing on unannounced inspections. This approach, outlined in guidance available on the Authority's website, www.hiqa.ie – *Guide: Monitoring Programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections*² – will include scope for re-inspection within six weeks where necessary. The aim of re-inspection is to drive rapid improvement between inspections.

The purpose of unannounced inspections is to assess hygiene as experienced by patients at any given time. The unannounced inspection focuses specifically on observation of the day-to-day delivery of hygiene services and in particular environment and equipment cleanliness and adherence with hand hygiene practice. Monitoring against the Infection Prevention and Control Standards¹ is assessed, with a particular focus, but not limited to, environmental and hand hygiene under the following standards:

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

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

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

This report sets out the findings of the unannounced inspection by the Authority of Our Lady's Children's Hospital's (Crumlin) compliance with the Infection Prevention and Control Standards. It was undertaken by Authorised Persons from the Authority, Alice Doherty, Katrina Sugrue and Judy Gannon, on 9 April 2014 between 11:00 hrs and 15:55 hrs.

The areas assessed were:

- St John's Ward (haematology and oncology)
- St Joseph's Ward.

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

2. Our Lady's Children's Hospital, Crumlin Profile[‡]

Our Lady's Children's Hospital, Crumlin, Dublin is an acute paediatric teaching hospital employing approximately 1550 staff. There are 227 inpatient beds and cots, including 38 day-case beds in use. It is Ireland's largest paediatric hospital and is responsible nationally for the provision of the majority of quaternary, tertiary and secondary healthcare services for children. It is the National Centre in Ireland for a range of paediatric specialities including childhood cancers and blood disorders, cardiac diseases, major burns, cystic fibrosis and rheumatology.

The Hospital is built on a site of approximately 5 hectares. It first opened its doors in 1956 and was specifically designed to care for and treat sick children.

Our Lady's Children's Hospital, Crumlin – year end activity	2013
Inpatients	9782
Day cases	17595
Outpatients	74168
Emergency Department	33505
Theatre operations	10276

[‡] 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

On inspection at Our Lady's Children's Hospital, Crumlin on 9 April 2014, there was evidence of both compliance and non-compliance with the criteria selected in the Infection Prevention and Control Standards. In the findings outlined below, observed non-compliances are grouped and described alongside the relevant corresponding Standard/criterion.

3.1 Environment and Facilities Management

Standard 3. Environment and Facilities Management

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

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

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

St John's Ward (haematology and oncology)

St John's Ward has been undergoing refurbishment since October 2012. Originally the ward comprised seven double-bedded rooms. As part of the refurbishment, the double-bedded rooms were converted to 19 single rooms with ensuite facilities, with the exception of one single room which does not have an ensuite. This included building a new adolescent unit and the bone marrow transplantation unit was upgraded. In Phase 3 of the refurbishment, a new transplant unit was installed which was expected to be in use by the end of the week following the inspection.

Overall, the environment and patient equipment on St John's Ward were clean and well maintained with a small number of exceptions.

Environment and equipment

- Chipped paint was observed on bedside tables and on the foot levers of non-clinical waste disposal bins, hindering effective cleaning.
- Sticky tape residue was observed in some areas such as, the tap on the clinical hand wash sink in room 9, air filtering units in patient rooms, surfaces of dressing trolleys, the surface of a vital signs monitor, the fridge door in the clean utility room and on the frame of a trolley used to hold a yellow bin, hindering effective cleaning.
- The wheel areas of some equipment were unclean such as; the cot in room 12, intravenous stands, dressing trolleys and trolleys used to hold yellow bins. In addition, there was hair entangled in a wheel on an intravenous stand and in a wheel on a weighing scales chair.
- Rust-coloured staining was visible on the shelves used to hold the air filtering units in the patient rooms that were inspected. Rust-coloured staining was also visible on the wheel areas of (i) a drug trolley and the lower part of an upright connected to a wheel, (ii) a container labelled 'radioactive waste' and (iii) a trolley used to hold a yellow clinical/healthcare waste bin.
- A small area on the top surface of a vital signs monitor was unclean.
- A light layer of dust was visible on the surface of a workstation keyboard.
- Some of the signage in the clean utility room was not laminated and was fixed to the notice board with sticky tape, hindering effective cleaning. There was brown staining on the paper sign fixed to the fridge door in the clean utility room.
- Rust-coloured staining was visible around the grate in the sink used for cleaning patient equipment in the 'dirty'[±] utility room.
- There was dust/debris on the floor behind the bed pan washers.
- Boxes and other supplies were stored directly on the floor in the cleaning room and waste disposal bins were stored directly on the floor in the 'dirty' utility room, hindering effective cleaning.

St Joseph's Ward

St Joseph's ward is a general medical ward with 25 beds. Nineteen of the beds were open on the day of inspection.

Overall, the environment and patient equipment on St Joseph's Ward were generally clean and well maintained with some exceptions.

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

Environment and equipment

- Chipped paint was observed on walls, radiators and bed rails in patient areas, on walls in patient bathrooms and on cupboards in the play room, hindering effective cleaning.
- Splash marks were observed on walls around alcohol hand gel dispensers.
- There was a light layer of dust on the floor underneath a patient bed, on a bed frame, curtain rails, a patient locker, in the corners of floors in patient areas and on the floors in patient bathrooms and the clean utility room. In addition, cardboard boxes were stored directly on the floor in the clean utility room, hindering effective cleaning.
- The integrity of a mattress protector was damaged with pinprick holes and there was staining on the under surface of the mattress protector.
- There was a build up of soap residue in the grid of the sink in an isolation room. There was a light layer of dust and grit on the floor behind the cot in the same isolation room.
- The casement of electrical fittings in the play room was unclean and sticky residue was observed on the surface, hindering effective cleaning.
- Raised toilet seats were unclean on both the top surface and underneath the toilet seat. Toilet brushes were inappropriately stored on high window sills in a number of patient bathrooms.
- There was brown staining on the floor around the base of a toilet, a damp area was observed on the floor behind the toilet and there was rust-coloured staining on the associated pipe work. There was brown staining on the toilet bowl of another toilet and the skirting board in the cubicle was unclean.
- The hand soap dispenser was empty in one of the patient bathrooms.
- The wheel areas of a number of intravenous stands were unclean.
- The handle on the top drawer of the resuscitation trolley was broken and there was a considerable amount of sticky residue on signage on the trolley, hindering effective cleaning.
- Yellow residue was observed inside the casing of two temperature probes.
- There was a light layer of dust on an oxygen cylinder and behind a nebuliser at a patient's bedside.
- A single use oximetry probe sensor wrap was observed to be attached to the oximeter after use. This matter was brought to the attention of the ward manager who confirmed that the sensor wraps are single use only and should always be removed from the oximeter following use.
- Hair was observed in a patient bathtub and in the wheel of a weighing machine.
- There was red staining in an injection tray and red residue on a glucometer stored in the clean utility room. This matter was brought to the attention of the ward manager for immediate cleaning.

- While the majority of signage in the clean utility room was laminated, a number of paper notices were not laminated, hindering effective cleaning. In addition, signage on the drug trolley was water stained and peeling back from the trolley.
- There was rust-coloured staining on the grid in the sink in the clean utility room and the grouting surrounding the sink was unclean.
- There was dust on the wheels of two dressing trolleys and the under surface of a lower tray was unclean on one of the trolleys.
- There were two unclean patient urinals in the 'dirty' utility room, one of which still contained urine.
- There was rust-coloured staining on the frame of a commode and the seat was unclean.
- It was observed that patient washbowls were not dried before storage which increases the risk of microbial contamination. This matter was brought to the attention of the ward manager for immediate follow up action.
- There were no hand hygiene facilities in the housekeeping equipment room.

Summary

The Authority was informed that environmental audits are carried out by the ward manager on St John's Ward every six months. The audits cover the general environment, clinical equipment and products, waste/sharps/linen, hand hygiene and general knowledge. The results of an audit carried on 25 March 2014 were viewed by the Authority and showed a compliance of 79.5%. In accordance with hospital policy, an area is re-audited within two weeks if the audit score is less than 85%. The Authority was informed that a re-audit was subsequently carried out by a multidisciplinary audit team and an audit score of 95% was achieved.

In addition to audits carried out by the ward manager, the Authority was informed that environmental audits are carried out by a multidisciplinary team on St John's Ward every six months. Audit results were viewed by the Authority and showed a compliance of 78.5% in October 2013 followed by a re-audit result of 96.3% in November 2013. Action plans which are generated from audits were viewed by the Authority. Depending on the action items resulting from an audit, the ward manager ensures that items are addressed as appropriate.

On St Joseph's Ward, the Authority was informed that quarterly environmental audits are carried out and records of recent environmental audit results were viewed. In an environmental audit carried out in February 2014, St Joseph's Ward achieved a compliance of 77.8%. In line with hospital policy, a follow-up audit was conducted in March 2014 and a compliance of 92% was achieved. The Authority was informed that the ward manager is responsible for ensuring all non-compliances are addressed and the maintenance manager is contacted regarding issues which cannot be rectified locally.

The Authority was informed that the hospital has a facilities management committee which is responsible for the planned preventative maintenance programme in the hospital. Some areas of the hospital have been upgraded and other areas are in the process of being upgraded. Issues arising from environmental audits are escalated to the facilities management committee as required.

3.2 Hand Hygiene

Assessment of performance in the promotion of hand hygiene best practice occurred using the Infection, Prevention and Control Standards¹ and the World Health Organization (WHO) multimodal improvement strategy.³ Findings are therefore presented under each multimodal strategy component, with the relevant Standard and criterion also listed.

WHO Multimodal Hand Hygiene Improvement Strategy

3.3.1 System change³: *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene.*

Standard 6. Hand Hygiene

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

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

- the implementation of the *Guidelines for Hand Hygiene in Irish Health Care Settings, Health Protection Surveillance Centre, 2005*
 - the number and location of hand-washing sinks
 - hand hygiene frequency and technique
 - the use of effective hand hygiene products for the level of decontamination needed
 - readily accessible hand-washing products in all areas with clear information circulated around the service
 - service users, their relatives, carers, and visitors are informed of the importance of practising hand hygiene.
-
- Alcohol hand gel dispensers were available in clinical areas on St Joseph's Ward however, they were not located at the end of patient beds, due to them posing a possible risk to children. On the day of inspection, alternative methods to ensure hand gel accessibility at the point of care, for example single staff issue alcohol hand gel bottles which can be attached to staff uniforms using toggles were not observed to be in use.

- The Authority was informed that the hospital has a sink replacement programme in operation. One ward has just been completed and there is a staged plan for 2014 whereby sinks in older ward areas will be replaced on a phased basis.

3.3.2 Training/education³: *providing regular training on the importance of hand hygiene, based on the 'My 5 Moments for Hand Hygiene' approach, and the correct procedures for handrubbing and handwashing, to all healthcare workers.*

Standard 4. Human Resource Management

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

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

- The Authority was informed that staff are required to carry out hand hygiene training every year. Hand hygiene training records were viewed by the Authority on St John's Ward which showed that 92.5% of nursing staff have carried out hand hygiene training in the last year. The Authority was informed that a clinical nurse facilitator on St John's Ward is responsible for hand hygiene training records and informs the ward manager of any staff who are required to update their hand hygiene training. To facilitate the training, the ward manager incorporates this information into the off-duty roster.
- The Authority was informed on St John's Ward that hand hygiene lectures are included as part of staff study days. In addition, schedules of hand hygiene talks which are held in the hospital are circulated by email to the ward manager and the clinical nurse facilitator. Staff are informed about the schedules at 'afternoon huddles' and at shift hand-over meetings and the schedules are posted at the nurses' station. The clinical nurse facilitator also carries out hand hygiene talks on the ward.
- The Authority was also informed on St John's Ward that good hand hygiene technique is promoted at ward level by staff taking a 'glo box[±]' test.
- The importance of hand hygiene on St John's Ward was emphasised to the Authority during the inspection. The Authority was informed that hand hygiene

[±] The 'glo box' test uses a box with a UV light and a special hand cream which can simulate the appearance of bacteria when poor hand hygiene technique is applied.

'spot checks' are carried out with staff and visitors to the ward. In addition, hand hygiene is part of the training provided to parents caring for children on the ward.

- Records were viewed by the Authority on St Joseph's Ward confirming that 84.3% of nurses on the ward had attended hand hygiene training in the last year. Hand hygiene training is provided in the hospital and the Authority was informed that it is the ward manager's responsibility to ensure that nursing staff attend the training. A two yearly mandatory study day is held on Haemovigilance/Infection Control and Coagulation factors. This is attended by all nursing staff and also includes hand hygiene training.

3.3.3 Evaluation and feedback³: *monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among health-care workers, while providing performance and results feedback to staff.*

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

The following sections outline audit results for hand hygiene.

National hand hygiene audit results

Our Lady's Children's Hospital, Crumlin participates in the national hand hygiene audits which are published twice a year.⁴ The results below taken from publically available data from the Health Protection Surveillance Centre's website generally demonstrate a steady increase in compliance from October 2011 to date. The overall compliance for 2013 was higher than the Health Service Executive's (HSE's) national target of 90%⁵, a favourable result relative to many other hospitals.

Period 1-6	Result
Period 1 June 2011	No data available
Period 2 October 2011	86.7%
Period 3 June/July 2012	88.6%
Period 4 October 2012	93.3%
Period 5 May/June 2013	92.8%
Period 6 October 2013	98.1%

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

Hospital hand hygiene audit results

In addition to the national audits, the hospital carries out hand hygiene audits as part of environmental audits. During these audits, staff are asked to demonstrate their hand hygiene technique and there is a discussion about the 'My 5 Moments for Hand Hygiene'. Issues are dealt with immediately by the auditor and staff may be asked to attend the next training session on hand hygiene if necessary.

Local area hand hygiene audit results

- On St John's Ward, the Authority was informed that the most recent hand hygiene audit was carried out during the environmental audit on 25 March 2014 with a result of 75%. The results of hand hygiene audits are discussed at shift hand-over meetings. There is also a communication folder on the ward where relevant information is stored and the ward manager is in the process of setting up an electronic communication tool for recording relevant information.
- The results of local hand hygiene audits were not available on the day of inspection on St Joseph's Ward. The Authority was informed that these records are kept centrally with the hospital's infection prevention and control team, on their training database. Feedback regarding hand hygiene audits is given to staff directly at the time of the audit. In order to improve hand hygiene practices, the Authority was informed that hand hygiene sessions are held directly on each ward. The clinical nurse facilitator on St Joseph's Ward who is trained to be a hand hygiene educator is currently on leave. A replacement educator has been identified and is due to be trained.

Observation of hand hygiene opportunities

Authorised Persons observed hand hygiene opportunities using a small sample of staff in the areas inspected. 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 WHO⁶ and the HSE.⁷ 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^γ and recognised barriers to good hand hygiene practice.

^γ The inspectors observe if all areas of hands are washed or alcohol hand rub applied to cover all areas of hands.

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 19 hand hygiene opportunities in total during the inspection. Hand hygiene opportunities observed comprised of the following:
 - two before touching a patient
 - one before clean/aseptic procedure
 - one after body fluid exposure risk
 - four after touching a patient
 - eleven after touching patient surroundings.
- Sixteen of the 19 hand hygiene opportunities were taken. The three opportunities which were not taken comprised of the following:
 - one before clean/aseptic procedure
 - one after touching a patient
 - one after touching patient surroundings.
- Of the 16 opportunities which were taken, the hand hygiene technique was observed (uninterrupted and unobstructed) by the Authorised Persons for nine opportunities. Of these, the correct technique was observed in the nine hand hygiene actions.

In addition the Authorised Persons observed:

- ten hand hygiene actions that lasted greater than or equal to (\geq) 15 seconds as recommended
- one hand hygiene action where there was a barrier to the correct technique (wearing sleeves to the wrist).

3.3.4 Reminders in the workplace³: *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 the areas inspected at Our Lady's Children's Hospital, Crumlin.
- The Authority wishes to acknowledge the art pieces on St John's Ward showing small clay hand prints which spell out the message 'Wash your Hands', as an innovative and patient-centred way of reminding staff and visitors to the ward of the importance of hand hygiene.

3.3.5 Institutional safety climate³: *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.*

Our Lady's Children's Hospital, Crumlin achieved an overall compliance of 95.5% in 2013 in the national hand hygiene audits which is higher than the HSE's national target. The Authority wishes to commend the achievement of this result, and encourage Our Lady's Children's Hospital, Crumlin to continue in their efforts to sustain their performance at this level.

4. Summary

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

Overall, the environment and patient equipment on both St John's and St Joseph's Wards were generally clean and well maintained with some exceptions.

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.

In the national hand hygiene audits carried out each year, Our Lady's Children's Hospital, Crumlin has been consistent in exceeding the national targets set for each year. On the day of the inspection, the hospital was able to demonstrate practice at a local level across all facets of the WHO multimodal strategy which supported the achievement of high performance. The hospital is encouraged to continue, and build on these efforts to sustain their performance.

Our Lady's Children's Hospital, Crumlin must now revise and amend its quality improvement plan (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 Our Lady's Children's Hospital, Crumlin 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[‡]

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

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