



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the announced monitoring assessment at Cork University Hospital Group

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

Date of announced on-site monitoring assessment: 11 and 12 December 2012

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is the independent Authority established to drive continuous improvement in Ireland's health and personal social care services, monitor the safety and quality of these services 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.
- **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. Background

The Health Information and Quality Authority (the Authority or HIQA) has the national statutory role[±] for developing standards for the quality and safety of healthcare services. The *National Standards for the Prevention and Control of Healthcare Associated Infections* (NSPCHCAI) were approved by the Minister for Health and Children on 26 May 2009. Under the Health Act 2007, the Authority has the statutory responsibility, amongst other functions, for monitoring compliance with National Standards and advising the Minister for Health as to the level of compliance.

The NSPCHCAI provide a framework for health and social care providers to prevent or minimise the occurrence of Healthcare Associated Infections (HCAIs) in order to maximise the safety and quality of care delivered to all health and social care patients in Ireland. The *National Standards for the Prevention and Control of Healthcare Associated Infections* aim to drive a culture of responsibility and accountability among all staff involved in the management and delivery of health and social care services – all of whom must play their part in preventing and controlling HCAIs. While services may differ in terms of scale, service-user population, the nature of care provided, staffing levels, location and history, the principles for the prevention and control of HCAIs are applicable to all health and social care services.

The Authority commenced Phase 1 of the monitoring programme for the *National Standards for the Prevention and Control of Healthcare Associated Infections* (the National Standards) in the last quarter of 2012. This initially focused on announced and unannounced assessment of acute hospitals' compliance with the National Standards.

Phase 2 commenced in January 2013, and will continue throughout 2013 and into 2014 to include announced assessments at all acute hospitals in Ireland, and the National Ambulance Service.

This phase of monitoring is a contributory phase towards preparing service providers for the eventual monitoring of services against the *National Standards for Safer Better Healthcare*. In line with this aim, the Authority reviewed the NSPCHCAI and framed them within three themes of the *National Standards for Safer Better Healthcare*. These themes are:

[±] The Authority is given the remit for setting standards for quality and safety in healthcare services under section 8 of the Health Act 2007.

- Theme 1: Leadership, Governance and Management
- Theme 2: Workforce
- Theme 3: Safe Care.

1.1. Essential elements for safe, high quality care

To facilitate the overall monitoring programme for the *National Standards for the Prevention and Control of Healthcare Associated Infections*, the NSPCHCAI and their respective criteria were reviewed and amalgamated in order to develop **essential elements** which would be representative of what an organisation must have in place as the foundation for the provision of safe, high quality care through the prevention and control of Healthcare Associated Infections (see Appendix 1). Accordingly, the monitoring methodology was developed to assess organisations for their compliance with these overarching essential elements. Therefore it is important to note that the Authority is not assessing against each of the individual standards and their criteria. It should also be noted that hygiene forms only one component of this announced assessment approach.

2. Overview

2.1. Cork University Hospital Group Profile[¥]

Cork University Hospital Group consists of Cork University Hospital, Cork University Maternity Hospital and Mallow General Hospital. The Cork University Hospital Group is committed to providing high quality service with a focus on clinical excellence, patient safety and continuous improvement through clinical education and research.

Cork University Hospital (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 HSE South region 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

[¥] 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.

550,000 served by the HSE South region, and a supra-regional centre for a total a population of 1.1 million.

CUH has 25,500 inpatient admissions, 27,000 day cases, and 60,000 emergency cases (emergency department) annually, making it one of the busiest hospitals in the country. CUH has 800 beds and this will increase further to 1,000 beds on completion of the transfer of additional services to the CUH campus. CUH currently employs 3,400 staff of multiple professions and is the primary teaching hospital for the Faculty of Health and Science in University College Cork.

Cork University Maternity Hospital (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. CUMH has 14,716 inpatient discharges, 4,090 day cases, and 8,580 births annually, making it one of the busiest maternity hospitals in the country.

Mallow General Hospital (MGH), which opened circa 1930, is part of the CUH Group and is situated on the main Mallow/Limerick road approx 1 mile outside Mallow town. Mallow General Hospital serves a population of between 85,000/90,000 people. Working in close collaboration with primary care physicians, Mallow General Hospital provides second level care for the population of Mallow and the hinterland of North Cork. MGH also has close links with tertiary care centres in Cork City.

3. Findings

Cork University Hospital Group (CUHG[†]) is comprised of Mallow General Hospital (MGH), Cork University Maternity Hospital (CUMH) and Cork University Hospital. The findings of the announced monitoring assessment at Cork University Hospital Group are described below.

Authorised Persons from the Authority, Naomi Combe, Margaret Cahill, Ide Batan, Breeda Desmond and Catherine Connolly Gargan carried out the on-site component of the monitoring assessment on 11 December 2012 between 08:30hrs and 17:00hrs and on 12 December 2012 between 08:30hrs and 11:00hrs.

[†] Referred to in this report as the hospital group.

The areas assessed were:

Mallow General Hospital:

- St Joseph's Ward

Cork University Maternity Hospital:

- Neonatal Unit
- 3 East Ward (postnatal)

Cork University Hospital:

- Emergency Department
- GB Ward (short stay medical unit)
- 4B Ward (surgical)
- 1B Ward (gastroenterology, endocrinology and infectious diseases).

3.1. Theme 1: Leadership, Governance and Management

Theme 1: Leadership, Governance and Management

Robust leadership, governance and management structures and processes underpin what hospitals should have in place to assure the public and themselves that the arrangements for the prevention and control of Healthcare Associated Infections (PCHCAI) are effective.

There are robust local, monitoring and reporting arrangements in place thereby ensuring infection control is managed at a consistently high level of quality with minimal variation in the delivery of that care. There are effective regional and national PCHCAI reporting arrangements in place, infection control activities provided are compliant with the relevant legislation, clinical care programmes and evidenced-based practice, and the organisation is acting on national standards and recommendations from statutory bodies.

Essential Element 1(a). A comprehensive corporate and PCHCAI governance structure supported by an integrated organisational framework is in place. The governance arrangements will include PCHCAI specific strategies, aligned cost effective initiatives and defined responsibilities for externally contracted services.

Findings Essential Element 1(a)

The following governance structures and processes, relating to PCHCAI were noted by the inspection team during the course of the inspection.

Infection Prevention and Control Committee

There is a HSE South regional Infection Control Committee in place, of which the hospital group is a member. There is a Regional Antimicrobial Stewardship Committee and this is a sub group of the Region Cork Kerry Infection Prevention and Control Committee. CUHG staff included on this committee include two consultant microbiologists, an infectious diseases consultant, an infection prevention and control nurse and a senior pharmacist.

Documentation provided, supported by discussions with members of the CUH Infection Prevention and Control Team (IPCT), describes attempts to standardise practice across the region. For example, the development of regional antimicrobial guidelines, shared antimicrobial stewardship initiatives and a common approach to point prevalence audits. However, the Authority found that this standardisation was not in place.

The hospital group also has an Infection Prevention and Control (incorporating hygiene) Committee (IPCC). The IPCC has terms of reference in place, and met approximately quarterly, as evidenced by minutes provided to the Authority. Membership of the Committee includes corporate and clinical representation. The Committee is chaired by the Operations Manager of the hospital group (CUHG CEO's representative). The Hospital Manager in Mallow General Hospital reports directly to the CUH Operations Manager and represents Mallow General Hospital on the hospital group's Infection Prevention and Control Committee. The submitted terms of reference show that this Committee reports to the hospital group's Chief Executive.

During discussions with the Mallow General Hospital management team it was reported that a multidisciplinary infection prevention and control hygiene (IPCH) team, chaired by the Mallow General Hospital Manager, was in place there.

Infection Prevention and Control Team

CUHG has an Infection Prevention and Control Team (IPCT) in place, which is accountable to the hospital group's Infection Control Committee, as documented in the submitted terms of reference. The team comprises infection control nurses and consultant microbiologists. The terms of reference submitted state that meetings will take place weekly. However, minutes submitted to the Authority indicated that meetings occurred monthly.

The Authority found that there were no core infection prevention and control (IPC) staff – infection control nurse or microbiologist – in post in Mallow General Hospital and that there is no formal outreach microbiology support from CUH. The Authority observed that the Cork University Hospital Group infection prevention and control policies, procedures and guidelines were in place in Mallow General Hospital. However, the Authority observed that there was an inconsistent approach to implementing the guidelines. For example, the variation in the approach to the implementation of urinary catheter care bundles between Cork University Hospital and Mallow General Hospital demonstrated an inconsistent group-wide PCHCAI programme regarding the management of invasive medical devices.

The Authority is concerned that as the development of the hospital group progresses, the governance arrangements for the prevention and control of Healthcare Acquired Infections remains underdeveloped. The current circumstance means that management and practice in this area is inconsistent across the sites of the hospital group. This potentially presents a risk for the patients being treated in Mallow General Hospital.

Drugs and Therapeutic Committee

There is a Drugs and Therapeutics Committee in place in Cork University Hospital. One of the primary objectives of this Committee (as stated in the terms of reference submitted to the Authority) is to develop and manage an antimicrobial stewardship programme.

The minutes of the Committee meeting showed discussion about the development of antimicrobial guidelines. However, there was no evidence provided to the Authority that there was a comprehensive antimicrobial stewardship programme in place. This was confirmed in discussion with staff at Cork University Hospital. Discussions with staff outlined that development of an antimicrobial stewardship programme is planned for 2013. International research has shown that the appropriate use of antibiotics contributes significantly to reducing HCAs; the absence of an antimicrobial stewardship programme across the hospital group poses an increased risk to patients of acquiring HCAs.

Essential Element 1(b). There is clear monitoring and reporting of defined PCHCAI performance metrics, with trend analysis, reciprocal quality improvement initiatives and reporting at a local, regional and national level.

Findings Essential Element 1(b)

Cork University Hospital Group provided documentation and described in detail the systems and structures in place for the monitoring and reporting of PCHCAI performance metrics with trend analysis and quality improvement initiatives in place at a local and regional level within the Infection Prevention and Control Committee (IPPC) and Infection Prevention and Control Team (IPCT). However, at the time of the assessment many of these systems were not functioning. For example, documentation submitted regarding audit in CUH was dated 2010 and 2011. Documentation subsequently submitted indicated that a series of formal infection control environmental audit had been undertaken in CUMH in 2012. Also, the actions for 22 of 26 quality improvement plans were overdue.

At the time of the assessment, antibiotic usage audits were no longer undertaken in Mallow General Hospital. It was reported to the Authority that surveillance was not being undertaken, as the post of surveillance scientist had not been filled. In discussions with staff it was indicated that Mallow General Hospital was awaiting approval for an appointment to the post and that no contingencies had been developed to deal with the absence of a surveillance scientist in the interim. The absence of a surveillance scientist poses a potential risk to patients of increased HCAs and arrangements should be put in place to mitigate this risk.

The hospital group was submitting data for MRSA to the Health Service Executive's Health Protection Surveillance Centre (HPSC). Cork University Hospital submitted data to the HPSC for antimicrobial consumption up until mid 2012. However, it was reported to the Authority that these data were not, at the time of the assessment, being submitted. While some data is submitted to the HPSC and Department of Health via the Computerised Infectious Disease Reporting System (CIDR), the Authority found that the hospital group had not submitted data to the Health Protection Surveillance Centre (HPSC) in relation to the Point Prevalence Study Report for 2012 for HCAs and Antimicrobial use in Ireland.

Essential Element 1(c). A clear PCHCAI communication strategy, supported by robust operational arrangements, to assure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies is in place.

Findings Essential Element 1(c)

Information provided to the Authority did not indicate that adequate PCHCAI communication was taking place between the hospital group Management Team, Mallow General Hospital Management Team and the Cork University Hospital Infection Prevention and Control Team (IPCT). The Cork University Hospital IPCT outlined that although there were formal communication structures in place within the Cork University Hospital and Cork University Maternity Hospital sites, much PCHCAI communication to Mallow General Hospital was manifested as informal communication, based more on good working relationships rather than on a formal system.

There was no explicit evidence of clear reciprocal communication links between the IPCT, the IPCC and the Executive Management Committee within Cork University Hospital or between the hospitals that comprise the group. The IPCT reports to the IPCC, as evidenced by documentation provided to the Authority. However, there was little evidence of communication back from the IPCC or the hospital group Executive Management Board to the IPCT. It was outlined in discussions with staff that information is escalated from the IPCT to the hospital group Executive Management Board. However, this was not evidenced in the minutes submitted to the Authority and staff reported that they did not receive feedback. There was very little documented evidence (for example in meeting minutes) of a clear link, for the purposes of the prevention and control of Healthcare Associated Infections, between the Cork University Hospital and Cork University Maternity Hospital sites and the Mallow General Hospital site, thus confirming the informal nature of the relationship as described by hospital staff.

It is acknowledged that there is an overlap in membership between the groups mentioned above. However, there is little evidence of the formalised communication structures and linkages necessary to support PCHCAI.

A clear PCHCAI communication strategy – supported by robust operational arrangements, to assure the effective communication of appropriate and timely information throughout the service – is essential for the prevention and control of

HCAIs in hospitals. Evidence provided to the Authority did not demonstrate a clear combined approach to the prevention and control of Healthcare Associated Infections within Cork University Hospital and throughout the hospital group. This poses a potential risk across the hospital group of patients acquiring HCAIs. These gaps in communication appear to result from the inadequate governance arrangements within the hospital group. As outlined above, the hospital group should put arrangements in place to ensure that the governance systems can assure consistency of approaches in all sites across the hospital group and that effective two-way communication processes in relation to PCHCAI are in place across the governance structures.

Corporate governance arrangements to support compliance with the NSPCHCAI

Cork University Hospital Group (CUHG) is comprised of Mallow General Hospital (MGH), Cork University Maternity Hospital (CUMH) and Cork University Hospital. The governance structure is based on a divisional structure of administration, with 15 Clinical Divisions, a Support Services Board and a Service Managers' Group. Each division is managed by a chair/consultant, business manager, nursing services manager and a support services representative. The division chair reports to the clinical director, who reports to the CEO for CUHG. The Management Team, chaired by the Chief Executive, reports to the Executive Management Board. The hospital group Chief Executive was identified in documentation as the accountable person for the quality and safety of services provided in the hospital group, and this was confirmed in a meeting in the course of the monitoring assessment. The Chief Executive reports to the Regional Director of Operations, HSE South. The Hospital Manager at Mallow General Hospital has delegated responsibility for the quality and safety of services including infection prevention and control in Mallow General Hospital. The Hospital Manager in MGH reports directly to the CUH Operations Manager and represents MGH on the hospital group Infection Prevention and Control Committee (IPCC). It was reported that all clinical and operational services including the IPCC at MGH are managed separately and not as an integral part of the hospital group. In relation to the prevention and control of Healthcare Associated Infections, MGH had no infection control nurse or microbiologist in post and there were no formal arrangements in place for this specialist IPC advice to be provided by the hospital group. It was reported that such advice is supplied as required on an informal basis.

The Authority found that the corporate and clinical governance arrangements in the hospital group were not structured to ensure a consistent approach to PCHCAI across all group sites. In addition, key evidence-based national strategies that increase the potential of safeguarding patients from acquiring HCAIs, e.g.

antimicrobial stewardship and surgical site infection rate audits, were not prioritised. This is of significant concern to the Authority given that antimicrobial stewardship is an essential element to prevent and control Healthcare Associated Infections. In addition, the corporate and clinical governance arrangements did not provide MGH access to formal specialist infection, prevention and control advice.

Theme 1: Leadership, Governance and Management – Conclusion

From documentation submitted by the hospital group, the governance structure was clearly described. The documentation described the hospital group Chief Executive as the accountable person for the quality and safety of services.

It is noteworthy that, although there is an overlap in membership between the IPCT, the IPCC and the Executive Management Board, there is little evidence of formal, reciprocal communication between the three groups.

It was concerning to note that prevention and control of infection is not a standing item on the hospital group's Executive Management team or Board agenda. This lack of focus is further reflected in the Authority's finding that there is an absence of clear monitoring and reporting of performance measures relating to the prevention and control of HCAs. This adds to the hospital group's inability to carry out associated trend analysis, reciprocal quality improvement initiatives and reporting at a local, regional and national level. The Authority concluded that this poses a potential risk to patients of HCAs across the hospital group.

Mallow General Hospital does not have formal access to infection, prevention and control specialist advice. The PCHCAI communication between the hospitals and between the IPCT, IPCC and the Hospital Management Committee is not always effective. In the case of Mallow General Hospital, communication in respect of PCHCAI has not been formalised.

The hospital group does not have an antimicrobial stewardship programme in place. This is of significant concern to the Authority given that antimicrobial stewardship is an essential element to prevent and control Healthcare Associated Infections. The Authority concluded that the corporate and clinical governance arrangements in the Cork University Hospital Group are not sufficiently effective to support compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections*.

Theme 1: Leadership, Governance and Management – Recommendations

Recommendation 1. *The corporate and clinical governance arrangements at Cork University Hospital Group should be reviewed to ensure compliance with the National Standards for the Prevention and Control of Healthcare Associated Infections. This review should include arrangements to ensure that:*

- *the governance systems connect with and assure consistency of approaches in all sites across the hospital group*
- *effective two-way communication processes are in place across the governance structures and hospital sites*
- *a robust programme of audit is put in place to provide assurance on compliance with the key elements of the PCHCAI standards*
- *adequate and skilled workforce arrangements in respect of the prevention and control of infection are in place and their effectiveness monitored through the governance structures*
- *there is a robust and ongoing process for communication regarding HCAs to the Health Protection Surveillance Centre.*

3.2. Theme 2: Workforce

Theme 2: Workforce

The hospital group should always be in a position to assure patients, the public and themselves that everyone working in the service is contributing to the prevention and control of Healthcare Associated Infections. The individual members of the workforce must be skilled and competent, they must be supported to continuously update and maintain their knowledge and skills, whether they are directly employed or in contractual employment.

Essential Element 2(a). Members of the core PCHCAI team must have the appropriate qualifications, specific training, skills and competencies in infection control, antimicrobial stewardship and HCAI surveillance. They must undergo continuing professional education and development on a regular basis.

Findings Essential Element 2(a)

Documentation submitted to the Authority gave assurance that members of the IPCT and IPCC in Cork University Hospital and Cork University Maternity Hospital are all appropriately qualified and competent in infection control, antimicrobial stewardship and HCAI surveillance. However, no evidence was provided of continuing professional education and development in the previous two years. As outlined above there were deficiencies in the availability of skilled PCHCAI staff at the Mallow Hospital site.

During discussions with the Mallow General Hospital management team, it was reported that a multidisciplinary infection prevention and control hygiene (IPCH) team, chaired by the Hospital Manager, was in place. However, no core IPC staff were available at the time of the inspection in Mallow General Hospital. It was reported that a practice development nurse had been assigned to the Mallow General Hospital infection prevention programme. However, there was no formal mechanism for advice and support for this post-holder from the hospital group's team on the Cork University Hospital site.

Essential Element 2(b) All hospital staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections.

Findings Essential Element 2(b)

Documentation outlining mandatory theoretical and practical training for staff in relation to PCHCAI was not submitted to the Authority. Any related data submitted was incomplete and some was out of date. A full prospectus was submitted by Cork University Maternity Hospital, however, no attendance record was received by HIQA Authorised Persons.

Discussion with members of both the Cork University Hospital IPCT and Management Team outlined that theoretical and practical training in relation to the prevention and control of HCAs was not mandatory. The same teams confirmed that attendance at hand hygiene training was problematic, with a low uptake from staff. Training records confirmed poor attendance by some groups of staff. IPCC members confirmed that there is inadequate 'buy-in' from staff and that large numbers of staff have not attended hand hygiene training. Hospital group staff highlighted to the inspection team that ineffective hand hygiene education is posing a risk to patients. There was no evidence of any actions that the group's Executive Management Team

had prioritised hand hygiene education and training in order to meet the National Standards and reduce the risks to patients.

Hand hygiene is recognised internationally as the most significant preventative measure to prevent HCAs in healthcare services.

Essential Element 2(c) There are arrangements in place to ensure visiting clinical, undergraduates and agency staff are competent in the core principles for the prevention and control of HCAs.

Findings Essential Element 2(c)

It was confirmed in discussions with staff that there are arrangements in place to ensure that agency and contract staff are competent in the core principles for the prevention and control of HCAs. The Authority was informed that the agency or contract firms verify this. The Authority was also informed that there are also arrangements in place for visiting clinicians or undergraduates.

Theme 2: Workforce – Conclusion

Members of the IPCT and IPCC in Cork University Hospital and Cork University Maternity Hospital are all appropriately qualified and competent in infection control, antimicrobial stewardship and HCAI surveillance. The Authority was informed that members of the IPCT and IPCC are facilitated by the hospital group to pursue ongoing professional education and development.

However, having no PCHCAI staff members in Mallow General Hospital or formal access to infection prevention and control advice or support poses a risk to patients in Mallow General Hospital of acquiring HCAs.

Theoretical and practical training in relation to the prevention and control of HCAs was not mandatory for staff in the hospital group and this poses a serious and increased risk to patients in the hospital group of acquiring HCAs.

Theme 2: Workforce – Recommendations

Recommendation 2. *The Cork University Hospital Group Executive Board of Management should ensure that PCHCAI staff are facilitated to attend ongoing professional development.*

Recommendation 3. *The Cork University Hospital Group must put in place arrangements to ensure all staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections. In particular, hand hygiene training should be made mandatory for all staff.*

3.3. Theme 3: Safe Care

Theme 3: Safe Care

The hospital recognises that the prevention and control of Healthcare Associated Infections is paramount. The cleanliness of the physical environment and equipment is effectively managed and maintained. The hospital learns from all information relevant to the provision of safe PCHCAI services, in addition to when things go wrong.

There is an embedded focus on quality and safety improvement, evidence-based decision making and active engagement in local, national and international initiatives to minimise the risk of HCAs.

Essential Element 3(a). There is 24-hour seven-days-a-week access to specialist microbiological advice and services.

Findings Essential Element 3(a)

There is a consultant microbiologist on call 24-hours, seven days a week to provide HCAI prevention and control related specialist advice to Cork University Hospital and Cork University Maternity Hospital. However, it was reported to the Authority that there were no formal arrangements for access to specialist microbiological advice for staff at Mallow General Hospital. This arrangement was described as informal and by telephone. This does not meet the requirements of the Standards and poses a potential risk of HCAs to patients in MGH.

Essential Element 3(b). There are specific care bundles and/or policies and procedures developed, communicated, implemented and their efficacy monitored with the use of:

- peripheral intravenous catheter
- urinary catheter
- central venous catheter.

Findings Essential Element 3(b)

One quarter of all HCAs are related to the use of invasive medical devices (devices that are put into a patient's body or skin, for example, urinary catheters, peripheral intravenous catheters or central venous catheters). To increase patient safety, all services should have a specific set of processes to improve patient outcomes, for example, care bundles for the prevention and control of invasive medical device related infections.

Cork University Hospital

The Authority reviewed use of care bundles in wards 4B and 1B. The overall findings of the Authority was that central venous catheters (CVC) and peripheral venous catheter (PVC) care bundles were developed and were at varying stages of implementation into practice in the areas assessed.

PVC care bundle development and implementation was led by the Intravenous Nurse Specialist, while senior ward staff also reported to the Authority their involvement in the implementation process.

The Authority observed that care plans reflected details of the care bundles. There was a specific PVC daily checklist as part of the PVC care bundle which was included in the patient's end-of-bed documentation. It was reported that it was completed by the assigned nurse on duty. Items to be completed on this were: date of insertion, reason for insertion, daily inspection signature, removal date, reason for removal and signature of staff removing device. Date of insertion of PVCs was documented on the dressing.

4B (surgical ward, Cork University Hospital)

The Authority observed that 4B (surgical ward) had carried out a PVC care bundle audit in October 2012 and the results showed fair compliance. It was reported to the Authority that following the audit, further staff education was indicated and would

be undertaken. It was reported that it is the intention to complete further audits every two months.

A central venous catheter (CVC) care bundle was available in 4B. It comprised PVC documentation as well as a large A4 red sheet placed in front of the patient's medical notes called 'short-term CVC maintenance' care bundle. Laminated signs indicating relevant care bundles were located over those patient bed spaces where care bundles were in use.

1B ward (gastroenterology, endocrinology and infectious diseases, Cork University Hospital)

In 1B ward, the Authority found that care bundle implementation was led by the intravenous (IV) nurse, while senior ward staff also reported their involvement in this process.

The Authority found that that monitoring of PVCs was documented in monitoring assessment charts, for example, the condition of insertion site, length of time inserted and assessment of need. However, records were not consistently maintained of the inserter or the location of insertion of these devices.

The Authority observed that monthly audits were carried out at area level. The December 2012 audit showed incomplete compliance with the care bundle.

In conclusion, staff who spoke with the Authority on both wards were knowledgeable about the principles of care bundles. While daily checklists were in place on 4B, the results of the audit would indicate that care bundles were not embedded into the management of invasive devices at operational level. On ward 1B, checklists were in place and care bundles for PVC invasive medical devices were developed, although at different stages of implementation. The management of PVC care bundles was not yet embedded at clinical level. Urinary catheter care bundles were not in use. This is not in line with best practice. There was no evidence provided to demonstrate monitoring of the effectiveness of the implementation of care bundles. Neither was there evidence of monitoring blood stream infections to inform implementation.

Mallow General Hospital

The hospital reported that a care bundle for the management of urinary catheter (UC) invasive medical devices had been developed and a pilot had commenced in early December 2012 on St Joseph's ward. It was observed that care plans reflected details of the UC care bundle with daily records in care plans signed by staff. The

Authority observed that documentation of urinary catheter care was recorded in multiple sections in patient records. Weekly audit to monitor the adherence to SARI guidelines[‡] for the effective management of the UC care bundle had commenced.

It was reported that a peripheral venous catheter (PVC) care bundle was not in place. Nonetheless, the Authority observed the specific PVC daily checklist as per Cork University Hospital was in use at Mallow General Hospital and was included in the patient's end-of-bed documentation. However, it was reported that audits to monitor the effective management of a PVC care bundle were not in place.

Essential Element 3(c). There are defined PCHCAI performance metrics and audit process in place with a particular emphasis on:

- surgical site infection rates
- environmental and equipment hygiene
- antimicrobial prescribing
- hand hygiene
- infection related to the use of invasive medical devices
- HCAI trend rates and analysis.

Findings Essential Element 3(c)

Surgical site infection rates

Surgical site infections are one of the most common Healthcare Associated Infections (HCAIs).ⁱ The rate of surgical site infections is recognised as an important indicator of patient care and quality. Cork University Maternity Hospital submitted information in relation to the audit of surgical site infection rates. However, there were no audit results submitted on surgical site infection rates for the rest of the hospital group. It was confirmed in meetings with staff that such audits had ceased. This is non-compliant with the Standards and may pose a risk of HCAIs to patients.

Antimicrobial prescribing audit

Documentation provided to the Authority regarding antimicrobial prescribing was dated 2009. It was confirmed in meetings that little work had been undertaken in this area due to human resource shortages. Cork University Hospital had antimicrobial prescribing guidelines in place. These were also in use in Mallow

[‡] *A Strategy for the Control of Antimicrobial Resistance in Ireland (SARI).*

ⁱ 'Surveillance of Surgical Site Infection in Ireland', SARI, Health Protection Surveillance Centre.

General Hospital. Obstetrics and gynaecology prescribing guidelines had been recently published for Cork University Maternity Hospital. However, there were no antimicrobial prescribing audits across the hospital group in 2012. Antimicrobial-prescribing feedback is a significant strategy that has shown demonstrable benefits in the prevention and control of HCAs. The absence of such practice is non-compliant with the Standards and poses a risk of HCAs to patients in Cork University Hospital Group.

Hand hygiene in CUH and CUMH sites

Hand hygiene is recognised internationally as the single most important preventative measure in the transmission of HCAs in healthcare services. It is essential that a culture of hand hygiene practice is embedded in every service at all levels. The IPC meeting minutes documented concerns in relation to the low attendance at hand hygiene education. However, there was no evidence of a resultant specific, targeted hand hygiene strategy to address this issue or details of how this risk was escalated to the hospital group's Executive Management Committee.

Hand hygiene training was reported to be the responsibility of Cork University Hospital's infection control nurses. Hand hygiene training schedules were demonstrated and were facilitated at various locations throughout the hospital to encourage staff attendance. Monitoring of hand hygiene practices was demonstrated by internal weekly hand hygiene compliance audits. Hand hygiene audits submitted to the Authority covered all clinical areas, with compliance ranging from 27% to 100% across different departments. However, the hospital group did not submit statistics to the national HSE hand hygiene compliance report in 2011 or 2012.

The Authority observed hand hygiene signage displayed, and heard verbal prompts, reminders and instruction. All signage assessed was laminated and therefore could be effectively cleaned. Hand hygiene gels were available at entry points as well as throughout the emergency department. Approved hand-wash liquid soap was available. While a surgical scrub was also in place at each sink, appropriate signage for its use was not. Automatic gel dispensers are located in the main hospital foyer, with prompts for visitors to perform hand hygiene when entering and leaving.

While sinks in the 'dirty' utilities*, toilets and shower areas were not all hands-free, hand-wash sinks were observed by the Authority in the patient areas to comply with the HSE's Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005).

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

Hand hygiene in Mallow General Hospital site

Mallow General Hospital reported that hand hygiene was the main focus of the 2012 infection prevention and control (IPC) programme. Hand hygiene training was reported to be provided by the practice development nurse who had been assigned to the IPC programme. However, concern regarding hand hygiene education is documented throughout meeting minutes, with reference to 'a renewed focus and commitment' on hand hygiene. There was no evidence of a consequential detailed, targeted hand hygiene strategy to address hand hygiene challenges in the hospital group.

Mallow General Hospital demonstrated that hand hygiene practices were monitored through internal audits and national hand hygiene compliance audits. The hospital reported a compliance rate of 87% at the most recent hand hygiene audit.

Clinical hand-wash sinks assessed on St Joseph's ward complied with the Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005). Alcohol-based gel was widely available for use.

However, the Authority found that there was no separate hand-wash sink located in the 'dirty' utility room or in the 'clean' utility room.

Hand hygiene posters, including a 'talking poster' (a recorded reminder to attend to hand hygiene, triggered by movement) at one entrance, were displayed throughout the hospital.

Observation of hand hygiene opportunities

In the Cork University Hospital site, the Authority observed 43 hand hygiene opportunities during the monitoring assessment. These hand hygiene opportunities comprised:

- 20 opportunities before touching a patient
- 11 opportunities after touching a patient
- 12 opportunities after touching the patient's surroundings.

Of the 43 hand hygiene opportunities available, 29 were taken and 10 of these complied with best practice hand hygiene technique. Non-compliance issues were poor hand hygiene techniques regarding use of alcohol gels and/or length of time taken to complete the procedure.

In the Cork University Maternity Hospital site, the Authority observed 18 hand hygiene opportunities during the monitoring assessment. These hand hygiene opportunities comprised:

- 10 before touching a patient
- 8 after touching a patient's surroundings.

Of the 18 hand hygiene opportunities available, 15 were taken and 8 complied with best practice hand hygiene technique. Non-compliance issues were not following best practice technique for hand washing or poor hand hygiene techniques regarding use of alcohol gels, and/or length of time taken to complete the procedure.

The Authority observed that parents of newborn babies were instructed, observed and reminded of hand washing upon entering the Neonatal Unit and using hand gel before and after touching their baby.

In the Mallow General Hospital site, the Authority observed 16 hand hygiene opportunities during the monitoring assessment. These hand hygiene opportunities comprised:

- four before touching a patient
- seven after touching a patient
- five after touching the patient's surroundings.

All hand hygiene opportunities were taken in Mallow General Hospital. However, of those, 11 were observed to comply with best practice hand hygiene technique. Non-compliance related to length of time taken to complete the procedure.

CUHG hand hygiene conclusion

The Cork University Hospital Group demonstrated that hand hygiene practices were monitored through internal audits. However, the hospital group did not submit statistics to the national HSE hand hygiene compliance report in 2011 or 2012.

Infection related to the use of invasive medical devices

Audit was not being undertaken in relation to the use of invasive medical devices and therefore Cork University Hospital has no means of reassuring itself that infection is being effectively prevented and managed in relation to such devices.

HCAI trend rates and analysis

CUHG are reporting methicillin-resistant *Staphylococcus aureus* (MRSA) and Clostridium Difficile (C Diff) rates nationally, as required. However, the hospital

group did not submit data for the HPSC Point Prevalence Study report for 2012. Neither was data submitted by the hospital group to the HSE's 2012 hand hygiene audit.

Essential Element 3(d). There is proactive reporting, identification, evaluation and management of information to include PCHCAI-related adverse events, risks, patients' complaints, audits and satisfaction surveys.

Findings Essential Element 3(d)

The hospital group submitted information to the Authority that indicated that no HCAI-related adverse incidents or complaints were documented in 2011 or 2012 throughout the group. On discussion with staff members it was clarified that no HCAI incidents or complaints were reported to the Risk Management Department in that period. Staff informed the Authority that the microbiology team report statistics on infectious diseases in their annual report. This was corroborated by the annual report for 2011, submitted to the Authority. The Authority is concerned that HCAI-related adverse events and risks are not being adequately identified, reported, evaluated and managed. This would suggest that the hospital group did not have effective arrangements in place to learn from HCAI incidents.

Essential Element 3(e). The cleanliness of the physical environment and equipment is effectively managed and maintained.

Findings Essential Element 3(e)

Emergency Department (ED), Cork University Hospital

The Authority observed the following:

- The ED environment and equipment assessed were generally clean. However, some areas were visibly dusty.
- The border along the edge of flooring in some areas was lifting, thus hindering effective cleaning.
- A moderate layer of dust on the under-surface of a patient trolley in the paediatric bay. Light dust and grit was observed along the edges and corners of flooring.

- Many of the sinks in the ED were HBN 95* compliant, but others were not, as the water jet flowed directly into the plughole. The plugholes in these sinks had a metal grid in situ.
- Medical equipment including needles and syringes was stored in a clean designated room. However, this room was not secure and therefore accessible to the public, which is not in adherence with best practice.
- Surfaces of equipment, for example, intravenous stands, pumps, vital signs monitoring equipment and resuscitation trolley, were clean.
- Clean linen was stored in designated linen trolleys, which were clean and free from dust. Used linen was colour coded and segregated in line with best practice.
- Foot operated clinical and non-clinical waste disposal bins were available and appropriately placed throughout.
- The holding bay for waste disposal was situated alongside a patient area. This contained three large trolleys for clinical waste, non-clinical waste and laundry. There was one clinical waste bag which was tied, but not secured with the appropriate tag. The high and low surfaces and flooring here were visibly dusty. The hand-wash sink and accessories were unclean. This area was not secure and therefore accessible to the public, which is not in line with best practice.
- Isolation facilities in the ED were inadequate and insufficient to prevent the spread of communicable/transmissible diseases.

GB Ward, Cork University Hospital

Overall, the Authority observed that GB Ward environment and equipment assessed were clean, but in need of improvement in some areas.

The Authority observed the following:

- Light amounts of grit present on the floor, which included corners and edges in a patient area. In addition, light dust was present on high surfaces, for example, on top of window sills, posing a hygiene risk to patients.
- In the dirty utility area, two bedpans were not decontaminated appropriately, as both bed pans were observed to be slightly stained, posing a hygiene risk to patients.

* Health Building Note (HBN) 95 i.e. no plugs or overflows and the water jet must not flow directly into the plughole.

- Clean linen was stored in an appropriate designated area. Used linen was segregated in line with best practice, evidenced by colour coding.
- Segregation of waste was in line with best practice. However, storage of healthcare waste was not in line with best practice as the area was accessible to the public.
- Surfaces of equipment, for example vital sign monitoring equipment, resuscitation trolley and patient testing glucometers were clean. However, sticky residue was present on two intravenous stands, which hinders adequate cleaning.
- Equipment in patient areas, for example, beds, pillows, bed tables and bedside lockers were observed to be clean, free of dust and intact.
- Advisory signage was appropriate and signage displayed on notice boards was laminated.
- Records demonstrated that curtains were changed on a regular basis.

Ward 4B Surgical, Cork University Hospital

Overall, the cleanliness of the areas assessed in Ward 4B required some improvement, including high and low surfaces and shower en suite facilities. Patient equipment assessed was observed to be clean.

The Authority observed the following:

- Beds, bedrails and mattresses in areas assessed were clean. Curtains and curtain rails around patient areas were clean. One pillow assessed was torn along one side. Edges of lockers, wardrobes and bases of bed tables were chipped, which would hinder effective cleaning.
- Light dust was evident along floor edges and corners. Moderate dust was evident on the lower edges of a veranda door. The wall area behind a hand-wash sink was stained.
- The junction of the floor covering and wall were stained in the shower en suite. The pipe inlet area behind the toilet was unclean at the wall edge. There was slight mould-like substance visible surrounding both the shower and the hand-wash sink.
- Commodes were clean. Washbowls were clean and stored appropriately.
- Clean linen was stored in a designated linen room which was clean and free from dust and inappropriate items. Used linen was colour coded and segregated in line with best practice.
- Clinical, non-clinical and recyclable waste bins were appropriately placed throughout.

- Two of the five single rooms were being used for isolation during the monitoring assessment. Appropriate signage was in place for isolation purposes. This signage was placed in a protected frame at the doorway. Appropriate protective equipment was also in place.

The Authority examined the unlocked cleaning chemical storage room. Cleaning chemicals were stored in an unsecure cupboard underneath the sink. Unrestricted access to cleaning chemicals poses a health and safety risk to the public.

Ward 1B, Cork University Hospital

Overall the Authority found that Ward 1B environment was clean.

The Authority observed the following:

- Floors throughout were clean and free of dirt, grit and spillages.
- Waste management was in line with best practice. The Authority observed that clinical, non-clinical and recyclable waste bins were appropriately placed throughout.
- Advisory signage was appropriate, and signage displayed on notice boards was laminated.
- Records demonstrated that curtains were changed on a regular basis.
- Commodes were clean. Washbowls were clean and stored appropriately.
- Clean linen was stored in a designated linen room which was clean and free from dust and inappropriate items. Used linen was colour coded and segregated in line with best practice.
- Single rooms were being used for isolation during the monitoring assessment. Appropriate signage was in place for isolation purposes. Appropriate protective equipment was also in place.
- Surfaces of equipment, for example intravenous stands, vital sign monitoring equipment and patient glucometer machines were clean.

3 East Post Natal Ward, Cork University Maternity Hospital

The Authority observed that 3 East Post Natal Ward environment and equipment was generally clean. However, some areas had light dust.

The Authority observed the following:

- There was a designated isolation room with an ante-room. There was no patient isolated at the time of the monitoring assessment. Appropriate

placement of clinical, non-clinical waste bins and personnel protective equipment was observed.

- Beds, bedrails and mattresses assessed were clean. Plastic covering on one pillow was torn and patched. Edges of lockers were scraped and scuffed, which would hinder effective cleaning.
- Curtains assessed were clean. It was reported to the Authority that routine changing of curtains occur three-monthly or more often if required and is the responsibility of housekeeping staff.
- There was very light dust on high surfaces in one bathroom. Grouting was absent in some tiles situated behind the sink and bath. This would prevent safe and effective cleaning. The hand-wash sink in another bathroom was unclean.
- There was light dust on the high and low surfaces in the 'dirty' utility room.
- Clinical and non-clinical waste bins were available and maintained in accordance with best practice.
- Clean linen was stored appropriately. Used linen was colour coded and segregated in line with best practice. A comprehensive colour-coded system for cleaning was outlined by cleaning staff to the Authority.

Neonatal Unit, CUMH

The Authority found the environment and equipment assessed in the Neonatal Unit were clean.

The Authority observed the following:

- Floors throughout were observed to be clean and free of dirt, grit and spillages.
- High and low surfaces in areas assessed were dust free. Patient areas assessed were clean and free from dust and inappropriate items.
- Surfaces of equipment observed, for example, vital signs monitoring stands, intravenous stands, dressing trolleys and baby cots in use, were clean.
- Cleaning of equipment occurred in a large utility room where equipment was labelled on completion of cleaning.
- Waste management was in line with best practice. Clinical and non-clinical waste bins were appropriately placed in both clinical and non-clinical areas.
- The 'dirty' utility was clean, tidy and free from clutter.
- There was a new clinical storage ('kanban') system in place which included new storage units of differing sizes to accommodate variances in stock sizes, and stock was stringently controlled. This resulted in no excess of any stock being maintained in the unit.

- While the surfaces of the work station were observed to be clean, they were slightly cluttered.

Six babies requiring isolation for the same infection were cohorted in a designated unit at the time of the monitoring assessment. Best practice regarding isolation practices and procedures was observed by the Authority. Personal protective equipment was in place and this was observed to be used appropriately.

Mallow General Hospital

The Authority followed a patient's unscheduled journey from the Emergency Department (ED) to a surgical ward. St Joseph's ward was assessed. Although specific clinical areas are assessed in detail using the hygiene observation tools, the Authority also observe general levels of cleanliness as they follow the patient journey through the hospital. The Authority observed that main entrance, stairs, stairwells and corridors were visibly clean. There were opportunities for improvement in regard to paintwork on radiators, appropriate storage of equipment and securing access to the 'dirty' utility room. These findings were consistent with the hospital's hygiene audits.

Environment and Equipment

The Authority observed the following in St Joseph's ward:

- The ward was generally clean. Patient beds were observed to be clean and weekly bed cleaning records were demonstrated. However, very light dust was observed on the curtain rails in one of the four-bedded patient rooms.
- Medical equipment was observed to be clean.
- The toilets and shower rooms were generally clean. However, two toilet seats were slightly soiled and a small amount of black residue was observed in the corners of the main shower room.
- Plaster was seen to be flaking on some walls. Paintwork on the radiators and pipes was chipped and flaking.
- The 'dirty' utility room was clean; a commode stored ready for use was observed to be clean. However, access to this room was not secure and a large container of cleaning liquid stored on an open shelf was observed. This is not in line with best practice.
- The 'clean' utility room, although small, was clean and tidy. However, this room did not have a hand-wash sink.

- The hospital reported single rooms were available to isolate patients if required. Appropriate signage was observed and personal protective equipment was available.
- A large amount of equipment was stored on the corridor. This included medical equipment, patient mobility aids, chairs, trolleys for clean and used linen. The hospital reported this was due to limited storage space.
- The hospital demonstrated a hygiene audit programme. The audit results for St Joseph's Ward were consistent with the Authority's observations.
- Foot operated non-clinical and clinical waste disposal bins, including clinical sharps bins, were available. Clinical waste posters identifying waste segregation were observed in the 'dirty' utility room.
- The HSE national guidance for healthcare risk waste management recommends that dedicated rooms with coded access should be available for the short-term storage of waste. It was reported that clinical and non-clinical waste is stored ready for collection in the 'dirty' utility room. Although no waste was stored for collection at the time of the assessment, as mentioned above, access to this room was not secure.
- Best practice was noted regarding the segregation of used linen with colour-coded linen trolleys. However, these trolleys were stored on the open corridor.
- Two small storage trolleys for clean linen were clean.
- It was reported that curtains were changed on a six-monthly basis or as required following the management of an infectious patient. Curtin changing records were demonstrated.
- Cleaning equipment was observed to be clean and a colour-coded system was in place.
- Weekly water outlet flushing records were demonstrated.
- The CUHG waste management policy was demonstrated in MGH. The Authority found staff to be informed regarding safe segregation of healthcare waste.

Theme 3: Safe Care – Conclusion

It was not demonstrated to the Authority that there was an embedded focus throughout the Group on quality and safety improvement, evidence-based decision making and active engagement in local, national and international initiatives to minimise the risk of HCAs. This was evidenced by the following:

24-hour seven-days-a-week access to specialist microbiological advice and services

There is a consultant microbiologist on call 24-hours, seven days a week to provide PCHCAI-related specialist advice to Cork University Hospital and Cork University Maternity Hospital. However, it was reported to the Authority that there was no consultant microbiologist on site in Mallow General Hospital and that there were no formal arrangements in place in regard to access to specialist microbiological advice for staff at Mallow General Hospital.

Care bundles

There was a lack of a consistent implementation of care bundles across the hospital group. A quarter of all HCAs are related to the use of invasive medical devices and healthcare service providers should consistently implement processes such as care bundles that are known to improve patient outcomes. It is essential that the hospital group put in place arrangements to ensure that there are specific care bundles and/or policies and procedures developed, communicated, implemented and their efficacy monitored in order to reduce the risk of HCAs to patients.

Surgical site infection rates

Cork University Maternity Hospital submitted information in relation to the audit of surgical site infection rates. However, there were no audit results submitted on surgical site infection rates for the rest of the hospital group. It was confirmed to the Authority that surgical site infections are not routinely audited across the Cork University Hospital Group.

Environment and equipment hygiene

The Authority found that the clinical areas visited in the Emergency Department and in Ward 4B at Cork University Hospital was generally clean but required some improvement. The level of cleanliness would suggest that more effective management of environmental hygiene was necessary to protect patients and reduce the risk of spread of HCAs. Isolation facilities in the ED were inadequate and failed to provide sufficient seclusion to prevent the spread of communicable/transmissible diseases.

The Authority found that the patient environment in all other areas assessed was generally clean. The level of cleanliness observed would suggest that the physical environment was being effectively managed and maintained to protect patients and reduce the risk of the spread of HCAs.

In Cork University Maternity Hospital, the Authority found that 3 East Post Natal and the Neonatal Unit ward environment and equipment were generally clean. Best

practice regarding isolation, waste management and clinical storage was observed by the Authority in the Neonatal Unit.

In Mallow General Hospital, the Authority observed that the main entrance, stairs, stairwells and corridors and St Joseph's Ward were observed to be visibly clean.

Hand hygiene

The Authority found that while there was evidence that the Infection Prevention and Control Team and the Infection Prevention and Control Committee understood the importance of hand hygiene practice, there was little evidence to demonstrate a deep level of executive commitment to driving the hand hygiene agenda throughout the Cork University Hospital Group. While a commitment was evident to promote best practice in hand hygiene by infection prevention and control staff, outcomes did not reflect this. Hand hygiene training is not mandatory for all staff and despite concerns being raised at the low attendance of staff at hand hygiene training there had not been a resultant response plan to manage this risk. In addition, the hospital group did not submit its data to the national HSE hand hygiene compliance report in 2011 or 2012.

The Authority's observations, combined with discussions in meetings with hospital staff, suggest that a culture of hand hygiene best practice is not embedded at all levels.

HCAI trend rates and analysis

As care bundles are not yet implemented and embedded throughout the hospital group, and in the absence of a surveillance scientist, infection related to the use of invasive medical devices cannot be effectively determined.

The Authority found that HCAI-related incidents and complaints were not viewed in terms of risk and that no HCAI incidents or complaints were reported to the Risk Management Department. The Authority is concerned that HCAI-related adverse events and risks are not being adequately identified, reported, evaluated and managed. This would suggest that the hospital group did not have effective arrangements in place to learn from HCAI-related incidents.

Theme 3: Safe Care – Recommendations

Recommendation 4. *Formal procedures, policies and guidelines should be put in place to support Mallow General Hospital's access to specialist advice from a consultant microbiologist relating to the prevention and control of HCAs.*

Recommendation 5. *Cork University Hospital Group must put in place arrangements to ensure that there are specific care bundles and/or policies and procedures developed, communicated and implemented, and that their efficacy is monitored.*

Recommendation 6. *Leadership regarding hand hygiene should be more proactive. There should be clear and visible support from the hospital management team, including senior clinicians, to drive the hand hygiene agenda and ensure compliance from all disciplines and levels of seniority.*

Recommendation 7. *A culture of viewing HCAI-related incidents and complaints in terms of risk and reporting them to the Risk Management Team should be embedded.*

Recommendation 8. *Arrangements should be made to provide adequate isolation facilities in the emergency department in order to minimise the risk of the spread of communicable/transmissible diseases.*

Recommendation 9. *A specific, targeted, hand hygiene strategy should be developed, focusing on education and implementation.*

Recommendation 10. *Surveillance data should be collated, analysed and fed back, and used to evaluate and support the effectiveness of the group's management of PCHCAs.*

4. Overall Conclusion

4.1. Overview

In advance of the commencement of this monitoring programme, the Authority advised all service providers that the assessment would focus on the essential capacity and capability factors necessary to implement four of the practices that international research has shown to contribute significantly to reducing Healthcare Associated Infections and improve patient safety:

1. Hand hygiene compliance.
2. The cleanliness of the environment and equipment.
3. The appropriate use of antimicrobial antibiotics (antimicrobial stewardship).
4. The prevention of Healthcare Associated Infections associated with invasive medical devices such as intravenous lines and urinary catheters.

In the Cork University Hospital Group, the Authority found the following:

- While the IPCT and the IPCC understood the importance of hand hygiene practice, there was little evidence to demonstrate a deep level of executive commitment to driving the hand hygiene agenda throughout the Cork University Hospital Group. Hand hygiene was not mandatory for all staff. The IPCT raised concerns at the low attendance of staff at hand hygiene training and the levels of compliance with hand hygiene. However, there was no evidence of an effective executive response and resultant action plan to manage this risk. Cork University Hospital Group did not submit its data to the national HSE hand hygiene compliance report in 2011 or 2012.
- The clinical areas assessed in Cork University Hospital, Cork University Maternity Hospital and Mallow General Hospital sites were generally clean and best practice was noted in some areas.
- The corporate and clinical governance arrangements in the hospital group were not robust enough to develop and implement an antimicrobial stewardship programme. This is of significant concern to the Authority given that antimicrobial stewardship is an essential element to prevent and control Healthcare Associated Infections. There is no antimicrobial prescribing feedback programme in place.
- There is an inconsistent implementation of care bundles across the hospital group. There was no evidence provided to demonstrate monitoring of the effectiveness of the implementation of care bundles. Neither was there evidence of monitoring blood stream infections to inform implementation.

The Authority also assessed the essential elements of Leadership, Governance and Management; Workforce; and Safe Care that an organisation must have in place as the foundation for providing safe quality care in order to prevent and control Healthcare Associated Infections.

In the hospital group, the Authority found that HCAI prevention and control governance is documented. However, key structures, such as a surveillance scientist and access to specialist infection prevention and control advice for Mallow General Hospital, were missing from the structure. The evidence does not demonstrate an executive commitment to reducing the risk to patients of acquiring HCAIs. In particular, highly visible sponsorship of the agenda to prevent and control HCAIs, which drives successful programmes to prevent and control HCAIs, by the hospital group's Executive Management Board was not evident. Some of the weaknesses of the governance structure were being overcome by good working relations that existed between the hospital sites. Nevertheless, this is not sufficient to sustain effective and efficient systems that facilitate the minimisation of HCAIs.

In addition it was not clear to Authority how the Executive Management Board, the accountable person and in turn the HSE assured themselves and the public that the arrangements for the prevention and control of Healthcare Associated Infections (PCHCAI) in the hospital group were effective. There was no evidence of robust local monitoring and reporting arrangements being in place; in particular the hospital group did not have in place infection control environmental audits, surgical site infection rate audit, and antimicrobial prescribing feedback. The Authority found that arrangements are in place to ensure that the accountable person is informed regarding activity in the hospital group to reduce HCAIs, for example, the Infection Prevention and Control Team reports to the Infection Prevention and Control Committee, which reports to the Hospital Management Team in Cork University Hospital. Although CUGH submitted to the Authority a report to the Clinical Governance Committee and reports to the Executive Management Board (EMB) in relation to hand hygiene, and a report by Operations Manager (Chair of IPCC) to the EMB, PCHCAI is not a standing item on the agenda of the EMB. Neither was there any evidence of discussion regarding PCHCAI in the 6 sets of Executive Management Board minutes submitted to the Authority.

Theoretical and practical training in relation to the prevention and control of HCAIs is not mandatory for staff – this poses an increased risk to patients of acquiring HCAIs. There was evidence to suggest to the Authority that HCAI prevention and control staff are endeavouring to promote hand hygiene throughout the hospital group. However, outcomes did not reflect this. The Authority's observations, combined with discussions in meetings with hospital staff, suggest that a culture of hand hygiene

best practice is not embedded at all levels and that there is a resistance to attendance at educational sessions.

It is acknowledged by the Authority that all hospitals face the challenges of restricted resources. However, the international evidence demonstrates that a clean environment, best practice in hand hygiene, antimicrobial stewardship and the use of care bundles where invasive devices are employed, contribute significantly to the reduction of HCAs. Therefore it is incumbent upon the hospital group's executive management to prioritise these issues and direct resources toward their implementation in order to prevent and control the risk of HCAs to patients in Cork University Hospital Group.

Effective governance arrangements recognise the inter-dependencies between corporate and clinical governance across the service and integrate them to deliver high quality, safe and reliable healthcare. Documentary evidence submitted to the Authority, supported by discussion with staff members in the individual hospitals within the hospital group, suggests that Mallow General Hospital has only been marginally integrated into the hospital group in terms of PCHCAI. This is of particular concern to the Authority in the context of the Authority's 2011 *Report of the investigation into the quality and safety of services and supporting arrangements provided by the Health Service Executive at Mallow General Hospital*, which stated, '...it was identified during the investigation that there was a disparity in the governance and reporting relationship of Mallow General Hospital site within the CUH group structure to that of the other hospital sites.' HIQA's 2011 report also stated that, 'Within the CUH group, there were defined governance arrangements within Cork University Hospital itself. However, Mallow General Hospital did not appear to benefit from or contribute to the overall governance of the Hospital Group.'

Referring to steps to address the deficit of Mallow General Hospital not being sufficiently included within the hospital group structure, the following comment was also made in the Authority's *Report of the investigation into the quality and safety of services and supporting arrangements provided by the Health Service Executive at Mallow General Hospital*: 'In the absence of a formal approach and monitoring process by the CUH group for the inclusion of MGH within the Group governance structure, the Authority concluded that there is a substantive risk that current efforts to address this deficit would falter.' The findings of this monitoring assessment report, in relation to PCHCAI indicate that Mallow General Hospital (MGH) has not been sufficiently integrated into the hospital group structure, and it is of concern to the Authority that, two years later, this situation does not appear to have improved.

In conclusion, the Authority found Cork University Hospital Group to be partially compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*. However, a significant number of risks were identified that could potentially increase the possibility of HCAs for patients. These risks have resulted in 11 recommendations being made to improve PCHCAI governance and practice and to reduce the risk of HCAs to patients in Cork University Hospital Group.

Cork University Hospital Group must now develop a quality improvement plan (QIP) that prioritises the improvements necessary to fully comply with the *National Standards for the Prevention and Control of Healthcare Associated Infections*. This QIP must be approved by the service provider's identified individual who has the overall executive accountability, responsibility and authority for the delivery of high quality, safe and reliable services. The QIP must be published by the hospital group on its website within six weeks of the date of publication of this report.

The hospital group should ensure the continued monitoring of its QIP as well as relevant outcome measurements and key performance indicators, in order to provide assurances to the public that it is implementing and meeting the NSPCHCAI and is making quality and safety improvements that safeguard patients.

5. Recommendations

Recommendation 1. *The corporate and clinical governance arrangements at Cork University Hospital Group should be reviewed to ensure compliance with the National Standards for the Prevention and Control of Healthcare Associated Infections.*

This review should include arrangements to ensure that:

- *the governance systems connect with and assure consistency of approaches in all sites across the hospital group*
- *effective two-way communication processes are in place across the governance structures and hospital sites*
- *a robust programme of audit is put in place to provide assurance on compliance with the key elements of the PCHCAI standards*
- *adequate and skilled workforce arrangements in respect of the prevention and control of infection are in place and their effectiveness monitored through the governance structures*
- *there is a robust and ongoing process for communication regarding HCAs to the Health Protection Surveillance Centre.*

Recommendation 2. *The Cork University Hospital Group Executive Board of Management should ensure that PCHCAI staff are facilitated to attend ongoing professional development.*

Recommendation 3. *The Cork University Hospital Group must put in place arrangements to ensure all staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections. In particular, hand hygiene training should be made mandatory for all staff.*

Recommendation 4. *Formal procedures, policies and guidelines should be put in place to support Mallow General Hospital's access to specialist advice from a consultant microbiologist relating to the prevention and control of HCAs.*

Recommendation 5. *Cork University Hospital Group must put in place arrangements to ensure that there are specific care bundles and/or policies and procedures developed, communicated and implemented, and that their efficacy is monitored.*

Recommendation 6. *Leadership regarding hand hygiene should be more proactive. There should be clear and visible support from the hospital management team, including senior clinicians, to drive the hand hygiene agenda and ensure compliance from all disciplines and levels of seniority.*

Recommendation 7. *A culture of viewing HCAI-related incidents and complaints in terms of risk and reporting them to the Risk Management Team should be embedded.*

Recommendation 8. *Arrangements should be made to provide adequate isolation facilities in the emergency department in order to minimise the risk of the spread of communicable/transmissible diseases.*

Recommendation 9. *A specific, targeted, hand hygiene strategy should be developed, focusing on education and implementation.*

Recommendation 10. *Surveillance data should be collated, analysed and fed back, and used to evaluate and support the effectiveness of the group's management of PCHCAIs.*

Appendix 1 – Themes and Essential Elements

NSPCHAI Standard	Theme	Essential Element
<p>1,2,3, 4,5,6, 7,8,9, 10,11, 12.</p>	<p>Leadership, Governance and Management</p> <p>Robust leadership, governance and management structures and processes underpin what hospitals should have in place to assure the public and themselves that the arrangements for the prevention and control of Healthcare Associated Infections (PCHCAI) are effective.</p> <p>There are robust local monitoring and reporting arrangements in place thereby ensuring infection control is managed at a consistently high level of quality with minimal variation in the delivery of that care. There are effective regional and national PCHCAI reporting arrangements in place; infection control activities provided are compliant with the relevant legislation, clinical care programmes and evidenced-based practice; and the organisation is acting on national standards and recommendations from statutory bodies.</p>	<p>1(a) A comprehensive corporate and PCHCAI governance structure supported by an integrated organisational framework is in place. The governance arrangements will include PCHCAI specific strategies, aligned cost-effective initiatives and defined responsibilities for externally contracted services.</p> <p>1(b) There is clear monitoring and reporting of defined PCHCAI performance metrics, with trend analysis, reciprocal quality improvement initiatives and reporting at a local, regional and national level.</p> <p>1(c) A clear PCHCAI communication strategy, supported by robust operational arrangements, to assure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies is in place.</p>

NSPCHAI Standard	Theme	Essential Element
1, 4, 5, 6.	<p>Workforce</p> <p>The hospital should always be in a position to assure patients, the public and itself that everyone working in the service is contributing to the prevention and control of Healthcare Associated Infections. The individual members of the workforce must be skilled and competent, they must be supported to continuously update and maintain their knowledge and skills, whether they are directly employed or in contractual employment.</p>	<p>2(a) Members of the core PCHCAI team must have the appropriate qualifications, specific training, skills and competencies in infection control, antimicrobial stewardship and HCAI surveillance. They must undergo continuing professional education and development on a regular basis.</p> <p>2(b) All hospital staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections.</p> <p>2(c) There are arrangements in place to ensure that visiting clinical, undergraduates and agency staff are competent in the core principles for the prevention and control of HCAs.</p>

NSPCHAI Standard	Theme	Essential Element
<p>1,2,3, 6,7,8, 9,11,12.</p>	<p>Safe Care The hospital recognises that the prevention and control of Healthcare Associated Infections is paramount. The cleanliness of the physical environment and equipment is effectively managed and maintained. The hospital learns from all information relevant to the provision of safe PCHCAI services, in addition to learning from when things go wrong. There is an embedded focus on quality and safety improvement, evidence-based decision making and active engagement in local, national and international initiatives to minimise the risk of HCAs.</p>	<p>3(a) There is access to specialist microbiological advice and services, 24 hours a day, seven days a week. 3(b) There are specific care bundles and/or policies and procedures developed, communicated, implemented and their efficacy monitored with the use of:</p> <ul style="list-style-type: none"> ▪ peripheral intravenous catheter ▪ urinary catheter ▪ central venous catheter. <p>3(c) There are defined PCHCAI performance metrics and audit process in place with a particular emphasis on: surgical site infection rates, environmental and equipment hygiene, antimicrobial prescribing, hand hygiene, infection related to the use of invasive medical devices, HCAI trend rates and analysis. 3(d) There is proactive reporting, identification, evaluation and management of information to include PCHCAI-related adverse events, risks, patients' complaints, audits and satisfaction surveys. 3(e) The cleanliness of the physical environment and equipment is effectively managed and maintained.</p>

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