Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the announced monitoring assessment at Beaumont Hospital, Dublin, incorporating St Joseph's Hospital, Dublin

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

Date of announced on-site monitoring assessment: 31 October and 1 November 2013

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 National Standards 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 service users 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 *National*

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

Standards for the Prevention and Control of Healthcare Associated Infections and framed these within three themes of the *National Standards for Safer Better Healthcare*.

These themes are:

- 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 *National Standards for the Prevention and Control of Healthcare Associated Infections* monitoring programme, the Standards 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 Profile of Beaumont Hospital incorporating St Joseph's Hospital[¥]

Beaumont Hospital is a large academic teaching hospital 5km north of Dublin City Centre. The hospital provides emergency and acute care services across 54 medical specialties to a local community of some 290,000 people. In addition, it is a designated cancer centre and the regional treatment centre for ear, nose and throat, and gastroenterology. It is also the national referral centre for neurosurgery and neurology, renal transplantation, and cochlear implantation.

It is the lead Level 4 hospital in the new Royal College of Surgeons in Ireland (RCSI) Academic Hospitals Group, which includes Connolly Hospital, Rotunda Hospital, Cavan/Monaghan hospitals, Louth/Meath hospitals, and RCSI. It employs

[¥] 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.

approximately 3,000 staff and has 820 beds. It is the principal teaching hospital for the RCSI and has close links with Dublin City University, especially in the area of nurse training, and with other academic institutions in respect of training and research.

St Joseph's Hospital, Raheny, is under the management of Beaumont Hospital Board since 6 August 2004. St Joseph's is an acute hospital which can accommodate 69 patients. It provides both medical and surgical inpatient care, day care services, outpatient physiotherapy and radiology services. Beaumont hospital has also developed a rehabilitation unit.

3. Findings

The findings of the announced monitoring assessment at Beaumont Hospital incorporating St Joseph's Hospital, Dublin, are described below.

Authorised Persons from the Authority, Catherine Connolly Gargan and Naomi Combe carried out the on-site component of the monitoring assessment on 31 October between 08:30hrs and 16:30hrs and 1 November 2013 between 08:30hrs and 13:00hrs. The Authorised Persons from HIQA commenced the monitoring assessment in the Emergency Department (ED) of Beaumont Hospital.

The areas subsequently assessed in Beaumont Hospital were:

- Emergency Department (ED)
- Richmond Intensive Care Unit (Neurosurgical)
- St Patrick's Ward (Medical Assessment and Short Stay Unit)
- Banks Ward (Orthopaedic)

The areas subsequently assessed in St Joseph's Hospital were:

- Rehabilitation and Medical Ward
- Surgical – 5 Day Ward

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)

Beaumont Hospital, incorporating St Joseph's Hospital, is located on two sites approximately 10 minutes apart by road transport. Beaumont Hospital is a tertiary referral centre and is positioned as the level 4 hospital in the Dublin North-East Group within the Health Service Executive (HSE). Responsibility for the management of St Joseph's Hospital was transferred to Beaumont Hospital in 2004. The Authority found St Joseph's to be fully integrated as part of the service.

Corporate governance structure

The hospital is governed by a Board of Management comprised of 15 members appointed for a three-year term by the Minister for Health. The Board of Management meets monthly, confirmed by the minutes submitted as part of the required pre-monitoring assessment documentation reviewed by the Authority. The Board of Management functions as the hospital's communication portal with the Department of Health, the HSE and the hospital's Senior Management Team. The Board of Management has four subcommittees in place: audit, governance and services, planning/strategy and finance committees. Day-to-day management of the

hospital is the responsibility of the Senior Management Team, chaired by the Chief Executive Officer or, in his absence, by the Lead Clinical Director. Membership of the Senior Management Team also includes the Head of Operations, the Head of Organisational Development, the Chair of Clinical Governance (who is a microbiology consultant in the hospital), the Human Resource Director, the Head of Clinical Services/Business Planning, the Director of Nursing, the Director of Finance and the Clinical Directors of the seven directorates. The Senior Management Team meets every three weeks and minutes were viewed by the Authority. Governance arrangements in St Joseph's Hospital were reviewed by the Authority and there was evidence to show that it was fully integrated as part of the Beaumont Hospital service. Due to the off-site nature of St Joseph's Hospital, there is an additional on-site management arrangement in place with an on-site Manager of Services, St Joseph's Campus. Executive responsibility for the site is held by a member of the Senior Management Team, the Head of Clinical Services and Business Planning. The Manager of Services, St Joseph's Campus, has a direct reporting relationship to the Head of Clinical Services and Business Planning.

The Clinical Directorate model of devolved management and interdisciplinary collaboration was introduced in 2007. Seven clinical directorates were established; each led by a directorate management team. Specialties in St Joseph's and Beaumont Hospitals were found to be integrated as a single service within each of the relevant directorates. For example, non-consultant hospital doctors (NCHDs) and allied health professionals moved between hospital sites for designated periods as part of their clinical specialty placement and workload. From discussions with the management teams on both sites and review of the documentation submitted, the Authority was satisfied that there were supporting arrangements to strengthen and foster effective and efficient interfaces between the Senior Management Team and the directorate management teams. These included arrangements that promoted shared clinical and executive leadership, in addition to scheduled meetings between the Senior Management Team and directorate management teams. These arrangements were strengthened by the nomination of a member of the Senior Management Team to each of the directorates; this individual functioned in the role of business partner. The business partners meet with their designated directorate management team every six weeks, steered by a standard agenda that discusses operational and strategic issues in addition to review of key performance indicators in relation to prevention and control of Healthcare Associated Infection outcomes. There was evidence that this arrangement facilitates efficient and open intercommunication channels between corporate and operational management teams. Examples of proactive dialogue were evidenced by the minutes of the various team meetings forwarded to the Authority.

Review of the minutes of meetings of the hospital's Board of Management and the Senior Management Team by the Authority confirmed that prevention and control of Healthcare Associated Infection has a high profile on both hospital sites. Management of adverse Healthcare Associated Infection related incidents are discussed at Board level; prevention and control of Healthcare Associated Infection performance and review is a standing item on the Senior Management Team meeting agenda. There was also evidence of direct reporting of prevention and control of Healthcare Associated Infection related matters to the hospital's Senior Management Team through interim reports from the microbiologist.

Governance of prevention and control of Healthcare Associated Infections

Infection Prevention and Control Team

An Infection Prevention and Control Team is in place in Beaumont Hospital. The Team report to the Decontamination, Hygiene, Infection Prevention and Control Committee. The Team are all members of this Committee. The Team records minutes of weekly meetings that showed detailed discussion of infection control in the hospital, among other items. Members of the core Infection Prevention and Control Team include three consultant microbiologists filling 1.9 whole-time equivalent (WTE) positions, five infection prevention and control nurses, one of which was appointed at assistant director of nursing level, a surveillance scientist, an antimicrobial pharmacist and secretarial staff. They are supported by three specialist registrars, one part-time flexible trainee specialist registrar and one senior house officer, a chief medical scientist and biomedical scientists at the time of this monitoring assessment. The remit of the team is both operational and advisory, in that they coordinate and facilitate an extensive hospital surveillance programme for the prevention and control of Healthcare Associated Infections, with data collation, analysis, reporting of findings, development and implementation of reciprocal action plans, education and training. In addition, the team provides guidance and advice in relation to the prevention and control of infection and antibiotic prescribing in the hospital. A consultant microbiologist chairs the Clinical Governance Committee. This Committee reports to both the Senior Management Team and the Services and Governance Subcommittee of the Hospital Board of Management. Adverse Healthcare Associated Infections prevention and control issues are highlighted at this forum and discussed in detail at the Healthcare Associated Infection Taskforce which has the same reporting structure. The Healthcare Associated Infection Taskforce meets every six weeks where major infrastructural issues are discussed, for example, inadequate numbers of isolation facilities.

The Hospital's Chief Executive Officer has overall executive accountability, responsibility and authority for the quality and safety of the service on both hospital sites.

Decontamination, Hygiene, Infection Prevention and Control Committee

The remit of the hospital's Infection Prevention and Control Committee was broadened in 2011 to include decontamination and hygiene and is known as the Decontamination, Hygiene, Infection Prevention and Control Committee. It meets every three months and is chaired by the Head of Operational Services. Membership of the Committee includes hygiene services and decontamination services managers. Review of the Committee's meeting minutes by the Authority reflected robust discussion and proactive addressing of areas requiring attention. There was evidence of good downwards, upwards and lateral communication pathways.

The Committee provides advice and support to the Infection Control and Prevention Team, reviews its work and ratify policies, procedures and protocols regarding infection prevention and control in the hospital. In addition, this forum is responsible for the prevention and control of Healthcare Associated Infections, reporting to the Governance and Services Subcommittee of the Hospital Board of Management, integrated Quality and Safety Committee and the Healthcare Associated Infection Taskforce.

Drugs and Therapeutic Committee

There is a joint Antimicrobial Stewardship Committee between Beaumont and Connolly Hospitals established in 2008, which reports to the Drugs and Therapeutic Committee in each hospital. The joint Antimicrobial Stewardship Committee produces an annual report. Feedback is given to the Decontamination, Hygiene, Infection Prevention and Control Committee and the Healthcare Associated Infection Taskforce in Beaumont Hospital by an Antimicrobial Stewardship Committee microbiologist or pharmacist member. The joint Antimicrobial Stewardship Committee meets every three months with the purpose of promoting prudent use of antimicrobial therapies by clinicians in both hospitals. The joint Antimicrobial Stewardship Committee Terms of Reference, dated 2013, proposes representative membership including a senior physician and surgeon, nurse prescribers and the antimicrobial pharmacists from both Beaumont and Connolly Hospitals. The antimicrobial pharmacist post was vacant from mid February 2013 and was filled in August 2013; the antimicrobial stewardship brief which included attendance at the joint Antimicrobial Stewardship meetings was managed as an additional responsibility by a senior pharmacist in the interim. The Hospital reported that this has been addressed with the appointment of an antimicrobial pharmacist in Beaumont, who has commenced attending the joint Antimicrobial Stewardship

Committee scheduled meetings. Despite the challenges posed by the lack of multidisciplinary team attendance at the joint Antimicrobial Stewardship Committee meetings and the vacant antimicrobial pharmacist post from mid February to mid August 2013, the joint Antimicrobial Stewardship Committee managed to continue antimicrobial stewardship, provide quarterly reports and to reduce overall antimicrobial consumption in the hospital. This was demonstrated by copies of the Antimicrobial Stewardship Committee meeting minutes and audit reports.

Members of the Drugs and Therapeutics Committee outlined to the Authority that improvements were required in compliance with prescribing guidelines based on the findings of its audits during 2013. As reported, it is envisaged by the Hospital that the hastening of the implementation of a national electronic prescribing infrastructure, which is a health service executive level quality improvement initiative, would improve the efficiency of the antimicrobial stewardship programme. Representation from each of the clinical specialties at the joint Antimicrobial Surveillance Committee forum, as described in the terms of reference, enhances effective communication pathways and ensures consistency and accountability for the implementation of, for example, quality and safety initiatives in relation to antibiotic prescribing protocols in the hospital.

International research has shown that the appropriate use of antibiotics contributes significantly to reducing Healthcare Associated Infections. In light of this evidence and the findings of high levels of antibiotic consumption with associated significant levels of non-compliance with prescribing guidelines in the Hospital, a more efficient prescribing infrastructure should be introduced (discussed further in Findings Essential Element 3c).

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)

The hospital demonstrated that monitoring and reporting of defined performance metrics for the prevention and control of Healthcare Associated Infections were in place, with trend analysis, reciprocal quality improvement initiatives and reporting at a local and national level. The Authority found evidence of a comprehensive infection surveillance portfolio in the hospital, supported by surveillance documentation reviewed by the Authority. Documentation provided demonstrated that infection rates were reported as part of the infection prevention and control key performance indicator (KPI) reports as well as detailed quarterly surveillance reports. There is a full-time surveillance scientist in post, responsible for the coordination of the

prevention and control of Healthcare Associated Infections surveillance programme. This activity is also operationally supported by the members of the Infection Prevention and Control Team and the Microbiology Department. Defined performance metrics for the prevention and control of Healthcare Associated Infections included; surveillance of local resistant organisms, Methicillin-Resistant *Staphylococcus aureus* (MRSA) bloodstream infection, Vancomycin resistant enterococci (VRE) and rates of new cases of *clostridium difficile*-associated diarrhoea. Additional alert organism surveillance and reporting as required includes tuberculosis (TB), influenza, resistant enterobactericeae (ESBL), Norovirus (sometimes referred as the winter vomiting bug), infectious diarrhoea, and incidents of other infectious diseases. Alert organism rates were being monitored, with quarterly comparison rates available.

The Infection Prevention and Control Team undertakes end-of-month point prevalence (the number of cases of a specific infection present in hospital patients at a certain time) surveys of patients colonised with MRSA and VRE. This surveillance provides a timely snapshot of the numbers of new and previously colonised patients in the hospital. These results are reported quarterly with concomitant incident activity comparison data. The reports are discussed by the Infection Prevention and Control Team and Decontamination, Hygiene, Infection Prevention and Control Committee and presented at the Clinical Directorate management meeting with evidence of appropriate escalation to the Senior Management Team and the Hospital Board of Management. This was demonstrated on discussion with the hospital during the monitoring assessment and on review of the Senior Management Team and Board's meeting minutes.

Locally, quarterly clinical-directorate-specific surveillance reports documented incidence of new MRSA, new isolates of Mupirocin-sensitive Staphylococcus aureus (MSSA), VRE, and *clostridium difficile*-associated diarrhoea cases. They also outlined patient information on their infection status with MRSA and *clostridium difficile*, antimicrobial consumption data, and staff hand hygiene compliance rates. There was evidence that this intensive local approach to consistent and frequent monitoring of key prevention and control of Healthcare Associated Infection activity had provided timely information at an early stage, which had been proactively addressed to curtail potential impact on patients. For example, MRSA, VRE, and *clostridium difficile* infection was rigidly monitored and tracked with root-cause analysis of blood stream infection incidents of MRSA. There was evidence of reciprocal actions, which included proactive review of antibiotic use and isolation procedures.

Surveillance for infection outbreaks was also in place at the time of the assessment. The definition of an infection outbreak in the hospital was extended beyond identification of two or more linked cases. The definition of outbreak included

identification of a single unusual or serious infection or an incident of a highly resistant organism. A number of infection outbreaks were identified and managed in 2012 including MRSA, *clostridium difficile*, norovirus and seasonal influenza among other single unusual infectious organisms. The hospital reported its experience with outbreaks to be challenging in 2012 as more than one infectious outbreak occurred at the same time, all of which were promptly identified. Prompt recognition of an outbreak enabled the team to start interventions focused on minimising spread by putting measures in place to break the cycle of transmission. For example, an outbreak of VRE occurred in one area of the hospital from August to October 2012 and involved seven patients. The outbreak was efficiently contained and managed to its end. In response proactive surveillance was commenced and continues in the area involved since October 2012 with VRE screening on admission and weekly thereafter of all patients admitted to the area concerned. Although the incidence of new cases of VRE infection are higher for the second quarter of 2013 than for the same period in 2012, there have been no further VRE infection outbreaks documented. *Clostridium difficile* infection outbreaks overlapped norovirus and seasonal influenza at some stages of late 2012. An After Action Review requested by the Head of Operational Services was completed in January 2013 in response to an occasion in late 2012 where multiple outbreaks were being managed simultaneously. The report identified 11 areas where improvements could be made for efficient management of future infection outbreaks. Although documented as requiring review in the Infection Prevention and Control Department service plan for 2013–2014, the Hospital advisory policy on the Control of an Outbreak of Transmissible Infection was due for review in 2012. At the time of this announced monitoring assessment the policy was been reviewed to incorporate the recommendations of the internal After Action Review report completed in January 2013.

There is also a programme of legionella surveillance of the water in Beaumont and St Joseph's Hospitals. There have been no documented incidents of patients acquiring legionella infection in the hospital. Documentation reviewed by the Authority showed pro-active monitoring, disinfection procedures when necessary, and proactive maintenance. The Infection Prevention and Control Team monitors water sampling analysis and advises accordantly.

Surgical site infection rate surveillance was not being undertaken in Beaumont or St Joseph's Hospitals at the time of assessment. It was reported in discussions with the Infection Prevention and Control Team that it was in the process of exploring means to commence monitoring of surgical-site infections. The Team also reported a committment to commencing surveillance of surgical site infection rates in its 2013 – 2014 service plan submitted to the Authority which was discussed during the on-site

meeting with the Infection Prevention and Control Team (discussed further in Findings Essential Element 3c).

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)

An effective communication strategy to disseminate useful and important prevention and control of Healthcare Associated Infection information, both internally and externally, can improve the quality of patients' care. It can also help to inform service users, visitors and staff on how they can help to prevent and control the spread of Healthcare Associated Infections. An effective prevention and control Healthcare Associated Infection communication strategy ensures that information relating to Healthcare Associated Infections is communicated and responded to in an efficient, timely, effective and accurate manner.

There was a communication strategy in place in Beaumont and St Joseph's Hospitals which included communication pathways to inform clinical teams and ward staff of incidents of communicable infection. In addition there was a process to inform patients who were found to be colonised and/or infected with a communicable or transmissible Healthcare Associated Infection or organism. However, the strategy did not reflect the extent of formal and informal communication in either hospital site. For example, there was no reference to an overall prevention and control of Healthcare Associated Infection communication strategy for the hospital in relation to infection-outbreak communication management and communication on restrictions on visiting, such as during incidents of influenza and *clostridium difficile* infection outbreaks. In addition, internal and external communication in the event of adverse incident management was not included. A comprehensive visiting policy has been recently implemented. On discussion with the Hospital Management Team and the Infection Prevention and Control Team, and on review of documentation forwarded to the Authority and during the on-site monitoring assessment, the Authority was satisfied that communication was of an adequate standard, although not fully documented. An effective communication strategy which helps to disseminate useful and important information, both internally and externally, can improve the quality of patients' care. It can also help to inform patients, visitors and staff on how they can help prevent and control the spread of Healthcare Associated Infections.

Beaumont Hospital's Communication Strategy describes how patients who are found to be colonised and/or infected with a significant micro-organism should be informed of their infection and/or colonisation status. The strategy outlined that this should be carried out by the clinician, or clinical team, primarily responsible for their care as soon as the diagnosis has been made, and that patients are supplied with any relevant information in relation to the infection. Documentation forwarded to the Authority as part of the monitoring assessment process described use of a pro forma notification sticker placed on the healthcare record of all patients with MRSA, VRE and *clostridium difficile* infection. This hospital reported that the aim of this practice was to highlight to clinical staff the need to communicate alert-organism-status information to patients and to ensure documentation of that communication is captured in the healthcare record in a standardised format. It also assists ward staff to provide patient information leaflets to ensure patients are fully informed. Where necessary the infection prevention and control nurse is available to discuss the details relevant to the infection with the patient or their next of kin as appropriate. This process was subject to audit which had ceased at the time of the monitoring assessment.

The documentation forwarded to the Authority showed that communication of new MRSA infections to the patients concerned was audited and results were communicated on the Clinical Directorate summary surveillance report on a quarterly basis. The Authority observed from review of audit results that significant numbers of patients did not have documented confirmation that they were informed of their infection status. The Authority also observed that these audits had subsequently ceased. The Infection Prevention and Control Team reported that this situation was due to staffing constraints and that it planned to resume the service. It was reported to the Authority that in the interim, ward staff provide patients with information leaflets to ensure they are informed. Review of audits up to the first quarter of 2013 that reviewed whether patients were informed by a clinician of their infection status highlighted inconsistencies. For example, in the Medical Directorate Quarter 1 2013 audit, there was written documentation in the clinical notes that 6 of the 12 (50%) patients, who had continued their stay in hospital, had been informed of their MRSA carriage. This represents suboptimal compliance with National Standards on communication of infection status to patients and needs to be addressed by the hospital.

The Communication Strategy documents that the infection prevention and control nurses follow up each patient notified as a new case of MRSA, two and five days after initial notification. If documentation of communication of MRSA status by the clinical team is complete, the Infection Prevention and Control Nurses provided the patient with additional information on MRSA. The hospital reported that the infection prevention and control nurses follow up all new transmittable infections with

ward/unit staff, the Emergency Department and with the bed management team to ensure infection prevention and control procedures are in place, including isolation procedures.

There was evidence of procedures to ensure effective communication when the service transferred a patient who was colonised and/or infected with a communicable transmissible organism/infection, to another service or to home. Documentation of *clostridium difficile* infection was documented on electronic discharge summaries. An audit of this process for the first six months of 2013 found that there was 100% compliance.

The Authority was able to confirm that adequate operational arrangements were put in place to assure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies. However, the hospital's communication strategy document did not reflect this.

Theme 1: Leadership, Governance and Management – Conclusion

The Hospital had a strong integrated leadership, governance and management structure in place. The Authority was satisfied that Beaumont and St Joseph's Hospitals functioned as an integrated unit. There was evidence of robust local, monitoring and reporting arrangements in place to ensure infection control is effectively managed. There were effective local and national prevention and control of Healthcare Associated Infection reporting arrangements in place. However, there were opportunities for improvement to ensure consistent, high quality care delivery in line with the *National Standards for the Prevention and Control of Healthcare Associated Infections* (NSPCHCAI).

To ensure care is always informed by best practice, including learning opportunities from reviews of previous incidents, timely review of hospital policies and procedures should be undertaken incorporating recommendations from incident reviews to inform revised best practices procedure and positive patient outcomes.

In light of this evidence and the findings of rising levels of antibiotic consumption with associated significant levels of non-compliance with prescribing guidelines in the hospital, an efficient prescribing infrastructure to support audit of antibiotic prescribing practice should be expedited. International research has shown that the appropriate use of antibiotics contributes significantly to reducing Healthcare Associated Infections in hospital patients.

The Authority was able to confirm that adequate operational arrangements were in place to ensure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies. However, the

hospital's communication strategy document did not reflect this. This should be amended to be reflective of the service arrangements provided.

The Authority concluded that these quality improvement opportunities should be actioned to ensure quality effective care for patients in the Hospital in relation to the prevention and control of HealthCare Associated Infection governance arrangements and to ensure compliance with all the requirements of the *National Standards for the Prevention and Control of Healthcare Associated Infections*.

Theme 1: Leadership, Governance and Management – Recommendations

Recommendation 1. *There should be a clear communication strategy in place on the prevention and control of Healthcare Associated Infections, supported by robust operational arrangements, to ensure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies.*

Recommendation 2. *All patients who are found to be colonised and/or infected with a significant communicable/transmissible Healthcare Associated Infection or organism should be informed of their infection and/or colonisation status by the clinician, or clinical team, primarily responsible for their care as soon as diagnosis is made, and should be supplied with any relevant information.*

3.2. Theme 2: Workforce

Theme 2: Workforce

The hospital 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)

Review of documentation forwarded by the hospital and on-site discussion with the team during the announced monitoring assessment provided assurance that all members of the Infection Prevention and Control Team were appropriately qualified and competent in infection prevention and control, antibiotic stewardship and Healthcare Associated Infection surveillance. All five nurse members of the Infection Prevention and Control Team had completed postgraduate diplomas in infection prevention and control. The nursing team was led by an Assistant Director of Nursing in Infection Control and Prevention. There was evidence that the infection prevention and control nurses were involved with educating and training staff on best practice in a wide range of prevention and control of Healthcare Associated Infection practices and procedures. Two members of the Infection Prevention and Control Team attended study programmes on *clostridium difficile* in 2012 and one team member attended a legionella prevention study day in 2013. The Authority observed that over the past two years, the Infection Prevention Control Nurses were active members of the National Infection Prevention Society and had participated in various working groups of the Society. Other members of the Infection Prevention and Control Team are involved in an extensive number of external national and international infection prevention and control committees. As the infection prevention and control nurses are the primary point of contact for staff for advice, education and support in all prevention and control of Healthcare Associated Infection related incidents and quality initiatives, they must undergo continuing professional education and development on a regular basis to ensure their knowledge and skills are up to date. The information they disseminate must reflect best-practice procedures.

The prevention and control of healthcare associated infection service is led by 1.9 whole-time equivalent (WTE) microbiologists. This had not increased since 2008 to keep pace with an increasing patient population and activity complexity. The microbiologists work a total of 21 sessions per week. This has not increased in line with a reported rise in activity arising from the appointment of three new neurosurgical consultants, two additional haematology consultant appointments to cater for patients from the northeast region, and the growing complexity of the kidney/pancreas transplantation programme in the hospital. The specialist leadership provided by the microbiologists is essential in developing the service to a level where the prevention and control of Healthcare Associated Infections is robust. As discussed in this report, the reported levels of antimicrobial consumption, evidence of non-compliance with antimicrobial prescribing advice, above national rates of *clostridium difficile* infections and resistant organisms, and the absence of surgical site surveillance is of concern. The hospital must ensure appropriate arrangements are in place to monitor and mitigate any potential risk aligned to its current

microbiologist staffing levels and the reported increase and changes in clinical services and patient demographics.

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

Findings Essential Element 2(b)

Annual hand hygiene and standard precaution training attendance every two-yearly is mandatory for all staff working in Beaumont and St Joseph's Hospitals. Evidence provided to the Authority showed that the Infection Control and Prevention Department provided scheduled education and informal training sessions throughout 2013 to facilitate staff to meet their mandatory training requirements. Additional training and education sessions were also provided based on training needs identified and in response to infection outbreaks. An online hand hygiene training programme was launched in October 2009, and Standard Precautions online training in October 2010 (updated in October 2013). This upgrade automatically informs the hospital's central training records, which can be accessed by all team leads.

Following the findings of the unannounced monitoring assessment by the Authority in July 2013 in relation to hand hygiene compliance levels, the hospital has implemented a comprehensive quality improvement plan (QIP) including punitive action for sustained non-attendance at training and evidence of repeated procedural non-compliance. In addition, the hospital has trained internal trainers and auditors to enhance staff training and compliance. Three of the four wards assessed for compliance with hand hygiene procedures by the Authority during this announced monitoring assessment achieved 100% compliance. These findings provided evidence that the hospital had prioritised hand hygiene education and training, in order to meet the *National Standards for the Prevention and Control of Healthcare Associated Infections* and reduce the risks to patients of contracting Healthcare Associated Infections. While the Authority found evidence of improvement at this announced monitoring assessment, 12% of staff had not undertaken their annual hand hygiene training across both hospital sites for 2013, which the hospital reported will be achieved by the end of 2013.

The hospital reported that standard precautions training uptake had significantly increased in comparison to 2012 figures, with staff either accessing education online or attending monthly scheduled training provided by the Infection Prevention and Control Department in 2013. However, the Authority observed that 77% of staff had not received training in standard precautions by September 2011. This had had not improved by September 2012. The hospital reported that 52% of staff had

completed training by September 2013. However, this number represented an overall total of staff and does not distinguish between clinical and clinical support staff training-completion levels.

The Infection Prevention and Control Department also provides training on intravenous device and insertion site care, aseptic non-touch technique, in addition to basic infection control practices relating to peripheral and central venous catheters. This is provided on a monthly basis at the intravenous study programme for nursing.

Each clinical directorate and/or department is responsible for ensuring that all staff on their teams has completed mandatory training. Clinical leads and the Medical Manpower Department have responsibility for ensuring that medical staff have attended required infection prevention and control training. A computerised record management system records all training completed and next due dates. The hospital reported that it monitors numbers of non-attendees per grade of staff and have easy access to names of staff who did not attend mandatory training.

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

Findings Essential Element 2(c)

The hospital reported a number of arrangements in place to ensure visiting clinical, undergraduate and agency staff were competent in the core principles for the prevention and control of Healthcare Associated Infections.

There was evidence that induction training was scheduled for two days each month for all new staff, including students, to the hospital with specific dates in January and July each year for medical non-consultant hospital doctors (NCHDs). Venepuncture and cannulation training for NCHDs is a compulsory element of their induction, in addition to mandatory hand hygiene and standard precaution training. Venepuncture and cannulation training is also extended to NCHDs commencing employment in other hospitals in the North-East Regional group.

Theme 2: Workforce – Conclusion

Documentation supplied and discussions with members of the Senior Management Team and Infection Prevention and Control Team indicated that members of the core team were appropriately qualified.

There were 1.9 whole-time equivalent consultant microbiologists working in the hospital. This has not increased since 2008 despite significant increases in activity in the hospital. The hospital must be assured that this level of cover is sufficient to ensure that prevention and control of Healthcare Associated Infections arrangements are not compromised and patient safety is not at risk. Prevention and control of Healthcare Associated Infection training in Beaumont and St Joseph's Hospitals is mandatory. Arrangements were in place to ensure that permanent hospital staff had access to and had completed theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections. Documentation submitted to the Authority confirmed that staff attendance at prevention and control of Healthcare Associated Infection related training was audited. The hospital reported that it could identify non-attendees at mandatory training by name and grade. Arrangements to ensure visiting clinical, undergraduate and agency staff were trained in hand hygiene procedures was in place. A quality improvement plan to improve attendance at hand hygiene training and compliance with best-practice procedures was in place. There was evidence of significant improvement in staff compliance in these areas during this monitoring assessment in Beaumont Hospital in comparison to findings by the Authority during the unannounced monitoring assessment in July 2013. However, attendance at standard precaution training was not adequate and required significant improvement to mitigate risk to patients contracting healthcare associated infections (HCAI).

Theme 2: Workforce – Recommendations

Recommendation 3. *All hospital staff should receive mandatory standard precautions theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections.*

Recommendation 4. *The hospital should have a multidisciplinary infection prevention and control team in place, which reflects the size, complexity and specialities of the services.*

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 HCAIs.

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 was evidence that access to specialist microbiological advice is provided on a 24/7 basis. In addition, the Antibiotic Prescribing Policy provided the microbiologists' contact numbers. Arrangements were in place for 24/7 microbiology laboratory processing of specimens.

The laboratory at Beaumont Hospital was fully accredited at the time of this announced assessment. All microbiology specimens for analysis from St Joseph's Hospital are processed in the laboratory at Beaumont Hospital. Readily available transport arrangements were in place to ensure that timely processing of specimens occurred. St Joseph's Hospital is linked into the Beaumont information technology system with immediate access available to staff who wish to access patients' microbiology results at that site.

Regular audits were carried out on pre-examination procedures of microbiology specimens received in the laboratory for analysis. There was also evidence that delivery, turnaround reporting times, efficiency and safety in relation to the transportation of microbiological specimens to and from the lab was measured and evaluated.

There was evidence that core Infection Prevention and Control Team staff attend St Joseph's Hospital as standard and as required. An Infection Prevention and Control Nurse works on the site one day per week with evidence provided of increased

frequency when required. Deep excavation work was required on the St Joseph's Hospital site within close proximity to the hospital for the building of a day hospital, which was nearing completion at the time of the announced monitoring assessment by the Authority. There was evidence of ongoing input from the Infection Prevention and Control Team regarding the arrangements place and education of contractors to prevent aspergillosis infection of vulnerable patients. The microbiologist also visited the site for patient consultations when required.

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)

A quarter of all Healthcare Associated Infections 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 vascular 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.

The Authority was informed that peripheral vascular catheter care and central venous catheter care bundles were in use in all areas of Beaumont and St Joseph's Hospitals. Urinary catheter care bundles were in use on a pilot basis on one ward in Beaumont Hospital. The Authority reviewed care bundle use in four areas in Beaumont Hospital and two areas in St Joseph's Hospital.

The Authority found that peripheral vascular catheter care bundles were embedded in practice in all areas assessed on both sites and were audited by ward managers. The ward managers reported that areas of non-compliance were brought to the attention of staff at clinical handovers and staff meetings. The Authority observed that patient care plans were developed to support the use of peripheral vascular catheter care bundles. A checklist was used consistently in all areas assessed to monitor peripheral vascular catheters; the Authority observed this to be fully completed in all cases. The daily peripheral vascular catheter assessment checklists

recorded whether peripheral vascular catheter was still in use, absence of inflammation and/or extra-vasation, peripheral vascular catheter dressing being intact, peripheral vascular catheter in place for < (less than) 72 hours and whether left in situ or removed. However, hand hygiene performance was not recorded as a requirement for assessment on the checklist document in any of the six areas assessed.

Central venous catheter care bundle use was assessed in the Richmond Intensive Care Unit by the Authority. Findings confirmed that they were embedded in the practice in this area. There was intensive monitoring of central venous catheter related blood stream infections which were notified to the units with concomitant root cause analysis. Clearly publicised prevention and control of Healthcare Associated Infection related audit results, including hand hygiene compliance and number of days since last blood stream intravascular line infection initiatives, were in place, which the Authority welcomed.

Urinary catheter care bundles were not in general use in Beaumont or St Joseph's Hospitals. One ward was piloting use of urinary catheter care bundles on the days of the announced monitoring assessment by the Authority. The Authority assessed urinary catheter care bundle use on this ward. The Ward Manager reported that the care bundles had been in use on the ward for the previous six months. The bundle documentation and the assessment checklist were reviewed by the Authority. Checks included hand hygiene performance, catheter care performance, correct drainage position, changing of catheter bag between five and seven days, maintainance of a closed circuit, whether the catheter was still required or left in situ. The checklists reviewed were fully completed. As-standard weekly audits of compliance with urinary catheter care bundles were completed by the Ward Manager. The hospital reported that feedback on compliance was given by the Infection Prevention and Control Team. However, there was no evidence of intermittent audit by the Infection Prevention and Control Team. This lack of information precludes comprehensive evaluation of the pilot project and does not inform the future implementation process throughout the hospital. The policy on urinary catheterisation and care was reviewed in September 2011. The hospital reported that policies are reviewed every two years. Review of this document is required to include information regarding use of urinary catheter care bundles.

The peripheral vascular catheter and central venous catheter care bundle checklists are audited by the nurse managers and reviewed on an ongoing basis by the practice support nurse and by the link infection prevention and control nurse in the area, who also audited them. As confirmed by the documentation forwarded to the Authority and discussion with the Infection Prevention and Control Team, the link infection prevention and control nurses audited compliance with peripheral vascular

catheter care bundle use on a monthly basis. In addition, central venous catheter care bundles were audited. Compliance targets of 100% were in place and measurement of compliance was an 'all or nothing' process. For example, if non-compliance was observed in any of the required assessment elements, the overall compliance rate was scored as 0%. The frequency of audit was increased in areas scoring 80% – 89% and to weekly in areas scoring 0% – 79%. The audit results were presented in a monthly report format per clinical directorate and were discussed at the Directorate Management Team meeting.

Conclusion

Overall the Authority found that peripheral vascular catheter and central venous catheter care bundles were in use and embedded in practice in all areas of Beaumont and St Joseph's Hospitals. Compliance audits were carried out at ward level and reported to each clinical directorate. Urinary catheter care bundles were not in use throughout the hospital other than in a designated pilot ward, which the hospital reported that it planned to roll-out for use throughout the hospital. Compliance audits were not undertaken as standard beyond the weekly audit completed by the Ward Manager in the area where Urinary Catheter care bundle use was being piloted. In the absence of analysis of audit results, overall compliance levels cannot be evaluated. In addition, the policy document informing urinary catheterisation practice required review.

The implementation of a structured set of processes has been proven internationally to improve patient outcomes regarding prevention and control of Healthcare Associated Infection and to prevent or reduce medical device related infections. The roll out of urinary catheter care bundles across the hospital should be speeded up in order to reduce this risk.

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 devises
- 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). The rate of surgical site infections is recognised as an important indicator of patient care and quality. Research has shown that surgical site infections (SSI) are the third highest risk to patients in acute hospitals. Audit provides a useful key quality indicator to enable adequate monitoring of infection.

Surgical site infection surveillance was not part of the routine surveillance programme in the Hospital. A short-term pilot programme of surgical site infection surveillance in neurosurgery was carried out in 2012. The 2013–2014 Infection Prevention and Control Service Plan references the intention to use the findings of this pilot study to start collaborative surgical site infection surveillance led by the clinical directors and facilitated by the Infection Prevention and Control Team. As the hospital has a significant surgical case mix and is a major patient referral centre, and is positioned as the level 4 hospital in the Dublin North-East Group within the Health Service Executive (HSE), commencement of a surgical site infection surveillance programme should be prioritised. The lack of surgical site infection surveillance places the hospital's surgical patient population at increased risk of delayed diagnosis and appropriate treatment of Healthcare Associated Infections. In addition the absence of a surgical site infection surveillance programme is in not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*.

Environmental and equipment hygiene

The hospital has a Hygiene Services Task Group (HTSG), which reports to the Governance and Services Committee through the Healthcare Associated Infection Task Force. The Governance and Services Committee is one of four subcommittees of the Hospital Board of Management. The Hygiene Services Task Group is chaired by the Hygiene and General Services Manager. The membership is multidisciplinary, with representation from each clinical directorate, maintainance, human resource department, catering, procurement, the centre of education and St Joseph's Hospital. The group meets monthly and reports quarterly to the Decontamination, Hygiene and Infection Prevention Control Committee, the Senior Management Team and the Hospital Board with reports for monitoring effectiveness of hygiene services.

The Authority concluded that the management of hygiene services was comprehensive and proactive in assuring patient safety by mitigation of risks to patients of contracting Healthcare Associated Infections. This conclusion was established from review of submitted documentation, and discussions and

observations during the on-site component of the monitoring assessment. Management of hygiene standards in the hospital was outcome driven with targets of > (greater than) 86% compliance required in twice a year internal audits on a series of stated hygiene elements. Areas scoring below this target were re-audited within a week; if re-audit scores were still below 86% a quality improvement action plan was developed to address the non-compliances found. The Authority viewed a number of comprehensive quality improvement action plans developed in response to areas of non-compliances found during the audits of the hygiene elements. Stated hygiene elements included environment, laundry, waste, patient equipment and sharps. Audits were unannounced and carried out by multidisciplinary staff trained as internal auditors. Members of the Senior Management Team also participated in the audits. There was trending, analysis and comparison of results taking place at area, clinical directorate and overall hospital (including St Joseph's Hospital) level. Time frames and overall responsible persons were documented for completion of the action plans reviewed by the Authority. Review of progress with action plans was completed quarterly. A traffic light alert system was used to communicate progress with completion of action plans within the stated timeframes. Driver diagrams were completed for each of the hygiene elements which clearly stated target compliance levels, informed staff of their roles and responsibilities, and best-practice information-underpinning actions required.

The Hygiene Services Task Group used hydrogen peroxide fogging procedures to achieve enhanced environmental cleaning in specific targeted areas in collaboration with the Infection Prevention and Control Team. A ward with advanced equipment specifications to cope with all specialties was used as a 'decant' ward to facilitate enhanced environmental cleaning procedures in the vacated wards. For example, due to high incidents of *clostridium difficile* infection rates in 2012, four wards underwent enhanced cleaning procedures in early 2013. In July–August 2013, the two intensive care units were decanted and cleaned due to high rates of VRE infection in the previous months. The hospital reported a decrease in the incidence of *clostridium difficile* and MRSA infections to date in 2013.

The Hygiene Services Task Group reported that the hospital's overall failure rate to achieve >86% was 17%, which was slightly higher than the failure rate in 2011 and 2012. The overall compliance score was 83% for the first half of 2013, which the hospital reported was a decrease of 2% on the 2012 score. There was evidence that this decrease in overall compliance was promptly acted upon. Analysis of non-compliances enabled the team to identify the root cause for failure, while action plans were developed in each case to overcome these deficits.

The unannounced monitoring assessment by the Authority in July 2013 reported areas for improvement in the cleanliness of the environment and patient equipment

in two of the three areas assessed. The hospital subsequently developed a quality improvement plan to address these findings. Significant improvement was observed during this announced monitoring assessment in environmental and patient equipment hygiene in all areas of Beaumont and St Joseph's Hospitals. However, there was still improvement required, with storage and security of potential hazards in some of the areas assessed in Beaumont and in St Joseph's Hospitals.

Antimicrobial prescribing feedback

The inappropriate use of antimicrobials is associated with the emergence of, and rising levels of, antimicrobial resistance in Ireland. An effective antimicrobial stewardship programme is an essential component in controlling antimicrobial resistance.

Beaumont and St Joseph's Hospitals have an antimicrobial stewardship programme with antimicrobial prescribing guidelines in place. Documentation provided to the Authority referenced 'antibiotic prescribing in surgery' that included surgical prophylaxis guidelines dated 2010 and 'antibiotics in neurosurgery', both of which were undergoing review by the Joint Antimicrobial Stewardship Committee. A full-time antimicrobial pharmacist was employed by the Hospital in mid August 2013. The Authority confirmed from review of the documentation submitted and during on-site discussion with the Infection Prevention and Control Team that the position of antimicrobial pharmacist had been vacant from mid February to mid August 2013. The Hospital reported that the time taken in appointing a replacement antimicrobial pharmacist was due to the requirement to complete recruitment procedures as part of the corporate governance structure. The Team reported this situation had been challenging for it in terms of monitoring prescribing compliance and surgical prophylaxis, antimicrobial consumption and developing the stewardship service to keep pace with the hospital's activity.

The hospital's antimicrobial consumption data is published on the Health Protection Surveillance Centre (HPSC) webpage on a quarterly basis. In the final quarter of 2012, the antimicrobial pharmacist prepared ward-specific antibiotic consumption reports, grouped by directorate, which provided valuable insight into prescribing practices. However, this activity was reported as overly time-consuming in the absence of an adequate information technology infrastructure to facilitate timely collation of prescribing data. It was finally suspended in the absence of the antimicrobial pharmacist. The Senior Management Team was informed of this as referenced in the meeting minutes reviewed. In response, arrangements were made with the pharmacy for local antimicrobial consumption data to be collated. Although quarterly consumption rates are collated for the hospital and discussed locally at the joint antimicrobial stewardship, the Healthcare Associated Infection Taskforce, the

Decontamination, Hygiene and Infection Prevention and Control Committee and Clinical Directorate management team meetings, they were not reported per directorate at the time of this assessment. The Team should prioritise directorate reporting to focus directorate management team attention and resources on problem areas.

A Healthcare Associated Infection point prevalence survey was completed in May 2012 by the hospital as part of a national survey on Antibiotic use in Irish Hospitals which informed a European surveillance point prevalence survey. Findings from the survey indicated that 44% of prescriptions were non-compliant with hospital antibiotic prescribing policy, which exceeded national figures of 27%. Approximately 95% (n = 19) of prescriptions for surgical antimicrobial prophylaxis exceeded the hospital policy of a single dose and 89% exceeded 24 hours compared to a national prevalence of 47%. However, intravenous antibiotic use was lower than the national average and following preliminary analysis of the October 2013 Antimicrobial point prevalence survey, the hospital reported a decline in non-compliant prescriptions to 28%.

This action plan reflected the priority actions required by the Health Protection Surveillance Centre in its report, *Antimicrobial Use in Republic of Ireland (ROI) 2012: Data from the Point Prevalence Survey of Hospital-Acquired Infections and Antimicrobial Use in European Acute care Hospitals 2012*. These actions included national implementation of the HSE's 'Medication and Prescription Administration Record' which will facilitate audit of compliance with key prescribing quality indicators. Implementation of a 'Start Smart Antibiotic Care Bundle' was planned throughout the hospital and was awaiting roll out with the new national medication and prescription record. The Authority was informed that in preparation, the clinical grand rounds forum was used to deliver an education programme on the antibiotic care bundle in September 2013. Weekly antimicrobial ward rounds were in place by the microbiologists and the antimicrobial pharmacist. The annual antimicrobial consumption point prevalence survey was carried out in October 2013. The results were not available at the time of the announced monitoring assessment. During discussions with the hospital's consultant microbiologists, the Authority was informed that the results would be used to inform antibiotic stewardship ward rounds for 2014. It was reported to the Authority that a submission has been made to the HSE to secure procurement of electronic prescribing software to optimise prescribing practice and selected data retrieval; upgraded specimen analysis technology; and review of adequacy of microbiology consultant sessions to effectively meet service demand.

Antibiotic consumption rates for Beaumont Hospital significantly increased in 2011 and again in 2012. However, there was evidence of a reduction in 2013, with the

hospital in the high median range nationally among a sample of 42 hospitals who also publish consumption rates. In addition, the hospital reported associated higher than national average Healthcare Associated Infection prevalence for 2012. While a robust quality improvement action plan was in place to improve the hospital's antibiotic prescribing practices and subsequent outcomes, this area should be prioritised to mitigate risk to patients of Healthcare Associated Infections.

Hand hygiene

Hand hygiene is recognised internationally as the most significant preventative measure to prevent Healthcare Associated Infections in healthcare services. The unannounced monitoring assessment by the Authority on 23 July 2013 observed that 28 of the 60 hand hygiene opportunities were taken. Of the 28 opportunities taken, 25 complied with best practice hand hygiene technique. The Authority observed that best practice hand hygiene procedural non-compliance was high among medical staff observed. The hospital was required to address these findings and to publish its quality improvement plan, which had been done. The Authority reviewed the hospital's quality improvement plan and also discussed contents and progress during the on-site component of this announced monitoring assessment. The Authority found that the action plan developed, and progress to date with completing it, was comprehensive. The Authority observed evidence throughout the hospital that staff at all levels exhibited a commitment to improvement. This was also demonstrated by the level of compliance found with hand hygiene and standard precaution best-practice procedures during this assessment.

The hospital had set up a Hand Hygiene and Standard Precautions Compliance Group. The group has multidisciplinary membership, meets quarterly and reports to the Healthcare Associated Infection Taskforce, which is chaired by the hospital's Chief Executive Officer with monthly reports including audit results. Results of audits are also sent to the Clinical Director for discussion at clinical directorate meetings. A team of trained hand hygiene champions complete audits of practice and support managers and staff in clinical areas to develop a culture of best practice for hand hygiene and standard precautions. Key performance targets were set at > (greater than) 86%. Frequency of audit was increased and training given as required in areas that did not achieve stated targets. Graded sanctions were recently introduced to address repeated staff non-compliance or failure to attend training. These arrangements are supported by the Board of Management and Senior Management Team and are linked into the hospital's employee performance policies and procedures.

During this monitoring assessment in Beaumont Hospital, the Authority found significant improvement in hand hygiene compared with findings during the

unannounced monitoring assessment in July 2013. The Authority observed the level of hand hygiene compliance in two of the four areas assessed during this monitoring assessment of Beaumont Hospital to be 100%, with an overall level of 87% across all four areas assessed. In St Joseph's Hospital, the Authority observed an overall level of hand hygiene compliance in two areas assessed during this monitoring assessment to be 80%. There were no non-compliances found with standard precaution practices observed in either Beaumont or St Joseph's Hospitals. These findings were welcomed by the Authority and indicated that actions taken in response to findings in July 2013 were effective. In addition these findings indicate that a culture of hand hygiene practice is becoming embedded amongst staff in the hospital.

Infection related to the use of invasive medical devices

Methicillin-Resistant *Staphylococcus aureus* bloodstream infection surveillance is mandatory, with quarterly publishing of data from Irish hospitals. Beaumont Hospital met mandatory reporting requirements. A root cause analysis was completed on all bloodstream infections associated with intravascular devices.

The Authority observed that compliance audits were carried out at ward level and reported to each clinical directorate. Overall the Authority found that peripheral vascular catheter and central venous catheter care bundles were in use and embedded in practice in all areas of Beaumont and St Joseph's Hospitals. The Authority found that peripheral vascular catheter care bundles were embedded in practice with monthly audit results reported for each clinical directorate. The report also detailed the previous two months' results in each case, which provides instant feedback on progress or deterioration.

While central venous catheter care bundles were rigorously audited on a weekly basis, audits beyond this frequency was not clearly evidenced in the documentation submitted to the Authority for review. There was opportunity for quality improvement by analysis of these audit results at selected intervals to inform overall compliance levels, outcomes and strategy planning. Urinary catheter care bundles were not in use throughout the areas assessed and compliance audits were not undertaken as standard beyond the weekly audit completed by the ward manager in the area where urinary catheter care bundle use was being piloted. In the absence of analysis of audit results, overall compliance levels cannot be evaluated. In addition, the policy document informing urinary catheterisation practice required review.

The implementation of a structured set of processes has been proven internationally to improve patient outcomes and to prevent or reduce medical device related

infections. Scheduled auditing at selected intervals is required to inform overall compliance levels with use of central venous catheter and urinary catheter care bundles. The roll-out of urinary catheter care bundles across the hospital should be expedited to reduce the risk of Healthcare Associated Infections.

There was evidence that an audit of glucometry and procedure trays was carried out in May 2013 in response to potential risk of transmission of blood borne viruses arising from non-compliance with best practice decontamination procedures. The audit was carried out in each of the clinical directorates. Compliance with glucometry tray decontamination was > (greater than) 90%. Although compliance with procedure tray decontamination was less than the target set (also >90%), an action plan was put in place to address the deficits found.

Healthcare Associated Infection trend rates and analysis

The hospital demonstrated a system of reporting Healthcare Associated Infection related data and statistics, and standardised surveillance data, which was trended and analysed. The results are compared nationally. Local data is forwarded and discussed at each of the clinical directorates, the Decontamination, Hygiene and Infection Prevention and Control Committee and Healthcare Associated Infection Task Force meetings.

In May 2012 the hospital participated in a national point prevalence Survey of Healthcare Associated Infections (HCAIs) organised by the Health Protection Surveillance Centre (HPSC). The survey indicated that the rate of infection in Beaumont Hospital was almost double the national average and significantly higher than the rate of infection in other participating tertiary hospitals. Of a total of 558 patients in the survey sample, 61 had an active Healthcare Associated Infection. Of these, 46% had had surgery since admission, 94% had an intravascular device (peripheral vascular and central venous catheters) in situ and 36% had a urinary catheter inserted. All of these rates were higher than the national average and rates of central venous and urinary catheter associated Healthcare Associated Infections were higher than other tertiary hospitals.

An end-of-month point prevalence survey completed by the Infection Prevention and Control Team collated information on rates of all new MRSA and VRE. These surveys provided evidence that rates of new cases of MRSA for 2012 and 2013 were decreasing. However, new cases of VRE were observed to be increasing. Documentation submitted to the Authority demonstrated that Beaumont Hospital has a strict protocol in place where all admissions to the both intensive care units and the High Dependency Unit are screened for VRE on admission and weekly thereafter. All incidents of VRE were isolated with close antimicrobial monitoring by the microbiologists. *Clostridium difficile* infection rates are measured quarterly and

forwarded for inclusion in the national Enhanced Surveillance of *clostridium difficile* Infection in Ireland, Health Service Executive-Health Protection Surveillance Centre reports. Although the rate of *clostridium difficile* infection had reduced since the second quarter of 2012, it has been rising in the hospital since the final quarter of 2012. Response to *clostridium difficile* infection was observed by the Authority to be met with aggressive case recognition and early prevention focused treatment and containment plans.

The documentation submitted to the Authority and discussion with the Infection Prevention and Control Team and Senior Management Team highlighted the inadequate numbers of isolation facilities for patients with communicable Healthcare Associated Infections. In 2012, 75% of patients with resistant enterobactericeae infection required isolation facilities; however, 39% were not isolated in single rooms.

These outcomes provided evidence that although operationally problematic at times due to a shortage of appropriate isolation facilities, overall management of communicable infections and antibiotic use is closely monitored and there is an action plan in place for management by the Infection Prevention and Control Team and the hospital.

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 has systems and structures in place to support the proactive reporting, identification and management of adverse events related to the prevention and control of Healthcare Associated Infections. There is an Integrated Quality and Safety Department which provides support and leadership on the quality and safety management programme. Each directorate has a nominated quality and safety relationship manager who provides support and advice to the directorate in relation to issues around prevention and control of Healthcare Associated Infections. The department reports to the Clinical Governance Committee. The Authority was informed that all incidents and complaints related to the prevention and control of Healthcare Associated Infections are recorded.

It was reported to the Authority that the information is trended and risk assessed. Trended risk management incident and near miss reports are discussed at the Hygiene Task Force Group forum, where action plans are developed and implemented.

The Authority was informed that serious risks are reviewed and closed when actions to mitigate them are implemented. Most of the incidents logged referred to a failure or delay in isolating patients with communicable infection as advised by the Infection Prevention and Control Team. This was a reported as a challenge for the teams due to the shortage of isolation in the hospital. This risk was comprehensively documented. A number of initiatives have been put in place to mitigate risks posed from non-isolation or delayed isolation. These initiatives include cohorting of haematology patients who are identified as a high risk, prioritisation of patients isolated depending on level of associated risk, closer working relationship between the infection prevention and control nurses, the Emergency Department and the bed management team.

The Hygiene Services Task Group evaluated patient satisfaction with hygiene standards in the hospital as part of the internal hygiene audits, results of which were viewed by the Authority and found to be generally positive. A concomitant process was in place to record, analyse and address adverse patient feedback received in completed satisfaction surveys including communication with the Senior Management Team and hospital staff.

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

Findings Essential Element 3(e)

Beaumont Hospital – Richmond Intensive Care Unit

Environment and equipment

There was evidence of good practice which included the following:

- The patient area assessed was clean, tidy and well maintained.
- Surfaces of equipment assessed were clean, for example, intravenous stands and pumps, a cardiac monitor, a resuscitation trolley, dressing trolleys, oxygen saturation probes, oxygen equipment, suction apparatus, wheelchairs and cushions, hoists and accessories, stand aids and accessories.
- Both the clean utility room and 'dirty'[±] utility room were tidy and well maintained.

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

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- The clean utility room was an unsecured alcove, allowing unauthorised access to needles and syringes
- While the 'dirty' utility room door was closed during the monitoring assessment, it was not lockable, with associated risk of unauthorised access to two bottles of cleaning products placed at the sink. However, the hospital reported that this room was under the constant supervision of staff due to its location in the unit and patients and visitors were accompanied by staff at all times.
- While the cupboard under the sink in the 'dirty' utility room was locked, the key to unlock the cupboard was accessible as it was hanging on a hook adjacent to the sink.
- The inner surface of a patient washbowl in the 'dirty' utility room was peeling, preventing adequate cleaning.

Waste segregation

There was evidence of good practice which included the following:

- Foot-operated clinical and non-clinical waste disposal bins were available.
- Waste bins were visibly clean and no more than two thirds full.
- Clinical waste was tagged and secured before leaving the area of production.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

Isolation rooms

There was evidence of good practice which included the following:

- Appropriate signage was displayed at the entrance to the isolation room.
- The Authority observed appropriate use and disposal of personal protective equipment during the monitoring assessment.
- The door from the isolation room to the main ward corridor was closed at all times during the monitoring assessment.
- The Authority observed appropriate hand hygiene at the isolation room during the monitoring assessment.

Linen

There was evidence of good practice which included the following:

- Linen was segregated into appropriate colour-coded bags. The bags were less than two thirds full and capable of being secured.

- Clean linen was stored appropriately in dedicated storage areas which were clean and free of dust. Clean linen examined by the Authority was found to be free of stains.
- The Authority was informed that curtains are changed quarterly or more frequently if necessary. Curtains are changed in isolation rooms after each patient. Schedules of curtain changing were displayed.

Cleaning equipment

There was evidence of good practice which included the following:

- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and appropriate.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection.
- Personal protective equipment was available.

Beaumont Hospital – St Patrick's Medical Assessment and Short Stay Unit

Environment and equipment

There was evidence of good practice which included the following:

- The patient area assessed was clean, tidy and well maintained.
- The washroom assessed was clean, tidy and well maintained.
- Surfaces of equipment assessed were clean, for example, intravenous stands and pumps, a cardiac monitor, a resuscitation trolley, near-patient testing equipment, dressing trolleys, blood pressure cuffs, oxygen saturation probes, temperature probes, oxygen equipment, suction apparatus, hoists and accessories, stand aids and accessories.
- Both the clean utility room the 'dirty' utility room were tidy and well maintained.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- There was chipped paint on radiators in the patient area assessed.
- A light layer of dust and staining were visible on the seat of a wheelchair.
- The clean utility room was not locked allowing unauthorised access to needles and syringes.
- The 'dirty' utility room was not secured and the door was wide open during the monitoring assessment, allowing unauthorised access to cleaning and disinfection products.
- Rust coloured staining was visible at the wheel areas and base of a commode.

Waste segregation

There was evidence of good practice which included the following:

- Foot-operated clinical and non-clinical waste disposal bins were available.
- Waste bins were visibly clean and no more than two thirds.
- Clinical waste was tagged and secured before leaving the area of production.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

Isolation rooms

There was evidence of good practice which included the following:

- Appropriate signage was displayed at the entrance to the isolation room.
- The Authority observed appropriate use and disposal of personal protective equipment during the monitoring assessment.
- The door from the isolation room to the main ward corridor was closed at all times during the monitoring assessment.

Linen

There was evidence of good practice which included the following:

- Linen was segregated into appropriate colour coded bags. The bags were less than 2/3 full and capable of being secured.
- Clean linen was stored appropriately in dedicated storage areas which were clean and free of dust. Clean linen examined by the Authority was found to be free of stains.
- The Authority was informed that curtains are changed every six months or more frequently if necessary and that curtains are changed in isolation rooms after each patient.

Cleaning equipment

There was evidence of good practice which included the following:

- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and a colour-coded cleaning system was in place and demonstrated.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection.
- Personal protective equipment was available, appropriately used and disposed of by staff.

Water outlet flushing

- A daily water outlet flushing checklist was observed.

Beaumont Hospital – Emergency Department

Environment and equipment

There was evidence of good practice, which included the following:

- The patient area assessed was clean, tidy and well maintained.
- The washrooms assessed were generally clean, tidy and well maintained.
- Surfaces of equipment assessed were clean, for example, intravenous pumps, resuscitation trolley, near-patient testing equipment, dressing trolleys, blood pressure cuffs, oxygen saturation probes, temperature probes and oxygen equipment.
- Both the clean utility room and the 'dirty' utility room were tidy and well maintained.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- A wooden pedestal beneath a sink and wooden shelving behind the toilet were damaged in a ladies' toilet. The laminate was coming off leaving exposed plywood underneath, hindering effective cleaning.
- Light layers of dust were visible on an intravenous stand and an electrocardiograph machine in the resuscitation room.
- A moderate layer of dust was visible on the drawer supports of a phlebotomy trolley in the resuscitation room.
- The safety mechanism was not engaged in a sharps container stored in an annex off the resuscitation room.
- The door of the 'dirty' utility room was ajar during the monitoring assessment allowing unauthorised access to cleaning products.

Waste segregation

There was evidence of good practice, which included the following:

- Foot operated clinical and non-clinical waste disposal bins were available.
- Waste bins were visibly clean and no more than two thirds full.
- Clinical waste was tagged and secured before leaving the area of production.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

Isolation rooms

There was evidence of good practice, which included the following:

- Appropriate signage was displayed at the entrance to the isolation room.
- The Authority observed appropriate use and disposal of personal protective equipment during the monitoring assessment.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- The door to an isolation room was ajar on two occasions during the monitoring assessment.

Linen

There was evidence of good practice, which included the following:

- Linen was segregated into appropriate colour-coded bags. The bags were less than two thirds full and capable of being secured.
- Clean linen was stored in a designated area. Clean linen examined by the Authority was found to be free of stains.

Cleaning equipment

There was evidence of good practice, which included the following:

- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and a colour-coded cleaning system was in place and demonstrated.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection.
- Personal protective equipment was available.

Beaumont Hospital – Bank's Ward

Environment and equipment

There was evidence of good practice, which included the following:

- The patient area assessed was clean, tidy and generally well maintained.

- The washroom assessed was clean.
- Surfaces of equipment assessed were clean, for example, intravenous stands and pumps, a cardiac monitor, a resuscitation trolley, near-patient testing equipment, dressing trolleys, blood pressure cuffs, oxygen saturation probes, temperature probes, oxygen equipment, suction apparatus, hoists and accessories, stand aids and accessories.
- Both the clean utility room and the 'dirty' utility room were tidy and well maintained.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- There was paint missing from small areas at the base of bedside tables.
- The hand washing facilities in a washroom were obstructed by two linen trolleys.
- Inappropriate items, such as used linen trolleys and used fire blankets, were stored in the communal ward shower area.
- Sanitary waste disposal facilities were not available in the washroom assessed.
- There were stains on the vinyl covering on a commode.
- There was chipped and damaged paintwork on the base of a hoist.
- Unused small and large rigid yellow containers were stored directly on the floor in the store room, hindering effective cleaning.
- There was no door on the clean utility room, allowing unauthorised access to needles and syringes.
- A large rigid bin under the hand wash sink in the clean utility room was stored directly on the floor hindering effective cleaning.
- The 'dirty' utility room was not secured, allowing unauthorised access to cleaning and disinfection products.

Waste segregation

There was evidence of good practice which included the following:

- Foot operated clinical and non-clinical waste disposal bins were available.
- Waste bins were visibly clean and no more than two thirds full.
- Clinical waste was tagged and secured before leaving the area of production.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

Isolation rooms

There was evidence of good practice, which included the following:

- Appropriate signage was displayed at the entrance to the isolation room.
- The Authority observed appropriate use and disposal of personal protective equipment during the monitoring assessment.
- The door from the isolation room to the main ward corridor was closed at all times during the monitoring assessment.
- The Authority observed appropriate hand hygiene at the isolation room during the monitoring assessment.

Linen

There was evidence of good practice, which included the following:

- Linen was segregated into appropriate colour-coded bags. The bags were less than two thirds full and capable of being secured.
- Clean linen was stored in a designated area. Clean linen examined by the Authority was found to be free of stains.
- The Authority was informed that bedside curtains are changed every six months or more frequently if necessary and that curtains are changed in isolation rooms after each patient. The Authority was informed that shower curtains are changed quarterly.

Cleaning equipment

There was evidence of good practice which included the following:

- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and a colour-coded cleaning system was in place and demonstrated.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection.
- Personal protective equipment was available.

Conclusion

The four areas assessed in Beaumont Hospital were generally clean and well maintained with a few exceptions. Following the unannounced monitoring assessment by the Authority on 23 July 2013 and findings of an unsecured 'dirty' utility room in Richmond Intensive Care Unit, the Hospital developed a quality improvement plan following a risk assessment of the area. At the time of this announced monitoring assessment, a trial of an automatic door closure device was being planned as part of the quality improvement plan to mitigate any associated risk of access by unauthorised persons.

St Joseph's Hospital – Surgical Ward

Environment and equipment

There was evidence of good practice, which included the following:

- The patient area assessed was generally clean, tidy and well maintained.
- The washroom assessed was clean, tidy and well maintained.
- Surfaces of equipment assessed were clean, for example, intravenous stands and pumps, a resuscitation trolley, dressing trolleys, blood pressure cuffs, oxygen saturation probes, temperature probes and suction apparatus.
- The clean utility room was tidy.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- A moderate layer of dust was present on curtain rails.
- Cupboard doors in the clean utility room were chipped, hindering effective cleaning.

The following was observed in the 'dirty' utility room:

- There was no sluice hopper available for the disposal of bodily fluids.
- Some of the wall tiles were cracked and chipped, hindering effective cleaning.
- There was a break in the floor covering, hindering effective cleaning.

Waste segregation

There was evidence of good practice, which included the following:

- Foot-operated clinical and non-clinical waste disposal bins were available.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- The clinical and non-clinical waste disposal bins in the 'dirty' utility room were more than two thirds full at the time of the monitoring assessment.

Linen

There was evidence of good practice, which included the following:

- Linen was segregated into appropriate colour-coded bags. The bags were less than two thirds full and capable of being secured.
- Clean linen was stored in a designated area. Clean linen examined by the Authority was found to be free of stains.
- The Authority was informed that curtains are changed every six months or more frequently if necessary.

Cleaning equipment

There was evidence of good practice, which included the following:

- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and a colour-coded cleaning system was in place and demonstrated.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection.
- Personal protective equipment was available and appropriately used by staff.

St Joseph's Hospital – Rehabilitation and Medical Ward

Environment and equipment

There was evidence of good practice, which included the following:

- Bed frames, bedrails, pillows, mattresses, lockers, high and low surfaces and radiators in patient areas assessed were clean, intact and free of dust.
- The washroom assessed was clean, tidy and well maintained.
- Surfaces of equipment assessed were clean, for example, intravenous stands and pumps, a cardiac monitor, a resuscitation trolley, a glucometer, dressing trolleys, blood pressure cuffs, oxygen saturation probes, temperature probes, oxygen equipment, suction apparatus, wheelchairs and cushions, hoists and accessories, stand aids and accessories.
- Both the clean utility room and the 'dirty' utility room were tidy and well maintained.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*:

- The vinyl border on the floor was not fully secured in the patient area assessed, hindering effective cleaning.

- There was grit around the edges of the walls in some of the patient areas assessed.
- There was paint missing from a number of areas on the walls and marks on the skirting board in the patient areas assessed.
- A light layer of dust was present on curtain rails.
- While the 'dirty' utility room was lockable, it was unlocked during the monitoring assessment allowing unauthorised access to chemicals.

Waste segregation

There was evidence of good practice which included the following:

- Foot-operated clinical and non-clinical waste disposal bins were available.
- Waste bins were visibly clean and no more than two thirds full.
- Clinical waste was tagged and secured before leaving the area of production.
- Clinical waste advisory posters informing of waste segregation best-practice procedures were displayed.

Isolation rooms

There was evidence of good practice, which included the following:

- Appropriate signage was displayed at the entrance to the isolation room.
- The Authority observed appropriate use and disposal of personal protective equipment during the monitoring assessment.
- The door from the isolation room to the main ward corridor was closed at all times during the monitoring assessment.
- The Authority observed appropriate hand hygiene at the isolation room during the monitoring assessment.

Linen

There was evidence of good practice, which included the following:

- Linen was segregated into appropriate colour coded bags. The bags were less than two-thirds full and capable of being secured.
- Clean linen was stored in a designated area. Clean linen examined by the Authority was found to be free of stains.
- The Authority was informed that curtains are changed every six months or more frequently if necessary and that curtains are changed in isolation rooms after each patient. The Authority was informed that vertical blinds are cleaned as part of regular cleaning.

Water outlet flushing

- Water outlets are flushed daily as part of the routine cleaning procedures.

Conclusion

The two areas assessed in St Joseph's Hospital were generally clean and well maintained with a few exceptions.

Hand hygiene, Beaumont Hospital

- **Richmond Intensive Care Unit**
- **St Patrick's Medical Assessment and Short Stay Unit**
- **Emergency Department**
- **Banks Ward**

There was evidence of good practice, which included the following:

- Hand hygiene advisory information was appropriately displayed in the areas assessed.
- Liquid soap, warm water, paper hand towels and alcohol-based hand rubs were widely available.
- Hand-washing facilities were generally clean.
- Records of hand hygiene training, which is carried out annually, were observed by the Authority.
- Contact telephone numbers were displayed on towel and soap dispensers in the event that stocks needed to be replenished.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections* including:

- Some hand-wash sinks were not compliant with the National Standards.
- The kickboards behind some of the hand-wash sinks in the emergency department were damaged leaving exposed plywood, hindering effective cleaning.
- Contrary to best practice, the sink in the 'dirty' utility room in Banks Ward was used both as the designated hand-wash sink and for cleaning patient equipment.

Hand hygiene, St Joseph's Hospital

- **Surgical Ward, Rehabilitation and Medical**

There was evidence of good practice, which included the following:

- Hand hygiene advisory information was appropriately displayed in the areas assessed.
- Liquid soap, warm water, paper hand towels and alcohol-based hand rubs were widely available.
- Hand washing facilities were generally clean.
- Records of hand hygiene training, which is carried out annually, were observed by the Authority. Records of reciprocal peer hand hygiene checks, which are carried out monthly, were also observed by the Authority.

However, there was also evidence of practice that was not compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections* including:

- A number of hand-wash sinks were not compliant with the National Standards.
- Contrary to best practice, the sink in the 'dirty' utility room in the Surgical Ward was used both as the designated hand-wash sink and for cleaning patient equipment.

Observation of hand hygiene opportunities in Beaumont Hospital – Richmond Intensive Care Unit, St Patrick's Medical Assessment and Short Stay Unit, Emergency Department, Banks Ward

- The Authority observed 68 hand hygiene opportunities in total during the monitoring assessment. Hand hygiene opportunities observed comprised:

  - 20 before touching a patient
  - nine after touching a patient
  - two after bodily fluid exposure risk
  - 37 after touching a patient's surroundings.

Of the 68 hand hygiene opportunities, 60 were taken and 59 of these were observed to comply with best practice hand hygiene technique. Non-compliance related to failure to take opportunities to perform hand hygiene and failure to comply with best practice hand hygiene technique.

Authorised persons observe hand hygiene opportunities using a small sample of staff in various locations throughout the hospital. It is important to note that the results may not be representative of all groups of staff within the hospital and hand hygiene compliance across the hospital as a whole. Observations reported represent a snapshot in time. The underlying principles are based on the detection of the five moments for hand hygiene that are promoted by the World Health Organization

Conclusion

In Beaumont Hospital, the level of hand hygiene compliance in two of the areas assessed during the monitoring assessment was 100%, with an overall level of 87% across the four areas assessed. This indicated that a culture of hand hygiene practice was becoming embedded amongst staff in the hospital.

Observation of hand hygiene opportunities in St Joseph's Hospital – Surgical Ward, Rehabilitation and Medical

- The Authority observed 20 hand hygiene opportunities in total during the monitoring assessment. Hand hygiene opportunities observed comprised:

  - two before touching a patient
  - four after touching a patient
  - one before clean/aseptic procedure
  - 13 after touching a patient's surroundings.

Of the 20 hand hygiene opportunities, 17 were taken and 16 of these were observed to comply with best practice hand hygiene technique. Non-compliance related to failure to take opportunities to perform hand hygiene and failure to comply with best practice hand hygiene technique.

Conclusion

In St Joseph's Hospital, the overall level of hand hygiene compliance at the time of the monitoring assessment was 80% indicating that a culture of hand hygiene practice was becoming embedded amongst staff in the hospital.

Theme 3: Safe Care – Conclusion

In conclusion, the Authority found that the ward area environment and equipment in both hospitals was generally clean, with some exceptions in each area assessed. Floors were dusty with grit in evidence in one ward area in St Joseph's Hospital. While painting refurbishment was in progress on walls, painting refurbishment was necessary on doorframes and radiators in the areas assessed. These findings are not compliant with the National Standards.

Some hand hygiene sinks in the areas assessed did not comply with the HSE's Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005).

Appropriate information was displayed outside isolation rooms and disposal of personal protective equipment was appropriate. Linen was stored and segregated appropriately.

While clinical waste was tagged appropriately, it was not stored securely in line with best practice.

Theme 3: Safe Care – Recommendations

Recommendation 5. *Relevant, useful and standardised Healthcare Associated Infection and antimicrobial resistance surveillance data regarding surgical site infection should be collected.*

Recommendation 6. *There should be a structured set of processes, policies and procedures developed, communicated and implemented hospital wide for the prevention and control of invasive medical device related infections, including urinary catheter care bundles.*

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. These are:

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 Beaumont and St Joseph's Hospitals, the Authority found:

- The Infection Prevention and Control Team and the Infection Prevention and Control Committee are aware of the importance of hand hygiene practice. Following the unannounced monitoring assessment by the Authority in July 2013, a target-driven hand hygiene Quality Improvement Training and Compliance Plan was submitted to the Authority in response to findings of poor hand hygiene training attendance and compliance. Line managers have been assigned responsibility for their teams' attendance at hand hygiene training. The Authority found evidence of significantly improved hand hygiene

compliance among all staff disciplines at this announced monitoring assessment.

- Clinical areas and patient equipment assessed had mostly improved at this announced assessment in all areas assessed, with some exceptions. The Authority was provided with adequate documentary and observational evidence to conclude that a robust quality improvement is in place that is closely monitored and managed.
- Corporate and clinical governance adequately demonstrated effective leadership regarding prevention and control of Healthcare Associated Infections in most respects. There was evidence of key posts being vacant for prolonged periods in the recent past. All posts were filled at the time of this monitoring assessment.
- There are 1.9 whole-time equivalent consultant microbiologists on the Infection Prevention and Control Team. The Authority found that there were high levels of non-compliance with antimicrobial prescribing guidance and there was routine surgical site infection surveillance in place. With this in mind, the hospital must assure itself in the interest of patient safety that the level of clinical availability of consultant microbiologists is sufficient to provide infection prevention and control expertise and leadership.
- The lack of adequate isolation facilities poses risk to patients of contracting Healthcare Associated Infections. The delay in implementing quality initiatives to address antimicrobial consumption findings in association with non-compliance with prescribing guidelines must be addressed as a priority.
- There was an inadequate evaluation of a urinary catheter care bundle pilot project. This care bundle should be rolled out throughout the hospital, as should the antibiotic prescribing care bundle.

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 Beaumont and St Joseph's Hospitals, the Authority found the two hospital sites were well integrated and worked as a single service. The Authority also found that governance of prevention and control of Healthcare Associated Infection was adequately documented and implemented. Arrangements are in place to ensure that the accountable person is informed regarding prevention and control of Healthcare Associated Infection activity in the hospital. A comprehensive and focused medical and surgical leadership to champion antimicrobial prescribing compliance and full attendance at standard precaution training in the hospitals would facilitate the reduction of risk to patients of acquiring Healthcare Associated Infections.

It is acknowledged by the Authority that all hospitals face the challenges of restricted resources. However, the evidence demonstrates that a clean environment, best practice in hand hygiene, antimicrobial stewardship, medical leadership and the use of care bundles where invasive devices are in use, contribute significantly to the reduction of Healthcare Associated Infections. Therefore, it is the duty of the Board of Management and the Senior Management Team in the Hospital to prioritise these issues and direct resources toward their full implementation in order to prevent and control the risk of Healthcare Associated Infections to patients in Beaumont and St Joseph's Hospitals.

In conclusion, the Authority found Beaumont Hospital to be partially compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*. A number of areas were identified that could potentially increase the possibility of patients contracting Healthcare Associated Infections. These risks have resulted in six recommendations being made to improve prevention and control of Healthcare Associated Infection governance and practice and to reduce risk of Healthcare Associated Infections to patients in Beaumont and St Joseph's Hospitals.

Beaumont and St Joseph's Hospitals must now develop a further 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 on the hospital's website within six weeks of the date of publication of this report.

The hospital should ensure the continued monitoring of its QIP in response to this report 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 *National Standards for the Prevention and Control of Healthcare Associated Infections* and is making quality and safety improvements that safeguard patients.

5. Recommendations

Recommendation 1. *There should be a clear communication strategy in place on the prevention and control of Healthcare Associated Infections, supported by robust operational arrangements, to ensure the effective communication of appropriate and timely information throughout the service, to service providers and appropriate agencies.*

Recommendation 2. *All patients who are found to be colonised and/or infected with a significant communicable/transmissible Healthcare Associated Infection or organism should be informed of their infection and/or colonisation status by the clinician, or clinical team, primarily responsible for their care as soon as diagnosis is made, and should be supplied with any relevant information*

Recommendation 3. *All hospital staff should receive mandatory standard precautions theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections.*

Recommendation 4. *The hospital should have a multidisciplinary infection prevention and control team in place which reflects the size, complexity and specialities of the services.*

Recommendation 5. *Relevant, useful and standardised Healthcare Associated Infection and antimicrobial resistance surveillance data regarding surgical site infection should be collected.*

Recommendation 6. *There should be a structured set of processes, policies and procedures developed, communicated and implemented hospital wide for the prevention and control of invasive medical device related infections, including urinary catheter care bundles.*

Appendix 1 – Themes and Essential Elements

NSPCHAI Standard	Theme	Essential Element
1,2,3, 4,5,6, 7,8,9, 10,11, 12.	**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.	**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. **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. **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.

1, 4, 5, 6.	**Workforce** The hospital should always be in a position to assure the service users, 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.	**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. **2(b)** All hospital staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections. **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 HCAIs.

1,2,3, 6,7,8, 9,11,12.	**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 HCAIs.	**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: ▪ peripheral intravenous catheter ▪ urinary catheter ▪ central venous catheter. **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 devises, 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.

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