



**Health  
Information  
and Quality  
Authority**

An tÚdarás Um Fhaisnéis  
agus Cáilíocht Sláinte

# **Report of the announced monitoring assessment at Sligo Regional Hospital, Co Sligo**

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

Date of announced on-site monitoring assessment: 30 April 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<sup>±</sup> for developing standards for the quality and safety of healthcare services. The *National Standards for the Prevention and Control of Healthcare Associated Infections* (NSPCHCAI) were approved by the Minister for Health and Children on 26 May 2009. Under the Health Act 2007, the Authority has the statutory responsibility, amongst other functions, for monitoring compliance with National Standards and advising the Minister for Health as to the level of compliance.

The NSPCHCAI provide a framework for health and social care providers to prevent or minimise the occurrence of Healthcare Associated Infections (HCAIs) in order to maximise the safety and quality of care delivered to all health and social care 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 NSPCHCAI and framed them 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.

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

## 1.1. Essential elements for safe, high quality care

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

## 2. Overview

### 2.1. Sligo Regional Hospital Profile<sup>‡</sup>

Sligo Regional Hospital is a 318-bed regional hospital providing a range of acute services to a population of over 100,000 across Sligo, Leitrim, south Donegal, and west Cavan. The regional services provided for the northwest include: neurology, dermatology, ear nose and throat (ENT), ophthalmology, rheumatology and orthodontics serving a population of over 213,000 throughout the northwest. The hospital employs a workforce of 1,328 whole-time equivalent staff. Emergency services are provided on a 365-day, 24-hour basis.

Multidisciplinary teams representative of medical, nursing, allied health professionals, management and general support staff play a pivotal role in the development, delivery, monitoring and evaluation of these services.

The services provided at the hospital include:

General surgery	General medicine	Ophthalmology	Gynaecology
Coronary care	Care of the elderly	Nephrology	Maternity
Critical care	Acute assessment	Neurology	Neonatology
ENT unit	Rheumatology	Paediatrics	Max oral facial
Orthopaedics	Oncology	Orthodontics	
Endoscopy	Haematology	Palliative care	

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

The hospital activity for 2012 is as follows:

<b>Activity</b>	<b>2012</b>
Inpatient discharges	17,349
Day cases	27,042
Emergency presentations	42,603
Emergency admissions	13,430
Births	1,608

### **3. Findings**

The findings of the announced monitoring assessment at Sligo Regional Hospital, County Sligo, are described below.

Authorised Persons from the Authority, Catherine Connolly Gargan, Breeda Desmond and Naomi Combe carried out the on-site component of the monitoring assessment on 30 April 2013 between 08:30hrs and 16:30hrs. The Authorised Persons from HIQA commenced the monitoring assessment in the Emergency Department (ED).

The areas subsequently assessed were:

- Emergency Department (ED)
- Medical 7 (Male Medical)
- Surgical North (Male Surgical).

#### **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)**

Sligo Regional Hospital is a stand-alone hospital within the Health Service Executive (HSE) West Region.

#### **Corporate governance structure**

The hospital is governed by an Executive Management Team (EMT), membership of which includes the Acting General Manager, or the Deputy General Manager in the absence of the Acting General Manager. Other members include the Director of Nursing, Clinical Director, head of human resources (a vacant post at the time of the monitoring assessment), Head of Finance, two consultant doctors nominated by the Medical Board and an allied health professional representative as documented in the terms of reference, revised and approved on 9 February 2013. The Clinical Director, heads of departments and Director of Nursing report to the Acting General Manager, who reports to the Area Manager with responsibility for Sligo/Leitrim and West Cavan. The Area Manager reports to the Regional Director of Operations (RDO) HSE West. The Acting General Manager had overall executive accountability, responsibility and authority for the quality and safety of the service.

The hospital confirmed that the Executive Management Team meetings, previously chaired by a medical consultant, were now chaired by the Acting General Manager or nominated deputy, in line with revised Terms of Reference approved on the 12 February 2013. The post of general manager, Sligo Regional Hospital, had been filled in an acting capacity for approximately 18 months prior to the announced monitoring assessment by the Authority.

While the post of human resource manager was vacant for the 18 months prior to the monitoring assessment, the hospital reported that this expertise was available through the Acting General Manager whose substantive post was that of Human Resource Manager of the hospital. This is not sustainable in the longer term.

Review of the minutes of the Executive Management Team evidenced that the prevention and control of Healthcare Associated Infections (to include aligned cost-effective initiatives) was not a standing item on the agenda. However, there was evidence of direct reporting of PCHCAI-related matters to the hospital's Executive Management Team through interim reports from the Microbiologist.

## **PCHCAI Governance**

### **Infection Prevention and Control Team**

An Infection Prevention and Control Team (IPCT) was in place in Sligo Regional Hospital. The Infection Control and Prevention Team reports to the Infection Prevention and Control Committee (IPCC). As the IPCT did not minute its meetings, there was no documented evidence of reciprocal feedback received by the Infection Prevention and Control Team regarding issues that it brought to the attention of the Infection Control and Prevention Committee. However, all members of the IPCT were also members of the IPCC and attended these meetings, where their PCHCAI contributions were discussed and minuted.

It was confirmed to the Authority by staff that formal meetings of the Infection Prevention and Control Team did not take place. The Team reported at assessment that they met informally on a daily basis or more often. The hospital stated that minutes of these informal meetings were not recorded; therefore content of topics discussed or decisions made were not available for reference. Terms of reference forwarded to the Authority were in draft format developed on 2 April 2013 which were approved on 23 April 2013, as reported by the hospital.

Members of the IPCT included two infection prevention and control nurses (IPCNs), one of which was appointed at assistant director of nursing level. Other members of the Team included a consultant microbiologist and a surveillance scientist. Their purpose was both operational and advisory in that the Team coordinated and facilitated an extensive hospital PCHCAI education programme and provided guidance and advice in relation to the prevention and control of infection and antibiotic prescribing in the hospital. The IPCT undertook selected PCHCAI surveillance, data collation, analysis and reporting of findings. A monthly PCHCAI-related report was also presented to the Executive Management Team by the Microbiologist. An Operational Governance Team (OGT) was in place, accountable to the Executive Management Team. The OGT membership consisted of the heads of departments and was chaired by the Deputy General Manager. The Team was responsible for the operational implementation of outcomes of decisions from the Executive Management Team. The Infection Prevention and Control Committee reported to the Executive Management Team through the Infection Prevention and Control Committee in relation to operational matters. The Executive Governance Team also received reports directly from the IPCC and liaised directly with the IPCC in respect of strategic developments.

The Acting General Manager was the named person with overall executive accountability, responsibility and authority for the quality and safety of the service in Sligo Regional Hospital.



## **Infection Prevention and Control Committee**

There was an Infection Prevention and Control Committee (IPCC) in Sligo Regional Hospital. Documentation submitted to the Authority confirmed that the all members of the Infection Control and Prevention Team attended the Infection Prevention and Control Committee meetings, which were held quarterly and had recently increased to two-monthly to meet the demands of an expanding agenda for discussion. Terms of reference were in place and were recently reviewed by the Committee to include multidisciplinary membership. The minutes of meetings demonstrated that information was forwarded from the Infection Prevention and Control Committee to the Executive Management Team through the hospital's Patient Safety and Risk Management Committee, who received reports and provided support and advice in relation to operational and strategic matters.

The Authority was informed that there was no budget allocation specifically for PCHCAI in Sligo Regional Hospital. HIQA was also informed by the hospital that priority allocation of minor capital resources was reported in relation to improving the hospital infrastructure from a PCHCAI perspective for 2013, for example, refurbishment of the orthopaedic ward to improve PCHCAI compliance.

Although not sustainable in the long term, the current stand-alone microbiologist post-holder provides interim support and advice out of hours. The absence of formal out-of-hours arrangements for microbiological expertise does not facilitate full compliance with the National Standards.

## **Drugs and Therapeutic Committee**

There was a Drugs and Therapeutic Committee (DTC) in place in Sligo Regional Hospital reporting through the Patient Safety and Risk Management Committee to the Executive Management Team. Terms of reference are in place and meetings are held every two months. The DTC reports to the Executive Management Team through the hospital's Patient Safety Committee.

At Sligo Regional Hospital, the principal forum for discussions and communication within the clinical division was reported to be through the Medical Board. Antibiotic stewardship was driven by the DTC. Although consultant representation from a number of specialties was in place at the DTC, the Clinical Director did not attend this forum. It was not clear from discussion that there was a medical governance model where all clinical leads reported to the Clinical Director. A lack of consultant surgical representation on the DTC was identified by the Committee in November 2012 as a barrier to best practice. This had not been resolved at the time of the monitoring assessment.

There was evidence of ongoing incidents of non-compliance with the antibiotic prescribing policy, despite implementation of a number of improvement initiatives to

resolve these findings. Surgical representation at the Drugs and Therapeutic Committee forum and clinical leads clearly reporting to a clinical director would enhance effective communication pathways and would ensure consistency and accountability for the implementation of, for example, hospital quality and safety initiatives in relation to antibiotic prescribing protocols.

### **HSE West Regional Healthcare Associated Infection (HCAI) Committee**

Sligo Regional Hospital is part of the HSE West Regional Healthcare Associated Infection (HCAI) multidisciplinary Committee. A number of members of the IPCC participate by teleconference in these Committee meetings held every six to eight weeks. Minutes are circulated electronically. There was evidence from the minutes of meetings held of multidirectional reporting of HCAI metrics and discussion.

During the course of the monitoring assessment, it was identified to the Authority that initiatives had been undertaken to strengthen the governance arrangements at Sligo Regional Hospital, including engagement with the National Lead for the HSE Clinical Governance Development. As a result, the hospital was selected as the pilot site in the HSE West Region for implementation of the Clinical Governance Development Programme. A hospital Quality and Safety Clinical Governance Development Project Team had been established. The Authority welcomes this initiative, and recommends that the governance findings of this monitoring assessment report be reflected in the discussions at this Clinical Governance Development forum, as well as at the Executive Management Team.

**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)**

Trend analysis and quality improvement initiatives were in place at a local level within the Infection Prevention and Control Committee. Sligo Regional Hospital also reported nationally to the Health Service Executive's Health Protection Surveillance Centre.

The hospital reported that there was no named accountable person responsible for the coordination of the PCHCAI surveillance programme. However, there was monitoring and reporting of five defined PCHCAI performance metrics, with trend analysis, reciprocal quality improvement initiatives and reporting at a local, regional and national level in place at the time of the monitoring assessment by the Authority. Defined PCHCAI performance metrics included, Methicillin-Resistant *Staphylococcus aureus* (MRSA) bloodstream infection and new cases of *Clostridium difficile* (C diff) associated diarrhoea rates, median antibiotic consumption rates,

alcohol hand rub consumption and hand hygiene compliance rates among hospital staff. Results evidenced outcomes that were consistently below or – in the case of alcohol hand gel – equal to, recommended national targets. The Infection Prevention and Control Team discussed the limitations of the lack of dedicated infection prevention and control software and of form-recognition software on surveillance data collection and analysis, and consequently surveillance reports. For example, the system in place at the time of the assessment could not support effective surgical-site infection rate surveillance. At the time of assessment all collated data had to be imputed manually except in the case of the Intensive Care Unit where the system automatically collects selected data. The hospital reported that manual analysis was not feasible due to human resource constraints including administration staff shortages. The Authority was also informed that the hospital did not have access to an integrated IT system in Sligo Regional Hospital capable of analysing the data collated. Although the hospital carried out some manual analysis of data, inadequate IT and administration support severely curtailed the hospital's capacity to comprehensively monitor some key performance outcomes and develop quality improvement plans to mitigate less than adequate findings on an ongoing basis.

Surveillance of local resistant organisms was taking place in Sligo Regional Hospital. Alert organism rates were being monitored with three-year comparison rates available. Alert organisms monitored included MRSA, MRSA bloodstream infections (MRSA BSIs), penicillin-resistant *Streptococcus pneumoniae* (PRSP), Vancomycin-Resistant Enterococci (VRE), *Clostridium difficile*, Norovirus, Extended spectrum betalactamase producing gram negative bacilli (ESBL), multi-drug resistant gram negative bacilli (MRGN), AmpC producing gram negative bacilli (AmpC GNB), *Neisseria meningitidis*, and invasive *Haemophilus influenzae* infections (H. influ). Although not in place at the time of the monitoring assessment, the hospital reported that it was its intention to commence monitoring of surgical site infection rates.

In May 2012 the hospital participated in the Voluntary European Centre for Disease Prevention and Control Point Prevalence Survey (PPS) of Hospital Acquired Infections (HAI) and Antimicrobial Use (AMU). The prevalence in relation to HAI was 4.71%. This compared favourably with 5.54% for HSE West hospitals and 5.25% nationally. In relation to antimicrobial use, Sligo Regional Hospital was again below the national average and had a prevalence of 33.51% compared to 37.65% for HSE West hospitals and 34.42% nationally. These positive 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 proactively managed by the hospital.

Sligo Regional Hospital participated in a point prevalence survey of hospital-acquired infection and antimicrobial use in European acute care hospitals over a three-week period in May 2012. Although the sample size for Sligo Regional Hospital was small,

indication for antimicrobial prophylaxis beyond one day was zero, which provided evidence that prescription of prophylaxis was appropriately short term and informed by the surgical procedure scheduled or carried out.

Research has shown that surgical site infections (SSI) are the third highest risk to patients in acute hospitals. Sligo Regional Hospital did not audit SSI at the time of assessment. However, reference to the need to put a surgical site infection surveillance programme in place was recorded throughout the documentation submitted to the Authority. The absence of a surgical site infection surveillance programme is not in line with the National Standards.

The Health Information and Quality Authority carried out an unannounced monitoring assessment previously in Sligo Regional Hospital on 28 February 2013. Staff hand hygiene training attendance and compliance at that time did not meet an adequate standard and an immediate quality improvement plan was sought by the Authority from the hospital to mitigate potential risk to patients of contracting HCAs. A quality improvement plan to mitigate risks posed by non-compliant hand hygiene practice by staff in the hospital was forwarded to the Authority by the hospital on 12 March 2013. Documentation was forwarded to evidence a hand hygiene audit programme with ward/department result comparison in place as a component of the risk assessment process to inform auditing frequency. An internal hand hygiene audit carried out in October 2012 of 23 wards and departments in the hospital recorded that 52% of wards/departments audited did not achieve the target compliance level of greater than or equal to ( $\geq$ ) 85% with one ward area scoring less than 55% compliance. An education and auditing schedule was developed in response to drive compliance. The audit schedule was demonstrated, areas scoring less than or equal to ( $\leq$ ) 75% would be audited monthly, wards scoring between  $\geq 75\%$  and  $\leq 85\%$  would be audited every two months and areas scoring  $\geq 85\%$  were audited every six months. Results were displayed per grade in the area audited for information and to motivate compliance. Although the quality improvement plan referenced improved staff attendance rates at training, the Authority could not conclude from its observations of hand hygiene compliance on the day of the announced assessment that hand hygiene procedural compliance had also improved to the same extent. The Authority observed 33 hand hygiene procedures of which 54% (18) were carried out in line with best practice recommendations.

The total turnaround time for any test is defined as the time from collection of the specimen from the patient until fully validated and authorised results are made available to the clinician/ward/department. Managing turnaround times of microbiological specimens promotes timely treatment of infection with appropriate antibiotics and reduces broad spectrum antibiotic prescribing activity. The Authority welcomed this activity in reducing the risk of antibiotic resistant organisms and targeting antibiotic treatment if required. Audits were also undertaken by laboratory staff for urine total turnaround times and positive blood culture reporting times.

Antimicrobial stewardship was in place in the hospital. Due to reported staffing shortages, the full-time antimicrobial pharmacist carried an additional clinical pharmacy portfolio in also fulfilling the role of Clinical Pharmacist for the Intensive Care Unit. Several references to issues with achieving full antibiotic prescribing compliance were documented in the minutes of the DTC meeting minutes. Antibiotic prescribing guidelines were updated in 2011 and a Reserve Antimicrobial Prescribing Policy placing prescribing controls on a number of specified antibiotics was developed and implemented as a pilot initiative on two wards in 2012, with favourable outcomes.

The hospital's Antimicrobial Consumption Report recorded a reduction in the level of antibiotic use during the year and also indicated that the usage within the hospital against national usage compared favourably. In the Drugs and Therapeutics Committee minutes of 26 February 2013 a number of barriers to hospital-wide roll-out were documented. Reported barriers included a lack of surgical membership on the DTC and clinical pharmacy on surgical wards, lack of awareness of the contents of the Reserve Policy among prescribers, lack of knowledge among clinical leads of their teams' prescribing practices and difficulties navigating the current IT system in relation to recording use of reserved antibiotics. Quality improvement initiatives were documented to address some of the barriers identified, including education for prescribers, a further request to the Medical Board for appointment of surgical representation to the DTC and review of information technology (IT) navigation barriers. However, there were no timelines identified for closure of constraining issues. Therefore while unresolved, these issues place patients at moderate risk of HCAIs.

Audit of the efficacy and effectiveness of the provision of maintenance services at the hospital was not undertaken. The hospital reported that all maintenance requests, including hygiene related requests, are logged centrally via an internal electronic information system. As the volume of requests received consistently outweighs the resources available, it was reported to the Authority that requests are reviewed daily and weekly and prioritised, based on risk criteria, to ensure the maintenance service is delivered in the most efficient way possible. However, the documentation reviewed by the Authority prior to the on-site component of the monitoring assessment referenced long timescales in completing some essential hygiene related works, for example, flaking paint on the floor of a patient shower identified as being unhygienic was reported in January 2012 and was not addressed until May 2012. The need for replacement splash backs behind sinks was also requested in May/June 2012 and was not addressed by December 2012. These delays do not support implementation of the PCHCAI Standards.

With the lack of surgical-site-infection-rate audit, partially implemented antimicrobial prescribing guidelines, and the absence of a robust integrated information management system to relieve the burden of manual feeding of collected data and

subsequent analysis, decision making regarding effective and efficient PCHCAI cannot be robust. Under these circumstances, it is difficult for the person accountable for PCHCAI to be fully confident that PCHCAI will be managed effectively and thus be able to make a judgment on the level of risk to patients.

The Authority found that the corporate and clinical governance arrangements in Sligo Regional Hospital required strengthening to adequately lead and support the present PCHCAI initiatives within the hospital. This is of concern to the Authority given that surveillance, antimicrobial stewardship and staff hand hygiene competence are essential elements in the prevention and control of Healthcare Associated Infections.

**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 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 service users, visitors and staff on how they can help to prevent and control the spread of HCAs. ^ An effective PCHCAI communication strategy ensures that information relating to HCAs is communicated and responded to in an efficient, timely, effective and accurate manner.

There was a communication strategy in place in Sligo Regional Hospital reviewed in March 2013, which documented the objective of informing service users, visitors and staff on a timely and ongoing basis on how they can prevent and control the spread of Healthcare Associated Infections. However, no further reference was made to PCHCAI communication in the hospital in the strategy.

There was no reference to an inter-healthcare patient discharge/transfer HCAI communication form introduced in February 2012 used to communicate HCAI infection status to the community healthcare services. The hospital also provided a number of information leaflets and had arrangements in place for informing patients and relatives of HCAI events. The Infection Prevention and Control Team gave a comprehensive description in discussions with the Authority, of PCHCAI information communications but a clear PCHCAI communication strategy was not available.

### **Theme 1: Leadership, Governance and Management – Conclusion**

^ NSPCHCAI, Standard 5, Rationale.

The lack of adequate, full-time dedicated roles for PCHCAI poses a potential risk of HCAs, both directly and indirectly, to patients in Sligo Regional Hospital. The antimicrobial pharmacist has an extra clinical workload assigned in addition to overseeing the roll-out of the additional antimicrobial prescribing controls and outcomes from actions identified to remove barriers to full compliance with the antibiotic stewardship programme. The hospital reported that there was inadequate administration support to assist with data management, non-compliance with hand hygiene recommendations and a deficit of an integrated information management system to support robust PCHCAI-related audit. This finding, combined with the lack of a formal PCHCAI-specific communication strategy all have the potential to impact negatively on PCHCAI. This suggests to the Authority that the prevention and control of HCAs was not managed effectively in all respects.

The evidence provided to the Authority did not adequately demonstrate how the Executive Management Team at Sligo Regional Hospital can be fully assured that the prevention and control of HCAs is regularly considered, assessed and managed to fully comply with the National Standards, and all associated risks to patients monitored and mitigated.

The Authority concluded that the corporate and clinical governance arrangements in Sligo Regional Hospital were not sufficiently effective to ensure compliance with all the requirements of the NSPCHCAI.

### **Theme 1: Leadership, Governance and Management – Recommendations**

**Recommendation 1.** *Prevention and control of Healthcare Associated Infections (to include aligned cost-effective initiatives) should be included as a standing item on the Executive Management Team meeting agendas to promote ongoing discussion and leadership at senior level.*

**Recommendation 2.** *The corporate and clinical governance arrangements at Sligo Regional Hospital should be reviewed in order to ensure compliance with the National Standards for Prevention and Control of Healthcare Associated Infections.*

**Recommendation 3.** *Minutes of the Infection Prevention and Control Team meetings should be recorded to promote reciprocal PCHCAI communication activities.*

**Recommendation 4.** *The PCHCAI surveillance programme should be developed to include monitoring of surgical site infection rates.*

**Recommendation 5.** *An efficient hospital-wide antimicrobial stewardship programme should be developed and implemented.*

**Recommendation 6.** *An audit of maintenance response times and review of the priority risk assessment procedure should be completed to ensure efficient mitigation of PCHCAI-related risks.*

**Recommendation 7.** *A robust integrated information management system should be put in place to support the PCHCAI surveillance programme at Sligo Regional Hospital.*

**Recommendation 8.** *A formal system of communication regarding PCHCAIs should be developed and implemented in Sligo Regional Hospital.*

**Recommendation 9.** *Roll-out of the Reserve Antibiotic Prescribing Policy to all clinical areas of Sligo Regional Hospital should be completed as a priority.*

**Recommendation 10.** *Sligo Regional Hospital should develop a PCHCAI-specific communication strategy, supported by robust operational arrangements, to ensure the effective communication of appropriate and timely PCHCAI information throughout the service.*

### 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)**

Members of the PCHCAI team were appropriately qualified. Members of the Infection Control and Prevention Team reported attendance at recent external ongoing professional education programmes. There was evidence that continuing professional education and development was also occurring in response to service requirements for informed lead out on implementation of PCHCAI-related initiatives, for example, infection control and prevention link nurse programme. Both nurses on the team had completed a Diploma in Infection and Control Nursing.

**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)**

Training in relation to PCHCAI was mandatory in Sligo Regional Hospital. The mandatory course was entitled 'Hand hygiene, Standard Precautions and Waste Management'. Data submitted referenced low staff attendances, especially amongst some cohorts of staff. Some ward managers demonstrated comprehensive local training databases for ward staff, which the Authority welcomed. Line managers had responsibility for ensuring their staff attended mandatory training. However, there was no central staff training database maintained at the time of the assessment. The hospital reported that training records for medical staff in the hospital were maintained by the manpower manager. The Authority was informed in discussions that manpower management staff informed consultants of non-attendances at PCHCAI education by doctors on their team. The hospital reported that it monitored numbers of non-attendees per grade of staff and had easy access to names of staff who did not attend mandatory training. It was reported to the Authority that medical staff attended induction training prior to commencing work in the hospital. Induction training was held on site twice yearly. In addition, hand hygiene education sessions for all disciplines were scheduled for one hour each week and trainers attended the ward/department on invitation from the manager. A quality improvement initiative in response to findings at the unannounced monitoring assessment by the Authority on 28 February 2013 detailed staff training targets to ensure all staff were trained by the end of 2013. The Authority discussed progress and was informed that greater than 50% of staff had been trained to date in 2013, which was ahead of target. This finding provided evidence that the hospital had prioritised hand hygiene education and training, in order to meet the NSPCHCAI and reduce the risks to patients of contracting HCAs. While there was some improvement in compliance with hand hygiene procedures observed by the Authority since the unannounced assessment of 28 February 2013, hand hygiene best practice was not yet fully embedded at all levels in the areas assessed.

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

### **Findings Essential Element 2(c)**

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 HCAs. Hand hygiene training was scheduled for students prior to commencing work placements and voluntary staff by the hospital. Although building contractors are provided with education on aspergillosis infection prevention and control and request PCHCAI-related advice, hand hygiene training is not routinely scheduled or hand hygiene competence of this group assured by the hospital.

### **Theme 2: Workforce – Conclusion**

Documentation supplied and discussions with members of the Executive Management Team indicated that members of the core PCHCAI team are appropriately qualified.

PCHCAI training in Sligo Regional Hospital is mandatory. Arrangements were in place to ensure that permanent hospital staff had completed theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections. A quality improvement plan to improve attendance at hand hygiene training was in place and was on target, although compliance with hand hygiene procedures was still not adequate. Documentation submitted to the Authority confirmed that attendance at PCHCAI-related training was audited. While not readily available at the monitoring assessment, the hospital reported that it could identify non-attendees at mandatory training by name and grade. Arrangements to ensure visiting clinical, undergraduate, agency staff and building contractor teams were competent in hand hygiene procedures required improvement as discussed in Essential Element 2(c).

### **Theme 2: Workforce – Recommendations**

**Recommendation 11.** *Sligo Regional Hospital should ensure it has the necessary monitoring and control arrangements in place to ensure the efficacy of training provided to visiting staff and contractors to the Hospital in relation to the prevention and control of Healthcare Associated Infections.*

### 3.3 Theme 3: Safe Care

#### Theme 3: Safe Care

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

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

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

#### Findings Essential Element 3(a)

One consultant microbiologist is employed at Sligo Regional Hospital for PCHCAI and microbiological services. This is a stand-alone position, without established locum arrangements for out of hours, holiday and emergency cover in place. Access to specialist microbiological advice is provided on a 'goodwill' basis rather than by any formal arrangement. There were no arrangements or links with other hospitals in the region to provide microbiological specialist relief for leave. The hospital reported that locum arrangements were not always available. Sligo Regional Hospital must consider the sustainability of one microbiologist providing a 24/7 service.

The laboratory at Sligo Regional Hospital was not accredited at the time of this announced assessment. The absence of an accredited laboratory at Sligo Regional Hospital is a direct non-compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections*. This non-compliance must be addressed as a priority.

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

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

### **Findings Essential Element 3(b)**

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

The Authority was informed that urinary catheter (UC) and peripheral intravenous catheter (PVC) care bundles were in use in the hospital.

### **Emergency Department (ED)**

Staff in the ED informed the Authority that PVC care bundles were in place and urinary catheter care bundles were in the process of being implemented. Management of PVCs, central venous catheter (CVCs) and UCs was supported by policy and procedure documents which informed practice and were demonstrated. The intravenous device assessment form was being used as the daily record of PVC monitoring. This included: time and date of PVC insertion, size of catheter and signature of the inserter. The Authority found that monitoring of PVCs also assessed PVC insertion site, patency with flush, whether dressing was intact, and assessment of need of the PVC. A phlebitis score (0 – 5) was part of the intravenous device assessment form which described degrees of possible inflammation of the PVC site. While the use of PVC care bundles was embedded in the ED, audits to monitor the adherence to SARI<sup>+</sup> guidelines for the effective management of the PVC care bundle had not commenced in the ED.

### **Surgical North**

Care bundles were not in use in Surgical North ward but it was reported to the Authority that care bundles were due to be introduced there. Policies and procedures were in place to support management of PVCs and UCs. Care of patients with PVCs or a UC was documented in their individual care plans. However, there was no evidence of audits undertaken in relation to compliance with best practice regarding management of PVCs or UCs to improve outcomes for patients.

### **Medical 7 (Male Medical)**

PVC and UC care bundles were in use on Medical 7. The Authority was informed that PVCs were inserted by doctors. The intravenous device assessment form (as

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<sup>+</sup> A Strategy for the Control of Antimicrobial Resistance in Ireland (SARI), Health Protection Surveillance Centre.

described previously) was in place here. Two PVC monitoring records were assessed by HIQA. One patient's PVC was inserted the morning of the assessment. The second patient's PVC monitoring commenced on 26 April 2013.

The documentation indicated that one PVC was removed, but there was no date of removal. A further two devices were inserted and recorded on the same assessment form: one PVC and a subcutaneous device. It was unclear from the documentation which device was being monitored. The phlebitis score was ticked rather than scored so it was unclear if the site was phlebitis-free or not. The patency of the PVC was not documented as having been checked on the previous day. While it was reported to the Authority that documentation commenced at point of entry, it was recorded in this patient's notes that insertion was by 'AMU staff' (Acute Medical Unit) instead of a named staff member in the AMU, to inform tracking and auditing procedures.

Weekly audits were undertaken in relation to PVC care bundles. Previously, these audits did not include checking that invasive device assessment documentation had been completed and this resulted in inaccurately high compliance results. The new weekly audit forms demonstrated that the intravenous device assessment forms are now part of the audit tool and this will give a more accurate picture of compliance. This will enable trending and analysis to inform remedial actions and improve patient outcomes.

## **Conclusion**

Overall the Authority found that although peripheral intravenous catheter (PVC) care bundles were in use and embedded in the Emergency Department, audits were not undertaken to determine their effectiveness. Surgical North ward was in the process of introducing care bundles. Care of PVCs and urinary catheters (UCs) was documented in patient care plans. However, audits were not undertaken to ensure compliance with best practice regarding management of PVCs or UCs. In the absence of auditing, impact on outcomes cannot be evaluated. Care bundles were in place in Medical 7 ward for PVCs and UCs. However, they were not embedded into the management of invasive devices at operational level. This was demonstrated by incomplete documentation.

The implementation of a structured set of processes has been proven internationally to improve patient outcomes regarding PCHCAI and to prevent or reduce medical device related infections. Care bundle documentation reviewed by the Authority relating to peripheral intravenous catheters would suggest that the relevance and value of such a chart in reducing or preventing a HCAI is not comprehensively

understood by all ward staff in Sligo Regional Hospital. This presents a moderate risk of HCAs to patients in the hospital.

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

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

### **Findings Essential Element 3(c)**

#### **Surgical site infection rates**

Surgical site infections are one of the most common Healthcare Associated Infections (HCAs).<sup>\*</sup> The rate of surgical site infections is recognised as an important indicator of patient care and quality. Surgical site infection rate surveillance was not being undertaken. The hospital reported that the current information management system could not support effective surgical site infection rate surveillance. The hospital also reported that the Infection Prevention and Control Committee (IPCC) was in the process of exploring alternative means to commence monitoring of surgical site infections as soon as practically possible.

Audit provides a useful key quality indicator to enable adequate monitoring of infection. Discussion with the infection Prevention and Control Team demonstrated their knowledge and support for commencement of a surgical site infection surveillance programme. The hospital reported a commitment to commencing surveillance of surgical site infection rates as a priority.

#### **Environmental and equipment hygiene**

Sligo Regional Hospital published an annual hygiene service plan for 2013. Regular audit of the environment and equipment hygiene was demonstrated to the Authority and coordinated by the Hygiene Services Manager. Two separate detailed audits were in place, completed monthly by members of the Hygiene Services Team and

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<sup>\*</sup> 'Surveillance of Surgical Site Infection in Ireland', SARI, Health Protection Surveillance Centre.

also by a senior management team. Quality improvement action plans were developed in response to findings. However, timeframes were not always stated clearly and the closing off of actions required was therefore not timely because many of the actions required were repeated for a number of months. Quality improvement was not consistently sustained with similar non-compliances recorded and action plans reopened in the same areas. There was no evidence of escalation of repeated non-compliance issues.

The previous unannounced assessment of 28 February 2013 by the Authority found that the hospital was generally not clean and placed patients and infants at risk of HCAs. The hospital subsequently developed a quality improvement plan to address the findings by the Authority. There was evidence of improvement at this monitoring assessment, which included: a painting refurbishment programme, improved compliance with isolation procedures, and securing areas of risk and preventing unauthorised access. However, cleanliness of the environment and patient equipment did not comply fully with best practice in some areas assessed as documented in Essential Element 3(e). These findings posed a moderate risk to patients of contracting HCAs.

### **Antimicrobial prescribing feedback**

The inappropriate use of antimicrobials is associated with the emergence of, and rising levels of, antimicrobial resistance. Antimicrobial resistance can be controlled with an effective antimicrobial stewardship programme.

The Hospital reported it had elements of an antimicrobial stewardship programme in place, including antibiotic prescribing guidelines. A copy of this guideline forwarded to the Authority prior to the announced monitoring assessment did not include surgical prophylaxis guidelines. However, the Authority was advised that this information was available in the reference booklet published by the hospital, copies of which were distributed to all medication prescribers. Other than a Point Prevalence Survey undertaken in May 2012, no audit of adherence to the surgical prophylaxis guidelines had yet been undertaken. There was no clinical pharmacist attending the surgical wards. Within a significantly limited pharmacy staffing resource, a pharmacist was assigned an antimicrobial stewardship role based on critical analysis of highest need. However, the assigned pharmacist also had clinical pharmacy commitments to the Intensive Care Unit which may compromise time available for a stewardship role.

In addressing non-compliance with the hospital's revised Antibiotic Guidelines published in 2011, an Antimicrobial Reserve Policy was piloted with positive results. This was subsequently approved for hospital-wide use. However, roll-out and implementation was delayed due to a number of documented barriers. Documented barriers to effective implementation included: absence of senior surgical membership

on the Drugs and Therapeutic Committee (DTC), lack of awareness of the contents of the Reserve Policy among prescribers, lack of knowledge among clinical leads of their teams' prescribing practices, and difficulties navigating the current IT system in relation to recording use of reserved antibiotics as discussed in Essential Element 1(b). Although actions were documented to overcome these barriers, timeframes for their completion were loose and responsibility was not clearly assigned.

## **Hand hygiene**

Hand hygiene is recognised internationally as the most significant preventative measure to prevent HCAs in healthcare services. The unannounced monitoring assessment by HIQA on 28 February 2013 observed that 23 of the 39 hand hygiene opportunities were taken. Of the 23 opportunities taken, 11 complied with best practice hand hygiene technique. The remaining 12 opportunities that were taken were found to be non-compliant due to not following best practice technique for hand washing or use of alcohol gel and/or length of time taken to complete hand hygiene, wearing a wristwatch and wearing sleeves to wrists. While there was some improvement in hand hygiene compliance found during the on-site component of this announced monitoring assessment, there was still significant non-compliance with best practice hand hygiene procedures found. On this announced monitoring assessment the Authority observed the following hand hygiene practices.

33 hand hygiene opportunities were observed:

- 20 before touching a patient
- five after touching a patient
- six after touching patients' surroundings
- two after bodily fluid exposure risk.

The Authority observed that 19 out of 33 hand hygiene opportunities were taken. Of the 19, 18 were observed to comply with best practice hand hygiene technique. Non-compliance consisted of not following best practice technique for hand washing and not wearing protective gloves during an exposure risk.

Whilst the Authority recognises that the hospital had implemented a number of initiatives to improve hand hygiene compliance since the previous HIQA unannounced assessment, compliance rates for the hospital from this announced assessment would indicate that a culture of hand hygiene best practice is not yet operationally embedded. This should be addressed as a priority by the hospital.



## **Infection related to the use of invasive medical devices**

There was evidence of input from the Regional HCAI Committee for HSE West of the difficulties experienced by Sligo Regional Hospital regarding implementation of care bundles on invasive medical device infection monitoring as referenced in the minutes of the Executive Management Team on 9 April 2013. The Authority found that care bundles were not yet embedded on an operational level throughout the hospital and were at varying stages of implementation. Although information was collated, it was not analysed to quantify compliance or infection rates associated with the invasive device used. Efficacy of care bundles used could therefore not be quantified, and robust monitoring of infections related to the use of invasive medical devices was not in place. While the Intensive Care Unit had care bundles in place and was collating observations electronically, the IT system collating the information did not lend itself to data analysis. The hospital reported that as extraction of data for analysis was human-resource dependent, staffing shortages had a negative impact on implementation of this activity.

The Authority reviewed details of an audit completed for the national Catheter Related Infection Surveillance Study (1 November 2010 – 31 January 2011) by the Intensive Care Unit. No catheter related infections were reported in the Intensive Care Unit during the period and overall completion of surveillance was 100% for the period of the study.

### **HCAI trend rates and analysis**

The hospital demonstrated a system of reporting PCHCAI-related data or statistics, standardised surveillance data and any outbreaks at local, regional and national level. Documentation provided demonstrates that infection rates are reported as part of the infection prevention and control key performance indicator reports as well as detailed quarterly surveillance reports.

An audit of compliance with local guidelines for the prevention and control of Methicillin-Resistant *Staphylococcus aureus* (MRSA) at Sligo Regional Hospital in 2011 found that 77% of newly diagnosed patients with MRSA were diagnosed within three calendar days of admission. The audit found that a significant number of patients with newly diagnosed MRSA were transfers from other healthcare facilities or were inpatients in the hospital in the previous 12 months. The results of the audit demonstrated that the risks associated with previous hospital admissions and importance of prompt screening needed to be included in training information.

Isolation of patients with suspected or diagnosed communicable infection has been a challenge for the hospital due to insufficient numbers of isolation rooms. The hospital reported at the time of assessment by HIQA that a building programme for a 140-room new-build was at planning stage.

**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).**

There was a Patient Safety and Risk Management Committee in the hospital. Membership was broad and included representation from a number of sub-groups/committees. These included Medical Devices Group, Infection Prevention and Control Committee, Radiation Committee, Haemovigilance Committee, Drugs and Therapeutics Committee and Health and Safety Committee. The Patient Safety and Risk Management Committee meets every six to eight weeks and reports to the Executive Management Team.

At the time of assessment, Sligo Regional Hospital reported that there had been seven infection outbreaks in the hospital in the 12 months prior to the monitoring assessment. No causative organism was isolated in two of the seven outbreaks. Documentation forwarded to the Authority demonstrated comprehensive root-cause analysis with remedial actions identified and implemented in each case.

Sligo Regional Hospital had systems and structures in place to support the proactive reporting, identification and management of PCHCAI-related adverse events. Serious risks were reviewed and closed when actions to mitigate them were implemented. Most of the incidents logged referenced inappropriate placement of patients with suspected or confirmed communicable infections due to a shortage of isolation rooms. The hospital informed the Authority that approval for funding for a 140-room new-build was received and, although at a planning stage of development, will mitigate risks of spread of communicable infection by providing additional isolation facilities. A risk advisor was employed full-time for the hospital. Comprehensive reporting of PCHCAI-related incidents was demonstrated at a functional level (administration, nursing and clinical), with a centralised database in place. However, risk assessment values were unclear and were not always consistent. The hospital attributed this finding to the database software options available for selection and that it was in the process of reviewing them.

The Quality and Accreditation Department carry out an annual review of patient satisfaction compiled from analysis of comment cards which were available throughout the patient areas in the hospital. A quality improvement action plan was developed in response which was communicated to the Executive Management Team and communicated back to the speciality teams involved.

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

## Findings Essential Element 3(e)

### Emergency Department

Overall, the Authority observed improvement in the environment and patient equipment in the Emergency Department (ED) since the unannounced monitoring assessment of 28 February 2013, with some exceptions.

### Environment and equipment

The Authority observed the following:

- Previously the Authority identified that chairs in the waiting area of the ED were torn. These were now intact and clean.
- Patient trolleys assessed were found to be clean and intact.
- Near-patient equipment was assessed to be clean and free of dust.
- Fixtures and fittings including light fittings and call bells were clean.
- Hand hygiene sinks in clinical areas assessed were found to comply with the HSE's Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005).
- Daily cleaning sign-off sheets were displayed and were up to date.

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

- Radiator surface paint was chipped exposing the base metal surface, hindering effective surface cleaning.
- While displayed information was appropriate and up to date, some signage was not laminated or covered with a washable surface for effective cleaning. This was identified in the previous monitoring assessment.
- The general work station was observed to be cluttered and dusty with a sticky residue on the worktop surface.
- Grit and pieces of waste paper were found on the floor surface in the 'dirty'<sup>‡</sup> utility room.

The following was observed in the Minor Operations room:

- the flooring was stained
- grit and debris was visible on the floor

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

- part of the surface of a cupboard door was missing exposing the inner plywood
- rust coloured staining was visible alongside the blood gas testing machine and on the dressing storage trolley
- light dust and sticky residue on shelving
- the surface of the examination couch was scuffed and scratched
- vinyl covering on a chair was torn
- paint was chipped and there were several holes in the walls where equipment was previously in situ.

### **Waste segregation**

There was evidence of good practice, such as the following:

- Clinical waste information posters identifying waste segregation were observed in the 'dirty' utility room where waste was stored prior to collection.

### **Cleaning equipment**

There was evidence of good practice, such as the following:

- The cleaners' room was locked and coded.
- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols.
- Cleaning equipment was clean and a colour-coded system was in place and demonstrated.
- Appropriate advisory signage was observed for use of products used for cleaning and disinfection. Safety data sheets were accessible within the clinical areas.

### **Linen**

There was evidence of good practice, such as the following:

- Used linen was segregated in line with best practice, evidenced by colour-coded linen bags and alginate bags used in the clinical areas.
- Clean linen was stored appropriately. The linen storage room was found to be clean and free of dust, dirt, grit or inappropriate equipment. Linen examined was free of stains and was intact.
- The Authority were informed that curtain changing was undertaken every three months and when necessary and on each patient discharge from the isolation rooms. Curtains used in the ED are disposable.

## Water outlet flushing

There was evidence of good practice, such as the following:

- Outlet flushing records demonstrated daily flushing of infrequently used showers, which is undertaken by household staff.

## Surgical North

Overall the Authority found that the patient environment and the equipment assessed were generally clean, with some exceptions.

## Environment and equipment

The Authority observed the following:

- Floors and walls throughout the clinical areas were observed to be clean and free of dirt, grit and spillages.
- Fixtures and fittings including light fittings, call bells and oxygen administration equipment were clean.
- Walls in patient areas were recently painted and were clean.
- Chairs were covered with a vinyl washable material and were clean and intact.
- Bathrooms assessed were clean, tidy and dust free.
- There was a cleaning schedule in place for patient equipment including mattresses. There was a tracking system in place to determine decontamination of mattresses with associated audits of mattresses.
- The clean utility was locked with a coded lock. It was clean, tidy and dust-free.
- A single room used for isolation purposes had en suite facilities. Precautionary signage was displayed and was clean and intact with a washable surface. Protective personal equipment was available. Appropriate clinical waste bins were in situ.
- Hand-wash sinks in the clinical area complied with the HSE's Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005).
- Daily cleaning sign-off sheets were displayed and were up to date.

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

- Door frames were chipped and grubby.

- Solidified matter in corners on the undercarriage of some bed frames was observed by the Authority.
- A domestic-style sink which did not comply with the HSE's Health Protection Surveillance Centre's *Guidelines for Hand Hygiene* (2005), was designated as the hand hygiene sink in the 'dirty' utility area.
- A port area at the base of the bedpan washer in the 'dirty' utility room was unclean, with visible grit and dust present.

## **Waste segregation**

There was evidence of good practice, such as the following:

- Waste information posters identifying waste segregation were displayed in the 'dirty' utility and waste segregation areas.
- All waste, including clinical waste was tagged before leaving the point of production ensuring traceability if necessary. Waste for collection was stored and segregated in individual secure waste specific rooms.

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

- There were spillages visible on the floor of the clinical waste segregation room and some ceiling tiles were missing.

## **Cleaning equipment**

There was evidence of good practice, such as the following:

- Authorised Persons from HIQA observed that the cleaning room containing potentially hazardous cleaning solutions were locked and the room was inaccessible to unauthorised persons in line with best practice.
- Cleaning staff spoken with by the Authority were knowledgeable regarding infection prevention and control protocols
- Cleaning equipment was clean with an established cleaning process evident. A colour-coded system was in place and demonstrated in the area assessed.

## **Linen**

There was evidence of good practice, such as the following:

- Clean linen was stored appropriately in a dedicated linen cupboard. Used linen was segregated in line with best practice, evidenced by colour-coded linen bags and alginate bags used in the clinical areas.
- Clean linen assessed by the Authority was found to be intact and free of stains.
- The Authority was informed that, as standard, curtains were changed every three-months or as necessary. Curtains were changed following each patient discharge in the isolation rooms. Local records of curtain changing were demonstrated. Disposable curtains were introduced since the previous monitoring assessment.

## **Water outlet flushing**

There was evidence of good practice, such as the following:

- Records of water outlet flushing were demonstrated.

## **Medical 7**

Overall the Authority found that the patient environment and the equipment assessed were generally clean, with some exceptions.

## **Environment and equipment**

There was evidence of good practice, such as the following:

- Floors in the clinical area were clean and free of grit, dust and spillages.
- High and low surfaces of patient areas were clean and dust-free.
- Chairs were covered with a vinyl washable material and were clean and intact.
- Mattresses assessed were clean and intact.
- Patient equipment, for example, intravenous stands and pumps were clean.

However, there was also evidence of practice that was not compliant with the National Standards, such as:

- Three bed tables were assessed, with the wooden surface of one table being worn which hindered effective cleaning.
- Light dust was observed on the undercarriage of bed frames assessed.

The following was observed in the 'multipurpose room':

- A new storage system was introduced which enabled patient equipment to be stored neatly and ensured that equipment was not stored inappropriately on the floor. However, needles and syringes were also stored there and the room was not locked or lockable and therefore unauthorised access was not prevented. This posed a safety risk of unauthorised persons accessing this area.

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

- Paint was missing from walls and skirting boards. Bedpans were decontaminated but were not inverted while stored.
- There were two sinks in the dirty utility. While hand hygiene instruction posters were displayed in this room, there was no signage indicating which sink was designated for hand-washing purposes.

### **Waste segregation**

There was evidence of good practice, such as the following:

- Clinical waste information posters identifying waste segregation were displayed in the area assessed.
- Hazardous waste was tagged before leaving the point of production ensuring traceability if necessary.

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

- While the segregation waste room was lockable with a coded lock, it was unlocked, enabling unauthorised access, which is not in keeping with best practice.

### **Cleaning equipment**

There was evidence of good practice, such as the following:

- The cleaners' room was locked during the monitoring assessment. Cleaning staff spoken with by the Authority were knowledgeable about infection prevention and control protocols and procedures.
- A colour-coded cloth system was in place and demonstrated in the area assessed.
- Cleaning schedules were displayed in all areas and recorded each time cleaning was completed.



## **Linen**

There was evidence of good practice, such as the following:

- Clean linen was stored in a dedicated linen press which was tidy, free of dust, grit or spillages. Unused linen was free of stains and was intact. Segregation of linen was demonstrated and found to be in line with best practice.
- The Authority was informed that, as standard, curtains were changed on a three-monthly basis or when necessary, by household staff. Curtains were changed following each patient discharge from the isolation rooms.

## **Patient isolation rooms**

There were two patients requiring care in isolation rooms.

- Appropriate clear signage was in place identifying precautionary measures in progress for isolation purposes.
- Personal protective equipment (PPE) was in place and the Authority observed it was used appropriately.
- It was reported to the Authority that clinical waste bins were in place in each isolation room for disposal of PPEs and other such items.

## **Water outlet flushing**

Water outlet flushing was undertaken by healthcare assistants on a daily basis and the Authority viewed daily flushing records.

## **Theme 3: Safe Care – Conclusion**

In conclusion, the Authority found that the ward area environment and equipment was generally clean, with some exceptions in each area assessed. Floors were dusty with grit in evidence. 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 PPE 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 12.** *Sligo Regional Hospital should make the necessary arrangements to ensure access to an accredited laboratory.*

**Recommendation 13.** *Sligo Regional Hospital should put in place arrangements to ensure that specific care bundles and/or policies, procedures and guidelines are developed, communicated, implemented and their efficacy monitored.*

**Recommendation 14.** *Sligo Regional Hospital should put in place clear accountability arrangements that ensure all members of the workforce are aware of their responsibilities in relation to hand hygiene practice.*

**Recommendation 15.** *As a matter of priority, Sligo Regional Hospital should progress initiatives to ensure the monitoring of surgical site infections and infections related to the use of invasive medical devices.*

**Recommendation 16.** *Sligo Regional Hospital should revise its risk management process to ensure each risk is appropriately graded to facilitate the hospital to mitigate risk with priority actions to mitigate.*

## 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 Sligo Regional Hospital, the Authority found:

- The Infection Prevention and Control Team and the Infection Prevention and Control Committee were cognisant of the importance of hand hygiene practice. A target driven hand hygiene Quality Improvement Training Plan was forwarded to the Authority in response to findings of poor hand hygiene training attendance and compliance at the unannounced assessment by the Authority on 28 February 2013. While training was on target, with over 50% of staff trained at the time of this announced monitoring assessment, compliance at operational level was not fully embedded. The Authority concluded that staff were not taking adequate responsibility for their hand hygiene practices. Line managers were assigned responsibility for their teams' attendance at hand hygiene training. The Infection Prevention and Control Team was cognisant of the low attendance of staff at hand hygiene training and the levels of compliance with hand hygiene at the unannounced assessment of 28 February 2013. While the reciprocal quality improvement plan in place was achieving improved training attendance rates, operational hand hygiene procedure compliance was still not adequate.
- Clinical areas and patient equipment assessed were cleaner at this announced assessment than at the assessment in February 2013. However, the environment and patient equipment hygiene was still not compliant with the NSPCHCAI.
- Corporate and clinical governance in Sligo Regional Hospital did not adequately demonstrate effective leadership regarding PCHCAI in some respects. Neither antimicrobial stewardship nor surveillance were fully developed, discernible by incomplete roll-out of the Antibiotic Reserve Policy in addition to non-surveillance of surgical site infection rates. These are

essential in preventing and controlling Healthcare Associated Infections. The lack of a robust information management system to collate and analyse PCHCAI data was repeatedly documented throughout the minutes of meetings and summary reports without any conclusive response from the Executive Management Team.

- There was an inconsistent completion of care bundle documentation. Care bundles were at varying stages of implementation and were not audited. This suggested that they were not embedded into the management of invasive devices at operational level in the areas assessed.

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 Sligo Regional Hospital, the Authority found that PCHCAI governance was adequately documented. However, key posts, such as a designated antimicrobial pharmacist, and formal arrangements for specialist microbiological advice out of hours were absent from the structure. Arrangements were in place to ensure that the accountable person is informed regarding PCHCAI activity in the hospital through monthly reports submitted by the Infection Prevention and Control Team. However, there was ongoing lack of surgical input into the Drugs and Therapeutics Committee, despite many requests to the Medical Board for a nominee. A comprehensive and focused executive commitment and medical leadership to champion PCHCAI in Sligo Regional Hospital would facilitate the reduction of risk to patients of acquiring HCAs.

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 HCAs. Therefore it is the duty of the Executive Management Team in Sligo Regional Hospital to prioritise these issues and direct resources toward their full implementation in order to prevent and control the risk of HCAs to patients in Sligo Regional Hospital.

In conclusion, the Authority found Sligo Regional Hospital to be partially compliant with the *National Standards for the Prevention and Control of Healthcare Associated Infections*. A significant number of risks were identified that could potentially increase the possibility of patients contracting HCAs. These risks have resulted in 16 recommendations being made to improve PCHCAI governance and practice and to reduce risk of HCAs to patients in Sligo Regional Hospital.

Sligo Regional Hospital 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 its webpage on the Health Service Executive's (HSE'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 NSPCHCAI and is making quality and safety improvements that safeguard patients.

## 5. Recommendations

**Recommendation 1.** *Prevention and control of Healthcare Associated Infections (to include aligned cost-effective initiatives) should be included as a standing item on the Executive Management Team meeting agendas to promote ongoing discussion and leadership at senior level.*

**Recommendation 2.** *The corporate and clinical governance arrangements at Sligo Regional Hospital should be reviewed in order to ensure compliance with the National Standards for Prevention and Control of Healthcare Associated Infections.*

**Recommendation 3.** *Minutes of the Infection Prevention and Control Team meetings should be recorded to promote reciprocal PCHCAI communication activities.*

**Recommendation 4.** *The PCHCAI surveillance programme should be developed to include monitoring of surgical site infection rates.*

**Recommendation 5.** *An efficient hospital wide antimicrobial stewardship programme should be developed and implemented.*

**Recommendation 6.** *An audit of maintenance response times and review of the priority risk assessment procedure should be completed to ensure efficient mitigation of PCHCAI-related risks.*

**Recommendation 7.** *A robust integrated information management system should be put in place to support the PCHCAI surveillance programme at Sligo Regional Hospital.*

**Recommendation 8.** *A formal system of communication regarding PCHCAIs should be developed and implemented in Sligo Regional Hospital.*

**Recommendation 9.** Roll-out of the Reserve Antibiotic Prescribing Policy to all clinical areas of Sligo Regional Hospital should be completed as a priority.

**Recommendation 10.** Sligo Regional Hospital should develop a PCHCAI-specific communication strategy, supported by robust operational arrangements, to ensure the effective communication of appropriate and timely PCHCAI information throughout the service.

**Recommendation 11.** Sligo Regional Hospital should ensure it has the necessary monitoring and control arrangements in place to ensure the efficacy of training provided to visiting staff and contractors to the Hospital in relation to the prevention and control of Healthcare Associated Infections.

**Recommendation 12.** Sligo Regional Hospital should make the necessary arrangements to ensure access to an accredited laboratory

**Recommendation 13.** Sligo Regional Hospital should put in place arrangements to ensure that specific care bundles and/or policies, procedures and guidelines are developed, communicated, implemented and their efficacy monitored.

**Recommendation 14.** Sligo Regional Hospital should put in place clear accountability arrangements that ensure all members of the workforce are aware of their responsibilities in relation to hand hygiene practice.

**Recommendation 15.** As a matter of priority, Sligo Regional Hospital should progress initiatives to ensure the monitoring of surgical site infections and infections related to the use of invasive medical devices.

**Recommendation 16.** Sligo Regional Hospital should revise its risk management process to ensure each risk is appropriately graded to facilitate the hospital to mitigate risk with priority actions to mitigate.

## Appendix 1 – Themes and Essential Elements

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

<b>NSPCHAI Standard</b>	<b>Theme</b>	<b>Essential Element</b>
1, 4, 5, 6.	<p><b>Workforce</b></p> <p>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.</p>	<p><b>2(a)</b> Members of the core PCHCAI team must have the appropriate qualifications, specific training, skills and competencies in infection control, antimicrobial stewardship and HCAI surveillance. They must undergo continuing professional education and development on a regular basis.</p> <p><b>2(b)</b> All hospital staff receive mandatory theoretical and practical training in relation to the prevention and control of Healthcare Associated Infections.</p> <p><b>2(c)</b> There are arrangements in place to ensure that visiting clinical, undergraduates and agency staff are competent in the core principles for the prevention and control of HCAs.</p>



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

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