



**Health  
Information  
and Quality  
Authority**

An tÚdarás Um Fhaisnéis  
agus Cáilíocht Sláinte

# **Report of the announced inspection of medication safety at Sligo University Hospital.**

**Date of announced inspection:  
14 December 2016**



## **About the Health Information and Quality Authority**

The Health Information and Quality Authority (HIQA) is an independent authority established to drive high-quality and safe care for people using our health and social care services in Ireland. HIQA's role is to develop standards, inspect and review health and social care services and support informed decisions on how services are delivered.

HIQA aims to safeguard people and improve the safety and quality of health and social care services across its full range of functions.

HIQA's mandate to date extends across a specified range of public, private and voluntary sector services. Reporting to the Minister for Health and the Minister for Children and Youth Affairs, HIQA has statutory responsibility for:

**Setting Standards for Health and Social Services** — Developing person-centred standards, based on evidence and best international practice, for health and social care services in Ireland.

**Regulation** — Registering and inspecting designated centres.

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**Monitoring Healthcare Safety and Quality** — Monitoring the safety and quality of health services and investigating as necessary serious concerns about the health and welfare of people who use these services.

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## **1. Introduction**

Medications are the most commonly used intervention in healthcare, and advances in medication usage continue to play a key role in improving patient treatment success. However, where medicines are used, the potential for error, such as in prescribing, administering or monitoring, also exists. While most medication errors do not result in patient harm, medication errors have, in some instances, the potential to result in catastrophic harm or death in patients.

Medication-related events were the third most common type of adverse event recorded in the Irish National Adverse Events Study.<sup>1</sup> Medication safety has also been identified internationally as a key focus for improvement in all healthcare settings and it is estimated that on average, at least one medication error per hospital patient occurs each day.<sup>2</sup>

HIQA's medication safety monitoring programme, which commenced in 2016, aims to examine and positively influence the adoption and implementation of evidence-based practice in public acute hospitals around medication safety. HIQA monitors medication safety against the *National Standards for Safer Better Healthcare*<sup>3</sup> to determine if hospitals have effective arrangements in place to protect patients from harm related to medication use.

An expert advisory group was formed to assist with the development of this medication safety monitoring programme. The advisory group membership included patient representation, alongside members with relevant expertise from across the Irish health service. Specific lines of enquiry were developed to facilitate medication safety monitoring. The lines of enquiry which are aligned to HIQA's *National Standards for Safer Better Healthcare* are included in Appendix 1 of this report. Further information can be found in a *Guide to the Health Information and Quality Authority's Medication Safety Monitoring Programme in Public Acute Hospitals 2016*<sup>4</sup> which is available on HIQA's website: [www.hiqa.ie](http://www.hiqa.ie)

An announced medication safety inspection was carried out at Sligo University Hospital by Authorised Persons from HIQA; Aileen O' Brien, Kathryn Hanly and Shane Grogan. The inspection was carried out on 14 December 2016 between 09.30hrs and 16.30hrs. Interviews were held in Sligo University Hospital with the following groups:

- Group one: a medical senior house officer, a surgical intern and a basic grade pharmacist
- Group two: the Chair of Drugs and Therapeutics Committee, the Chief Pharmacist, and the Head of Risk Management
- Group three: a clinical director, the General Manager and the Director of Nursing

Inspectors visited the following clinical areas and spoke with staff and reviewed documentation:

- Surgical North Ward
- Medical South Ward

In addition a survey was conducted among outpatients in the Outpatients Department.

HIQA would like to acknowledge the cooperation of staff who facilitated and contributed to this announced inspection and the hospital outpatients who spoke with inspectors.

## **2. Findings at at Sligo University Hospital**

The following sections of this report present the general findings of this announced inspection which are aligned to the inspection lines of inquiry.

### **2.1 Governance and risk management**

#### **Lines of enquiry:**

- Patient safety is enhanced through an effective medication safety programme underpinned by formalised governance structures and clear accountability arrangements.
- There are arrangements in place to identify report and manage risk related to medication safety throughout the hospital.

Sligo University Hospital had a well established Drugs and Therapeutics Safety Committee. The Committee was responsible for the governance of medication management and for ensuring its safety.<sup>5</sup> The Drugs and Therapeutics Safety Committee was one of 10 groups or committees that reported into the hospital's Quality and Safety Executive Committee. This group, in turn reported into the Executive Management Team.

The Drugs and Therapeutics Safety Committee had recently updated its terms of reference which outlined the committee's objectives, membership, frequency of meetings and reporting relationships. The committee was multidisciplinary and included community hospital and general practice representation. A review of minutes of committee meetings indicated that while there was good representation on the committee, attendance at these meetings varied.

The Antimicrobial Stewardship Committee was a sub-committee of the Drugs and Therapeutics Safety Committee. The Antimicrobial Pharmacist provided regular feedback to the committee on antimicrobial stewardship activities.

Sligo University Hospital was also represented in the recently formed Saolta Hospitals Group Drugs and Therapeutics Committee. A review of this committee was outside the scope of this inspection. However, formation of this committee this demonstrated that there was collaboration about medication management at hospital group level.

Sligo University Hospital did not have a formalised medication safety strategy or medication safety programme. However it was evident that a medication safety agenda was being actively progressed at the hospital. Medication safety was effectively led by the Chief Pharmacist and medication safety was supported by the Drugs and Therapeutics Safety Committee, the Senior Management Team and staff at the hospital. The hospital should look to further progress it's significant work in

this area by devising a formalised medication safety strategy with clearly defined objectives.

Inspectors were informed that medication safety was a standing item on the Drugs and Therapeutics Safety Committee agenda, however, medication-related incidents and near misses were not routinely reviewed by this committee. This does not inform the identification and management of risk in relation to medication safety in line with the terms of reference of the Drugs and Therapeutics Safety Committee. It was reported that plans are being devised to address this anomaly.

HIQA was informed that medication-related incidents and near misses were likely under reported at the hospital. Higher incident reporting rates both demonstrate and promote an improved culture of safety.<sup>6</sup> In addition, staff informed inspectors that they did not routinely receive updates on medication errors that have occurred in other areas of the hospital.

Medication-related incident reporting facilitates the identification of risk and opportunities for improvement. However, on its own it does not provide a complete picture of all potential sources of risk and patient harm.<sup>7</sup> The hospital used a variety of additional information sources to identify strengths and weaknesses in the hospital medication management system including direct observation, audit, risk assessment, and review of the clinical pharmacy interventions.

## **2.2 Audit and evaluation**

### **Line of enquiry:**

- The effectiveness of medication management systems are systematically monitored and evaluated to ensure they are effective.

Nursing metrics\* data in relation to medication safety identified good performance across a number of areas however there were consistently less than satisfactory findings in relation to observations around medication prescribing. Although these metrics were discussed at drugs and therapeutics safety committee meetings, issues consistently highlighted as areas for improvement were not proactively addressed.

It was reported that the hospital conducted regular audits to evaluate the safety of medication management systems. Documentation reviewed showed that a number medication safety-related audits had been undertaken by clinical staff at the hospital. Inspectors were also informed that a dedicated audit office provided oversight of clinical audit activity at the hospital. However audits were not linked to an overarching medication safety strategy. Inspectors were informed that audits

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\* Metrics are parameters or measures of quantitative assessment used for measurement and comparison or to track performance.

conducted by medical staff were presented at 'grand rounds'<sup>†</sup>. In addition clinical audit findings were presented at the hospital's annual research and education meeting.

## **2.3 Medication safety support structures and initiatives**

### **Line of enquiry:**

- Hospitals develop effective processes to promote medication safety that are implemented and supported by clear and up-to-date policies, procedures and or protocols.

The hospital had a defined process for the formal evaluation and approval of the quality and safety of new medicines. It was hospital policy that prescribers should submit a new medication request form to the Drugs and Therapeutics Safety Committee. However, the implementation of this process had not been evaluated.

Sligo University Hospital did not have up to date medication prescribing guidelines. The hospital had a suite of medication prescribing guidelines in the past but these had been withdrawn from use because they needed to be fully revised and updated. A limited number of prescribing guidelines had been reviewed and updated. However ongoing review of the prescribing guidelines was time constrained due to reported ongoing staff shortages in the Pharmacy Department. The revision was the responsibility of a working group of the Drug and Therapeutics Safety Committee.

Strong leaders had developed the clinical pharmacy service in Sligo University Hospital. However, the provision of clinical pharmacy services was not standardised across all clinical areas, the prevailing reason being that resources were not sufficient to permit pharmacists to cover all roles, including the staffing needs within the dispensary and aseptic compounding unit. Inspectors were informed that risks in relation to clinical pharmacy service deficiencies had been escalated to Saolta Hospital Group management. There are currently no agreed national standards outlining requirements for the provision of clinical pharmacy services in Irish hospitals. However, international studies support the role of clinical pharmacists in hospital wards in preventing adverse drug events.<sup>8,9,10,11,12,13</sup>

In clinical areas with a designated clinical pharmacist the following services were provided:

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<sup>†</sup> Grand rounds are formal meetings where physicians and other clinical support and administrative staff discuss the clinical case of one or more patients. Grand rounds originated as part of medical training.

- Admission medication reconciliation<sup>‡</sup> in line with recommended best practice.<sup>14,15,16,17,18</sup>
- Optimisation of prescribed medication therapy in relation to a patient's condition, age, weight and other relevant parameters
- Provision of medication information to health care professionals
- Patient counselling and information regarding medication.

Formalised medication reconciliation was also carried at discharge for patients on transfer from Sligo University Hospital to Health Service Executive Primary, Community and Continuing Care facilities. Medication reconciliation aims to provide patients and service users with the correct medications at all points of transfer within and between health and social care services.<sup>14</sup> This pharmacy-led service had recently recommenced after a six month interruption due to resource issues. A 2015 audit of this service found that 80% of patients transferred to these facilities had their prescriptions checked on discharge from Sligo University Hospital.

It was explained that the role of pharmacy technicians in Sligo University Hospital was well established and included the procurement, provision and stock management of medicines.

Additional practices to enhance medication safety in the hospital were identified during this inspection. The hospital used the Institute of Safe Medication Practices high-alert medications list<sup>19</sup> to guide prioritisation of safety initiatives. High-alert medications are medicines that bear a heightened risk of causing significant patient harm when they are not used correctly.

The hospital had recently reviewed their medication prescription and administration record. Medication prescription and administration records contained dedicated boxes for clinical pharmacist annotations<sup>§</sup>. In addition the hospital had developed and implemented specific prescription and administration records for patients with diabetic ketoacidosis<sup>\*\*</sup> and a warfarin<sup>††</sup> prescription sheet.

Medication safety alerts were circulated to all relevant medical and nursing staff by the Pharmacy Department. Pharmacy medication safety newsletters were previously scheduled quarterly but had been suspended due to reported staffing constraints.

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<sup>‡</sup> Medication reconciliation involves using a systematic process to obtain an accurate and complete list of all medications taken prior to admission.

<sup>§</sup> An annotation is text written by a pharmacist. Any annotation should clearly differentiate the information added by the pharmacist from that written by the prescriber, preferably using green ink. Annotations should be adjacent to the prescription item.

<sup>\*\*</sup> Ketoacidosis is a life-threatening condition problem that affects people with diabetes in which the body cannot use sugar (glucose) as a fuel source because there is no insulin or not enough insulin. Fat is used for fuel instead. When fat is broken down to fuel the body, chemicals called ketones build up in the body.

<sup>††</sup> A medication used to treat and prevent blood clots

Clinical pharmacy communication boards observed in the clinical areas visited. Inspectors observed a notice for staff which highlighted similarities between the packaging of an intravenous antimicrobial medication and an intravenous paracetamol.

During a visit to Surgical North Ward inspectors were informed that nursing teams included a safety pause during patient hand over meetings. A safety pause aims to increase staff awareness of and focus on patient safety while providing quality safe care.

Open disclosure occurs when staff in the health and social care service communicate with patients in an open and honest manner when things go wrong with patient care.<sup>3,20</sup> Staff spoken with during this inspection were familiar with the hospital's open disclosure policy.

The hospital had recently installed an automated medication supply system in one ward. When commissioned following staff training, this system will facilitate management of medication in a secure automated dispensing cabinet. The dispensing system is a stock management system which will record items issued to individual named patients.

Inspectors were informed Sligo University Hospital was unable to participate in the Health Service Executive Quality Improvement Division venous thromboembolism<sup>\*\*</sup> quality improvement collaborative due to pharmacy resource deficiencies. However, the hospital had developed a risk assessment algorithm and recommendations for venous thromboembolism prophylaxis. In addition the updated medication prescription and administration record included a dedicated venous thromboembolism prophylaxis section.

## **2.4 Person-centred care**

### **Line of enquiry:**

- Patients and/ or carers are informed about the benefits and associated risks of prescribed medications in a way that is accessible and understandable.

Clinical pharmacy service input into anticoagulant therapy counselling was a widely accepted part of clinical practice within the hospital. Counselling was provided to all patients being discharged from Sligo University Hospital who had been commenced on anticoagulant medication. A designated clinical pharmacist was on call to ensure patients on wards without clinical pharmacy provision received this education prior to discharge. Inspectors were also informed that clinical nurse specialists in

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<sup>\*\*</sup> Blood clot

respiratory care and diabetes mellitus management provided disease-specific patient education as required.

As part of this inspection, HIQA asked a small sample of people attending the Outpatients Department to complete an anonymised questionnaire in relation to prescribed medications. The survey was completed by four people who had been inpatients in Sligo University Hospital within the past year and who were prescribed regular medications. Of the four people surveyed:

- three said that, other than being provided with a prescription form to take to their local pharmacy or general practitioner, they had not been given a list<sup>§§</sup> that outlined the medicines that they were on in a way that they could understand.
- three said that a staff member had explained the purpose of new medication in a way that they could understand.
- one said that a staff member told them about possible medication side effects to look out for following discharge home.
- one said they received instruction on how to take their medications at home.

It is acknowledged that this was a very small sample of outpatients and therefore was not representative of all recently discharged patients taking prescribed medication. This information did however, provide some information about outpatients understanding of their medication and could be expanded upon and used to identify opportunities for improvement.

## **2.5 Policies procedures and guidelines and access to information**

### **Lines of enquiry:**

- Hospitals develop effective processes for medication management that are implemented and supported by clear and up to date policies, procedures and/or protocols.
- Essential information supporting the safe use of medicines is readily available in a user friendly format and is adhered to when prescribing, dispensing and administering medications.

Up to date medication policies, procedures, protocols and guidelines were readily available to staff through the hospital's controlled document management system. However, inspectors were informed that contrary to the Drugs and Therapeutics

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<sup>§§</sup> Patient-held medication lists are completed by a healthcare professional to accurately list all medications the patient is taking at time of discharge.

Safety Committees terms of reference, the committee did not review the introduction of all prescribing strategies, guidelines, policies and decisions concerning the use of medications in the hospital. Inspectors were informed that guidelines were approved by clinical speciality. The development of medication management policies should ideally be overseen by a multidisciplinary group to reflect the fact that medicines management is the responsibility of a number of clinical professional groupings.

The hospital had formal guidelines for pharmacy-led medication reconciliation.

Non consultant hospital doctors reported that there was a high level of support available from senior medical staff around medication prescribing and related advice.

Clinical staff had access to patient's diagnostic results on computers in clinical areas across the hospital. Healthcare requires access to complete and accurate patient information, relevant to the safe use of medications, at the point of clinical decision making to help ensure patient safety.

Generalised prescribing supports were available to clinical staff. Hard copies of the most current version of the 'British National Formulary' were available in the clinical areas visited. Clinical staff also had access to online evidence-based clinical information resources for reference. Inspectors also observed intravenous medication monographs<sup>\*\*\*</sup> on display in clinical areas.

## **2.6 Training and education**

### **Line of enquiry:**

- Safe prescribing and drug administration practices are supported by mandatory and practical training on medication management for relevant staff.

Inspectors were informed that non consultant hospital doctors received induction training which included medication safety, from the Pharmacy Department. The Pharmacy Department had also developed a guide to safe prescribing. This guide included information on documenting the allergy status on the medication prescription and administration record, information on medications that looked and sounded similar, a list of medications that were unsuitable for generic prescribing,<sup>+++</sup> high-alert drugs, discharge prescriptions and prescribing legally controlled drugs.

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<sup>\*\*\*</sup> An approved set of standardised and approved instructions for the correct preparation and administration of intravenous medication, that have been designed to reduce the risk of error, and that are specifically tailored to the intravenous medicines stocked within the hospital.

<sup>+++</sup> Medications have both a trade name (brand name) and a generic name (active ingredient). The same drug formulation can be produced by different companies and given multiple different trade names. To minimize confusion

Pharmacy department contact details were included in this guide. Education for medical staff at the hospital also included 'grand rounds' at which particular aspects of medication safety and new medications were presented.

Nurses undertook mandatory training in relation to intravenous medication administration and anaphylaxis management every two years. Inspectors were informed that nursing staff were required to complete the HSELandD Medication Management online training programme annually.<sup>21</sup>

### **3. Conclusion**

Medications represent the primary measure for treatment intervention in hospitalised patients. Error associated with medication usage constitutes one of the major causes of patient harm in hospital. Medication-related events were the third most common type of adverse event recorded in the recently published Irish National Adverse Events Study.<sup>1</sup> Medication safety should therefore be a priority area for all acute hospitals as they seek to ensure a high quality and safe service for patients.

Sligo University Hospital had established governance arrangements in addition to systems, processes and practices to support medication safety. It was evident that this had been progressed over a significant period of time and was driven by effective local leadership. HIQA recommends that, in advancing the medication safety agenda, medication safety it should be underpinned by a written strategy or plan which includes priorities based on identified risks.<sup>5</sup> In the absence of national guidance in this area, international guidelines.<sup>5,17</sup> which outline best practice in relation to medication safety governance and improvement are available, and should be considered by staff responsible for patient safety in the hospital setting.

The hospital is represented on the recently formed Saolta Hospital Drugs and Therapeutics Committee. HIQA recommends that hospital continues to collaborate within this structure to share good practice pertaining to medication safety and to share learning, experience and resources.

Inspectors identified that medication-related incidents were likely significantly under reported at the hospital. This could lead to a lack of understanding as to the exact nature and contributory factors leading to medication-related incidents and, as a result, an inability to effectively engage in prevention, multi-disciplinary learning or systems improvement. The hospital needs to improve rates of medication-related incident and near miss reporting by medical, nursing and pharmacy staff. Governance in this regard needs to be strengthened.

The Drugs and Therapeutics Safety Committee should promote quality assurance and compliance following audit. They need to ensure that the findings and recommendations of audits are effectively actioned by seeking assurance that improvements in care have been made. The Drugs and Therapeutics Safety Committee should develop appropriate processes for instigating audits as a direct result of adverse clinical events, critical incidents and breaches in patient safety.

The hospital had a proactive pharmacy department and had implemented a number of quality improvement initiatives relating to medication safety. However it was reported that the ability of hospital pharmacists to maintain clinical pharmacy services at ward level had been impacted by resource issues. Pharmacists aimed to perform medication reconciliation for as many patients on admission as possible

within the available clinical time. The process of medication reconciliation is intended to ensure accurate and consistent communication of patient's medication information through transitions of care. Frequent monitoring of this measure should be undertaken to guide the improvement process.

The clinical pharmacy service in Sligo University Hospital did not begin and end at the traditional barriers between hospital and community practice. The Sligo University Hospital Integrated Pharmacy Model medication reconciliation at point of transfer improved medication safety at the community hospital interface. This service was an example of good practice.

Patients should be well informed about any medications they are prescribed and any possible side-effects. Patient medication education should be initiated upon admission and continue throughout the hospital stay.<sup>18,22</sup> The majority of patients surveyed reported that education was provided in relation to the use of medications.

It is recommended that this report is shared with senior managers, clinicians and other relevant staff at Sligo University Hospital to highlight both what has been achieved by the hospital in implementing medication safety activities to date, and to foster further collective progression from this time point.

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## 5. Appendices

### Appendix 1: Medication safety monitoring programme

#### Phase One: Lines of Enquiry and associated National Standard for Safer Better Healthcare

Area to be explored	Line of enquiry <sup>1</sup>	National Standards for Safer Better Healthcare
Clear lines of accountability and responsibility for medication safety	Patient safety is enhanced through an effective medication safety programme underpinned by formalised governance structures and clear accountability arrangements.	3.1, 5.1, 5.2, 5.4, 5.5, 5.6, 5.8, 5.9, 5.10, 7.1
Patient involvement in service delivery	Patients and or carers are informed about the benefits and associated risks of prescribed medicines in a way that is accessible and understandable.	1.4, 1.5, 1.7, 3.1, 4.1
Policies procedures and guidelines	Hospitals develop effective processes to promote medication safety that are implemented and supported by clear and up-to-date policies, procedures and or protocols.	2.1, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 5.8, 5.11, 8.1
Risk management	There are arrangements in place to identify, report and manage risk related to medication safety throughout the hospital.	3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 5.8, 5.10, 5.11, 8.1
Audit and evaluation	The effectiveness of medication management systems are systematically monitored and evaluated to ensure they are effective.	2.8, 3.1, 5.8, 8.1
Education and training	Safe prescribing and drug administration practices are supported by mandatory and practical training on medication management for relevant staff.	6.2, 6.3
Access to information	Essential information of the safe use of medications is readily available in a user-friendly format and is adhered to when prescribing, dispensing and administering medications.	2.5, 8.1



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