



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the announced inspection of medication safety at St Columcille's Hospital.

Date of announced inspection: 21 March 2019

About the Health Information and Quality Authority (HIQA)

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

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

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Office of the Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

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1. Introduction

HIQA's medication safety monitoring programme began in 2016 and monitors public, acute hospitals in Ireland against the *National Standards for Safer, Better Healthcare* to ensure patient safety in relation to the use of medications.¹ The programme aims to examine and positively influence the adoption and implementation of evidence-based practice in relation to medication safety in acute healthcare services in Ireland.

Medications are the most commonly used intervention in healthcare. They play an essential role in the treatment of illness, managing chronic conditions and maintaining health and wellbeing. As modern medicine continues to advance, increasing medication treatment options are available for patients with proven benefit for treating illness and preventing disease. This advancement has brought with it an increase in the risks, errors and adverse events associated with medication use.²

Medication safety has been identified internationally as a key area for improvement in all healthcare settings. In March 2017, the World Health Organization (WHO) identified medication safety as the theme of the third Global Patient Safety Challenge.³ The WHO aims to reduce avoidable harm from medications by 50% over 5 years globally. To achieve this aim the WHO have identified three priority areas which are to:

- improve medication safety at transitions of care
- reduce the risk in high-risk situations
- reduce the level of inappropriate polypharmacy.*

Medication safety has also been identified by a number of organisations in Ireland as a key focus for improvement.^{4,5,6,7,8,9} Medication safety programmes have been introduced in many hospitals to try to minimise the likelihood of harm associated with the use of medications, and in doing so maximise the benefits for patients. These programmes aim to drive best practice in medication safety by working to encourage a culture of patient safety at a leadership level and through the introduction of systems that prevent and or mitigate the impact of medication-related risk.¹⁰

HIQA's medication safety monitoring programme 2019

HIQA published a national overview report of the medication safety monitoring programme '*Medication safety monitoring programme in public acute hospitals- an overview of findings*'¹¹ in January 2018 which presented the findings from thirty-

* Polypharmacy: the use of many medications, commonly five or more.

four public acute hospital inspections during phase one of the programme. This report identified areas of good practice in relation to medication safety and areas that required improvement, to ensure medication safety systems were effective in protecting patients. A number of recommendations were made focusing on improving medication safety at a local and national level. The recommendations are detailed in the report which is available on the HIQA website (www.hiqa.ie).

The final phase of HIQA's medication safety monitoring programme has been updated and developed and the current approach is outlined in eight lines of enquiry[†]. The lines of enquiry are based on international best practice and research, and are aligned to the National Standards¹ (see Appendix 1). The monitoring programme will continue to assess the governance arrangements and systems in place to support medication safety. In addition, there will be an added focus on high-risk medications and high-risk situations.

High-risk medications are those that have a higher risk of causing significant injury or harm if they are misused or used in error.¹² High-risk medications may vary between hospitals and healthcare settings, depending on the type of medication used and patients treated. Errors with these medications are not necessarily more common than with other medications, but the consequences can be more devastating.¹³

High-risk situation is a term used by the World Health Organization³ to describe situations where there is an increased risk of error with medication use. These situations could include high risks associated with the people involved within the medication management process (such as patients or staff), the environment (such as higher risk units within a hospital or community) or the medication.

International literature recommends that hospitals identify high-risk medications and high-risk situations specific to their services and employ risk-reduction strategies[‡] to reduce the risks associated with these medications (Appendix 2).¹⁴

System-based risk-reduction strategies have a higher likelihood of success because they do not rely on individual attention and vigilance, and a small number of higher-level strategies will be more likely to improve patient safety than a larger number of less effective strategies.¹⁴ Therefore, risks associated with the procurement, dispensing, storage, prescribing, and administration of high-risk medications need to be considered at each step of the medication management pathway.¹⁵

[†] Lines of enquiry are the key questions or prompts that inspectors use to help inform their inspection, assessment or investigation.

[‡] Risk reduction strategies: a term used to describe different ways of dealing with risks. Strategies include risk avoidance, transfer, elimination, sharing and reducing to an acceptable level.

Information about this inspection

An announced medication safety inspection was carried out at St Columcille's Hospital by Authorised Persons from HIQA; Nora O' Mahony and Aoife Lenihan. The inspection was carried out on 21 March 2019 between 09:30hrs and 16:05hrs.

Inspectors spoke with staff, reviewed documentation and observed systems in place for medication safety during visits to the following clinical areas:

- Endoscopy unit
- St Joseph's ward
- St Anne's ward.

Two group interviews were held in the hospital with the following staff:

- Group one: the chairperson of the Drugs and Therapeutics Committee, the chief pharmacist and the quality and patient safety manager.
- Group two: the general manager, the clinical director and the director of nursing.

HIQA would like to acknowledge the cooperation of staff that facilitated and contributed to this announced inspection.

Information about the hospital

St Columcille's Hospital is a model 2[§] public acute hospital in the Ireland East Hospital Group. Services provided by the hospital include an Injury Unit, Medical Assessment Unit, acute medical in-patient services, day surgery, outpatient care and diagnostic services. St Columcille's Hospital has a national speciality in obesity management and is a referral centre for bariatric surgery.

[§] Model-2 hospitals can provide the majority of hospital activity including extended day surgery, selected acute medicine, local injuries, a large range of diagnostic services, including endoscopy, laboratory medicine and radiology, specialist rehabilitation medicine and palliative care.

2. Findings at St Columcille's Hospital

Section 2 of this report presents the general findings of this announced inspection.

The inspection findings are outlined under each of the eight lines of enquiry and opportunities for improvement are highlighted at the end of each section.

2.1 Leadership, governance and management

St Columcille's Hospital had formalised governance arrangements and organisational structures with clear lines of accountability in place to support the safe use of medications.¹⁶ The Drugs and Therapeutics Committee was responsible for governance and oversight of medication safety within the hospital. This Committee reported to the Clinical Governance Committee with the chair of the Drugs and Therapeutics Committee providing a formal report twice per year.

Membership of the Drugs and Therapeutics Committee was multidisciplinary to reflect the fact that medicines management is the responsibility of a number of clinical professional groupings.¹⁶ The Drugs and Therapeutics Committee met as per its terms of reference with good attendance from members. Inspectors were informed that the recent inclusion of a specialist registrar^{**} to the committee was beneficial, and enhanced communication with front line staff. Hospital staff were also members of the St Vincent's University Hospital's Drugs and Therapeutics Committee which supported shared learning across sites.

St Columcille's Hospital medication safety aims and objectives for 2019 were outlined in the hospital's medication safety annual plan. Evidence of adherence and implementation of the objectives outlined in the previous 2018 plan was evident to inspectors during this inspection, and also outlined in the 2018 annual medication safety report produced by the Drugs and Therapeutics Committee.

However, the hospital did not have an overall medication safety strategy to outline the short, medium and long term goals for medication safety within the organisation to guide the hospital's overall medication safety programme.^{10,17}

Opportunities for improvement

- The hospital should look to develop a medication safety strategy to clearly articulate the short and long-term operational goals for medication safety.

^{**} A specialist registrar (SpR) is a doctor who is receiving advanced training in a specialist field of medicine in order to eventually become a consultant.

2.2 Risk management

Medication related risks were documented on the hospital's pharmacy risk register. The identified risks were risk rated, the existing controls in place were outlined with the additional actions required to mitigate the risks. The need for a medication safety pharmacist and an antimicrobial pharmacist to mitigate identified risks had been escalated to the Ireland East Hospital Group.

The hospital had a system in place for the reporting of medication incidents^{††} which was outlined in the recently approved Medication Safety Practice Policy which was adapted with permission from St Vincent's University Hospital.

The number of medication incidents reported continued to increase each year, with 530 medication incidents reported in 2018 (see Figure 1). However, the majority of incidents were reported by pharmacists with some reported by nurses. To encourage reporting across disciplines the hospital had introduced medication safety huddles at which medication incidents were discussed to share learning. However the hospital acknowledged that this has not yet resulted in increased reporting across all disciplines.

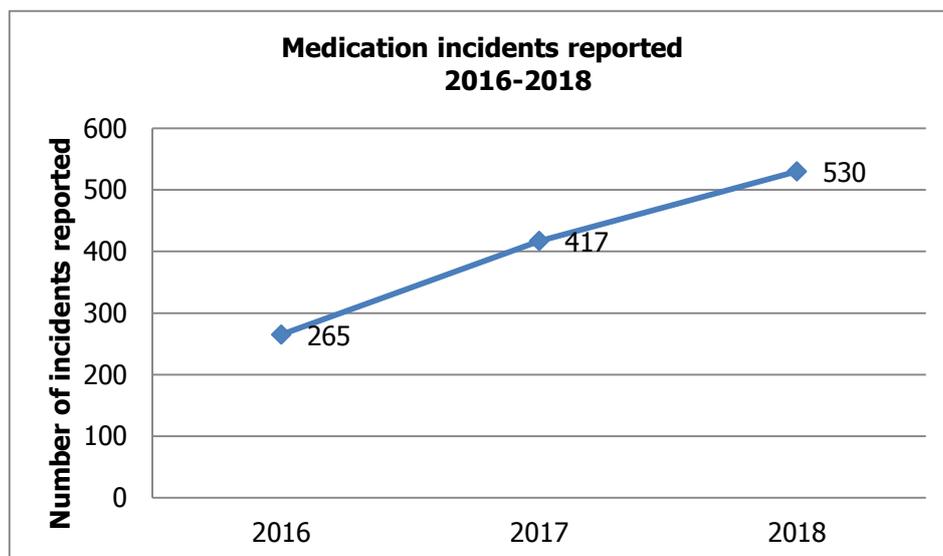


Figure 1. Medication incidents reported 2016 to 2018

Analysis of incidents

All medication incident report forms were reviewed by the chief pharmacist. Incidents were graded using the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) Medication Error Index to categorise

^{††} An incident is an unplanned, unexpected or uncontrolled occurrence which causes (or has the potential to cause) injury, ill-health, and /or damage. An incident can be a harmful incident (adverse event), a no harm incident, a near miss, dangerous occurrence or complaint.

incidents in terms of patient harm (Appendix 3). Medication incidents grade D^{##} and above were forwarded to the quality and patient safety manager and inputted onto the National Incident Management System^{§§} (NIMS).¹⁸

Incidents were also analysed based on; the nature of the prescribing and administration incidents, the location, and the discipline reporting the medication incident. Incidents involving high-risk medications were also analysed to identify which high-risk medications were involved. Monthly medication safety reports were produced and presented at the Drugs and Therapeutics Committee for discussion and action. These reports were also discussed at medication safety huddles attended by doctors, nurses and pharmacy staff.

Incident analysis had been used to implement changes. For example, when patients were prescribed direct anticoagulants^{***} (DOACs) a red sticker highlighting 'DOAC other anticoagulant contraindicated' was placed on the medication record⁺⁺⁺ to support unintentional duplication of anticoagulant prescribing.

Trending of incidents was seen on the annual Drugs and Therapeutics Committee's Medication Safety Report reviewed by inspectors. However, more frequent review and communication of trends could enhance earlier identification of medication safety concerns and support prioritisation of medication safety activities for the hospital throughout the year.

Alerts and recalls

The chief pharmacist received and acted on alerts and recalls⁺⁺⁺ related to medication. An example of the action taken in response to a recent alert was outlined to inspectors.

Opportunities for improvement

- The hospital should promote an incident reporting culture among all clinical staff within a just culture,^{§§§19} to strengthen reporting of medication incidents so that safety surveillance is improved.

^{##} Grade D: An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient and/or required intervention to preclude harm

^{§§} The State Claims Agencies (SCA) National Incident Management System (NIMS) is a risk management system that enables hospitals to report incidents in accordance with statutory

^{***} Medication used in the management of venous thromboembolism, which is when a blood clot forms in a vein.

⁺⁺⁺ The Medication Record is the medication prescription and administration record, drug kardex or drug chart.

⁺⁺⁺ Recalls are actions taken by a company to remove a product from the market. Recalls may be conducted on a firm's own initiative or by authorised authority.

^{§§§} The framework of a just culture ensures balanced accountability for both individuals and the organisation responsible for designing and improving systems in the workplace.

2.3 High-risk medications/situations

High-risk medications require special safeguards to reduce the risk of errors and minimise harm. Strategies for reducing risk with high-risk medications and in high-risk situations may include high leverage, medium leverage or low leverage risk-reduction strategies (see Appendix 2 for more information).

St Columcille's Hospital had developed a high-risk medications list with a supporting policy which outlined the risk-reduction strategies^{****} in place. The following sample of high-risk medications and high-risk situations^{†††} were reviewed in detail during this inspection to identify the risk-reduction strategies in place:

- anticoagulants^{††††}
- insulins
- opioids
- procedural sedation in the non-theatre environment

Anticoagulants

The hospital had the following risk-reduction strategies in place to mitigate against the risks associated with anticoagulants:

- The medication record was designed to promote safer prescribing of anticoagulants with all anticoagulants prescribed in a colour coded section of the medication record to avoid inappropriate duplication.
- The front of the medication record had a section to be ticked when a patient was on anticoagulant.
- The hospital had a red sticker indicating 'DOAC other anticoagulant contraindicated' which was observed applied to the thromboprophylaxis section of the medication record to prevent duplication of anticoagulants.
- Only one brand of low-molecular weight heparin^{§§§§} was stocked in the hospital to rationalise the range of medication used to support safer prescribing.

^{****} Risk-reduction strategies: a term used to describe different ways of dealing with risks. Strategies include risk avoidance, transfer, elimination, sharing and reducing to an acceptable level.

^{†††} High-risk situation is a term used by the World Health Organization² to describe situations where there is an increased risk of error with medication use.

^{††††} Anticoagulants: are commonly referred to as blood thinners that prevent or treat blood clots, but these medicines also carry an increased risk of bleeding or clots, so patient education and regular monitoring of blood levels are essential to maintain patient safety and ensure good patient outcomes.

^{§§§§} Heparin is an anticoagulant specifically used in the initial treatment and prevention of deep vein thrombosis, pulmonary embolism, and arterial thromboembolism.

- Unfractionated heparin was not stocked on wards, and inspectors were informed that only one strength vials of this medication was stored in pharmacy and when used, unfractionated heparin vials were for single patient use only.^{*****20}
- Pharmacists provided patient counselling for patients commenced on an anticoagulants and provided relevant patient information leaflets.

Insulin

An insulin prescriptions audit carried out in 2017 identified areas for improvement with the current insulin prescribing record, and recommended the updating of the insulin prescription record, together with education for staff. The hospital had redesigned the insulin prescription record based on international evidence,²¹ and a pilot of the redesigned record with associated education was due to commence shortly.

Insulin pens in use in the hospital were for single patient use only and were observed stored in the medication trolley with individual patient details and date of opening recorded on the flag label.⁺⁺⁺⁺⁺²² However, an audit undertaken by the hospital in June 2018 had identified room for improvement in labelling and dating of insulin pens in use.

Unopened vials of fast acting insulin were observed stored in a secure temperature controlled fridge in line with good practice. Inspectors were also informed that fast acting insulin vials were for single patient use only, labelled when opened, and discarded after four weeks.

Inspectors were informed that the hospital endeavoured to only use one-strength of insulin. Awareness of higher strength insulin was highlighted in the hospital's SALAD^{*****} poster. If a patient was admitted on a higher strength insulin inspectors were informed that this would be highlighted on the dispensing label and discussed with nurses prior to dispensing.

The front page of the hospital's medication record had an alert for staff to tick when an insulin record was in use to prevent omission of insulin, this was observed ticked appropriately in practice. The medication record had a second safety feature which guided prescribers to chart insulin on the medication record with 'insulin as per insulin chart'. However, this was not seen completed in practice, nor were staff spoken to familiar with the process. A hospital audit undertaken in June 2018 had

***** Single patient use: heparin vial may be used for more than once, but only for one patient

+++++ Flag labels : a method of attaching labels to small syringes and containers where part of the label is applied to the syringe, leaving an exposed 'flag' portion to ensure that details on the labels can be read, and the markings and contents of the pen remains visible.

***** SALADs: sound-alike-look-alike drugs

similar findings with good compliance of documentation of the tick on the medication record when an insulin chart was in use. However, the audit demonstrated room for improvement in the documentation of 'insulin as per insulin chart' on the medication record.

Procedural sedation in the non-theatre environment

When sedation is provide in the non-theatre environment the same standard of care is required for each patient throughout the procedure. Sedation should be administered by a well-trained sedation team with oversight provided by a governing committee.^{23, 24}

The endoscopy unit within St Columcille's Hospital was the only non-theatre area which provided procedural sedation for patients. The hospital did not have a sedation committee but issues with procedural sedation in the endoscopy unit could be brought to the Hospital's Endoscopy User Group.

The process for procedural sedation was reviewed by inspectors and found to be in line with national and international evidence^{23,24}. Procedural sedation was administered by a trained individual with patient monitoring provided by a specially dedicated nurse, supported by clear documentation and guidance. Patients were monitored within a separate recovery area until fully recovered, as per formal discharge criteria.

The hospital had a Conscious Sedation Policy that was in an advanced stage of development and outlined the systems required to support safe administration of procedural sedation. Inspectors saw evidence of these systems in place during the inspection, for example:

- patients were pre-assessed prior to procedures
- medication doses were titrated for individual patients
- only one strength midazolam was stocked in the unit
- medications were double checked by a second person prior to administration
- patients were monitored appropriately throughout and after the procedure
- patients remained in the recovery area until fully recovered as per discharge criteria
- patient handover to wards included an explanation of procedure, the medications administered during the procedure and follow on care
- the use of reversal agents was monitored and their use would trigger a pharmacy review.²⁵

Opioids

The hospital had some low to medium leverage risk-reduction strategies in place to mitigate against the risks associated with opioids such as:

- opioids that were sound-alike look-alike (SALAD) medications were included on the hospital's SALAD list, which was seen on display in clinical areas visited
- opioids were double checked prior to dispensing and administration
- clinical pharmacists reviewed and endorsed opioids prescribed.

Inspectors were informed that fentanyl patches were double checked by two nurses and their application and removal was co-signed. The patches were also disposed in a secure bin. However, no specific patient education was provided on opioid patches. Patients or their caregivers need to know about proper use, storage, and disposal, and other risks, particularly when using fentanyl patches around children.^{26,27} This should be address by the hospital following this inspection.

Other high-risk medications

Examples of risk-reduction strategies in place to mitigate the risks for other high-risk medications and situations were also identified during this inspection and are outlined below.

St Columcille's hospital had a number of high-leverage risk-reduction strategies in place for oral methotrexate. Inspectors were informed that oral methotrexate was not stocked in clinical areas. Only one strength methotrexate tablets was stocked in the hospital and dispensed as a patient specific single dose. Pharmacists would apply a yellow methotrexate sticker to the medication record to remind staff to verify weekly administration. Staff would indicate the day of the week the medication was to be administered and block out all other days with an 'x' to prevent inadvertent daily administration.

Concentrated electrolyte solutions for injection are especially dangerous with potentially fatal consequences when not prepared and administered properly.²⁸ Concentrated potassium chloride was only stocked in the pharmacy unit and the medical observation unit (MOU) and inspectors were informed that the current arrangement to stock concentrated ampoules on the MOU could be reviewed following the inspection.

The hospital kept limited stocks of pre-mixed potassium chloride solutions on the wards and these pre-mixed potassium chloride solution bags were observed stored securely, separate from other intravenous solutions in line with good practice.^{29,30}

The hospital had Antimicrobial Prescribing Guidelines in booklet and poster format to support safe prescribing and administration of the antimicrobials requiring

therapeutic monitoring. The medication record had a separate antimicrobial section which facilitated prescribing, monitoring and administration of variable dose antimicrobials

Inspectors were informed that therapeutic drug monitoring was supported by both the clinical pharmacist and a microbiologist. However, the risk of inappropriate prescribing, dispensing and administration of antimicrobials due to lack of staff was identified on the pharmacy's risk-register and escalated to the Ireland East Hospital Group, with a business case submitted for an antimicrobial pharmacist, which to date had not been approved.

The hospital had developed a list of sound-alike look-alike medications (SALADS)^{§§§§§} which was seen displayed in clinical rooms visited by inspectors. Inspectors were informed that when procuring new medication pharmacy staff strived to ensure the packaging or labelling was not similar to current stock.

Overall, the St Columcille's Hospital had implemented risk-reduction strategies for high-risk medications appropriate to the patient population and medications in use in the hospital.

Opportunities for improvement

- Patients or their caregivers should be educated about proper use, storage, and disposal, and other risks of fentanyl^{*****} patches.

2.4 Person-centred care and support

Patients should be well informed about any medications they are prescribed and any possible side effects. This is particularly relevant for those patients who are taking multiple medications.^{31, 32}

National patient experience survey

St Columcille's Hospital National Patient Experience Survey⁺⁺⁺⁺⁺ was completed by 74 (49%) of the 151 patients discharged from the hospital in May 2018. Two questions related directly to medication in the Survey. The score achieved by St

^{§§§§§} SALADS are 'Sound-alike look-alike drugs'. The existence of similar drug/medications names is one of the most common causes of medication error and is of concern worldwide. With tens of thousands of drugs currently on the market, the potential for error due to confusing drug names is significant.

^{*****} Fentanyl is indicated for management of severe chronic pain that requires continuous long term opioid administration

⁺⁺⁺⁺⁺ The National Patient Experience Survey was a nationwide survey which asked people for feedback about their stay in hospital. The survey was a partnership between the Health Service Executive (HSE), HIQA and the Department of Health. All adult patients discharged during May 2017 and 2018 who spent 24 hours or more in a public acute hospital, and have a postal address in the Republic of Ireland were asked to complete the survey.

Columcille's Hospital was similar to the national average score for these questions in 2017. However in 2018, there was a significant improvement in the score achieved by the hospital for information patients received about medication side effects to watch for when they went home³³ (See table 1 below).

Inspectors were informed that no specific medication safety quality improvement had been introduced related to medication information on discharge, but that an overall hospital focus on discharge planning and medication safety may have contributed to the improved results.

Questions	Year	St Columcille's Hospital score	National score
Q44. Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?	2018	8.1	8.0
	2017	7.8	7.8
Q45. Did a member of staff tell you about medication side effects to watch for when you went home?	2018	6.3	5.2
	2017	5.0	5.1

Table 1: Comparison between St Columcille's Hospital and national scores for Questions 44 and 45 of the National Patient Experience Survey 2017 and 2018.

Patient information

Inspectors were informed that patient information on medications was provided by doctors and nurses, and by pharmacist on request. Other nurses such as diabetes nurse specialists and advanced nurse practitioners in stroke and geriatric care also provided patient education.

Medication reconciliation

Medication reconciliation is a systematic process conducted by an appropriately trained individual, to obtain an accurate and complete list^{*****} of all medications that a patient is taking on admission, discharge and other transitions in care.^{34, 35,36}

***** 'A Best Possible Medication History (BPMH) is a medication history obtained by a clinician which includes a thorough history of all regular medication use (prescribed and non-prescribed), using a number of different sources of information.

Medication reconciliation was undertaken on admission by pharmacists using one source of information as per the hospital's Pharmacy Service Standard Operation Procedure. An audit undertaken by the hospital in 2018 verified that 95% of in-patients had medication reconciliation completed on admission as per the hospital's procedure.

In addition the Pharmacy Service Standard Operation Procedure outlined that the pharmacist may also check with the patient and sometimes the general practitioner or community pharmacist. Inspectors did observe that when an issue was identified by the pharmacist, they had contacted a second source to verify the information. Using a number of different sources of information is in line with best practice and should be promoted to obtain an accurate and complete list of medication.³⁵

Following completion of the medication reconciliation process the pharmacist documented on the front of the medication record that he/she had completed the process, and also documented the source(s) used to gather the information.

Medication reconciliation was not undertaken for patients on discharge.

Systems to support medication safety and optimisation

Some systems were in place to support medication safety and optimisation in relation to the:

- prescribing and administration of crushed medications
- prescribing and administration of medications intended for nasogastric administration

Inspectors were informed that oral syringes were in use in the hospital to prevent inadvertently administration of oral medications through the intravenous route. However, this was not common practice in all areas visited by inspectors, and should be reviewed following this inspection.

Medication optimisation

Patient weight measurements are important for medications that require an individual weight-based dose³⁷ and patient known medication allergies should be available throughout the episode of care.¹⁵ Patient allergies were observed recorded on medication records reviewed by inspectors. However, patient weights were not recorded on all medication records reviewed.

Structured, critical examination of a person's medicines should be undertaken with the objective of reaching an agreement with the person about treatment, optimising the impact of medications, minimising the number of medication-related problems and reducing waste.³⁸ In St Columcille's Hospital the multidisciplinary team did not currently undertake a structured, critical examination of patients' medications

Considering the services provided by the hospital and the patient population, there may be scope for improvement in this area.

However, the hospital had a number of systems in place to support medication optimisation^{§§§§§} such as:

- consultant led multidisciplinary patient reviews
- medications reconciliation and clinical pharmacy review
- advanced nurse practitioners in geriatrics and stroke
- a Bone Health and Falls Committee
- appropriate venous thromboembolism^{*****} prophylaxis promotion
- education sessions on problematic and appropriate polypharmacy
- awareness of medications that increase risk of falls through poster and education.

Opportunities for improvement

- The hospital should ensure that the best possible medication history is obtained for patients on admission and expand the medication reconciliation service for patients on discharge.

2.5 Model of service and systems in place for medication safety

International studies support the role of clinical pharmacists⁺⁺⁺⁺⁺ in hospital wards in preventing adverse drug events.^{39,40,41,42,43,44} Clinical pharmacy services were available to all inpatient units in line with best practice.

The hospital had an approved list of medications⁺⁺⁺⁺⁺ for use in the hospital adapted from the St Vincent's Hospital's formulary. The purpose of maintaining such a list is to ensure appropriate governance of medications approved for use within the hospital and that a safety evaluation occurs before new medications are introduced.⁴⁵ The hospital had a system in place for the approval of new medicines which was under the governance of the Drugs and Therapeutic Committee. Inspectors were informed that a review of the approved list of medicines for use within the hospital was undertaken annually.

^{§§§§§} a person centred approach to safe and effective medicines use to enable people obtain the best possible outcome from their medicine

^{*****} Venous thromboembolism (VTE): a blood clot consisting of deep veins thrombus (DVT) and pulmonary embolism (PE). Blood clots (thrombus) can form within deep veins (DVT) and these clots can fragment and travel to lungs leading to Pulmonary Embolism (PE).

⁺⁺⁺⁺⁺ Clinical pharmacy describes the activity of pharmacy teams in ward and clinic settings.

⁺⁺⁺⁺⁺ Approved list of medications also referred to as a formulary.

The hospital had also taken part in some Rapid Improvement Events^{§§§§§§} with two of these events focused on medication. A multidisciplinary team worked together on one ward to implement solutions to medication storage issues identified by the ward. This teamwork resulted in:

- streamlining of medication storage within the clinical room to provide easier, uncluttered access to medications
- improving fridge access to support better stock management of out-of-date or unrequired medications
- adoption of a standardised approach to the storage of medication within the medication trolley
- some ward restructuring to identify a secure compact space for the storage of the medication trolley when not in use.

Following the success of the project the hospital informed inspectors that a similar process had also been undertaken in another ward.

2.6 Use of information

Hospitals should support clinical staff in achieving safe and effective medication use through the availability of up-to-date evidence-based information and decision support tools for medications.¹⁵

The hospital had medications information resources available to assist staff when prescribing or administering medications in the hospital, for example:

- an antimicrobial guide
- injectable drug administration guide
- the British National Formulary (BNF).
- pharmacy information folder
- NEWT guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties
- medication posters displayed on wards
- medication protocols e.g. Guidance and treatment of hypoglycaemia.

It is recommended, by both the Health Service Executive⁴⁶ and the National Clinical Effectiveness Committee⁴⁷ that policies, procedures and guidelines are reviewed and updated every three years. Most of policies, procedure and guidelines viewed by inspectors during the inspection were up-to-date. However, some nursing policies, procedures and guidelines viewed on the hospital computer system in one area

^{§§§§§§} Rapid improvement event was an event facilitated by the Ireland East Hospital Group Service Improvement Team which looked at the elimination of waste, identification of lean processes and storage solutions.

visited were overdue for review, and this should be reviewed by the hospital following this inspection.

2.7 Monitoring and evaluation

Monitoring of medication safety should be formally planned, regularly reviewed and centrally coordinated with resulting recommendations actioned and the required improvements implemented.¹⁵

The hospital developed an annual audit plan and completed audits were reviewed at the Drugs and Therapeutics Committee meeting. Monitoring and evaluation of medication safety undertaken for the past two years included audits of:

- antimicrobial point prevalence and usage
- thromboprophylaxis prescribing
- insulin storage, labelling, use and pharmacy review
- medication reconciliation
- error reporting
- nurse prescribing
- nursing metrics.

However, not all audit reports reviewed by inspectors outlined time frames, person(s) responsible⁴⁸ or re-audit plans, to ensure that the required improvements had occurred. Some audits were undertaken by one discipline, where some of the resulting recommendations were under the remit of other disciplines such as the insulin audit.

Audit should have some involvement from relevant staff groups to support implementation of required changes and sustain continuous improvement.⁴⁸ Multidisciplinary involvement in monitoring and audit could be enhanced by the hospital following this inspection.

Opportunities for improvement

- Multidisciplinary evaluation and monitoring of the use and safety of medications should be planned in line with the hospital's overall priorities and aligned to a medication safety strategy.
- Time bound recommendations and action plans should be identified and implemented from audit findings, with oversight from hospital management to ensure required improvements are achieved.

2.8 Education and training

Staff education can effectively augment error prevention when combined with other strategies that strengthen the medication-use system.^{2,49}

Both doctors and nurses undertook medication safety training on induction. Other medication focused sessions were provided for staff on an ongoing basis such as:

- medication focused mortality and morbidity meeting each year
- medication safety huddles for sharing learning from medication incidents
- informal ward-based education
- pharmacy medication safety session for example, medication management in patients with frailty
- thromboprophylaxis education sessions.

In addition:

- nurses attended a medication education session and intravenous drug administration training on induction, followed by supervision and assessment
- nurses completed the HSE LanD^{*****} medication management module⁵⁰ on induction and annually.

Opportunity for improvement

- The hospital should continue to ensure that healthcare professionals have the necessary competencies and knowledge in relation to medication safety through a programme of on-going education and training.

***** The health service e-learning and development service

3. Summary and conclusion

Medications play a crucial role in maintaining health, preventing illness, managing chronic conditions and curing disease. However, errors associated with medication usage constitutes one of the major causes of patient harm in hospitals and the impact of medication errors can be greater in certain high-risk situations. Understanding the situations where the evidence shows there is higher risk of harm from particular medications and putting effective risk-reduction strategies in place is key for patient safety.

St Columcille's Hospital had formalised governance arrangements and organisational structures with clear lines of accountability in place to support the safe use of medications

The hospital had risk-reduction strategies in place for high-risk medications and situations inspected which were appropriate to the patient population and medications in use in the hospital.

St Columcille's Hospital annual medication safety plan outlined the aims and objectives for medication safety, and compliance with implementation of the outlined plan for 2018 was evident to inspectors. However, the hospital did not have a long term strategy for medication safety to advance the overall medication safety programme.

The number of medication incidents reported continued to increase each year. However, this could be enhanced by improved reporting by all disciplines to strengthen reporting of medication incidents and improve safety surveillance.

Clinical pharmacy services were available to all inpatient units, and pharmacists undertook medication reconciliation for patients on admission, however no medication reconciliation service was provided to patients on discharge.

Staff had easy access to medication information. However, hospital management should ensure that recommendation from audit findings are identified, implemented and re-audited in a timely manner, to provide assurance that the required improvements are achieved.

The hospital should continue to work towards improving medication safety practices by addressing the findings of this report and progressing the implementation of initiatives identified through its own monitoring of practices in place.

This report should be shared with relevant staff at the St Columcille's Hospital and the Ireland East Hospital Group to highlight the findings from this inspection including what has been achieved to date and to foster collaboration in relation to opportunities for improvement.

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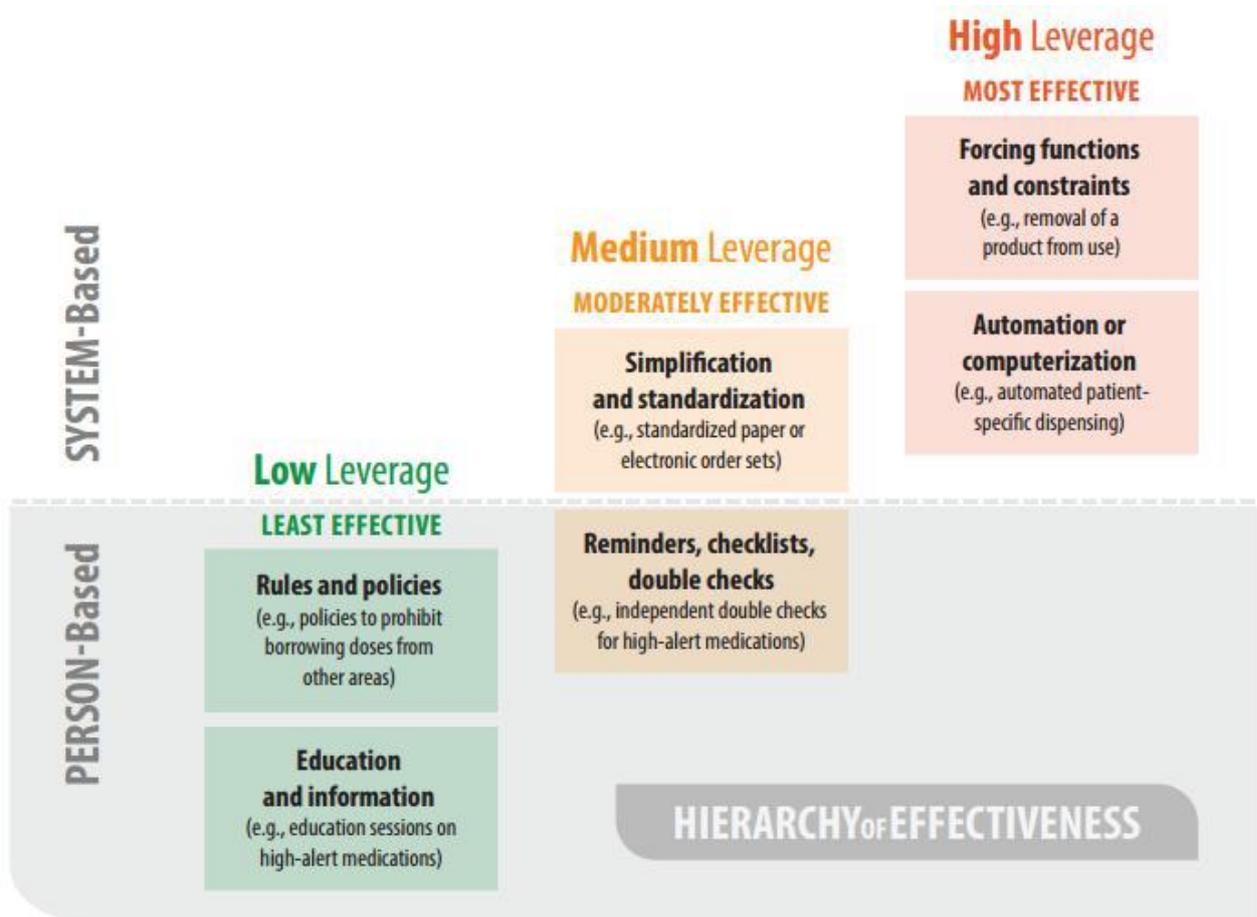
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5. Appendices

Appendix 1: Lines of enquiry and associated National Standards for Safer Better Healthcare.

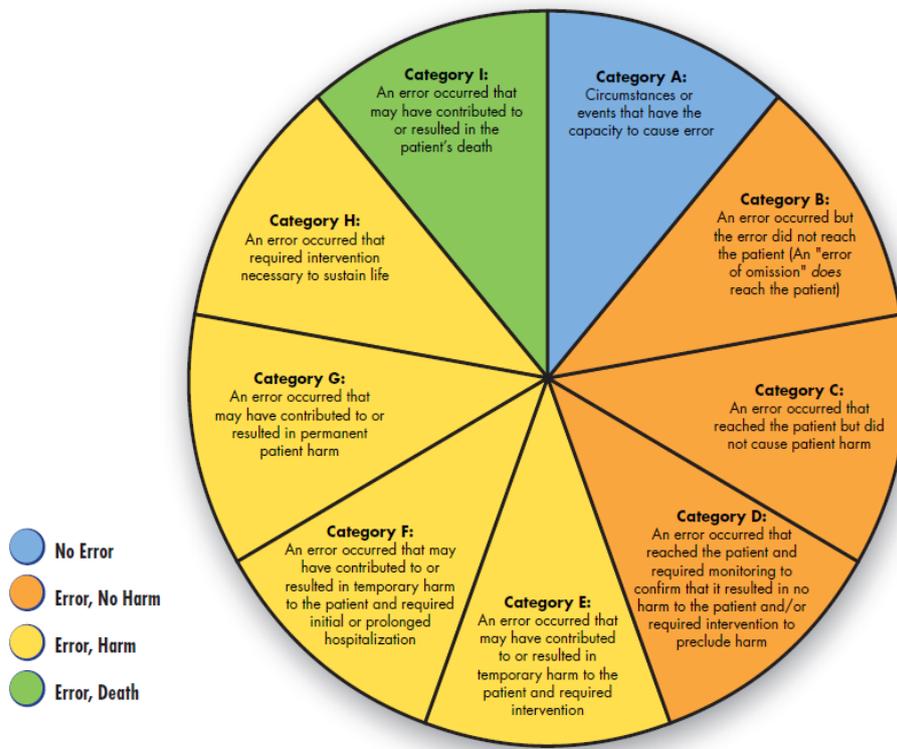
Area to be explored	Lines of enquiry	Dimensions/ Key Areas	National Standards
Leadership, governance and management	1. Patient safety is enhanced through an effective medication safety programme underpinned by formalised governance structures and clear accountability arrangements.	Capacity and capability	3.7, 5.1, 5.2, 5.5, 5.4, 5.6, 5.11
Risk management	2. There are arrangements in place to proactively identify report and manage risk related to medication safety throughout the hospital.	Quality and Safety	3.1,3.2,3.3,3.6, 5.8, 5.11, 8.1
High-risk medications	3. Hospitals implement appropriate safety measures for high-risk medications that reflect national and international evidence to protect patients from the risk of harm.	Quality and Safety	2.1, 3.1
Person centred care and support	4. There is a person centred approach to safe and effective medication use to ensure patients obtain the best possible outcomes from their medications.	Quality and Safety	1.1, 1.5, 3.1, 2.2, 2.3
Model of service and systems for medication management	5. The model of service and systems in place for medication management are designed to maximise safety and ensure patients' healthcare needs are met.	Quality and Safety	2.1, 2.2 ,2.3, 2.6, 2.7, 3.1,3.3, 5.11, 8.1
Use of Information	6. Essential information on the safe use of medications is readily available in a user-friendly format and is adhered to when prescribing, dispensing and administering medications.	Quality and Safety	2.1, 2.5, 8.1
Monitoring and evaluation	7. Hospitals systematically monitor the arrangements in place for medication safety to identify and act on opportunities to continually improve medication.	Quality and Safety	2.8, 5.8
Education and training	8. Safe prescribing and drug administration practices are supported by mandatory and practical training on medication management for relevant staff.	Capacity and capability	6.2, 6.3

Appendix 2: Hierarchy of effectiveness of risk-reduction strategies in medication safety.



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Appendix 3: National Coordinating Council for Medication Error Reporting. and Prevention. Index for Categorizing Medication Errors



Definitions

Harm

Impairment of the physical, emotional, or psychological function or structure of the body and/or pain resulting there from.

Monitoring

To observe or record relevant physiological or psychological signs.

Intervention

May include change in therapy or active medical/surgical treatment.

Intervention Necessary to Sustain Life

Includes cardiovascular and respiratory support (e.g., CPR, defibrillation, intubation, etc.)

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