Report of the announced inspection of medication safety at Cavan & Monaghan Hospital.

Date of announced inspection: 29 January 2020
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 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. 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.

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. 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. 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.

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’ in January 2018 which presented the findings from thirty-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

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

**Information about this inspection**

An announced medication safety inspection was carried out at Cavan & Monaghan Hospital by Authorised Persons from HIQA; Dolores Dempsey Ryan, Nora O Mahony and Emma Cooke. The inspection was carried out on 29 January 2020 between 08:55hrs and 17:20hrs.

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

- Surgical 1 ward in Cavan General Hospital
- Operating theatre department in Cavan General Hospital
- Ward 1 in Monaghan Hospital.

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 nurse practice development coordinator deputising for 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**

Cavan & Monaghan Hospital is a model 3§ public acute hospital and is part of the Royal College of Surgeons in Ireland (RCSI) Hospitals Group.** Cavan & Monaghan Hospital is one hospital located across two sites in the towns of Cavan and Monaghan. All acute inpatient services are based in Cavan General Hospital. Monaghan Hospital's primary role includes the continuing care for medically discharged patients requiring inpatient stepdown and rehabilitation care. Both hospital sites provided outpatient, theatre and day services with a Minor Injuries Unit located on the Monaghan Hospital site.

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§ Model 3 hospital: admits undifferentiated acute medical patients; provide 24 hour/7day week acute surgery, acute medicines and critical care.
** RCSI Hospitals Groups is comprised of Beaumont Hospital, Cavan & Monaghan Hospital, Connolly Hospital, Louth County Hospital, Our Lady of Lourdes Hospital – Drogheda, Rotunda Hospital and RCSI (Academic Partner).
2. Findings at Cavan & Monaghan 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

Hospitals should have governance arrangements in place to support the development, implementation and maintenance of a hospital-wide medication safety system.\(^\text{15,16}\)

Cavan & Monaghan Hospital had formalised governance arrangements and clear lines of accountability in place for medication safety. The hospital had a Drugs and Therapeutics Committee with responsibility for overseeing all processes relating to medication safety across both sites. This committee reported to the Quality and Safety Executive Committee (QSEC) who in turn reported to the Hospital Executive Committee and to the RCSI Hospitals Group through the general manager. Overall, executive accountability and responsibility for oversight of medication safety in the hospital rested with the hospital general manager and clinical responsibility for medication safety rested with the clinical director.

Membership of the Drugs and Therapeutics Committee was multidisciplinary and included representation from clinical, nursing and pharmacy staff in Cavan General Hospital. Senior hospital managers who spoke with inspectors confirmed that Monaghan Hospital was represented at the Drugs and Therapeutics Committee meetings by members of the senior hospital management team and by the chief pharmacist who were all based in Cavan General Hospital and had cross site responsibilities. However, although there was representation for both hospital sites at the Drugs and Therapeutics Committee meetings, there was no identified full time staff member from Monaghan Hospital in attendance at these meetings. Staff in Monaghan Hospital reported that they had no formal links with the Drugs and Therapeutics Committee meetings, but were provided with a copy of the minutes of the meetings.

Cavan & Monaghan Hospital had a Medication Safety Committee which was a sub-committee of the Drugs and Therapeutics Committee and was operationally responsible for projects to improve medication safety across the hospital. Membership of this committee was multidisciplinary and included staff nurses and staff midwives from Cavan General Hospital. The onsite manager in Monaghan Hospital reported to Cavan & Monaghan Hospital’s general manager each month. Management at Cavan & Monaghan Hospital should consider amending the terms of reference for the Drugs and Therapeutics Committee to include representation from Monaghan Hospital to support communication and collaboration with staff across both sites.
In line with recommended practice,\textsuperscript{10,17} the hospital had a formalised medication safety strategy 2019 with a set of clear objectives for medication safety and an action plan. Evidence provided to inspectors indicated that the majority of the strategic objections planned for 2019 had been completed.

Overall, inspectors found that medication safety was prioritised at organisational level within Cavan & Monaghan Hospital with clear leadership from the chief pharmacist and the support of the senior management team, the Drugs and Therapeutics Committee and staff across both hospital sites.

**Opportunities for improvement**

- Hospital management in Cavan & Monaghan Hospital should consider amending the terms of reference for the Drugs and Therapeutics Committee to include representation from Monaghan Hospital to support communication and collaboration with staff across both sites.

### 2.2 Risk management

The hospital had a Local Incident Management Forum that was responsible for reviewing serious reportable events,\textsuperscript{††} serious incidents and complaints to determine the appropriate level and type of review or investigation required. This forum was also responsible for escalating serious incidents and serious reportable events to the RCSI Hospitals Group Senior Incident Management Forum.\textsuperscript{18}

In Cavan & Monaghan Hospital, each governance committee had their own risk register. Risks which could not be managed at governance committee level were escalated to corporate level. Currently there were three medication safety-related risks on the hospital’s corporate risk register, one of which related to the lack of a clinical pharmacy service. The risk register was reviewed by the hospital’s Quality and Safety Executive Committee every three months.

The hospital had a system in place for reporting medication safety incidents across both sites. The hospital used the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) Medication Error Index (Appendix 3) to categorise medication incidents in terms of severity of outcome. Medication safety incidents\textsuperscript{‡‡} were also

\textsuperscript{††} Serious Reportable Events are a defined subset of incidents which are either serious or that should not occur if the available preventative measures have been effectively implemented by healthcare providers. The HSE requires that Serious Reportable Events are mandatorily reportable by services to the Senior Accountable Officer of the service.

\textsuperscript{‡‡} 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.
categorised using the National Incident Management System (NIMS)\textsuperscript{\textsection\textsection} to determine the level of review required and the level of harm experienced.\textsuperscript{19}

Incident reporting rates are generally associated nationally and internationally with a strong patient safety culture.\textsuperscript{20} A total of 334 medication safety incidents were reported in 2019 which showed a significant increase in the number of reported incidents since 2016 (see figure 1).

![Medication safety incidents reported 2016-2019](image)

\textbf{Figure 1. Medication incidents reported 2016 to 2019}

The majority of medication safety incidents were reported by nurses and pharmacists. Senior hospital managers had identified a drop in the reporting of medication safety incidents in 2019 and sought to increase communication with staff in the clinical areas to improve the culture of reporting of medication safety incidents. In addition, the reduction in clinical pharmacist resources available on the wards was cited as one of the reasons for lack of reporting of medication safety incidents. Documentary evidence provided to inspectors indicated that while Cavan General Hospital reported the majority of medication safety incidents, reporting of medication safety incidents in Monaghan Hospital was limited.

One factor which increases incident reporting is the timely provision of feedback to staff on medication safety incidents reported and the actions required to avert future risks.\textsuperscript{21,22} Overall, staff were provided with shared learning from medication safety incident reports via memorandums which were discussed at governance meetings, clinical nurse and midwifery managers meetings and at the doctor’s journal club and grand rounds. Staff in the clinical areas visited who spoke with inspectors showed a general awareness about the

\textsuperscript{\textsection\textsection} The State Claims Agencies (SCA) National Incident Management System (NIMS) is a risk management system that enables hospitals to report incidents in accordance with their statutory reporting obligation to the SCA (Section 11 of the National Treasury Management Agency (Amendment) Act, 2000).
number of medication safety incidents reported in their clinical area and were provided with an end of year report on the number of medication safety incidents recorded per location in 2019, but not a report on overall incident trends. There is an opportunity for improvement to expand on how learning and medication safety messages relating to medication safety incident trends were disseminated to staff to support shared learning in the clinical areas and improve the overall culture of reporting across both sites.

**Analysis of incidents**

The reporting of incidents is of little value unless the data collected is analysed to identify trends or patterns in relation to risk and the resulting recommendations for improvement are shared with frontline staff. A medication incident report was produced quarterly and annually for the Drugs and Therapeutics Committee, the Quality and Safety Executive Committee, governance committees and the Hospital Executive Management Committee. Inspectors were provided with copies of medication incident reports for 2017, 2018 and 2019. These reports outlined trends for:

- number of incidents reported per month and year
- location where the incident occurred
- NIMS and NCCPMERP categorisation
- type of medication incident.

Trending of medication safety incidents showed that the highest number of medication related incidents in 2019 were prescribing related incidents. Quality improvement initiatives had been implemented to improve medication safety practices. These included revision of the medication prescription and administration record, the introduction of two new types of discharge prescriptions and an opioid prescribing guide. The hospital had also introduced an automated supply and dispensing cabinet for medications in some clinical areas.

**Alerts and recalls**

The chief pharmacist received and acted on alerts and recalls related to medication and alerts were reviewed at Drugs and Therapeutics Committee meetings.

**Opportunities for improvement**

- The hospital must continue to promote incident reporting among all clinical staff, within a just culture to strengthen reporting of medication incidents, so that safety surveillance is improved across both sites.

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*** Incident type for example: expired medication, drug interaction, pump driver malfunction, unprescribed medication administered, documentation contradiction or allergy, medication stopped or cancelled in error, frequency, dose or route incorrect or transcription error.

††† 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.
2.3 High-risk medications and 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).

Cavan & Monaghan Hospital had approved the use of an A PINCH poster which was displayed in clinical areas visited and included information relating to risks and safety measures for each group of high risk medications. The following sample of high-risk medications was reviewed in detail during this inspection to identify the risk-reduction strategies in place:

- anticoagulants
- oral methotrexate
- opioids.

**Anticoagulants**

The hospital had a combination of risk-reduction strategies in place to mitigate against the risks associated with anticoagulants such as:

- unfractioned heparin was not stored on the wards
- heparin infusions were only administered in the intensive care unit and the coronary care unit and were underpinned by a protocol
- low molecular weight heparins (LMWH) were stored on the ward and segregated from other medications with the exception of the operating theatre department where different strengths of low molecular weight heparins were stored together
- the medication prescription and administration record was updated with specific sections included to support safe practice for anticoagulant and antimicrobial prescribing
- the hospital had a guideline to provide standardised recommendations for prescribers in the management of patients on direct oral anticoagulants (DOACs).

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

+++ A PINCH: the acronym A PINCH represents high-risk medications including † Anti-infectives, Potassium, Insulin’s, Narcotics, Chemotherapy, Heparin and other anticoagulants. Medications represented by the acronym may vary between hospitals depending on relevant risks.

**** 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.
Oral methotrexate

The hospital had a number of high level risk-reduction strategies in place for oral methotrexate. Examples of these are outlined below:

- oral methotrexate was not stocked in clinical areas
- the hospital only stocked one strength of methotrexate tablets, and these were dispensed with a high-alert cytotoxic label in single patient doses
- the hospital had a policy on prescribing, dispensing and administration of oral methotrexate
- a clinical pharmacist reviewed the patient’s medication prescription and administration record to ensure that it was correct prior to dispensing the drug.

Opioids

Inspectors viewed a number of risk-reduction strategies to mitigate against the risks associated with opioids. These included:

- the hospital had an opioid prescribing guide and an opioid conversion chart
- opioid medications were double checked
- the hospital had an opioid protocol for the post anaesthetic care unit (PACU) that require updating.

Medication management during the perioperative period

A hospital’s operating theatre presents a unique situation with the use of multiple high-risk medications, high patient throughput and complex procedures. A diverse range of medications are used which have the potential for a serious adverse event if administered incorrectly. Therefore, the perioperative period is a high-risk situation in relation to medication safety. The operating theatre department visited by inspectors had an anaesthetic governance committee which was chaired by the lead anaesthetist and membership included representation from nursing management and practice development. There was evidence of good communication regarding medications administered at transitions of care throughout the perioperative patient pathway.

Examples of risk-reduction strategies in place to mitigate against the risks of medications used within the theatre department are outlined below:

- medications were drawn up by the person who administered them
- international colour-coded labels were used to label drawn up medications
- colour-coded infusion labels were used to differentiate between different infusions such as epidural, spinal anaesthetic and adrenaline infusions
- anesthetic medications were drawn up, reconciled and if not used were discarded at the end of each theatre procedure
- prefilled syringes were used where available during the peri-operative period.
Inspectors were informed that the practice of preparing emergency drugs in advance of emergency situations had recently stopped at the hospital. It was explained that anaesthetic medications were prepared, labelled and administered by the same anaesthesiologist on a case by case basis only. This is an example of good practice.

Inspectors observed that medications were not always stored in an organised manner which supported safe selection due to the limited storage facilities available for medications. The operating theatre department had recently identified a number of opportunities for improvement in relation to the storage and management of medications within the operating theatre department. A quality improvement plan had been developed for 2019-2020 to address the areas for improvement across both Cavan & Monaghan Hospital theatres and documentation reviewed demonstrated good progress against actions identified. Plans were in place to have additional medications storage facilities which included lockable presses. Inspectors also noticed opportunities for improvement in relation to the rationalisation of medications that are used in the theatre department.

Other high-risk medications

The hospital had a number of high-leverage risk-reduction strategies in place for insulin. Insulin pens not in use were stored in a temperate controlled fridge with a high-risk and blank flag label. Insulin pens in use were stored in a locked press or the drug trolley with a flag label detailing the patients name, hospital number and date opened. Multi-dose vials once opened were labelled as patient specific in line with recommended best practice. The hospital was progressing with updating a number of insulin guidelines.

Inspectors viewed a number of risk-reduction strategies to mitigate against the risks associated with concentrated potassium chloride. Concentrated potassium chloride ampoules were ordered, stored and dispensed as a controlled drug with a label outlining that it must be diluted. Concentrated potassium chloride ampoules were restricted to critical care areas and the paediatric ward. Two strengths of pre-mixed potassium chloride solutions were available and dispensed by pharmacy to one surgical ward and staff from another surgical ward visited by inspectors had access to the stock on this ward. The hospital also had a policy on the supply, usage and administration of concentrated potassium.

The hospital had yet to develop a local list of sound-alike look-alike medications (SALADs) using international literature and locally identified high-risk medications. The

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++++ 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 are Sound-alike look-alike drugs’ or ‘Look- alike sound-alike’ (LASA). The existence of similar drug or 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.
hospital had procurement systems in place to support safe practices with sound-alike look-alike medications and planned to develop a SALADs list.

Overall, Cavan & Monaghan Hospital had implemented a combination of associated risk-reduction strategies ***** which were observed by inspectors in practice. Staff who spoke with inspectors were aware of the high-risk medications available in their clinical areas and the risk-reduction strategies in place.

**Opportunities for improvement**

- The hospital should progress with the development a local list of sound-alike look-alike medications (SALADs).

### 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.28,29

**National Inpatient Experience Survey**

The National Inpatient Experience Survey†††† is a nationwide survey that offers patients the opportunity to describe their experiences of public acute healthcare in Ireland. Of the 604 people discharged from Cavan & Monaghan Hospital during the month of May 2019, 268 people completed the survey, achieving a response rate of 45%.30 Two questions related directly to medication in the National Inpatient Experience Survey. The scores for Cavan & Monaghan Hospital and the national scores for 2017, 2018§§§§§ and 2019 are illustrated in table 1 below.

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***** 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.

††††† The National Inpatient Experience Survey is a nationwide survey which asks people for feedback about their stay in hospital. The survey is a partnership between HIQA, the Health Service Executive (HSE) and the Department of Health. All patients over the age of 16 discharged during May who spent 24 hours or more in a public acute hospital, and have a postal address in the Republic of Ireland are asked to complete the survey. †††† Please note that the numbering of questions changed after the 2017 survey was completed. Question 44 ‘…..’ was originally question 45 in the 2017 survey and question 45 ‘….’ was originally question 46.

§§§§§ National Inpatient Experience Survey was known as the National Patient Experience Survey in 2017 and 2018.
Table 1: Comparison between Cavan & Monaghan Hospital and national scores for Questions 44 and 45 of the National Inpatient Experience Survey 2017, 2018 and 2019.

In 2019, the response for Question 44 received an overall score of 8.0 which was in line with the national average score. Question 45 received an overall score of 5.0 which was slighter lower than the national score of 5.3 and showed a disimprovement from a score of 5.9 which was above the national average in 2018.

The hospital had introduced a direct oral anticoagulant patient information leaflet and sought feedback from service users through a telephone survey carried out in May 2018. This included checking if information had been provided correctly by hospital staff in relation to DOAC's and if patients understood their new medications. Inspectors were informed that the hospital had recently introduced a patient information folder which contained the ‘My Medication List’ in line with the ‘Know, Check and Ask campaign’.††††††31,32

The hospital needs to continue to develop quality improvement initiatives to provide patients with information relating to possible medication side effects when discharged home.

**Patient information**

Inspectors were informed that information on medicine use and side effects was provided to patients by pharmacists, doctors and nurses. Clinical pharmacists provided a leaflet and counselling to patients on direct oral anticoagulants. Doctors also provided counselling on

<table>
<thead>
<tr>
<th>Questions</th>
<th>Year</th>
<th>Cavan &amp; Monaghan Hospital score</th>
<th>National score</th>
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<tbody>
<tr>
<td>Q44. Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?</td>
<td>2019</td>
<td>8.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>8.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>7.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Q45. Did a member of staff tell you about medication side effects to watch for when you went home?</td>
<td>2019</td>
<td>5.0</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>5.9</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>5.1</td>
<td>5.1</td>
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***** Score out of 10 was given for each question belonging to a stage of care or a stage as whole. A score of 0 indicates a very negative experience and a score of 10 indicates a very positive experience.

†††††† The campaign encourages people who take regular medications, and those assisting them, to know your medications and keep a list, bringing the list to appointments and if admitted to hospital. Check that you are using the right medicine the right way and ask your healthcare professional if you’re unsure.
high risk medications including methotrexate. In addition, clinical nurse specialists working in areas such as diabetes and heart failure 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.\textsuperscript{33,34,35}

Inspectors were informed that formalised medication reconciliation was not routinely carried out in the hospital due to a lack of clinical pharmacists in the wards to support the implementation of medication reconciliation. The hospital had however, taken initial steps to implement medication reconciliation by revising its medication prescribing and administration record to include a section on medication reconciliation.

Staff who spoke with inspectors in the clinical areas visited reported that medication reconciliation was only completed when there was a concern relating to the accuracy of information provided to staff about a patient’s medication list on admission.

**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 or percutaneous endoscopic gastrostomy administration. For example, purple oral syringes were in use for liquid medications.

Inspectors were informed that patients’ medication prescribing and administration records were reviewed during consultant-led ward rounds to support medication safety and optimisation.

Patient weight measurements are important for medications that require an individual weight-based dose and failure to accurately measure and record a patient’s weight can contribute to serious, even fatal, dose errors, especially with high-alert medications.\textsuperscript{36} Inspectors viewed a number of medication prescribing and administration records during the inspection and found that patient ‘weights had been recorded.

Results of Nursing and Midwifery Quality Care-Metrics reviewed by inspectors from August to December 2019 showed that the practice of recording of a patient’s weight on the prescribing and administration of medication records varied considerably across both sites with results ranging from 20% to 66%. The hospital should monitor this metric and implement a time-bound action plan across both hospital sites to ensure that a patient’s
weight is recorded on admission and as required depending on the patient’s condition to support safer medication practice.

**Opportunities for improvement**

- The hospital should work towards establishing medication reconciliation for patients on admission, and progressing towards the development of this service to include patients on discharge.

- The hospital should monitor the practice of recording patient’s weight on the medication prescribing and administration records to support safer medication practice.

**2.5 Model of service and systems in place for medication safety**

International studies support the role of clinical pharmacy service in preventing adverse drug events. Cavan & Monaghan Hospital had approval for 11.15 whole time equivalent (WTE) pharmacist positions. This included one WTE chief pharmacist position, 7.15 WTE senior pharmacists’ positions and three basic grade WTE clinical pharmacist positions. On the day of inspection, HIQA found that two pharmacists positions were vacant due to extended leave, one antimicrobial pharmacist was currently being recruited and there was a deficit of 0.5 WTE position unfilled. The pharmacy service was also supported by 5.9 WTE senior pharmaceutical technicians positions and three WTE staff grade pharmaceutical technicians at the hospital Monday to Friday and one additional pharmaceutical technician was employed as agency staff.

HIQA found that the pharmacy service in Cavan & Monaghan Hospital was almost entirely restricted to dispensing and significant resources (1.75 WTE) were also deployed to dispensing to a number of healthcare providers external to the hospital. Inspectors were told that there was no ward based clinical pharmacy service in Cavan & Monaghan Hospital due to a lack of clinical pharmacist resources with the exception of a clinical pharmacy service to review patient records with regard to antimicrobial stewardship. In general, access to clinical pharmacy was only provided on request and subject to the demands on the pharmacy service at any given time. For example, patients on high risk medications such as oral methotrexate, medications for Parkinson’s disease or crushed medications identified through dispensary and referred to a clinical pharmacist had their medication prescription and administration record reviewed.

Clinical pharmacy service describes the activity of pharmacy teams in ward and clinic settings. The following core activities are involved in providing clinical pharmacy services: prescription monitoring, prescribing advice, optimising therapeutic use of medicines, adverse drug reaction detection and prevention, patient education and counselling, inter-professional education about medicines. It may also involve some or all of the following: medication history taking, medication reconciliation, specialist clinics e.g. HIV, clinical audit, protocol/guideline development. Source: Pharmaceutical Society of Ireland. *Future Pharmacy Practice in Ireland - Meeting Patients’ Needs*. Dublin; 2016. Pharmaceutical Society of Ireland.
Considering that clinical pharmacists have a key role in supporting patient safety, the absence of a clinical pharmacy service in high-risk areas such as maternity services and the paediatric unit may pose a risk to patient safety. Senior hospital managers who spoke with inspectors reported that the hospital had completed a review of the pharmacy services and submitted a business case for additional resources. Notwithstanding the efforts made to recruit additional pharmacy resources, and the escalation of this risk to the hospital risk register, the hospital should work to assure itself that the current pharmacy service is utilised most appropriately and prioritise high risk areas in order to mitigate risk and promote patient safety.

The hospital had a list of medicines stocked in the hospital, but did not have an evidence-based formulary. The hospital had a system in place for the approval of new medications which was under the governance of the Drugs and Therapeutic Committee. The hospital should move towards the development of a defined formulary system, to outline medicines that are approved for use in the hospital and provide information and guidance on the use of these medicines. This work could be supported through collaboration with other hospitals within the RCSI Hospitals Group.

**Opportunities for improvement**

- The hospital should progress the provision of a clinical pharmacy service for all inpatients, and examine how best to allocate the resources currently available.

- The hospital should move towards the development of a defined formulary system and this work could be supported through collaboration with other hospitals within the RCSI Hospitals Group.

### 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. Cavan & Monaghan Hospital had a number of medication information sources available for staff such as:

- medication protocols for critical care areas
- antimicrobial, prescribing and administration guidelines
- British National Formulary
- local guidelines for some high risk medications.

Commercially available injectable guidelines were available to staff on the wards since February 2019 and inspectors were informed that a number of these had been locally adapted for use in the critical care areas.

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**Formulary**: a managed list of preferred medications that have been approved by the hospital’s Drugs and Therapeutics Committee for use at the hospital.
Inspectors noted during interviews that there was a lack of clarity with regard to the number and type of mobile phone applications used by non-consultant hospital doctors to guide prescribing practices. While the Drugs and Therapeutics Committee had approved the antimicrobial prescribing mobile phone application for use in the hospital, the committee needs to strengthen its governance and oversight of the decision-making resources including applications available to healthcare staff at point of care as a priority.45

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. Cavan & Monaghan Hospital had a suite of medication-related policies, procedure and guidelines and while the majority were up-to-date, a small number reviewed by inspectors were due for review.

**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 Monitoring of medication safety in Cavan & Monaghan Hospital was through key performance indicators, audit and Nursing and Midwifery Quality Care-Metrics. *********48**

Cavan & Monaghan Hospital did not have an audit committee and audits were not centrally controlled. However, inspectors were told that the hospital planned to employ an audit facilitator. Each governance committee developed their own audit list. Evidence of monitoring and evaluation of medication safety provided to inspectors for the past two years consisted of the following audits:

- Nursing and Midwifery Quality Care-Metrics
- prescribing audit in 2017 and reaudit in 2018
- antimicrobial consumption audit
- audit of compliance with acute asthma management guidelines in the paediatric assessment unit
- medication management audits in relation to storage and custody and clinical management of medications, including controlled medications
- automatic medication management system stock audit.

Inspectors found that while there was evidence that some medication audits were completed by clinical pharmacists and nursing staff, there was little evidence that medication audits were completed by medical staff. There was no evidence of audits

******* Quality Care-Metrics (QC-M) are a measure of the nursing and midwifery clinical care processes, in healthcare settings in Ireland, aligned to evidenced-based standards and agreed through national consensus. The QC-M is a monthly cyclical process where a random sample of 25% of the patient complement in the ward or unit are selected for evaluation. Data from these patients and patient records are entered on the electronic system.
completed in relation to high risk medications including measuring the effectiveness of the implementation of risk reduction strategies.

Nursing and pharmacy staff completed a hospital wide medication management audit in relation to storage, custody and management of medications, including controlled medications annually.

Nursing and Midwifery Quality Care-Metrics were also monitored on a monthly basis and included a number of elements focused on medication management. In addition, the current key performance indicators measured by the hospital included Nursing and Midwifery Quality Care-Metrics and a key performance indicator related to the rate of reported medication errors per 100 bed days which was also monitored by the RCSI Hospitals Group.

Dissemination of audit and key performance indicator results is essential so that the clinical workforce is informed of areas that need improvement and also to motivate them to participate in improvement activities and improve practice. Documentary evidence provided to inspectors indicated that audit and key performance indicator results were discussed at various governance committee meetings including the Drugs and Therapeutics Committee, the Medication Safety Committee and the Quality and Safety Executive Committee meetings. In addition, audit results including findings from medication storage and custody audits were also disseminated to frontline staff at clinical nurse and midwifery managers meetings, local ward meetings and displayed on the ward performance board.

Overall, the hospital demonstrated evidence of some clinical audit and monitoring in relation to medication safety. However, inspectors found that audit and monitoring of medication safety could be further developed and improved to include audits in relation to high risk medications and risk reduction strategies aligned with the Drugs and Therapeutics Committee’s strategic plan.

**Opportunities for improvement**

- Evaluation and monitoring of the use and safety of medication should be planned in line with the hospital’s overall priorities and aligned to a medication safety strategic plan.

**2.8 Education and training**

Staff education can effectively augment error prevention when combined with other strategies that strengthen the medication-use system.

Cavan & Monaghan Hospital had a structured induction programme for doctors and nurses which included medication safety education. The clinical pharmacist provided non-consultant hospital doctors with training on good prescribing practices, anti-microbial
prescribing and training on medication reconciliation as part of their induction programme. Training was also provided on medication safety incident reporting and on how to access medication management policies and medicines information onsite.

Nurses completed an intravenous study day and also completed a competency assessment booklet as part of their induction programme. In addition, nurses completed the HSELaND†††††††medication management module. Records of staff that had attended education sessions and completed eLearning programmes were recorded on the hospital’s electronic record system.

To promote medication safety, the hospital had run an insulin safety week in May 2019 and diabetic nurse specialists visited clinical areas to show a video on the safe practice of insulin prescription and administration. Clinical pharmacists also provided high risk medication management training for all nursing staff in May and June 2019. Medical staff attended the journal club meetings and grand round meetings where shared learning identified from medication safety incidents was discussed.11

Opportunity for improvement

- The hospital should continue to ensure that professionals have the necessary competencies to deliver high-quality medication safety through induction and ongoing training.

††††††† The health service eLearning 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.

The governance and oversight for medication safety at Cavan & Monaghan Hospital rested with the Drugs and Therapeutics Committee. There was also a Medication Safety Committee which was operationally responsible for projects to improve medication safety across the hospital. Inspectors found that although there was representation for both hospital sites at the Drugs and Therapeutics Committee meetings, there was no identified full time staff member from Monaghan Hospital in attendance at these meetings.

Management at Cavan & Monaghan Hospital should consider amending the terms of reference for the Drugs and Therapeutics Committee to include representation from the Monaghan Hospital to support communication and collaboration with staff across both sites.

Inspectors found that medication safety was being actively progressed at the Cavan & Monaghan Hospital. Medication safety was prioritised at organisational level with clear leadership from the chief pharmacist and the support of the senior management team and the Drugs and Therapeutics Committee.

In line with recommended practice, the hospital had a formalised medication safety strategy and had implemented evidence-based safety measures for high-risk medications that included a range of low, medium and high leverage risk-reduction strategies.

The hospital had no formulary, but had a medicines stock list and had a system in place for the approval of new medications which was under the governance of the Drugs and Therapeutic Committee. The hospital should move towards the development of a defined formulary system. This work could be supported through collaboration with other hospitals within the RCSI Hospitals Group.

HIQA found that the pharmacy service within Cavan & Monaghan Hospital was almost entirely restricted to dispensing and significant resources were also deployed to dispensing to a number of healthcare providers external to the hospital. There was no ward based clinical pharmacy service with the exception of a clinical pharmacy service to review patient records with regard to antimicrobial stewardship. There was a limited pharmacy service provided on request for patients on high risk medications. Considering that clinical pharmacists have a key role in supporting patient safety, the absence of a clinical pharmacy service in high-risk areas such as maternity services and the paediatric unit may pose a risk to patient safety. In addition, formalised medication reconciliation was not routinely carried out in the hospital due to a lack of clinical pharmacists in the wards to support the
implementation of medication reconciliation. Notwithstanding the efforts made to recruit additional pharmacy resources, and the escalation of this risk to the hospital risk register, the hospital should work to assure itself that the current pharmacy service is utilised most appropriately and prioritise high risk areas in order to mitigate risk and promote patient safety.

The hospital had a system in place for reporting medication safety incidents. Overall, there was a good culture of reporting of medication incidents despite a drop in the reporting of medication safety incidents in 2019. The hospital needs to remain proactive in encouraging staff to report medication safety incidents across both sites.

Cavan & Monaghan Hospital had no audit committee and audits were not centrally controlled, but there was a plan to employ an audit facilitator. Inspectors found some evidence of ongoing monitoring and evaluation undertaken for medication safety through audit and metrics, but this could be further developed and improved to include audits in relation to high risk medications and risk reduction strategies aligned with the Drugs and Therapeutics Committee’s strategic plan.

The hospital had a number of medication information sources available which were accessible to staff, but the Drugs and Therapeutics Committee needs to strengthen its governance and oversight of the decision-making resources including mobile phone applications available to healthcare staff at point of care.

Cavan & Monaghan Hospital had a suite of medication-related policies, procedure and guidelines in place. The hospital had a structured induction programme for doctors and nurses which included medication safety education. The hospital should continue to ensure that professionals have the necessary competencies to deliver high-quality medication safety through induction and ongoing training.

This report should be shared with relevant staff at the Cavan & Monaghan Hospital and the RCSI Hospitals 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 across both sites.

The opportunities for improvement highlighted in this report requires renewed focus for leadership and management at the hospital to ensure that medication safety is seen as a priority and that patients are protected from known and avoidable harm.
4. References


29. National Institute for Health and Care Excellence (NICE). *Clinical Guideline 76. Medicines adherence: Involving patients in decisions about prescribed medicines and*


39. Rivkin A, Yin H. Evaluation of the role of the critical care pharmacist in identifying and avoiding or minimizing significant drug-drug interactions in medical intensive care


## Appendices

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

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

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Definitions

**Harm**
Impairment of the physical, emotional, or psychological function or structure of the body and/or pain resulting therefrom.

**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.)