Report of the announced inspection of medication safety at Royal Victoria Eye and Ear Hospital.

Date of announced inspection: 02 October 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 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.
# Table of Contents

1. Introduction ................................................................................................................. 7
2. Findings at Royal Victoria Eye and Ear Hospital .................................................. 10
   2.1 Leadership, governance and management ......................................................... 10
   2.2 High-risk medications and situations ............................................................... 12
   2.3 Person-centred care and support .................................................................. 16
   2.4 Model of service and systems in place for medication safety .................... 19
   2.5 Use of information .......................................................................................... 20
   2.6 Monitoring and evaluation ............................................................................ 20
   2.7 Education and training .................................................................................. 22
3. Summary and conclusion ......................................................................................... 23
4. References .................................................................................................................. 25
5. Appendices .................................................................................................................. 31
   Appendix 1: Lines of enquiry and associated National Standards for Safer Better Healthcare .................................................................................................................................................................................. 31
   Appendix 2: Hierarchy of effectiveness of risk-reduction strategies in medication safety .................................................................................................................................................................................. 32
   Appendix 3: National Coordinating Council for Medication Error Reporting and Prevention. Index for Categorising Medication Errors .................................................................................................................. 33
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 Standards (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. 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.

High-risk situation is a term used by the World Health Organization 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).

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. 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.

---

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

2 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 the Royal Victoria Eye and Ear Hospital by Authorised Persons from HIQA; Nora O’ Mahony, Dolores Dempsey Ryan and Emma Cooke. The inspection was carried out on 02 October 2019 between 09:00hrs and 16:05hrs.

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

- West wing/Harvey Lewis wing
- Theatre department.

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

- Group one: the chairperson of the Drugs and Therapeutics Antimicrobial Stewardship Committee, the chief pharmacist and the risk, health and safety manager.
- Group two: the chief executive officer, 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

The Royal Victoria Eye and Ear Hospital is a public hospital within the Ireland East Hospital Group. The hospital provides a range of inpatient, outpatient and emergency care services for adults with ear, nose, throat, head and neck conditions, and adults and children with eye conditions. The hospital is the national referral centre for eye and ear, nose and throat conditions.
2. Findings at Royal Victoria Eye and Ear 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

The hospital had strengthened the oversight arrangements in place for medication safety since the previous medication safety inspection. The Hospital’s Drugs and Therapeutics Antimicrobial Stewardship Committee was responsible for the oversight of medication safety within the hospital, with formalised governance arrangements and clear lines of accountability in place for medication safety.

The Drugs and Therapeutics Antimicrobial Stewardship Committee met in line with its terms of reference. There was good attendance from members, which included a community pharmacist who had recently joined the committee.

The Drugs and Therapeutics Antimicrobial Stewardship Committee developed an annual report which outlined the activities undertaken by the committee each year. This report also included the medication safety priorities for the following year. The annual report was submitted to the Medical Board, and was available for staff to review through the hospital’s electronic quality management software.

The hospital had developed a formalised Medication Safety Strategy for 2019 - 2024, aligned to the hospital’s overall mission for safe and effective patient care. The medication safety priorities identified by the hospital for 2019 were aligned to this overall strategy and progression against these medication safety priorities was evident to inspectors.

Risk management

The hospital had a medication risk register on which department level medication-related risks were recorded and risk rated. This risk register was monitored by the Drugs and Therapeutics Antimicrobial Stewardship Committee. Risks which could not be managed at department level were escalated to corporate level. Currently there was only one medication related risk on the corporate risk register. This risk related to the distribution of pharmaceuticals and other medicinal and surgical products in the event of Brexit.

---

5 The electronic quality management software included modules such as; document control and risk management.
Medication incidents were reported by staff using the hospital’s electronic quality management software. Inspectors were informed that the majority of medication incidents were reported by pharmacy staff followed by nursing staff. Medication incident reporting rates were low with only 63 medication incidents reported year to date, 83 medication incidents reported in 2018, 136 in 2017 and 44 in 2016.

**Figure 1. Medication incidents reported 2016 to 2018**

As a result of low reporting rates, some key medication related risks may not be understood, recorded, escalated or mitigated effectively by the hospital. Hospital management acknowledged the low reporting rates of medication incidents and outlined that they were reviewing the systems in place for reporting incidents. This review should include an evaluation of the hospital’s patient safety and incident reporting culture, to identify the reasons why staff do or do not report incidents, so that this can be improved.  

The hospital had held a Medication Safety Month in February 2017 to promote medication incident, and the Medication Safety Month was repeated in May 2019.

Reported medication incidents were categorised by pharmacy staff in the hospital’s electronic quality management software, as per the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) Medication Error Index (Appendix 3). However, inspectors were informed that this data could not be retrieved from the system to support analysis or trending. Data could also not be retrieved from the system to support other analysis or trending, such as by medication class or name. Incidents identified as high risk were inputted onto the National Incident Management System** by the risk department, following discussion with pharmacy staff.

** 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
Medication Safety Report Royal Victoria Eye and Ear Hospital, Health Information and Quality Authority

Medication incident reports viewed by inspectors outlined the number of incidents, the frequency of different types of incidents and the class of medication involved in the incidents.

Medication incidents reported in the previous quarter were presented as a standing agenda item at the Drugs and Therapeutics Antimicrobial Stewardship Committee, and serious medication incidents were discussed in detail.

Opportunities for improvements or shared learning related to medication incidents was communicated to staff in the hospital's 'Drugs and Bugs Newsletter', which was distributed after each Drugs and Therapeutics Antimicrobial Stewardship Committee meeting. For example information regarding the need for prompt delivery of time-critical medications for conditions such as Parkinson’s disease was circulated following a reported incident.

**Alerts and recalls**

The chief pharmacist received and acted on alerts and recalls related to medications. Alerts, recalls, advisory or warning notifications relevant to the hospital were discussed at the Drugs and Therapeutics Antimicrobial Stewardship Committee and included in its annual reports.

**Opportunities for improvement**

- The hospital should evaluate the reasons for underreporting of medication incidents, including the culture of reporting, to promote and improve incident reporting across all disciplines and ensure medication-related risks are identified.

2.2 **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).

---

reporting obligation to the SCA (Section 11 of the National Treasury Management Agency (Amendment) Act, 2000).

†† Class of medication involved for example; analgesic, antibiotic, topical ophthalmic preparation,

‡‡ 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.

§§ High-risk situation is a term used by the World Health Organization to describe situations where there is an increased risk of error with medication use.

*** 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-leverage risk-reduction strategies such as forcing functions, standardisation and simplification, need to be implemented alongside low-leverage risk-reduction strategies such as staff education, passive information and the use of reminders.

The Royal Victoria Eye and Ear Hospital had a policy on the management of high-risk and sound alike look alike (SALAD) medications. This policy included a list of the hospital's identified high-risk medications and a list of sound alike look alike medications with labelling, storage, prescribing and administering guidance for some of the high-risk medications. The policy did not include all the high-risk medications or associated risk reduction strategies in place in the hospital.

The Hospital’s high-risk medication list was developed from evidence-based literature and local incidents and was reflective of the medications initiated for the cohort of patients managed within the service. This list did not include some well documented high-risk medications such as oral anticoagulants and insulins,\textsuperscript{20,21,22,23,24} which were administered in the hospital. However some risk-reducing strategies were observed in practice for these high-risk medications as outlined in this section.

The following sample of high-risk medications and high-risk situations were reviewed during this inspection to identify the risk-reduction strategies in place:

- anticoagulants\textsuperscript{†††}
- insulins
- concentrated potassium chloride
- medication management during the perioperative period.

**Anticoagulants**

To support safe management of anticoagulants the Royal Victoria Eye and Ear Hospital had some risk-reduction strategies in place. For example:

- heparin infusions were prepared by the pharmacist
- a clinical pharmacist reviewed inpatient medication records and highlighted anticoagulants
- only one low strength unfractionated heparin was stocked on the wards
- a high-alert sticker was placed on unfractionated heparin when dispensed
- pharmacists were available to guide and support staff

\textsuperscript{†††}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.
- staff had access to up-to-date guidance for unfractionated heparin administration
- Direct oral anticoagulation education was provided during the medication safety month and included in nurses’ induction.

**Insulin**

The hospital had some risk-reduction strategies in place to mitigate against the risks associated with insulin. Examples of these are outlined below:

- insulin pens in use in the hospital were for single patient use only, dispensed in a tamper proof zip lock bag and stored in a fridge
- opened insulin pens were stored in the medication trolley with individual patient details and date of opening recorded
- the hospital had recently updated its guidelines for the management of patients with diabetes mellitus
- A revised draft of the Medication Record had a separate section for insulin prescriptions which had the terms ‘units’ pre-printed to support safe prescribing, and included guidance on the management of hypoglycaemia.

**Concentrated potassium chloride**

Concentrated electrolyte solutions for injection are especially dangerous with potentially fatal consequences when not prepared and administered properly. National and international evidence recommends the goal of complete removal of concentrated potassium from patient care areas, with the use of pre-mixed potassium infusions stored segregated from other solutions.

The hospital had high leverage risk-reduction strategies in place for potassium chloride as concentrated ampoules were not stocked in the hospital. Intravenous potassium was supplied in pre-mixed potassium chloride solutions, which were stored securely, segregated from other intravenous fluids and administered via an electronic pump.

**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

---

‡‡‡ The Medication Record is the medication prescription and administration record, drug kardex or drug chart.
if administered incorrectly. Therefore, the perioperative period is a high-risk situation in relation to medication safety.

The Royal Victoria Eye and Ear Hospital had a Department of Anaesthetics Governance group who met quarterly. Informal meetings were held between staff disciplines daily or as required, and inspectors were also informed that a morning safety pause meeting was held in the theatres, where any issue related to safety or incidents were discussed.

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

- anaesthetic medications were prepared, labelled and administered by the same anaesthesiologist, and unused medications were discarded at the end of each case by that individual
- international standardised colour-coded labels were used for drawn-up medications
- emergency drugs were drawn up by an anaesthesiologist at the start of each day, stored separately and disposed of at the end of the day
- drawn-up medications on the sterile field were labelled
- high-alert warning stickers were applied to neuromuscular blocking agents
- medications on the anaesthetic trolley were rationalised and standardised

**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.

The Royal Victoria Eye and Ear 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 were stocked in the hospital and dispensed as a patient specific single dose. Currently the hospital had a separate methotrexate prescription, but this prescription

---

555 Neuromuscular blocking agents provide skeletal muscle relaxation during surgery.

**** Rationalisation: reducing the number of similar groups of medications available.

†††† Standardisation of medication drawer (content and positioning), such as grouping them according to order of use, frequency of use, similarity of action, severity of harm from misuse, and lack of similar appearance. Implementation of the standardised medication drawers is expected to reduce the likelihood of medication errors.
was incorporated into the revised draft of the Medication Record viewed by inspectors.

Antimicrobial guidelines were available to guide staff in the prescribing and administering of antimicrobials which required therapeutic monitoring. The clinical pharmacist, microbiology consultant and infection control nurse were also available for guidance and support.

The hospital had developed a list of sound-alike look-alike drugs (SALADs) which was seen displayed in clinical rooms visited by inspectors. Sound-alike look-alike medications were considered when new medication applications were being reviewed to minimise sound-alike look-alike medications on the formulary.

Overall the Royal Victoria Eye and Ear Hospital had some risk-reduction strategies in place for high-risk medications and staff were aware of the risk-reduction strategies employed to protect patients from the risk of harm.

**Opportunities for improvement**

- The hospital’s list and policy related to high-risk medications should be reviewed and expanded to include all of the high-risk medications and associated risk reduction strategies in place in the hospital.

**2.3 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.

**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 144 people discharged from the Royal Victoria Eye and Ear Hospital during the month of May 2019, 76 people completed the survey, achieving a response rate of 53%.

---

‡‡‡‡ 'Sound-alike look-alike drugs (SALAD)’ or ‘Look- alike sound-alike’ (LASA). The existence of similar medication names is one of the most common causes of medication error and is of concern worldwide. With tens of thousands of medications on the market, the potential for error due to confusing drug names is significant.
Two questions related directly to medication in the National Inpatient Experience Survey. The scores for the Royal Victoria Eye and Ear Hospital and the national scores for 2017, 2018 and 2019 are illustrated in table 1 below.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Year</th>
<th>Royal Victoria Eye and Ear Score Hospital score</th>
<th>National score</th>
</tr>
</thead>
<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>9.2</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>9.1</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>9.1</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>7.9</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>7.2</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>6.9</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Table 1: Comparison between Royal Victoria Eye and Ear Hospital and national scores for Questions 44 and 45 of the National Inpatient Experience Survey 2017 to 2019.

The results obtained by the Royal Victoria Eye and Ear Hospital have continued to improve each year, and the hospital scored well above the national average scores in both questions. The hospital had continued to develop quality improvement initiatives to further support patient’s safer management of their medications on discharge, such as:

- pain relief information for children on discharge
- hospital customised version of the ’5 questions to ask about your medications’

Please note that the numbering of questions changed after the 2017 survey was completed. Question 44 ‘…..’ was originally question 45 in the 2018 survey and question 45 ‘….’ was originally question 46.

***** National Inpatient Experience Survey was known as the National Patient Experience Survey in 2017 and 2018.
promotion of the 'Know, Check, Ask campaign'.

Patient information

Inspectors were informed that nurses, doctors and pharmacists provided patient information on medications. Patient information leaflets were available relevant to medications prescribed and patient group managed within the hospital. Nurses provided practical demonstrations to patients on the administration of medications such as eye drops, and included their family or carers in education sessions when necessary.

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.

In the Royal Victoria Eye and Ear Hospital the pharmacist completed medication reconciliation for patients on admission and discharge. Medication reconciliation key performance indicator data for 2018 demonstrated very high levels of compliance, and on average 96% of patients received medication reconciliation on admission, with 91% completed within 24 hours of admission. The discharge prescription review was not included as a key performance indicator but was audited for a defined time period in the previous two years. This audit showed that 63% of patients had their prescriptions reviewed on discharge during the audit period in 2018, which was an improvement from 51% in 2017, but still showed room for improvement to reach the hospital’s target of greater than 90%.

Systems to support medication safety

Some systems were in place to support medication safety and optimisation in areas such as:

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

**** Five question to ask the doctor, nurse, or pharmacist about medication: Have any medications been added stopped or changes and why? What medications do I need to keep taking any why? How do I take my medicines and for how long? How will I know if my medications is working and what side effects to watch out for? Do I need any test and when do I book my next visit?

***** The campaign encourages people who take regular medicines, and those assisting them to: 
 know their medicines and keep a list, to bringing the list to appointments and if admitted to hospital. To check that they are using the right medicine in the right way and to ask their healthcare professional if they are unsure.
• prevention of unintended administration of enteral or oral medication though the intravenous route.

Patient weight measurements are important for medications that require an individual weight-based dose,\textsuperscript{43} and patient known allergies should be available throughout the episode of care.\textsuperscript{15} All medication records viewed by inspectors had patients’ weight and allergy recorded on the front page of the medication record. Compliance with this requirement was included in Nursing and Midwifery Quality Care Metrics\textsuperscript{5\ldots} and results reviewed by inspectors from February to August 2019 demonstrated an overall compliance of 91% with the recording of patient’s allergies, and 85% compliance with the recording of patient’s weight.

**Opportunities for improvement**

• The hospital should progress the implementation of medication reconciliation for all patients on discharge.

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

**Clinical pharmacy service**\textsuperscript{****}

International studies support the role of clinical pharmacists in hospital wards in preventing adverse drug events.\textsuperscript{44,45,46,47,48,49} In line with best practice, the Royal Victoria Eye and Ear Hospital had a clinical pharmacy service for all inpatients, with key performance indicators demonstrating high compliance, with on average 97% of inpatient prescriptions screened within 24 hours of admission.

**List of approved medications (Formulary)**

The hospital had a system in place for the approval of new medications to ensure appropriate oversight of medications approved for use within the hospital, and that a safety evaluation occurred before new medications were introduced.\textsuperscript{50} This process

\textsuperscript{5\ldots} 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.

\textsuperscript{****} 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.
was under the governance of the Drugs and Therapeutic Antimicrobial Stewardship Committee. The hospital formulary††† was reviewed annually.51

The hospital have strengthened the formulary process in place since the previous HIQA inspection and now medications approved for use within the hospital were monitored for side effects and the cost of new additions.

2.5 Use of information

Access to relevant up-to-date and accurate medication reference information is essential at all stages of the medication management pathway.11, 15 The Royal Victoria Eye and Ear Hospital had a number of medication information sources available, which were accessible to staff including:

- antimicrobial guidelines available on computer and via a smart phone application
- NEWT guideline‡‡‡‡‡‡
- intravenous medication administration guidelines
- British National Formulary for adults and children

The Health Service Executive 52 and the National Clinical Effectiveness Committee53 recommend that policies, procedures and guidelines are reviewed and updated every three years. The Royal Victoria Eye and Ear Hospital had a suite of medication related policies, procedures and guidelines, and all those viewed by inspectors during the inspection were up to date.

2.6 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 the Royal Victoria Eye and Ear Hospital by the Drugs and Therapeutics Antimicrobial Stewardship Committee was through key performance indicators, Nursing and Midwifery Quality Care Metrics§§§§§ and audit. Medication safety audit reports were included in the annual report, which was available to staff on the hospital’s electronic quality management software.

†††††† Formulary: a managed list of preferred medications that have been approved by the hospital’s Drugs and Therapeutics Committee for use at the hospital.
‡‡‡‡‡‡ Information to guide the administration of medication to patients with swallowing problems.
§§§§§§ 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.
The hospital had an audit plan included within its annual medication safety priorities and evidence of adherence with this plan was seen by inspectors. Audits were undertaken by pharmacists, nurses and the antimicrobial stewardship team with some examples outlined below:

- discharge prescription audit
- prescription query audit
- controlled drugs audit
- documentation of standing orders
- national antimicrobial point prevalence survey.

Although clear recommendations were outlined for audits reviewed, an associated time bound action plan with a responsible person identified was not always included in audits seen, to ensure the recommendations were implemented to achieve the required improvement.

Pharmacy key performance indicators were measured for clinical pharmacy services such as: inpatient prescription screening, medication reconciliation, proportion of discrepancies identified which were resolved with 24 hours. The average results for these key performance indicators for 2018 was between 91%-97%.

Nursing quality metrics were also measured monthly by nurses on medication safety and medication storage and custody. Consistently good results were identified in metrics related to storage and custody. However room for improvement was identified for the some medication safety metrics such as ‘patient identification legible and correct on the medication record’. Action plans for medications safety metrics which required improvement were demonstrated to inspectors, and although some improvement was seen on the metric results viewed between February and August 2019, improvements were not always sustained.

To support medication safety and quality improvements the hospital had also developed a quality improvement plan following the previous HIQA medication monitoring inspection, and evidence of progress against this plan was seen by inspectors. The hospital had also completed a self-assessment against the Joint Commission International medication management and use standards, and overall the hospital demonstrated a compliance rate of 94% against these standards.

**Opportunities for improvement**

- Audits should have time bound action plans, which are implemented and re-audited to ensure the required improvements are achieved.
2.7 Education and training

Staff education can effectively augment error prevention when combined with other strategies that strengthen the medication-use system.54

The hospital provided a variety of classroom and ward-based education sessions to keep staff up to date and informed on issues relating to medication safety. Nurses attended medication safety education on induction, completed an intravenous study day and undertook a ward-based competency assessment. Nurses also complete the HSELaNDS medication management module.

Doctors had a short medication presentation from pharmacy on induction and also attended formal consultant-led education sessions, grand rounds and journal clubs which covered some medication related topics such as antimicrobials and anaesthetic medications. The pharmacist also informed inspectors that they attend some of the doctors’ education sessions and contributed medication related advice and education.

Other medication safety education provided included intravenous acetazolamide and fluorescein presentations for the outpatient nurses and a direct oral anticoagulant presentation.

Education was provided during the hospital’s medication safety month held in May on topics such as:

- anaphylaxis and drug allergies
- perioperative medications
- diabetes management guidelines.

The hospital also promoted ‘World Patient Safety Day’ in September 2019, which recognised the scale of avoidable harm linked with medication errors and supported taking action to reduce patient harm within the healthcare settings.55

The Royal Victoria Eye and Ear Hospital was in the advance stages of developing a bespoke medication safety elearning module for doctors and nurses, which would be mandatory for nurses and doctors to complete.

Opportunities for improvement

- The hospital should continue to progress the development of the ongoing structured education programme for staff involved in medication management.
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.

Since the last HIQA inspection the Royal Victoria Eye and Ear Hospital had strengthened its governance arrangements in place for medication safety. The hospital identified medication safety priorities for 2019, aligned to an overarching Medications Safety Strategy for 2019-2024, and progress with implementation of the identified priorities for 2019 was evident to inspectors.

The hospital had a full clinical pharmacy service for all inpatients, with a system in place for medication reconciliation on admission and discharge which was to be commended. There was a system in place for the approval of new medications which was under the governance of the Drugs and Therapeutic Antimicrobial Stewardship Committee and all medications approved for use within the hospital were included in the hospital formulary which was reviewed annually.

There was room for improvement in medication incident reporting rates. The hospital should evaluate the hospital culture in relation to medication incident reporting, to promote a patient safety culture and incident reporting across all disciplines to enable identification of medication-related risks.

The Royal Victoria Eye and Ear Hospital had some risk-reduction strategies in place for high-risk medications and staff were aware of the risk-reduction strategies employed to protect patients from the risk of harm.

Monitoring of medications safety was undertaken through key performance indicators, nursing quality metrics and audit, all of which was reviewed by the Drugs and Therapeutics Antimicrobial Stewardship Committee and included in the hospital’s annual report. Audits reviewed by inspectors had outlined recommendations required for improvement, but no associated time bound action plan to provide assurance that recommendations were implemented to support improvement for patient safety.

The hospital provided a variety of classroom and ward-based education sessions to keep staff up to date and informed on issues relating to medication safety and were in the advanced stages of developing a bespoke mandatory medication safety elearning module for doctors and nurses.
Overall the hospital had good systems in place to support medications safety and should continue to work towards improving medication safety practices by addressing the findings of this report, and progress the implementation of initiatives identified through its own monitoring of practices in place.

This report should be shared with relevant staff at Royal Victoria Eye and Ear Hospital and the Ireland East Hospital Group to highlight the findings from the inspection, including what has been achieved to date and to foster collaboration in relation to opportunities for improvement.
4. References


51 The health foundation (2011) High Reliability Organisations

http://www.health.org.uk/publication/high-reliability-organisations


### 5. Appendices


<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.

Reprinted with permission from ISMP Canada
Appendix 3: National Coordinating Council for Medication Error Reporting and Prevention. Index for Categorising 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.)

© 2001 National Coordinating Council for Medication Error Reporting and Prevention. All Rights Reserved. Permission is hereby granted to reproduce information contained herein provided that such reproduction shall not modify the text and shall include the copyright notice appearing on the pages from which it was copied.