

Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the announced inspection of medication safety at Coombe Women & Infants University Hospital, Dublin

Date of announced inspection: 25 October 2017

About the Health Information and Quality Authority

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

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

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

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

Regulation — Registering and inspecting designated centres.

Monitoring Children's Services — Monitoring and inspecting children's social services.

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

Health Technology Assessment — Providing advice that enables the best outcome for people who use our health service and the best use of resources by evaluating the clinical effectiveness and cost effectiveness of drugs, equipment, diagnostic techniques and health promotion and protection activities.

Health Information — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information about the delivery and performance of Ireland's health and social care services.

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1. Introduction

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

Medication related events were the third most common type of adverse event recorded in the Irish National Adverse Events Study.¹ Medication safety has also been identified internationally as a key focus for improvement in all healthcare settings and it is estimated that on average, at least one medication error per hospital patient occurs each day.² The World Health Organisation (WHO) has identified *Medication Safety* as the theme of the next Global Patient Safety Challenge.³ This global safety initiative, launched in March 2017, aims to address the weaknesses in health systems that lead to medication errors and the severe harm that result.

HIQA's medication safety monitoring programme, which commenced in 2016, aims to examine and positively influence the adoption and implementation of evidencebased practice in public acute hospitals around medication safety. HIQA monitors medication safety against the *National Standards for Safer Better Healthcare*,⁴ to determine if hospitals have effective arrangements in place to protect patients from harm related to medication use.

An expert advisory group was formed to assist with the development of this medication safety monitoring programme. The advisory group membership included patient representation, alongside members with relevant expertise from across the Irish health service. Specific lines of enquiry were developed to facilitate medication safety monitoring. The lines of enquiry which are aligned to HIQA's *National Standards for Safer Better Healthcare* are included in Appendix 1 of this report. Further information can be found in a *Guide to the Health Information and Quality Authority's Medication Safety Monitoring Programme in Public Acute Hospitals 2016*⁵ which is available on HIQA's website: www.hiqa.ie

An announced medication safety inspection was carried out at the Coombe Women & Infants University Hospital by Authorised Persons from HIQA; Nora O' Mahony and Dolores Dempsey-Ryan. The inspection was carried out on 25 October 2017 between 09.30hrs and 15.50hrs. Interviews were held in the hospital with the following groups of managers and clinical staff:

- Group one: the Chairperson of the Drugs and Therapeutics Committee, the Chief Pharmacist, the Medication Safety Pharmacist, the Clinical Risk Manager and the Quality Manager.
- Group two: the Secretary and General Manager and the interim Director of Midwifery and Nursing.

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

- St Patrick's Ward
- The Neonatal Intensive Care Unit.

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

HIQA would like to acknowledge the cooperation of staff who facilitated and contributed to this announced inspection and the hospital outpatients who completed the survey.

2. Findings at Coombe Women & Infants University Hospital

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

2.1 Governance and risk management

Lines of enquiry:

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

The Coombe Women & Infants University Hospital is a member of the Dublin Midlands Hospital Group. The hospital provides tertiary maternal, fetal, neonatal, gynaecology and anaesthetic services both at a regional and national level.

The hospital had a Drug and Therapeutics Committee with formalised governance arrangements and lines of accountability in place for medication safety. The Committee was chaired by the Master^{*} of the hospital who was a consultant obstetrician /gynaecologist. The terms of reference of the Committee outlined the Committee's objectives, membership, role and function and operational issues. Although the membership of the Committee was recently updated within the terms of reference, the hospital acknowledged that other elements of the terms of reference required review and updating, for example, the reporting structures and the subcommittees.

Membership of the Drugs and Therapeutics Committee was multidisciplinary to reflect the fact that medicines management was the responsibility of a number of clinical professional groupings.⁶ Membership of the hospital's Drugs and Therapeutics Committee included pharmacists, midwives, nurses and consultants, the Quality Manager, the Clinical Risk Manager and the Financial Controller. While meetings were in general well attended, the hospital acknowledged that attendance by some consultants could be improved, and were considering holding meetings on a fixed day and time to support attendance.

Inspectors were informed that the hospital also developed additional groups as required to focus on issues pertaining to medication safety and the relevant consultants attended these group meetings. For example, a caesarean section

^{*}The Master is a doctor, an obstetrician/gynaecologist, who is responsible for running the hospital for a fixed period of seven years, during which he or she functions as both a clinician and CEO.

antimicrobial surgical prophylaxis group was developed to review hospital practice in relation to the administration of antibiotic prophylaxis[†] prior to caesarean section.

Inspectors were informed that the Coombe Women & Infants University Hospital formed part of the three Dublin Maternity hospitals' Joint Standing Committee, that worked closely together to share learning and collaborate, for example on medicines supply issues.

The Drugs and Therapeutics Committee reported through the Master to the hospital's Management Executive Committee and the Board of Guardians. It was evident that medication safety was supported at executive level within the hospital.

The Drugs and Therapeutics Committee had three subcommittees outlined in the hospital's organogram known as the:

- Paediatric Drugs and Therapeutics Committee
- Antimicrobial Stewardship Committee
- Medication Safety Committee.

The Medication Safety Committee was set up in October 2016 and was chaired by the newly appointed Medication Safety Pharmacist. The main aim of this Committee outlined in its terms of reference was to:

- prioritise and promote a culture of medication safety across the organisation
- promote effective communication between key stakeholders
- identify and monitor medication errors
- provide appropriate educational opportunities for clinical staff.

The appointment of a Medication Safety Pharmacist and the development of the Medication Safety Committee reflected the emphasis placed on patient safety by the hospital. In addition, the Committee had recently developed a draft of a medication safety plan for 2018 to 2022 that outlined its vision and objectives and plans. One plan was to maximise the use of smart phone applications and technology.

The Paediatric Drugs and Therapeutics Committee was chaired by a Consultant Neonatologist, with senior pharmacy, midwifery and nursing members. This Committee's terms of reference had as its core function the development, review and updating of specify drug guidelines covering prescribing and administration for paediatrics. The hospital's organogram outlined that the Paediatric Drugs and Therapeutics was a subcommittee of the Drugs and Therapeutics Committee. This was confirmed by the hospital staff at interview. However, the terms of reference of the Paediatric Drugs and Therapeutics Committee reviewed by inspectors, outlined

[†] A prophylaxis is a medication or a treatment designed and used to prevent a disease from occurring.

that the Committee had autonomy from the adult Drugs and Therapeutics Committee, with any inter-related issues being raised by the chairman of each committee. The hospital should review and formalise the reporting structure of the Paediatric Drugs and Therapeutics Committee.

The Drugs and Therapeutics Committee was responsible for governance of the formulary[‡] of medicines approved for use within the hospital. The purpose of maintaining a formulary is to ensure that appropriate governance exists around what is approved for use and that in doing so, a proper safety evaluation occurs before medicines are introduced into practice at the hospital.⁷

The hospital had developed a request form for the introduction of new medicines which was completed by the requesting consultant and submitted to the Drugs and Therapeutics Committee for consideration. Inspectors noted that the safety, efficacy, side effects or any monitoring or education requirements were not specifically outlined in the request form for new medicines. However, hospital management confirmed at interview that all these factors were considered by the Drugs and Therapeutics Committee before a new medicine was approved for use within the hospital.

Medication Incidents

The hospital had an established system for reporting and addressing medication errors and near misses using a specific medication safety incident report form which included near misses. Medication incidents and near misses were tracked and trended to assess progress, identify emergent medication safety concerns and prioritise medication safety activities. For example, the hospital had identified trends in medication safety incidents related to gentamicin[§] and had introduced initiatives to improve safety that included updating of the prescribing guidelines, streamlining the monitoring advice and introducing a dose banding table^{**}.

The Medication Safety Pharmacist reviewed and graded all medication incidents using the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) Medication Error Index to categorise incidents in terms of patient harm (Appendix 2). This index considered factors such as whether the error reached the patient and, if the patient was harmed, to what degree. All reported

⁺ A formulary is a hospital's approved list of medicines that staff can use as a reference document to ensure safe and cost-effective prescribing.

[§] Gentamicin: antimicrobial used to treat several types of serious bacterial infections.

^{**}An agreed system whereby doses are calculated on an individual basis, that are within defined ranges or bands are rounded up or down to predetermined standard doses.

incidents were inputted into the National Incident Management System^{††} (NIMS) by the Clinical Risk Manager.

Inspectors reviewed a medication safety report from January to September 2017 which clearly outlined the number of errors, the drug type involved, the discipline reporting and the grade of error as per the Medication Error Index (Appendix 2). Inspectors were informed that these reports were produced quarterly and submitted for review by the Medication Safety Committee, the Drugs and Therapeutics Committee and the Quality, Safety and Risk Committee. Inspectors were also informed that incidents were discussed at Divisional Meetings^{‡‡} by the Clinical Risk Manager.

The medication safety report reviewed also contained information for staff on risk reduction strategies put in place to mitigate against risks identified. For example, the hospital now dispensed sucrose in a 15mL pot rather that in an amber glass bottle to reduced the risk of a mix up with other look-alike products dispensed in amber glass bottles. A memorandum outlining this change was also circulated by the pharmacy staff to all neonatal medical and nursing staff

The number of medication incidents reported had increased to 147 in 2017 year to date, which already surpassed the total number of medication incidents reported for 2016. The majority of incidents were reported by midwives. The hospital accredits the improved reporting to the focus placed on medication safety by the appointment of a Medication Safety Pharmacist, who had provided both formal and informal education sessions for staff. Also, the Master in conjunction with the Medication Safety Pharmacist had circulated a memo to staff outlining the importance of medication incident reporting for all disciplines to support quality improvement and medication safety. This reflected the emphasis placed on patient safety by the hospital and the willingness of front-line staff to report medication incidents. Higher incident reporting rates both demonstrate and promote an improved culture of safety.⁸

Notwithstanding this positive trend in reporting, the hospital acknowledged that there was still room for further improvement in incident reporting, especially around near miss reporting and the expansion of incident reporting to all disciplines. The hospital should continue its plan to promote incident reporting among all clinical staff, so that safety surveillance is improved, learning is shared, and the safety culture is enhanced across the organisation.

⁺⁺ 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).

^{‡‡} Hospital divisional committees for peri-operative, medicines, obstetrics, gynaecology, paediatrics and newborn medicines.

Issues which were considered to potentially compromise the safe administration of medication were included in the hospital's risk register. For example, the hospital identified periodic shortage in supply of some products and medicines as a high risk to maintaining optimal patient care. These issues were placed on the hospital's risk register and had been escalated through the hospital's governance structures to the Management Executive Committee, the Board of Guardians, the Dublin Midlands Group, and as appropriate to the Health Service Executive. To mitigate against the risk of short supplies of medicines the hospital had proactively developed a contingency plan and identified, where possible, second line medicines which the hospital would source when required. While prioritising the risk to patient safety identified through non availability of required medicine, the hospital also identified the substantial financial cost and staff time involved in sourcing alternative medicines.

Open disclosure occurs when staff in the health and social care service communicate with patients in an open and honest manner when things go wrong with patient care.^{4,9} Inspectors were informed at interview that there was a culture of open disclosure within the hospital and front line staff confirmed that patients were informed when an incident occurred. Open disclosure training had been rolled out within the hospital by the State Claims Agency and a multidisciplinary train-the-trainer team continued the education for staff. However, the hospital reported that only 31% of medication incident forms reviewed indicated that open disclosure had occurred. The hospital planned to audit this in more detail going forward as information regarding open disclosure may be contained in medical or nursing documentation.

Medication related incident reporting facilitates the identification of risk and opportunities for improvement. However, on its own it does not provide a complete picture of all potential sources of risk and patient harm.¹⁰ The hospital used a variety of additional information sources to identify strengths and weaknesses in the hospital's medication management system including audit, risk assessment, direct observation through leadership and quality walk-rounds and medication safety walk-rounds.

2.2 Audit and evaluation

Line of enquiry:

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

Elements of medication safety were evaluated through audit at the hospital. Within the hospital's medication safety strategic plan for 2017, a list of medication-related audits to be completed was outlined, with the caveat that at least one medicationrelated audit be undertaken per month. Evidence of compliance with this audit plan was demonstrated to inspectors through review of medication safety audits in progress and completed as follows:

- pharmacist interventions and medicines information provision in the dispensary setting of a maternity hospital
- improving appropriate venous thromboembolism^{§§} prophylaxis^{***} for postnatal patients in an Irish maternity hospital
- a retrospective study of prescribing of intravenous iron and clinical outcomes in antenatal patients
- mifepristone use
- out of hours access to pharmacy for supply of medications
- time to delivery with dinoprostone^{†††} pessary versus dinoprostone intravenous solution for induction of labour in primiparous women at term
- recording of antimicrobial indications in patients' notes and drug charts
- administration of caesarean section prophylaxis
- patients transferred to the hospital in February 2017 and antimicrobial use in these patients
- neonatal gentamicin levels
- anaesthetic clinic preoperative medical assessment referral for medication reconciliation.

An audit of the timing of administration of caesarean section antibiotic prophylaxis was undertaken by a multidisciplinary team to determine compliance with hospital guidelines. The multidisciplinary team focused on improving the administration of caesarean section prophylactic antibiotics prior to skin incision ideally 15 to 60 minutes prior to procedure. The re-audit identified an improvement from 7% in 2016 to 50% in 2017. Notwithstanding the improvement found, the multidisciplinary team identified the need for further improvement both in administration of appropriately timed antibiotic prophylaxis and the recording of same in the healthcare record.

Although audits were not centrally coordinated or aligned to a strategic overall audit plan, the hospital hoped to address this gap through the expansion of the Quality and Patient Safety Division in 2018 with the appointment of a clinical audit lead.

 $[\]ensuremath{\ensuremath{^{\$\$}}}$ a blood clot that breaks loose and travels in the blood

^{***} A prophylaxis is a medication or a treatment designed and used to prevent a disease from occurring

⁺⁺⁺ Dinoprostone is used to prepare the cervix for the induction of labour in pregnant women who are at or near term.

Clinical audit is a cyclical process undertaken in five stages; planning, standard selection, measuring performance, making improvements and sustaining improvements. Each stage of the clinical audit cycle must be undertaken to ensure that an audit is systematic and successful.¹¹ Inspectors were informed that all non-consultant hospital doctors^{‡‡‡} undertaking audit informed the Master of the hospital before commencing the audit. Each non-consultant hospital doctor's audit was assigned a leader/trainer, and in the event that the doctor left the hospital before that audit cycle was completed, the Master reallocated the audit to another non-consultant hospital doctor to ensure the audit cycle was completed and the learning was achieved by the hospital. To promote audit and share the learning, audits were presented at a multidisciplinary forum and a Masters medal was awarded for non-consultant hospital doctor's audit. Staff also submitted audits for other awards and at national and international conferences.

High-risk medicines can cause significant harm when system errors occur.¹² The hospital had recently identified a high-alert medication list with risk reduction strategies to mitigate against the risk of patient harm for these medications. For example, the hospital had introduced prefilled syringe in theatre and the delivery suite for ephedrine, adrenaline and phenylephrine^{§§§}; standard concentration infusions were introduced for a variety of medications such as, noradrenaline, midazolam, isoprenaline and esmolol. In addition, smart pump technology^{****} was implemented in the neonatal unit to support safe drug administration. Stockholding^{††††} of certain high-risk medicines was also limited to specific clinic areas.

2.3 Medication safety support structures and initiatives

Line of enquiry:

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

The Medication Safety Committee had developed a medication management plan for 2017. This was approved by the Drugs and Therapeutics Committee and included among its priorities to:

make medication safety and reporting a priority at board level

^{***} Non-consultant hospital doctor (NCHD) is a term used in Ireland to describe qualified medical practitioners who work under the (direct or nominal) supervision of a consultant in a particular speciality.

^{§§§} Medicines used during anaesthesia.

^{****} These infusion systems check that programming of the pump is within pre-established hospital limits before infusions can begin.

[&]quot;"" Where some medications were only kept as stock on certain units or wards

- review and update the hospital's medication management policy
- introduce and implement a new chart for prescribing and administering of insulin to inpatients
- produce at least one medication-related audit per month
- increase the presence of pharmacy staff in clinical areas
- plan a medication safety-based hospital event e.g. medication safety day/seminar/week, to promote the principles of medication safety
- implement any changes as directed by HIQA or other state agencies
- develop contingency plans for medication shortages and ongoing supply issues
- engage with consultants and non consultant hospital doctors to improve reporting culture in these staff cohorts
- promote ISBAR^{****} as the standard means of disseminating information from clinical areas to the pharmacy department
- promote the use of modern technologies as a means of disseminating information about the appropriate use of medications.

The annual plan was formally monitored by the Drugs and Therapeutics Committee and the hospital demonstrated progress with many of the 2017 medication priorities. For example, the hospital had:

- updated its medication management policy and the policy for medication management in paediatrics and newborn medicine
- introduced colour coded trays for theatre drugs following the State Claims Agency safety notification ¹³
- commenced the development of a prescribing and administration insulin chart for inpatients
- developed contingency plans for medication shortages and ongoing supply issues starting with the supply of epidural infusion bags and antenatal steroids
- developed a draft medication safety plan for 2018 to 2022.

The hospital had monthly leadership, quality and safety walk-rounds whereby members of the senior hospital management visited wards to talk to multidisciplinary frontline staff. The aim of the walk-round was to demonstrate senior management's commitment to quality and safety for service users and staff, and to promote a culture of open communication with an aim to proactively minimise risk and identify, acknowledge and share good practice. Medication safety was one of the items proactively discussed during the walk-rounds and inspectors were informed that the review of dedicated space for medication preparation was reviewed on wards visited.

^{****} ISBAR (Identify, Situation, Background, Assessment and Recommendation) is a mnemonic created to improve safety in the transfer of critical verbal information between staff.

Inspectors were informed that medication related changes had come about as a result of issues identified during the walk-rounds such as, the reorganisation of pharmacy storage and the reorganisation of the medicines preparation area within the special baby unit.

A medication safety walk-round was also initiated by the Medication Safety Committee and to date one successful walk-round had taken place in the delivery suite. The Medication Safety Pharmacist and the Senior Clinical Midwife Manager had undertaken the medication safety walk-round. Any medication related issues identified during the walk-round had an action plan developed with the person responsible for completion outlined. The hospital identified the walk-round as a very useful exercise and planned to continue the medication safety walk-rounds in other areas.

On one ward visited by inspectors, the ward stock of intravenous and oral medicines was not stored in the clean utility room where nurses prepared medication, but rather in two ward offices where multidisciplinary team members also completed their healthcare records. Inspectors found that one stock of medicines was stored in the outer compartment of the scheduled controlled drug cupboard within the main ward office. The nurse in charge for each shift held the keys to the scheduled controlled drug cupboard. Following this inspection the hospital should use their leadership, quality and safety walk-round approach to proactively review medication management processes within this ward area, to promote quality and safety for service user and staff.

Medication reconciliation at the time of admission is a systematic process conducted by an appropriately trained individual, to obtain an accurate and complete list of all medications that a patient was taking prior to admission.^{12,14,15,16,} In the Coombe Women & Infants University Hospital, the pharmacist completed medication reconciliation for gynaecological patients attending the pre-operative anaesthetic clinic. The medication reconciliation process included reviewing the accuracy of the medication history, verifying same with other sources such as community pharmacy, and highlighting any discrepancies to the relevant clinician for review and amendment as appropriate. This process was undertaken as outlined in the hospitals standard operating procedure, to result in an accurate complete list of medications.¹⁴

There are currently no agreed national standards outlining requirements for the provision of clinical pharmacy services in hospitals. International studies support the role of clinical pharmacists in hospital wards in preventing adverse drug events.^{17,18,19,20,21,22} The hospital had a clinical pharmacist ^{§§§§} assigned to all but one clinical inpatient area. The hospital highlighted that, due to sick leave or annual leave, all areas may not be support by clinical pharmacy services each day, and on

^{\$\$\$\$} Clinical pharmacy describes the activity of pharmacy teams in ward and clinic settings.

these occasions the pharmacist prioritised patients for clinical review based on condition, history and medications prescribed The delivery suite, theatre, labour ward and St Josephs ward had access to clinical pharmacists as required, and were supported by the antimicrobial pharmacist service. The clinical pharmacy service, as outlined in the supporting standard operation procedure, involved ensuring the prescription was legible, safe, clinically appropriate and in line with hospital guidelines.

Recognising the specialist practice provided to women and infants in the hospital, the pharmacy department also provided a medicine information service, for healthcare staff, both within and external to the hospital. The service was underpinned by a standard operating procedure.

Coombe Women & Infants University Hospital was also participating in the Health Service Executive (HSE) Quality Improvement Division venous thromboembolism (VTE) quality improvement collaborative. This is a collaborative among multidisciplinary teams in Irish adult acute public and voluntary hospitals who are working together to achieve appropriate thromboprophylaxis for their hospital's inpatients, to reduce the risk of venous thromboembolism and to minimise harm and expenditure associated with unnecessary thromboprophylaxis.

There was an established system in place to respond to guidance, alerts, recalls and recommendations issued by regulatory bodies in relation to medication safety. Such information was communicated to relevant heads of department by the Master of the hospital. Medication related alerts and recalls were subsequently reviewed by the Chief Pharmacist, and circulated or actioned as appropriate.

2.4 Person-centred care

Line of enquiry:

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

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.^{23, 24}

The Coombe Women & Infants University Hospital had systems in place to support the provision of patient information and education in relation to medication usage. Inspectors were informed that pharmacists, midwives, and the High-Risk Pregnancy Midwife Specialist were involved in patient education on new medications. Pharmacists provided counselling to women on newly prescribed oral

anticoagulant^{*****}, or complex medications if required. Midwives also provided patient medication education, with a particular emphasis on provision of education to women discharged on insulin or low molecular weight heparin.

The parents of babies discharged on complex medications that required additional education and support were provided with this support by neonatal nurses, pharmacists and the Discharge Nurse. The pharmacist often linked with external community pharmacists or external hospitals to ensure a continuous supply of medications for the baby following transfer or discharge. Inspectors were also informed that education for parents was undertaken throughout the hospital stay to prepare the parents and the baby for discharge. In addition, the hospital held monthly support groups for parents and babies post discharge, to provide an additional source of support and educational opportunity if required.

As part of the HIQA inspection, HIQA requested that a small sample of hospital outpatients attending the Outpatient Department complete an anonymised questionnaire in relation to prescribed medications. Ten patients who had been inpatients in the Coombe Women & Infants University Hospital within the past year, and who were prescribed regular medications, completed the questionnaire. All ten patients had been prescribed new medicines. Of these:

- eight of the patients said that while in hospital, a staff member had explained the purpose of new medication in a way that they could completely understand
- four of the patients said that prior to discharge from hospital, a staff member told them about all possible medication side effects to look out for following discharge home
- ten of the patients said that they received complete instruction on how to take their medications at home.

It is acknowledged that the sample size of patients who completed the anonymised questionnaire was small, and therefore was not representative of all recently discharged patients taking prescribed medication. However, patient education is an integral component of the safe, effective and cost-effective use of medications. This patient questionnaire did provide some baseline information about outpatient's understanding of medications and may be used as a focus for further improvement.

2.5 Policies procedures and guidelines and access to information

Lines of enquiry:

> Hospitals develop effective processes for medication management that are

^{*****} Oral anticoagulants are medications used to treat or prevent blood clots.

implemented and supported by clear and up to date policies, procedures and/or protocols.

Essential information supporting the safe use of medicines is readily available in a user friendly format and is adhered to when prescribing, dispensing and administering medications.

The hospital had developed a suite of policies, procedures protocols and guidelines to support medication management within the hospital. Inspectors observed that upto-date versions of medication policies, procedures, protocols and guidelines were available to staff in clinical areas on the hospital's electronic document control system.

The hospital had approved medication information resources which were readily available for use within the hospital. These resources included:

- a prescribers' guideline for obstetrics and gynaecology, incorporating microbiology and antimicrobial prescribing guide
- guidelines for the reconstitution and administration of injectable drugs
- the British National Formulary.

The prescribers' guide was also available for staff to download on a smart phone application with password access, controlled by the hospital pharmacy. The paediatric guidelines for the reconstitution and administration of injectable drugs were attached to a portable trolley within the neonatal unit, which provided staff access to medicines information at the point of medication prescribing and preparation. The Drugs and Therapeutics Committee had strict governance and oversight over all information sources used within the hospital.

Structures were in place to disseminate information to staff via formal meetings, education sessions, memoranda and newsletters. The Medication Safety Pharmacist and the Clinical Skills Facilitators provided formal and informal ward based education. Information was also disseminated through grand rounds^{†††††}, divisional meetings and a 'Safety Matters' hospital newsletter reviewed by inspectors.

On one ward visited by inspectors, an open multidose vial was not identified for single patient use²⁵ although management informed inspectors that single patient use for multidose vials was the practice within the hospital as outlined in the hospital's medication management policy. The dissemination of information to all front line staff can be challenging, and the medication safety walk-rounds introduced recently by the Medication Safety Committee may support this process.

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

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

2.6 Training and education

Line of enquiry:

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

Staff education can effectively augment error prevention when combined with other strategies that strengthen the medication-use system.²⁶

Inspectors were informed that non-consultant hospital doctors received induction training which included medication safety, augmented by further medication management lectures provided by pharmacy staff.

Nursing staff attended induction training on medication management which included intravenous education and completion of the HSeLand medication management module^{‡‡‡‡‡}. Each new midwife also completed a midwifery competency orientation, which included medication management self assessment and supervision.

Some nurses and doctors have attended medication safety sessions provided by the Medication Safety Pharmacist in 2017.

Inspectors viewed a safety matters newsletters produced by the Quality and Patient safety team which included a section of medication safety encouraging staff to report medication -related incidents and near misses. A variety of information memorandums were circulated from the Master's office and or pharmacy department updating staff of medication related issue such as, the introduction of a chlorhexidine gluconate and isopropyl alcohol preparation for disinfection of skin prior to invasive medical procedure and the switching of brands of prefilled adrenaline syringe.

^{*****} The health service elearning and development service.

3. Conclusion

Medications represent the primary measure for treatment intervention in hospitalised patients. Error associated with medication usage constitutes one of the major causes of patient harm in hospitals. Medication safety should therefore be a priority area for all hospitals as they seek to ensure a high quality and safe service for patients.

HIQA found that the Coombe Women & Infants University Hospital had a functional Drugs and Therapeutics and the medication safety agenda was being actively progressed at the hospital. There was clear leadership from the Chief Pharmacist and the Medication Safety Pharmacist, supported by the multidisciplinary team and senior hospital managers working to provide medication safety across the hospital. The hospital had a clear medication management plan which was being actively progressed through the Medication Safety Committee under the governance of the Drugs and Therapeutic Committee.

The hospital demonstrated a variety of quality improvement initiatives which had been implemented relating to medication safety. For example, smart pump technology, prefilled syringes in theatres, prescribing guidelines available to staff through smart technology, leadership and quality walk-rounds and medications safety walk-rounds.

Important lessons can be learned from analysis of medication incidents and near misses.⁹ Medicines related incidents and near misses were tracked, trended and graded, and where trends were identified, action was taken to prevent reoccurrence of such variance. The hospital should continue to progress its plans to promote reporting among all clinical staff, so that safety surveillance is improved, learning is shared, and the safety culture is enhanced across the organisation.

Audit represents a key component of all effective clinical governance programmes. Examples of audits undertaken by hospital staff which supported medication safety were reviewed by inspectors. The hospital should continue its good work to promote these quality assurance systems.

Following this inspection the hospital should continue the strong focus placed on medication safety through the continuation of progress made to date. It is recommended that this report should be shared with senior managers, clinicians and all relevant staff at the Coombe Women & Infants University Hospital to highlight both what has been achieved by the hospital to date in implementing medication safety activities, and to foster further collective progression from this time point.

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5. Appendices

Appendix 1: Medication Safety Monitoring Programme Phase One: Lines of Enquiry and Associated National Standard for Safer Better Healthcare

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

Appendix 2: 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.)

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For further information please contact:

Health Information and Quality Authority Dublin Regional Office George's Court George's Lane Smithfield Dublin 7

Phone: +353 (0) 1 814 7400 Email: qualityandsafety@hiqa.ie URL: <u>www.hiqa.ie</u>

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