Report of the announced inspection of medication safety at Galway University Hospitals.

Date of announced inspection:
31 May 2017
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About the Health Information and Quality Authority

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

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

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

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

Regulation — Registering and inspecting designated centres.

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.
Report of the announced inspection of medication safety at Galway University Hospitals.
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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. 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.

HIQA’s medication safety monitoring programme, which commenced in 2016, aims to examine and positively influence the adoption and implementation of evidence-based practice in public acute hospitals around medication safety. HIQA monitors medication safety against the National Standards for Safer Better Healthcare 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 which is available on HIQA’s website: www.hiqa.ie

An announced medication safety inspection was carried out at Galway University Hospitals by Authorised Persons from HIQA; Dolores Dempsey Ryan, Nora O’Mahony, Noelle Neville and Kay Sugrue. The inspection was carried out on 31 May 2017 between 09:00hrs and 16:10hrs. Interviews were held in the hospital with the following groups of managers and clinical staff:

- Group one: the Saolta Group Chief Clinical Director, the General Manager, the Assistant Director of Nursing and the Quality and Risk Coordinator for medicine.
- Group two: the Chairperson of the Drugs and Therapeutics Committee, an Associate Clinical Director who was based at Galway University Hospital, the
Chief Pharmacist, the Medication Safety Coordinator, and the Chair of the hospital’s Medication Safety Sub-Group.

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

- St Anne’s
- St Nicholas
- Infusion Unit (Merlin Park University Hospital).

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

HIQA would like to acknowledge the cooperation of staff that facilitated and contributed to this announced inspection, and the patients in the hospital’s Outpatient Department who completed an anonymised questionnaire in relation to prescribed medications.
2. Findings at Galway University Hospitals

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.

Galway University Hospitals comprising University Hospital Galway (UHG) and Merlin Park University Hospital (MPUH) provide a comprehensive range of services to emergency and elective patients on an inpatient, outpatient and day-care basis across the two sites. While UHG is a level four model hospital, MPUH is a level 2 model hospital. Galway University Hospitals is a member of the Saolta University Health Care Group.

Galway University Hospitals had formalised governance arrangements and organisational structures with clear lines of accountability in place to support the safe use of medications. The Drugs and Therapeutics Committee was responsible for the governance and oversight of the hospital’s medication management system and for ensuring its safety across both GUH and MPUH sites. This was reflected in the membership of the Drugs and Therapeutics Committee where healthcare staff from both hospital sites formed part of its membership.

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 that included clinicians, the hospital’s General Manager, the Medication Safety Coordinator, the chair of the Medication Safety Sub-Group, with pharmacists and nurses from both GUH and MPUH sites.

The Drugs and Therapeutics Committee reported to the hospital’s Management Team. The Hospital Management Team was operationally accountable to the General Manager who reported into the Saolta Group Management Team/Executive Council (appendix 2). In addition, the hospital had a clinical directorate system in place where clinicians known as associate clinical directors were members of, the Hospital Management Team, the Quality and Patient Safety Committee and also reported into the Saolta Group Drugs and Therapeutics Committee. This arrangement supported governance and oversight of medication safety at hospital senior management and at hospital group level. A key principle of the clinical directorate model is that there must be a clinical director with a single point of responsibility for all clinical services within the hospital and the hospital group.
To support the Saolta Group governance and oversight of medication safety, a group Drugs and Therapeutics Committee was set up with the aim of facilitating sharing learning and ensuring adoption of appropriate standards on all aspects of drugs and therapeutic use across the hospital group. Membership of the Saolta Group Drugs and Therapeutics Committee included the chair of each of the group hospital’s Drugs and Therapeutics Committees, the Chief Pharmacists, the Group Clinical Directors and the General Managers. A review of this Committee was outside the scope of this inspection. However, the formation of this Committee demonstrated potential progression towards a more coordinated approach to medication safety at group level.

An effective Drugs and Therapeutics Committee should have ongoing oversight of the medication management and safety system within a hospital. Galway University Hospitals Drugs and Therapeutics Committee had ongoing oversight of medication safety issues, antimicrobial stewardship, new medicines, audit, nurse prescribing and clinical trials. The Drugs and Therapeutics Committee had a number of sub-committees which included the Medication Safety Sub-Group, the Nurse Prescriber Medicines Review Team, and the Antimicrobial Stewardship Team that provided regular feedback on activities to it. This Committee recently endorsed the setting up of an insulin working group and the hospital also planned to set up an allergy working group to implement medication safety initiatives in response to medication incidents.

The hospital did not have a medication formulary, but had identified a medication formulary as a key area for development by the Committee in line with its terms of reference. Inspectors were informed at interview that the Committee had escalated a plan for a formulary to the hospital group. Documentation reviewed by inspectors showed that the hospital had a defined application process for the formal evaluation and approval of new medicines in the hospital. New medicines were evaluated on the basis of efficacy, safety, quality and cost. Decisions with significant budgetary impact were additionally overseen by senior hospital management.

The hospital had a Medication Safety Sub-Group in place that met monthly and was chaired by a medical consultant. Operational implementation of medication safety practices was effectively facilitated by the Medication Safety Coordinator and supported by the Pharmacy Department, the Drugs and Therapeutics Committee, the Medication Safety Sub-Group, the Quality and Patient Safety Committee, the Hospital Management Team and staff at the hospital.

* Formulary: a hospital’s approved list of medicines that staff can use as a reference document to ensure safe and cost-effective prescribing.
While the Medication Safety Sub-Group did not have a formalised written medication safety programme or medication strategy in place, there was evidence that a medication safety agenda and medication safety quality improvement projects were being actively progressed at the hospital. In addition, inspectors noted in documentation provided that the Medication Safety Sub-Group had a medication safety work plan in place for 2017. Nonetheless, the hospital should look to further progress its significant work in this area by devising a formalised written medication safety strategy with clearly defined objectives. In the absence of national guidance in this area, international guidelines\(^9\) which outline best practice in relation to medication safety strategic planning and quality improvement should be considered.

Important lessons can be learned from analysis of medication-related incidents and near misses. Reporting of incidents is of little value unless the data collected are analysed and recommendations are disseminated.\(^9\) The hospital had two systems in place for recording medication incidents. The first system was the hospital’s central incident management system which held all recorded hospital incidents including key actions.

The second system was a web-based information system\(^\dagger\) where an ‘app’\(^\ddagger\) which had been recently developed by the Pharmacy Department was being piloted by clinical pharmacists using electronic mobile technology.

Inspectors observed this system being piloted on one of the wards visited where clinical pharmacist scanned a picture of a medication incidents or near misses into a mobile device and was subsequently prompted to send it to the appropriate clinical directorate database. For example, where a medication incident was identified on a medical ward, it would be scanned to the medical directorate database for analyses. The hospital reported to inspectors that this incident management system is in development as part of a pilot project. The clinical pharmacist highlighted the advantages of this system which included the following:

- Time saving device as medications incidents were scanned immediately into a web-based information system to the appropriate clinical directorate database.
- Using a mobile device to record medication incidents meant that clinical pharmacist did not require access to the ward desk computer which was often difficult to access as it was used by many healthcare staff.
- The system was password protected and the data was encrypted.
- This system could trend data findings.

\(^\dagger\) Web-based information system is an information system that uses internet web technologies to deliver information and services, to users or other information systems/applications.

\(^\ddagger\) App is an abbreviated form of the word “application.” which is a software program that's designed to perform a specific function directly for the user or in some cases, for another application program.
All medication incidents scanned onto the web-based system were then analysed by the Medication Safety Coordinator and by a senior pharmacist with responsibility for the web-base information system. Progression on hospital incidents was available on the hospital central incident system and in a directorate incident electronic folder which staff could access for updates.

The Medication Safety Coordinator 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 3). The index considered factors such as whether the error reached the patient and, if the patient was harmed, to what degree. In addition, the grading of medication incident reports was supported by medication incident triage criteria and a medication incident algorithm process. The triage criteria used the traffic light colours of green where no follow up was required relating to the medication incident, amber where a brief follow was required, and red where a comprehensive follow up was required to assess the medication incident. Importantly, where the incident report suggested a potentially serious incident, the Medication Safety Coordinator used the Health Service Executive (HSE) risk matrix to facilitate a risk assessment and the level of follow up required to establish an outcome.

Documentations viewed by inspectors showed that serious medications incidents were reviewed and recommendations made by the hospital’s Quality and Patient Safety Committee and the Serious Incident Management Team (SIMT). These incidents were also escalated to the Saolta Group Quality and Patient Safety Committee and to its Serious Incident Management Team (SIMT). This supported hospital group governance and oversight of serious incidents. In addition, inspectors were informed on the day of inspection that the hospital group planned to standardise policies relating to learning from medication incidents. For example, similar medication incidents were reported from more than one hospital theatre within the group, and in response the Saolta group Drugs and Therapeutics Committee planned to standardise protocol on the use of medicines in theatre to improve safe medication practice across the group.

The Medication Safety Coordinator who was a member of both the Drugs and Therapeutics Committee and the Quality and Patient Safety Committee was responsible for the escalation of medication incidents graded ‘E’ or higher, and incidents rated as ‘red’ including incident trends considered to be of significance. All serious medication incidents reported to the Serious Incident Management Team
were inputted to the National Incident Management System (NIMS)\(^5\). Issues which were considered to potentially compromise the safe administration of medication were included on the hospital’s risk register. For example, the introduction of high strength insulin and biosimilars.\(^*^\) However, inspectors found on the day of inspection that although the hospital had identified possible risks associated with the preparation of monoclonal antibodies\(^\dagger\) and had submitted a business case to mitigate these risks; it was not recorded on the hospital risk register.

Staff who spoke with inspectors reported that they prepared monoclonal antibodies on site in MPUH.\(^1\) Inspectors were informed that intravenous infusions and monoclonal antibodies were prepared in an open, unsegregated area adjacent to a staff work station and patient area.

Evidence based research recommends that separate and identifiable areas for the storage of chemotherapy agents and the preparation and delivery of treatment should be available within or adjacent to wards or units.\(^13,14,15\)

HIQA acknowledges that while monoclonal antibodies may not all absolutely need to be made in an aseptic compounding unit on safety grounds, other safety measures do need to be applied including risk assessment by hospital management.\(^1\) The hospital needs to assure itself that the potential risks to patients and staff in this regard are fully understood, managed and mitigated.

Comprehensive medication incident summary reports were collated quarterly by the Medication Safety Coordinator, reviewed by the Medication Safety Sub-Group and submitted to the Drugs and Therapeutics Committee, and every two months to the Quality and Patient Safety Executive Committee to provide governance and oversight of medication incidents and trends at senior hospital management level. These medication incident summary reports tracked and trended medications incidents and near misses by Directorate, NCC-MERP grade, incident type, drug class, risk rating, triage category and by whom they were reported. In addition, a detailed summary of the emerging medication safety concerns was highlighted in each of the quarterly reports which included a number of quality improvement medication safety initiatives to address these concerns. For example, following the analysis of medication incidents in quarter one of 2017, the hospital identified that a number of detected

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\(^5\) 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).

\(^*^\) Biological medicines are a relatively new type of medicine made through biotechnology. A biosimilar product is a type of medicine which is approved as sufficiently similar to an established biological product to fulfil the same role, but due to the way such products are made, unlike other generic medicines, cannot be considered exactly the same as the originator product.

\(^\dagger\) Monoclonal antibodies are a type of biological medicine, often used to treat cancer, or inflammatory conditions.
medication incidents related to antithrombotic agents‡‡ and had introduced a number of measures to address this risk. Measures included:

- The introduction of an anticoagulant guidance poster outlining peri-procedural anticoagulation management.
- Piloting of a new adult medication prescription and administration chart detailing thromboprophylaxis§§ risk assessment and prescribing recommendations.

The hospital had identified that the rate of medication incident reporting which was approximately one hundred medications incidents a quarter was relatively low for a hospital of its size. In response, as previously highlighted the hospital was piloting an app using mobile computer technology to facilitate and improve the culture of medication incidents and near misses reporting.

Higher incident reporting rates both demonstrate and promote an improved culture of safety.16 Inspectors were informed at interview that the majority of medication incident reports were submitted by clinical pharmacists and nursing staff with limited evidence available to suggest that medical staff were reporting medications incidents. Inspectors concluded that the culture of reporting medication incidents needed to be broadened out to include other healthcare staff so that safety surveillance is improved, learning is shared, and safety culture is promoted and enhanced across the organisation.

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.17 Inspectors were informed that the hospital had a process in place to promptly inform patients when medication-related incidents occurred. Examples were given of when this open disclosure policy was adhered to.

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‡‡ An antithrombotic agent is a drug that reduces the formation of blood clots (thrombi).
§§ Thromboprophylactic is any preventive measure or medication that reduces the likelihood of the formation of blood clots.
2.2 Audit and evaluation

Line of enquiry:

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

Audit represents a key component of all effective clinical governance programmes. Elements of medication safety practices were audited at the hospital, but these audits were not aligned to a formalised medication safety audit programme or centrally coordinated. However, the Drugs and Therapeutics Committee had identified five areas for clinical audit which related to medication safety for 2017. In addition, an audit coordinator had been recently appointed for the hospital.

Current arrangements with regard to medication safety audit should be strengthened to ensure that there is a more systematic approach to audit selection and dissemination of audit findings throughout the hospital to provide assurance to the senior Hospital Management Team about medication safety at the hospital.

Documentation reviewed showed that a number of medication safety-related audits had been undertaken by clinical staff at the hospital which included the following:

- Nursing audits of access to ward medicines relating to security and storage of these medicines
- Nursing audit of ward MDA*** records, Jan 2017
- Medication management audit 2017
- Post partum haemorrhage audit, June 2016
- Venous thromboprophylaxis in pregnancy audit, 2016
- Diabetic ketoacidosis††† (DKA) audit
- Medication reconciliation audit 2016.

Documentation viewed by inspectors showed that medication errors relating to insulin and hyperkalemia treatments at the hospital had led to changes in medication practices. For example, hyperkalemia treatment in Galway University Hospitals was audited in 2015 with recommendations and action plans for the introduction of a hyperkalemia kit which contained insulin syringes and medicines to facilitate prompt compliance with guidelines. A subsequent re-audit November 2016 to January 2017 highlighted that the use of the hyperkalemia protocol with a kit box made management of and compliance with the hyperkalemia protocol easier.

*** The acronym MDA refers to the Misuse of Drugs Acts (MDA). Drugs covered by the MDA include opiate medications
††† Diabetic ketoacidosis is a serious emergency complication of diabetes which requires precise treatment with medicines and intravenous fluids.
An audit of compliance with the self-administration policy of medicines and use of patient’s own drugs (POD) was undertaken in one area of the Galway University hospitals. Full compliance was achieved against twelve standards, and actions were identified for the remaining five standards where further compliance was required.

Nursing quality care-metrics were monitored across the hospital to review practice around some aspects of medication. Nursing quality care-metrics results for a 12 month period were reviewed by inspectors. While the results relating to medication storage, custody and administration were satisfactory, improvement was required with regard to medication prescribing. This issue was also highlighted through a random medication management audit undertaken by nursing administration in May 2017.

2.3 Medication safety support structures and initiatives

The hospital had implemented quality improvement initiatives aimed at optimising medication safety. Medication safety quality improvement initiatives were strategically driven by learning gained from analysis of medication incidents or near misses. For example, the hospital redesign the adult medication prescription and administration chart with a section designated to antimicrobials, venous thromboembolism risk assessment and allergy status in response to medication incidents.

Additional practices to enhance medication safety in the hospital were identified during this inspection. These included the introduction of:

- Ward based rapid access to medication related guidelines being piloted in one ward.
- Electronic bar-coded medicines system using a tablet computer to order and track medicines was being piloted in one clinical area.
- Safe storage of prescription pads.
- Use of electronic discharge summary to include discharge prescriptions.

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

- Safety pause system whereby staff communicated information about patient safety issues at the ward shift handover.
- Intravenous administration monographs for the general wards including an exclusion list detailing drugs that only can be given in certain areas by a competent doctor or nurse.
- Paediatric intravenous drug administration guide 2017.
- Electronic prescribing in the intensive care unit.

There are currently no agreed national standards outlining requirements for the provision of clinical pharmacy services in hospitals. However, international studies support the role of clinical pharmacists in hospital wards in preventing adverse drug events. A clinical pharmacy service was provided at the hospital using a ward based approach. Clinical pharmacists reviewed inpatient medication prescription charts to prevent, identify, and intercept medication prescribing-related incidents. The clinical pharmacist completed a risk management sheet which was supported by written criteria, to guide the timeframe for ongoing clinical pharmacist review of charts, ranging from daily to weekly reviews.

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. Medication reconciliation was undertaken on admission by clinical pharmacists, doctors, and nursing staff. However, it was not provided at patient discharge or supported by a policy.

High alert drugs are medicines that have a heightened risk of causing significant harm when they are not used correctly. The hospital had a high alert red coloured medication checklist support by policy, and staff were advised to focus particular attention on safety when these drugs were being administered.

Evidence-based risk reduction strategies (appendix 4) were implemented to reduce unwarranted clinical variation in medication prescribing and administration of high alert drugs. The pharmacy department had introduced a high risk reduction strategy where a colour code checklist detailing groups of medicines to be queried by the pharmacist before dispensing. High risk medicines such as anticoagulants were coloured on the checklist as red. This meant that before these high risk medicines were dispensed, the clinical pharmacist had to check the medinfo information

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555 Medinfo is an Galway University Hospitals IT based programme developed by pharmacy as a repository/local access to hospital and external medication related information e.g guidelines, medication safety info and dose calculators, BNF etc.
system and the clinical script with regard to when the anticoagulant was authorised and the potential interactions.

Additional risk reduction strategies included:

- a hyperkalemia kit with easy access to all supplies needed to manage and treat hyperaemia
- segregation of insulin syringes
- review and standardisation of theatre resuscitation trolley medications
- a poster with information on bridging anticoagulation required for patients whose warfarin or direct oral anticoagulants (DOACs****) needs to be stopped temporarily.

Medication safety alerts were managed through the Pharmacy Department and alerts were circulated to specialties and healthcare staff through the hospital information system.

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. The hospital used a variety of additional information sources to identify strengths and weaknesses in the hospital medication management system including retrospective chart review (hyperkalaemia††† audit), clinical pharmacist chart review, direct observation, audit, and information recorded on risk assessment tools.

**** Direct oral anticoagulants (DOAC) are a group of new anticoagulants that either treats or prevents blood clots.
†††† Hyperkalemia is the medical term that describes a potassium level in your blood that’s higher than normal.
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.

Galway University Hospitals had systems in place to support the provision of patient information and education in relation to medication usage. Patient information leaflets were available to patients. Senior managers told inspectors that there was a multidisciplinary approach to patient information and education. Inspectors were informed that pharmacists offered counselling to patients prescribed oral anticoagulant medication before discharge. In addition, clinical nurse specialists provided education and support to patients, for example, around the management of respiratory disease and diabetes mellitus.

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. The questionnaire was completed by 17 patients who had been inpatients in Galway University Hospital within the past year and who were prescribed regular medications. Of the 17 patients surveyed, 16 patients had been prescribed new medicines and one patient had not been prescribed any new medicines. Of these 16 patients:

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

It is acknowledged that this was a small sample of patients who completed the anonymised questionnaire in relation to prescribed medications at the hospital’s Outpatient Department, and therefore was not representative of all recently discharged patients taking prescribed medication. The information did however, provide some information about outpatient’s understanding of medications and could be expanded upon and used to identify opportunities for improvement.
2.5 Policies procedures and guidelines and access to information

**Lines of enquiry:**

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

The Drugs and Therapeutics Committee had approved a number of hospital wide medication management policies, protocols and guidelines to support safe medication management systems within the hospital. Inspectors were informed that policies were shared across hospitals within the group if required.

Inspectors observed that up to date versions of medication management policies, protocols and guidelines were available to staff in clinical areas through a controlled electronic document management system.

Each clinical area visited had access to printed copies of intravenous drug administration guides. This information was standardised across the hospital and was controlled by the Pharmacy Department. There was a pilot in one clinical area of the use of tablet computers for rapid access to up to date medicines related guidelines.

Other decision support tools available to clinical staff included:

- British National Formulary in print and electronic format.
- Medinfo.
- GAPP (Galway Antimicrobial Prescribing Policy/Guidelines).
- Antimicrobial Guidelines available as an application for smartphones.
- Intravenous administration monographs for the general wards.

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 access to patient’s laboratory and radiology 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 is an important error preventing strategy when combined with other strategies that strengthen the medication use system. Inspectors were informed that intern non consultant hospital doctors received induction training which included medication safety. However, the hospital recognised that this training session was insufficient and planned to develop an online medication module for interns as part of the Medication Safety Sub-Group revised projects for 2017.

Education sessions were provided in January and February 2017 to medical staff on discharge prescriptions and medication reconciliation where attendance was reported as being good.

New nurse employees attended mandatory intravenous drug administration training with Clinical Facilitators providing ward based education on medication. Medication safety was also included as a topic in study days for nurses, entitled, ‘enhancing skills for safe effect clinical practice’ in May and June 2016 and at a medical/surgical study day on updating knowledge, skills and practice in April 2017.

Inspectors also viewed lists of medication safety education sessions delivered throughout 2016 and 2017 attended by nursing, medical, surgical and pharmacy staff. Topics included:

- intravenous drug administration
- medication safety education for nurses 2017
- nurse prescriber teaching 2017
- concepts of medication safety for medical students 2016
- safe use of medicines for intern non consultant hospital doctors 2016
- feedback on insulin medication related incidents
- hyperkalaemia project 2016 and 2017
- medication prescription and administration chart update April 2017.

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. Medical intern is a term used in some countries to describe a physician in training who has completed medical school and has a medical degree, but does not yet have a full license to practice medicine unsupervised.
3. Conclusion

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

Galway University Hospitals had established governance arrangements in place with systems, processes and practices to support medication safety practices in the hospital. It was evident that this had been progressed over a significant period of time, driven by effective local leadership, the Hospital Management Team and supported by the Saolta Group. HIQA recommends that the hospital continues to collaborate within this structure to share good practice pertaining to medication safety and to share learning, experience and resources.

The hospital had an established Drugs and Therapeutics Committee that provided ongoing oversight of the medication management safety systems within the hospital. This Committee was supported by a number of sub-committees that supported oversight and the implementation of medication safety quality improvement initiatives. Inspectors found however that the hospital did not have a hospital wide drug formulary in place, and this represents a further opportunity for improvement following this inspection. A hospital wide drug formulary system should be established to manage the risk associated with the introduction of new medicines in particular, and ensure a considered multidisciplinary approach to risk management related to medicine availability and use in practice.

Inspectors were informed at interview that the hospital had no medication safety strategy in place, but had a medication agenda and a work plan devised by the Medication Sub-Group for 2017. HIQA recommends that, following this inspection an agreed written medication strategy or plan, targeted on the basis of risk, should be developed and implemented by the hospital, and shared with the wider Saolta Group. In the absence of national guidance in this area, international guidelines which outline best practice in relation to medication safety governance and improvement are available, and should be considered by staff responsible for patient safety in the hospital setting.

The hospital has worked to develop and support a system in place for tracking and trending medication incidents. While the hospital has established a comprehensive approach to the investigation of serious incidents and near misses, relevant staff have also identified that medication-related incidents were likely significantly under reported. To address this, the hospital had recently developed an app to support
medication incident reporting. The hospital needs to continue to work to improve the rates of medication-related incident and near miss reporting by medical, nursing and pharmacy staff.

In addition, HIQA identified through this inspection that the hospital expends considerable time and effort on investigating and addressing risk issues as they emerge through reporting. This is a necessary and important endeavour in driving learning for the benefit of patient safety. However, it was also identified that this approach could be further enhanced by better supplementing the strategic focus of improvement on targeted risk areas identified through other means, such as national or international trends. Such an approach mitigates any potential for reactive risk management as opposed to a more strategic broad approach to managing known areas of high risk which may impact on a high number of patients treated at the hospital, yet which may not be identified through local incident reporting.

The hospital had successfully implemented a number of core medication safety interventions supported by policies. None of these strategies are meant to replace vigilance, but each can greatly augment the safety of practice. In addition, the inspection team was provided with numerous examples of hospital-specific medication safety audit activity. However, current medication safety auditing arrangements should be strengthened and formalised with an audit plan to regularly provide assurance to the Galway University Hospitals Management Team about medication safety at the hospital.

Following this report, the hospital must focus its efforts to address the risks and findings identified in this report, and work to ensure that the necessary arrangements are in place to protect patients from the risk of medication-related harm. It is recommended that this report is shared with senior managers, clinicians and other relevant staff at Galway University Hospitals to highlight both what has been achieved by the hospital in implementing medication safety activities to date, and to foster further collective progression from this time point.
4. References


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5. Appendices


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<td>Patient involvement in service delivery</td>
<td>Patients and or carers are informed about the benefits and associated risks of prescribed medicines in a way that is accessible and understandable.</td>
<td>1.4, 1.5, 1.7, 3.1, 4.1</td>
</tr>
<tr>
<td>Policies procedures and guidelines</td>
<td>Hospitals develop effective processes to promote medication safety that are implemented and supported by clear and up-to-date policies, procedures and or protocols.</td>
<td>2.1, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 5.8, 5.11, 8.1</td>
</tr>
<tr>
<td>Risk management</td>
<td>There are arrangements in place to identify, report and manage risk related to medication safety throughout the hospital.</td>
<td>3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 5.8, 5.10, 5.11, 8.1</td>
</tr>
<tr>
<td>Audit and evaluation</td>
<td>The effectiveness of medication management systems are systematically monitored and evaluated to ensure they are effective.</td>
<td>2.8, 3.1, 5.8, 8.1</td>
</tr>
<tr>
<td>Education and training</td>
<td>Safe prescribing and drug administration practices are supported by mandatory and practical training on medication management for relevant staff.</td>
<td>6.2, 6.3</td>
</tr>
<tr>
<td>Access to information</td>
<td>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.</td>
<td>2.5, 8.1</td>
</tr>
</tbody>
</table>
Report of the announced inspection of medication safety at Galway University Hospitals.

Appendix 2: Galway University Hospitals, organogram showing lines of communication for medication safety.

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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Appendix 4: Hierarchy of Effectiveness of Risk Reduction Strategies in Medication Safety.

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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: www.hiqa.ie

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