Irish Medication Safety Network

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Building a Medication Safety Programme in a Hospital in Ireland: **Fundamental Steps**

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About the IMSN

The Irish Medication Safety Network (IMSN) is a voluntary, independent group, comprising hospital pharmacy based specialists actively involved in medication safety and medication safety officers, which aims to promote patient safety and safe medication practices through collaboration and shared learning within the network and with the wider community.

Introduction

In years following the publication of landmark patient safety reports in the US in 1999,[1] and the UK in 2001,[2] a number of serious failings in the healthcare system in Ireland came to light.[3-5] Such cases were part impetus for the launch of the Commission on Patient Safety and Quality Assurance in 2007[6] and the backdrop for the establishment of the Health Information and Quality Authority (HIQA)[7] in 2005 – a body which subsequently published national standards for healthcare[8] and introduced a medication safety inspection system for acute care hospitals in Ireland.[9] In tandem with this increasing focus of government policy on patient safety a significant cultural shift was taking place amongst frontline healthcare professionals, marked by growing awareness of the level and severity of medication errors and a corresponding drive to improve the quality of care. An indicator of this commitment to improvement has been the appointment of several Medication Safety Officers (MSOs) in hospitals in Ireland over the past 15 years.

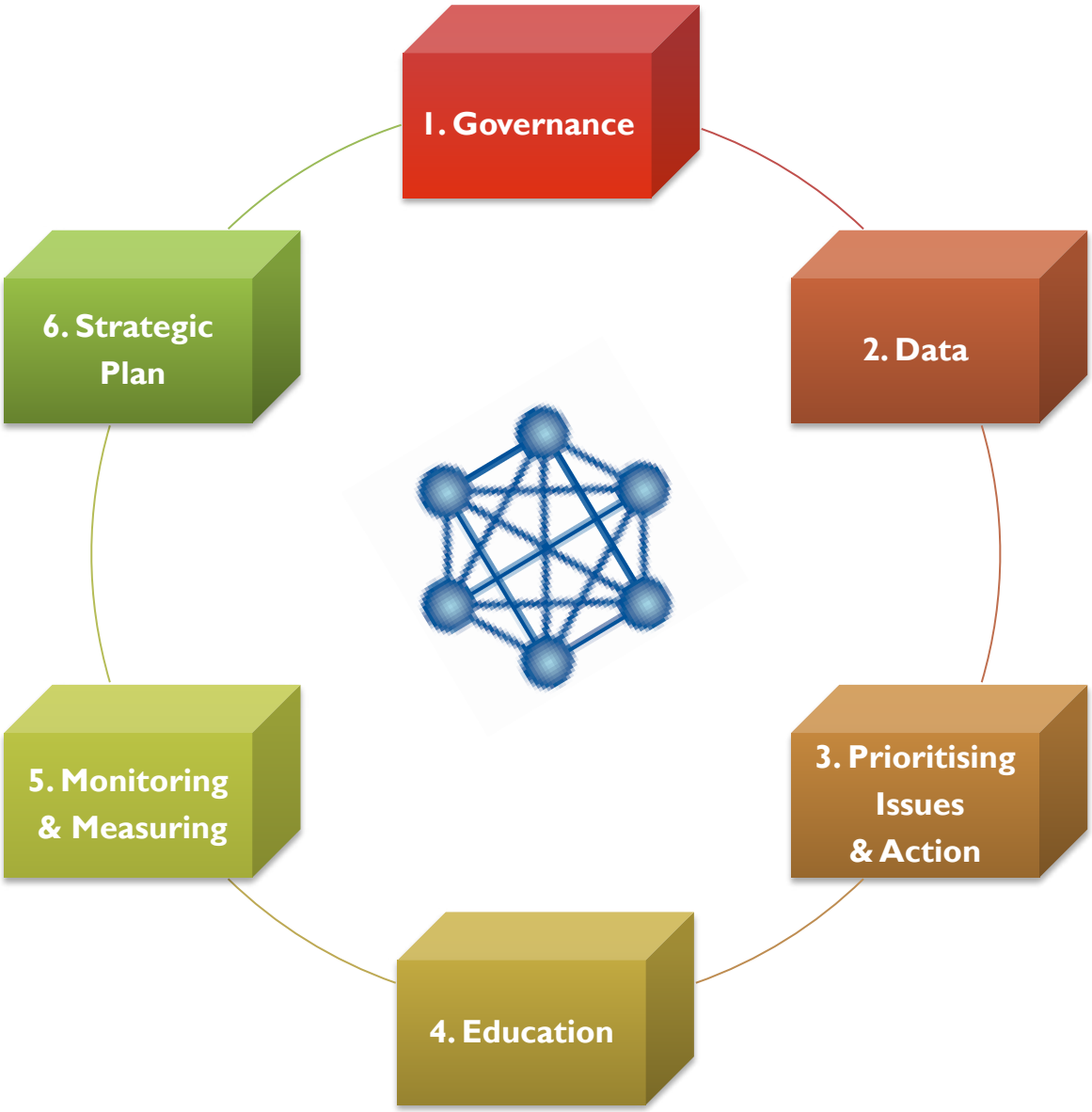
In January 2018 HIQA published the report of the overview of its findings from the inspection programme which included 12 key recommendations – 5 relating to improving medication safety at a national level and the remainder focused on safety structures and processes at hospital/ hospital group level.[10] Whilst resources to support frontline staff in the stepwise implementation of medication safety programmes are available in other jurisdictions,[11,12] few publications have addressed this issue in an Irish healthcare context.[13-16] It was with the intention of addressing this gap that the IMSN compiled the following document which outlines the building blocks for the design of a medication safety programme based on the first-hand experience accrued by MSOs in hospitals in Ireland over the past several years. Our hope is that healthcare staff will use this guide to support them in the practical implementation of the HIQA medication safety recommendations and in establishing best practice in their respective organisations.

Note on Terminology:

Throughout this document the hospital's medication safety lead is referred to as the *Medication Safety Officer*. A variety of other job titles for this position are in use in hospitals in Ireland including Drug/Medication Safety Coordinator, Medication Safety Manager, and Drug/Medication Safety Facilitator.

A *Pharmacy and Therapeutics (P&T) Committee* is also known as a Drugs and Therapeutics (D&T) Committee. It is a multidisciplinary group of people from within and outside a hospital which reports to senior management. The committee is responsible for oversight, governance and review of systems and services to ensure safe and effective medication usage in the hospital.

Building a Medication Safety Programme – the Fundamental Steps



1. Governance

1.1 Establish a multidisciplinary Medication Safety Committee (MSC) and ensure an appropriate governance structure is in place to support it within the existing quality and safety framework in the hospital, e.g. the MSC reporting to the hospital's Pharmacy and Therapeutics (P&T) Committee.[13] Depending on the size of the hospital a separate MSC may not be required and instead it may be sufficient to have medication safety as a standing agenda item on the P&T committee. The MSC membership should be multidisciplinary, comprising medical, nursing and pharmacy representatives, from both management level and the front line.[13]

1.2 Compile a policy document for the medication safety programme which describes the following:

- Objectives
- Governance
- Responsibilities of MSO and MSC
- Process for review and escalation of medication safety events (MSEs), i.e. medication errors, near misses and adverse drug reactions, in line with the Health Services Executive (HSE) Incident Management Framework[17]
- Process for compilation, approval and circulation of reports by the MSO
- Links and liaison with other elements of the quality and safety department in the hospital, i.e. integrated risk management[13]
- External reporting of MSEs to the Clinical Indemnity Scheme, HSE and Health Products Regulatory Authority (HPRA).

2. Data

2.1 Medication Safety Intelligence

2.1.1 Set up an internal reporting system for MSEs based on a non-punitive ethos where the focus is on the failure of systems rather than individuals. The reporting process may initially be paper-based but the aim should be to move towards an electronic system to optimise efficiency and data security.[18] The Irish Medication Safety Network (IMSN) have devised a template form including all the critical criteria which needed to be captured by a reporting system.[19]

2.1.2 Compile a protocol to describe all aspects of the operation of the reporting system.

2.1.3 Set up a database for analysing the data in medication safety reports. Consider undertaking a separate analysis of the subset events that caused harm as a way of prioritising higher risk events. A three-way cross analysis of the category of event, medication involved and type of harm can be beneficial in isolating those events which present most risk to the organisation.[20]

2.1.4 The organisation should not rely solely on the medication safety event reports which can be considered 'reactive' data in that the event has already occurred. Instead try to access multiple sources of data which are both reactive and proactive in order to attain a holistic view of the safety status of the organisation. Some of these data streams may already exist, e.g. complaints, audits and pharmacist intervention data, and others may be accessible with the application of data mining tools. Where possible aim to define measures or indicators for medications safety which can be reviewed or audited regularly or pre/post implementation of a safety intervention to determine its impact.[21]

Examples of some tools which can be applied to monitor or measure the medication safety status in a hospital are the following:

- Trigger tools, e.g. the Institute for Healthcare Improvement (IHI) Trigger Tool for Measuring Adverse Drug Events[22]
- Staff surveys[21]
- Self-assessment tools, e.g. checklists compiled by the American Society of Health-System Pharmacists (ASHP)[23] and the Institute for Safe Medication Practices (ISMP)[21, 24]
- Chart reviews
- Patient focus groups
- Safety culture measurement tools, e.g. the Safety Attitudes Questionnaire[21, 25, 26]

2.2 Management of External Reporting and Alerts

2.2.1 Establish a process to enable the external reporting of MSEs to the Clinical Indemnity Scheme, HSE and the HPRA.

2.2.2 Develop a process for the review, dissemination and documentation of follow up action to alerts from the HPRA and drug manufacturers

2.3 Feedback

Establish a process for feedback on the learning from MSEs. Feedback should take place at different levels: at the individual level to the staff involved in the event; at the unit / ward / directorate level; and at hospital level, to all relevant staff, as appropriate.

3. Prioritising Issues and Action

3.1 Combine local data with national and international data from alerts and reports published by safety agencies and organisations in order to compile a list of high risk medications, processes (e.g. care transitions) and patient groups (e.g. renally-impaired patients), relevant to your organisation and to determine the priority issues which need to be addressed. Such organisations include the following:

- Irish Medication Safety Network[27]
- Institute for Safe Medication Practices (ISMP)[28]
- NHS Improvement[29]
- Institute for Healthcare Improvement[30]

Undertaking a gap analysis by benchmarking against best practice standards, e.g. the ISMP's Best Practices for Medication Safety in Hospitals[31] or by application of a self-assessment tool,[21, 23, 24] may be of value in identifying risk issues.

3.2 Construct an action plan for reducing the risk associated with individual classes of high risk medication, processes and patient groups where there are any deficiencies that need to be addressed. A tool such as the Hierarchy of Effectiveness may be useful in terms of prioritising which action to take.[32]

4. Education

4.1 Whilst strategies such as removal of hazards (e.g. poorly designed devices) and forcing functions (e.g. hard stop dose limits in smart infusion pumps) are known to have the greatest impact on error reduction, there are always safety issues that cannot be mitigated against or addressed at all using these approaches.[32] Although education is consider the least effective approach to risk minimisation,[32] it is still an indispensable component of an effective medication safety programme and should be combined with the other higher leverage strategies in other to achieve the optimal outcome. The staff education and training component of the strategic plan should be multidisciplinary in scope, i.e. encompass medical, nursing and pharmacy staff and may include the following elements:

- Generation and circulation of bulletins or alerts
- Delivery of face-to-face education sessions
- Design of e-learning programmes
- Participation in induction programmes
- Design and delivery of medication safety awareness days or seminars

4.2 Assess what supports are in place to assist staff in the dispensing, prescribing, administration and monitoring of high risk medications and in the management of high risk medication-related process and patient groups. Such supports may take the form of:

- Prescriber's Guide
- IV Administration monographs
- Policies and protocols
- Prescription chart design/revision
- Pre-printed prescribing algorithms or prescriptions
- E-prescribing proformas
- Barcode administration
- Automated dispensing cabinets

4.3 Assess the volume, type and quality of medication education provided by all categories of staff to all patient types: inpatients (during the course of their stay and at the point of discharge), outpatients and day case patients. Focus on the highest priority areas, e.g. patients commenced on high risk medication such as warfarin or Direct Oral Anticoagulants; patients with complex medication regimens or conditions; and high risk points in the care journey, e.g. discharge of oncology patients prescribed high-tech medications to primary care.

5. Monitoring and Measuring

5.1 Develop a set of metrics to monitor medication safety.[33-35] At the simplest level this may be the number of MSEs reported, the proportion of these which are near misses, and the category of staff reporting them. For these measures the respective targets would be a high level of reporting overall, a high proportion of near miss reporting, and report submission from all categories of health care professionals.

Examples of additional measures/metrics which could be considered include:

- Proportion of medical/surgical patients prescribed VTE prophylaxis
- Proportion of patients undergoing medication reconciliation – overall and within 24 hours of admission
- Proportion of patients where antimicrobial surgical prophylaxis has complied with local guidelines.

6. Strategic Plan

6.1 Develop a strategic plan for the medication safety programme for the short term (1 year) and long term (5 years). The elements of the strategic plan should include an overall vision, aim and objectives, as well as a plan of action in relation to the following elements:

- Data
- Measurement and monitoring
- Safety Culture
- Education and training
- Workforce

6.2 The strategic plan should be aligned with that of the individual hospital/hospital group plus those of national safety bodies: HIQA[36], the HSE's Medication Safety Improvement Programme[37] and the National Patient Safety Office.[38]

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