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Let's do no harm: Medication errors in nursing: Part 1

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ABSTRACT

In the current climate of global economic chaos and increasing healthcare litigation, it is perhaps simultaneously unsurprising and yet perplexing that patients continue to fall foul of healthcare systems worldwide. Major incidents in patient care such as serious misdiagnoses, medication errors, the proliferation of superbugs and malpractice persist leading to injury or death of patients, emotional trauma to their families and, understandably, a reduction in the public's confidence in the healthcare system not to mention the financial consequences. Many, if not most or indeed all, of these incidents are preventable and should not happen. Yet the systems in place within healthcare permit their occurrence, with worrying regularity, it would appear. The area that this paper will focus on specifically is that of medication errors. The worrying trends with regard to medication errors will be presented. Potential contributing factors will be examined. The specific aim of this paper is to illuminate the extent and severity of the problem of medication errors in practice and to explore elements within the practice setting that can compound the problem. The multi-faceted nature of the problem will also be considered.

Background

As healthcare workers, we are familiar with the respective oaths and codes of conduct that underpin our practice. The fundamental purpose of such pledges and promises is to ensure patient safety. At their most basic these guiding principles espouse that we 'do no harm'. Upon registration with the relevant regulatory bodies, as healthcare professionals we are bestowed with the privilege of looking after people in our respective care areas. This includes the legal authority to engage in the various practices involved in medication management. In explaining what a medicine is, the Nursing and Midwifery Council in the United Kingdom [NMC] uphold the definition offered by the Council of the European Economic Community which describes medicinal products as "any substance or combination of substances presented for treating or preventing disease in human beings&hellip. [are administered] with a view to making a medical diagnosis or to restoring, correcting or modifying physiological functions in human beings" (EEC directive of 2001 [2001/83/EC]). This pragmatic definition clearly implies that a medicine therefore is any substance(s) that is used for the purpose of diagnosing, treating, curing, altering or relieving symptoms of disease in human beings during the course of their care. Drawing on the work of Bulechek and McCloskey Dochterman (1999), the Irish Nursing Board defines medication management as "the facilitation of safe and effective use of prescription and over-the-counter medicinal products" (An Bord Altranais, 2007, p. 5). Inherent within this is the legal and professional accountability to ensure that such practices are administered in accordance with strict rules and regulations as determined by the afore-mentioned regulatory bodies. It is fair to say that healthcare professionals, not least of all nurses, for the most part, endeavour to do good and help their patients or clients. This may not always be possible but it is imperative that patient safety is the priority of care always. Medication management is one of the functions in healthcare that is clearly multi-disciplinary, and therefore collaborative, in nature. O'Brien et al. (2011, p. 174) define the multidisciplinary team as "the many people who work within a healthcare environment, all with the aim of providing optimal care to patients". This collaborative approach, when applied to medication management, has the potential to greatly enhance patient safety and care delivery. However, one must be mindful that unless this multidisciplinary approach is structured, cohesive and has clearly designated roles and responsibilities, it equally has the potential to enable gaps in the system to widen.

There is an additional responsibility on each nurse and midwife to ensure that they are capable of fulfilling this obligation. The Nursing and Midwifery Council UK (2008, p. 6) in their code of conduct stipulate that nurses "must recognise and work within the limits of their competence" and furthermore "must take part in

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appropriate learning and practice activities that maintain and develop competence and performance". This highlights the crucial role of continuing education in fundamental areas of nursing practice, of which medication management is one. Similarly, in the Irish context, the nursing regulatory body, An Bord Altranais [ABA] (2000, p. 6) state that "in determining his/her scope of practice the nurse or midwife must make a judgement as to whether he/she is competent to carry out a particular role or function". Furthermore, "the nurse or midwife must take measures to develop and maintain the competence necessary for professional practice". This Irish perspective reflects the viewpoint of the NMC that emphasises the need for learning to be a life-long endeavour in nursing and indeed a necessary requirement to safe care delivery. However, alarming healthcare statistics globally clearly demonstrate that maintaining patient safety and preventing patient harm are areas that unfortunately but legitimately, call into question the professional competence of healthcare workers. In the United States, for example, errors in medical management cause between 44,000 and 98,000 deaths in hospitals each year and the cost of adverse drug events, a portion of which are due to medication error, is approximately $5.6 million in a seven hundred bedded hospital (Bates et al., 1997). A decade later the problem of medication errors in the US remains as grave with the Institute of Medicine (2006) reporting that at least one medication error occurs every day for every hospitalised patient. In the UK, medication errors account for approximately 20% of deaths due to all types of adverse events in hospitals. Such events cost the National Health Service (NHS) approximately £500 million annually and each event increases hospital stay by approximately 8.5 days (Department of Health, 2000; The Audit Commission, 2001; NMC, 2002; Morrow-Frost, 2006). The National Patient Safety Agency in the UK reported that between 2006 and 2009 there were 21,383 patient safety incidents related to delay in administering medicines with 68 resulting in severe harm and 27 in death (NPSA, 2010). In Australia, the Australian Council for Safety and Quality in Healthcare (2002) reported that 22% of medication errors have moderate or significant consequences, whilst a further 37% had minor consequences for patients. Such medication errors lead to increased hospital stay, morbidity and mortality (Glaister, 2005). It is important to note that these figures represent the reported incidents and do not account for the unreported cases, which have been suggested to be as high as 75% (Osborne et al., 1999). In fact, according to the Government of Ireland, Houses of the Oireachtas Joint Committee on Health and Children (2007), 10% of medication errors only are actually reported, clearly indicating that a startling 90% of medication errors go unreported.

Unfortunately, the statistics regarding medication errors are no less startling in the Irish context. In the region of 10,000 preventable errors and 2000 preventable deaths occur in the healthcare services each year (Prime Time, 2003). Two thousand preventable deaths are more than all deaths from road traffic accidents, suicides and all other accidental deaths put together. The media campaigns to highlight and reduce deaths from road traffic accidents, for example, are highly visible and concerted in their efforts. Similar momentum to highlight and reduce the preventable deaths arising from errors in the healthcare arena is less apparent. One could and indeed should question why this is so? It is ironic to think that the very system that patients rely on when they are at their most vulnerable, is the system that accounts for so many preventable deaths. Through their acts and/or omissions and the systems which they operate within, healthcare professionals would appear to be contributing significantly to this phenomenon. In the period from January 1st to December 31st 2008 alone, 57,048 incidents were reported to the State Claims Agency (Clinical Indemnity Scheme, 2009) via Starsweb (national online reporting system) in the Republic of Ireland. This represents an increase of approximately 2000 reported incidents from the previous year. Medication errors, also up on the previous year, accounted for about 12% of these reported incidents. These errors included incorrect doses (1569 events), missed medication (1006), administration of incorrect medication (818), incorrect directions or labelling (562) and administration of medication to the incorrect patient (176) to mention but a few. Similarly, two years later, the situation remains unchanged with 83,483 medical incidents and 6882 medication errors being reported in the Republic of Ireland in 2010 (States Claims Agency, 2011). It is evident therefore that errors are consistently occurring at several points in the medication management process and are multidisciplinary in nature. Wolf (1989, p. 9) provides a comprehensive description of what constitutes medication errors defining them as "mistakes associated with drugs and IV solutions that are made during the prescription, transcription, dispensing and administration phases of drug preparation and distribution". This clearly demonstrates that errors can and do happen at any point in the medication management process and can be effected by pharmacists, doctors, nurses, midwives and indeed by patients themselves in the case of self-medication. Errors such as incorrect drug selection, incorrect or unclear dose, route or strength, omission or neglect of patient allergy history, inaccurate transcribing and any error involving the 'seven rights' of medication management are examples of mistakes that can occur at any point along the prescribing – dispensing – administration continuum (Pape, 2003). So what can be done to begin to reduce these worrying trends in medication management? As previously highlighted by both the NMC and ABA, the need for on-going education to achieve and maintain competence in nursing practice is key. Indeed this area will be discussed in more detail as the work progresses. Similarly, other members of the multi-disciplinary team would need to scrutinise their own practice in this area with a view to identifying opportunities for improving their respective roles in medicines management. However, the remainder of this paper will address the nature of medication errors within the nursing context.

The nursing context

In the context of the nursing profession, it is estimated that as much as 40% of clinical time is dedicated to medication management (Armitage and Knapman, 2003). This roughly translates into 16 hours out of every nurse's working week devoted to medication management. Similarly, Keohane et al. (2008) who undertook a time motion study examining the proportion of time devoted by nurses to various patient-care activities, reported that medication administration is among the most frequent activity performed by nurses. In light of this, the potential for error in this area is therefore equally significant. It is imperative, therefore, that nurses fully appreciate the complex, dynamic and multi-faceted phenomenon that is medication management and the ramifications of their involvement within this process. The role of the nurse in medication management has evolved immensely in recent years. Drug-prescription, -calculation, -constitution, -checking, -administration, -patient assessment, -documentation and patient medication education are just some examples of the nursing roles involved in medication management. However, despite this positive progression from a professional perspective, to the extent that certain groups of nurses are now undertaking nurse prescribing courses and assuming these responsibilities in practice, it remains imperative that the 'fundamentals' of the nurses' role in medication management are executed to the highest standard and safety margins. Nurses must not forget that the role of administration of medication to patients, which largely falls to this professional group, represents the last safety check and therefore the final