The medicines safety agenda is stepping up a gear

One important area of patient safety where pharmacists can make a significant impact is that of preventable harm from medicines. A new report, commissioned by the RPSGB, sets out recommendations on how best pharmacists can improve medicines safety and drive the safety agenda forward.

Introduction

Patient safety is as a key priority area for the NHS, and one in which pharmacists play a prominent role. *The contribution of pharmacy to making Britain a safer place to take medicines*,[1] was commissioned by the RPSGB to examine current knowledge about medicines safety and consider the role of the RPSGB, the future professional body and pharmacists in improving medicines safety. The report focuses only on patients receiving medicines and no other aspects of medicines safety. To help understand the extent of medicines safety in the UK, and put this into a global context it takes into account the European Commission's medicines safety agenda, and national and international patient safety campaigns and policy documents.

Medicines safety domains

The authors state that the safety of medicines has traditionally fallen into three distinct, but related areas, and that pharmacy is ideally placed to bring these together in an integrated approach to making medicines safer. These areas are:

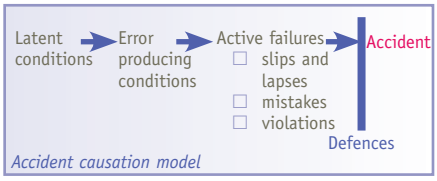
- ***The safety of the medicine itself*** — including manufacturing quality and adverse drug reactions (ADRs).
- ***Safe and appropriate use of the medicine by health care professionals and carers*** — failures here lead to medication errors, which include errors in prescribing, dispensing, preparing, administering and monitoring medicines.
- ***Non-adherence to medicines by patients*** — a complex area involving autonomy and free will, and decisions about whether non-adherence is in fact the correct action by a patient.

The extent of medicines-related harm

Preventable harm includes the adverse effects of the medicines themselves, the way they are used by health care professionals and patients, and the way they are monitored. The authors quoted NPSA estimates that preventable harm from medicines could cost more than £750 million each year in England alone,[2] emphasising the cost-savings that could be achieved. Key studies on the incidence of medication-related harm in the UK suggest the most commonly implicated drugs are NSAIDs, antiplatelets, antiepileptics, hypoglycaemics, inhaled corticosteroids, cardiac glycosides, diuretics and beta-blockers. Summarising the error rates at each stage of the medicines use process the authors conclude that the highest incidence of errors in primary care arise through non-adherence, and inadequate monitoring and review of therapy. Additional risks of harm are posed by over-the-counter medicines, herbal remedies and nutrition supplements, which have been associated with one in 10 drug-related admissions in one study. Errors in prescribing and administering medicines in primary and secondary care were shown to have similar frequencies. Medication errors on hospital admission and discharge are also common. Although errors in care homes are widespread the authors felt this was no worse than that found in hospital or if patients treat themselves. The path from prescribing to a patient taking a medicine has many links in it, which provides plenty of scope for error. However, recent research has yielded information about various error causes and progress has been made in developing change tools and strategies, IT solutions and structural changes in the NHS, which now permit exploration of new ways to improve the situation.

Improving medicines safety

It is widely accepted that errors in human behaviour are influenced by a wide range of latent factors, leading to error-producing conditions and eventual failures (illustrated by the adapted Reason/Rasmussen accident causation model, below). The report emphasises that errors must therefore and be interpreted and understood in the context or system in which people are working.



Accident causation model

The areas in which the authors suggest pharmacists should be making further contributions towards improving medicines safety are identified and research requirements are discussed. These include:

- pharmacovigilance — a clear need to improve the identification of previously unreported ADRs, and a need to quantify the frequency with which ADRs occur were identified
- prescribing — pharmacists are one of the error 'defence mechanisms' in Reason's model and studies are needed on interventions to reduce prescribing errors
- dispensing — there is little UK evidence for interventions to reduce dispensing errors and no economic evaluation of existing technological interventions to build a case for their use
- administration — more studies of initiatives to reduce unintentional deviations between prescribed and administered medication are needed
- storage and disposal — this is a large area in which on-going research is needed
- taking medicines at home — non-adherence is common and may be intentional or unintentional, requiring different approaches. There has been little work in this field, but government health policy aims to support patients in their own home for as long as possible and information is required about the true nature and extent of medicines safety issues in the home.

Technology and commissioning

Certain technologies such as electronic prescribing/patient records, dispensing robots and barcode verification of medication administration among others have the potential to prevent medication errors. However, technologies may also introduce error. The report authors suggest that evaluating technologies to assess their impact on medication safety is essential to create an evidence base for their safe and appropriate use. They recommend the RPSGB sets up a knowledge exchange network covering new technology. The untapped potential of commissioners of health services to drive forward safety improvements through payment tariffs and contract specifications is also highlighted. Both areas would benefit from better understanding through well-designed research.

Recommendations

The report translates the existing evidence into a set of recommendations including a need for research into prescribing, dispensing and administration of medicines, taking medicines at home and effective monitoring and review systems to provide a clear clinical evidence base for improving medicines safety. It also recommends taking an integrated approach to safety by examining the context and systems in which errors occur rather than focusing on individual actions. Readers are commended to read the full report.

Declarations of interest

The author has no interests to declare.

Christine Knott, editor

References

1. Vincent C, Barber N, Dean Franklin B, Burnett S. *The contribution of pharmacy to making Britain a safer place to take medicines*. RPSGB, 2009, available at www.rpsgb.org/informationresources/downloadsocietypublications.
2. National Patient Safety Agency. *Safety in doses: medication safety incidents in the NHS: the fourth report of the patient safety observatory*, 2007. Available at www.npsa.nhs.uk/nrls/alerts-and-directives/directives-guidance/safety-in-doses.