

When medicines are wasted so much is lost: to society as well as patients

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The availability of money within the NHS is finite and the rational use of limited resources is vital to fair service provision. Over the past few decades, pharmaceutical care and medicines management have developed along various paths to help provide the highest standard of health care within these fixed budgets, leading to a cost-benefit approach to health care provision. However, in our view, medicines management has not gone nearly far enough.

Over £72bn is spent annually on the NHS with more than £6.8bn (8 per cent) of this consumed by the purchase of drugs. This is equivalent to over £230 for each of the 29 million UK taxpayers. In the year ending 31 March 2002, 609 tonnes of medicines were incinerated in the UK under the "Disposal of old pharmaceuticals" scheme. This is a 59 per cent rise over the preceding four years although, in the same period, the number of prescription items dispensed rose by only 20 per cent. Estimates have placed the financial value of medicines that are not used in the UK at between £30m and £90m per annum but these are mostly based on extrapolations of medicines returned to community pharmacies and are likely to be gross underestimates.

Owing to the importance medicines have within in the NHS, from both a therapeutic and financial perspective, ensuring they are used efficiently is of great importance in the delivery of optimal health care. Since the Arsenic Act of 1851, UK legislation has set out to protect the public by restricting access to certain medicines and poisons relative to their potential toxicity. Despite extensive current controls on medicines supply, no legislation has been passed regarding waste medicines except from that covering the environment. Nevertheless, the potential environmental impact of inappropriate disposal of medicines waste remains significant. Data from a number of developed countries indicate that pharmaceutically active compounds, such as carbamazepine, are present in waterways downstream from sewage treatment plants and there is evidence of medicines leaching from land fill sites and entering groundwater.

In a different context the actions of Harold Shipman illustrate the potential for

problems with respect to access and use of Controlled Drugs. And it is also plausible that quantities of waste medicines are consistently diverted to the black market and traded with obvious consequences for health. Clearly there are many gaps to exploit.

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Medicines management potentially embraces the complete drug use process from prescribing to patient compliance (or, indeed, non-compliance). However, despite the wide application of medicines management, monitoring medicines waste does not appear to have been used routinely to initiate the management process or as a surrogate marker for prescribing effectiveness.

Medicines waste is a complex and multifaceted problem which may arise from a number of factors, related to both patients and prescribers, to excess supply and to over-ordering. The waste of medicines represents the end-point of sub-optimal drug use and is the antithesis of good medicines management. Although usual medicines management processes will undoubtedly be successful in eliminating some medicines waste because of their cross-sectional approach, any waste reduction is likely to be incidental. In addition to the obvious expenditure on drug acquisition and disposal, unused medicines are costly to society and the NHS in a number of different ways, such as admission to hospital following treatment failure, poisonings and suicides, environmental clean-up of pharmaceutically active compounds, policing of black market medicines and other less tangible elements.

Traditionally, one of the major barriers to the implementation of pharmaceutical care and medicines management schemes by pharmacists has been the difficulty in securing sufficient funding for such services.

In our view the foundation of a medicines management process on the reduction of medicines waste through their improved use provides the opportunity for a self-funded service with demonstrable cost savings and improved patient care. It is also possible to

demonstrate additional benefits such as reduced environmental damage, reduction in the risk of poisoning and lower therapeutic failure rates.

Where should we begin? How patients choose to dispose drugs is important in the management of medicines because sub-optimal prescribing may be highlighted. Only medicines returned directly to a patient's GP will come to the attention of the prescriber; those disposed of elsewhere are not recorded formally and no universal procedures exist to rectify prescribing records. Also, data on the medicines that are wasted and the reasons they are not used are currently limited in the UK to studies of medicines returned to community pharmacies. Problems, therefore, that have led to medicines not being used will often be allowed to continue unchecked.

Recent pharmacy-centred repeat dispensing pilots may have a significant impact on this factor because it is more likely that the return of unused medicines will be highlighted and supplies altered in response.

Medicines management initiatives that take waste as a starting point can provide a coherent structure to the scheme with wide ranging impact and ultimately be most effective at reducing the financial burden on the NHS while improving patient care. The participation of all stakeholders, from prescriber through to patients in medicines management processes can help to generate a rational and structured model for the supply and monitoring of medicines with maximal cost-benefit. In light of all this the pharmacy practice group at Aston University is

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currently undertaking a comprehensive study of medicines waste in primary care and is nearing the conclusion of the first stages of the research. These data are to be used to generate generic and local best practice models and improve the use of medicines through waste minimisation with patient benefit as the key element.

Broad spectrum is open to any writer. Contributions of around 1,100 words, commenting on topical issues, should be sent to Graeme Smith for consideration (e-mail graeme.smith@pharmj.org.uk)