Is it time to go back to the future when dispensing for hospital inpatients?

By **Laurence A. Goldberg**, FRPharmS

Many years ago, inpatient medicines were supplied to wards and departments as stock items. Hospital pharmacies set up repacking units to break down bulk supplies from the pharmaceutical industry into manageable quantities. This process was time efficient for the pharmacy, but wards became overstocked and medicines administration times were long because nurses had to select the appropriate medicines for each patient from a "mini pharmacy" housed in the medicines trolley. Frequent administration errors occurred. Patient stays in hospital were relatively long and the pharmacy had time to dispense "take home" medicines without causing delays to the discharge process.

Individual inpatient dispensing then became fashionable as a means of reducing administration errors. Medicine trolleys with individual patient drawers were introduced. These aided the selection of the right medicine for the right patient. Pharmacy workload increased but there was a reduction in the time it took the nurse to administer the medicines. At the same time, the inpatient hospital stay began to fall and patient throughput increased. Pharmacies found it difficult to cope with the additional dispensing load.

To overcome this, "one-stop dispensing" was introduced. "One-stop dispensing" programmes were developed to resolve a situation where patient discharge from hospital was delayed because pharmacy could not cope with ever-increasing discharge dispensing workloads. In addition, by labelling the packs for patient use, self-medication programmes could be introduced in many areas, although it was not suitable for all specialties.

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Spoonful of sugar

According to the Audit Commission report — "A spoonful of sugar" — "one-stop dispensing" has some important benefits.[1] A patient will receive a 28-day supply of medicines on admission to hospital and, in most cases, at least two weeks supply will remain for the patient to take away on discharge. It is claimed that dispensing costs are reduced as the medicine is dispensed only once and it is more convenient for the patient. There is no unnecessary delay in the patient's discharge.

"One-stop dispensing" is based on the assumption that the medicines prescribed for patients on admission will not change during the hospital stay. In practice, this is not always the case. What happens to the part used patient packs when they are returned to the pharmacy? Are they relabelled and reused or are they destroyed? In either case, have these processes been costed? Probably not.

The Health Service has moved on since "A spoonful of sugar" was published. Automation of drug distribution and dispensing is now established. Bar code identification of medicines and patients is becoming a reality. Joint working arrangements between primary and secondary care are well developed, and most important of all, the NHS Connecting for Health strategy is taking shape. This provides an opportunity to re-assess the current service to see whether further improvements can be made which will serve as a model for the next 20 years.

Unit dose dispensing for hospital inpatients, although now widely practised across Europe, has been discounted in the UK. With the introduction of automation and electronic identification of products and patients through bar coding or radio frequency identification tagging, could the reintroduction of ward stocks in the form of original manufacturers' packs be an option?

> Discharge or outpatient prescriptions could be transmitted to the community pharmacy for dispensing by a robot and delivered to the patient's home

A full individual dose audit trail could be set up with ward stock replacement managed by the pharmacy robot. The packs could be stored in the patient bedside locker during the admission and then returned either to a central ward medicines cabinet/robot or to the pharmacy where the central robot could recycle the part packs and re-issue them when new prescriptions are presented. Small, decentralised ward automation systems are now being evaluated and others are in development. Linked directly to the electronic prescription and replenished automatically by the central robot, the whole drug distribution process can move into a new high-technological era. This development would further improve patient safety and free sufficient time in the pharmacy to dispense discharge prescriptions automatically. The new generation pharmacy robots have integral labelling and an output sufficient to meet the dispensing requirements of most pharmacies.

Alternatives

Other alternatives should also be considered. When looking across Europe, it becomes apparent that it is only in parts of the UK that patients are supplied with medicines on discharge from hospital or after visiting an outpatient clinic. Before long, the electronic patient record will become a reality and the link between primary and secondary care will be improved beyond recognition.

Is it beyond the realms of possibility that the discharge or outpatient prescription could be transmitted to the community pharmacy for dispensing by a robot and delivered to the patient's home? The medicine could be there before the patient arrives home. The impact on hospital pharmacy could be immense — more time for direct inpatient contact and more resources available for the development of other services. Total devotion to the inpatient must surely improve the quality of patient care and reduce further the risk of medication errors.

Planning for the future of hospital pharmacy in the new technological age is paramount. We must ask ourselves whether the model that has evolved over the past ten years is suitable for the next era and does the current system "make do", or can we do better?

References

1. A spoonful of sugar — medicines management in NHS hospitals. London: The Audit Commission; 2001.