

briefing

D E C E M B E R 2 0 0 1

A Spoonful of Sugar Medicines Management in NHS Hospitals

Medicines are a central component of healthcare...

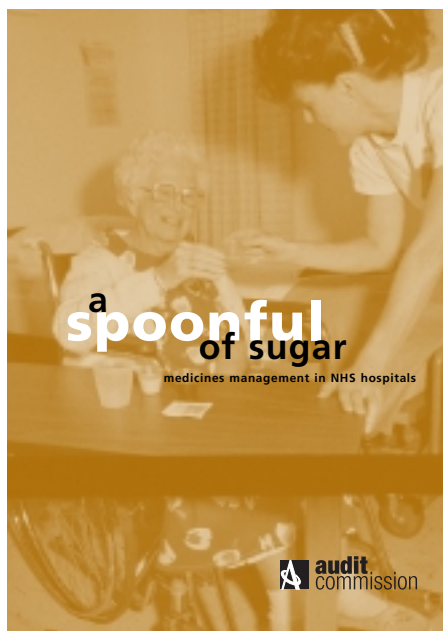
- each year, many new medicines are introduced delivering better health outcomes
- nearly all hospital patients receive medicines – 7,000 individual doses are administered daily in a typical hospital

...but their use is not always optimised, leading to poorer quality care for patients and higher costs.

- medication errors happen too often and their effect on patients and on NHS costs can be profound
- many patients do not take their medicines as recommended when they leave hospital
- a large proportion of the £90 million worth of medicines that are taken each year into hospital by patients are thrown away

Pharmacists have a central role in managing medicines effectively...

- pharmacists have a central role to play in redesigning services around patients' needs, and in ensuring the optimal use of increasingly powerful medicines
- but many pharmacy services are distant from decision-makers, and do not have direct influence on clinical management and patient care



- some hospital pharmacies have serious recruitment and retention problems

...but traditional ways of working need to be reviewed and the patient must be placed at the centre of trusts' medicine management arrangements.

- patients' own medicines should be used wherever possible
- patients' medication should be dispensed once only in original packs
- patients should be encouraged to self-administer while in hospital
- significant quality improvements for patients and reduced costs can be achieved if medicines are managed across the whole health economy

Sustainable improvements will happen only if money and staff time are invested

- adverse reactions to medicines and medication errors currently cost the NHS £½ billion each year in longer stays in hospital, to say nothing of the human cost to patients
- many errors could be eliminated through the use of computer technology and automation – a national approach is needed to introduce these systems
- the profile and status of hospital pharmacy services need to be elevated and best use made of the available staff – registered pharmacists should concentrate on their clinical, patient-centred roles

Those trust boards that regard medicines management as a support service provided by pharmacy risk failing to deliver their clinical governance obligations. Medicines management is a strategic issue fundamental to the way that hospitals work, to the quality of patient care and to the delivery of the NHS Plan and Improving Health in Wales.

Introduction

A Spoonful of Sugar, seeks to place medicines management at the heart of trusts' clinical governance responsibilities.

1. Medicines management in hospitals encompasses the entire way in which medicines are selected, procured, delivered, prescribed, administered and reviewed to optimise the contribution that medicines make to producing informed and desired outcomes of patient care.
2. The Audit Commission's report, *A Spoonful of Sugar*, seeks to place medicines management at the heart of trusts' clinical governance responsibilities (Ref. 1). It is one of a number of complementary initiatives seeking to raise the profile of medicines management [BOX A].
3. Hospitals currently spend £1.5 billion a year on medicines (4.6 per cent of their total costs). In addition, pharmacy staff cost £300 million. These are significant amounts of money, but are only of secondary importance. Medicines management is central to the quality of healthcare. Nearly all patients are given medication as a result of a visit to hospital – 7,000 individual doses are administered daily in a 'typical' hospital; and up to 40 per cent of nurses' time is spent administering medicines.
4. Improved medicines management underpins many of the specific objectives that are set out in the *NHS Plan* and *Improving Health in Wales* (Refs. 4 and 5). These include:
 - providing new mechanisms to satisfy patients that the care that they receive is quality assured;

BOX A

Current initiatives seeking to raise the profile of medicines management

- in 1999, the Department of Health (DoH) introduced the Controls Assurance Framework, which includes a section that is devoted to reducing the risk associated with the use of medicines (Ref. 2);
- during 2001, hospital trusts have assessed their services against the DoH's Medicines Management Framework, which has highlighted priority action areas (Ref. 3);
- in concert with this exercise, the Audit Commission is currently collecting data about medicines management arrangements, which will enable local auditors to work with hospitals to improve services;
- the Audit Commission will work with chief pharmacists' groups to interpret and analyse these data; and
- in 2002, the Audit Commission will develop an internet site to provide guidance on the self-administration of medicines by hospital patients.

Source: Audit Commission

- reducing the ‘postcode lottery’ in the prescribing of anti-cancer medicines;
 - establishing rapid access to chest-pain clinics;
 - ensuring that mental health teams provide an immediate response to crises; and
 - reducing the number of patients who die or are paralysed as a result of the maladministration of spinal injections.
5. In recent years, medicines expenditure has been driven up by the introduction of new medicines

– particularly to treat cancer, heart disease, arthritis, HIV and a range of psychiatric conditions.

However, these cost pressures should be viewed in the context of the overall delivery of care – for example, although expenditure on proton pump inhibitors and H2 antagonists is rising, their use improves the quality of patients’ lives and saves money by preventing invasive surgery. New medicines also will often have fewer side-effects and therefore are likely to promote better compliance by patients with their medication regimes.

New medicines often have fewer side-effects and therefore are likely to promote better compliance by patients with their medication regimes.

Strategic Challenges

6. There are four strategic challenges facing hospitals:
- linking medicines management to clinical governance;
 - managing risk;
 - forming effective relationships with primary care; and
 - improving financial planning.

Linking medicines management to clinical governance

7. Trust boards need to integrate medicines management into their clinical governance arrangements by ensuring that effective standards and targets are set and

delivered. The hospital’s Drugs and Therapeutics Committee (DTC) has an important role to play in ensuring that medicines associated with high risk, high volume or high cost are regularly reviewed. The DTC should also set a programme in concert with primary care trusts or local health groups to establish evidence-based formularies across health economies that are linked to clinical guidelines.



...adverse events cost the NHS about £500 million a year in additional days spent by patients in hospital.

Managing risk

8. There is evidence in the UK of an upward trend in the number of deaths attributed to medication errors and the adverse effects of medicines [EXHIBIT 1]. Such adverse events cost the NHS about £500 million a year in additional days spent by patients in hospital. Errors may be due to the increasing pace of work in hospital and to the greater toxicity of modern medicines.

9. The DoH's proposals to tackle these problems centre upon the role of the National Patient Safety Agency. An early priority for the Agency should be the establishment of standard nationwide definitions and categories of medical errors and 'near-misses'. And there is much that hospitals can do to reduce medication errors:

- improving induction and training;
- improving risk management culture;
- using computer technology and automation to reduce errors; and
- developing clinical pharmacy services.

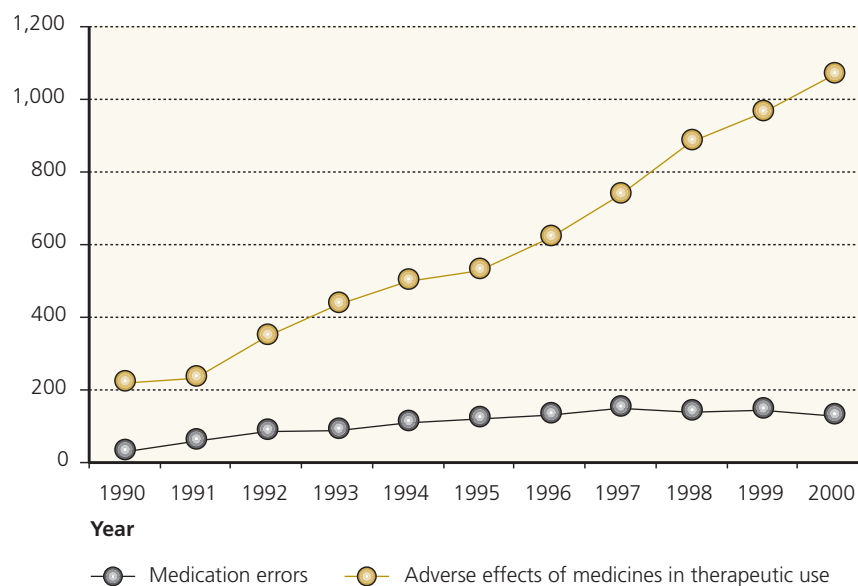
10. **Induction and training:** Medication errors are more likely to happen when new doctors arrive to work in hospitals. Only a small proportion of doctors surveyed felt that their induction dealt adequately with medicines management issues [EXHIBIT 2]. Hospitals should therefore ensure that the induction and continuing training of all appropriate staff adequately covers prescribing practice, medicines administration and error-reporting arrangements.

EXHIBIT 1

The number of deaths in England and Wales from medication errors and the adverse effects of medicines, 1990 to 2000

The number of reported deaths shows an upward trend.

Number of deaths

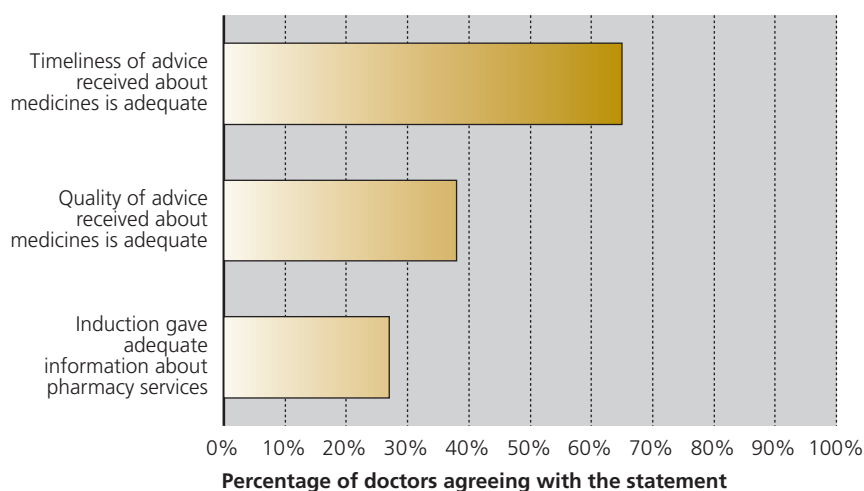


Source: ICD9 and ICD10 data

EXHIBIT 2

The perceptions of doctors in training of support in medicines management issues

Only a small proportion of doctors in training reported that their induction dealt adequately with medicines management issues.



Source: Audit Commission study sites

11. Risk management: Hospitals need to learn from the practices of other high-risk industries, where risk management concentrates on ‘near misses’ as a way of reducing systemic errors. The Government’s view of clinical governance emphasises the need to adopt ‘a systematic approach to quality assurance and improvement... Above all, clinical governance is about changing organisational culture... away from a culture of blame to one of learning so that quality infuses all aspects of the organisation’s work’ (Ref. 4).’

12. Computer technology: Errors are mainly caused because the prescriber does not have immediate access to accurate information either about the medicine or the patient. Hand-written prescriptions also

contribute to errors as they may be illegible, incomplete and subject to transcription errors. Electronic prescribing reduces medicine errors significantly.

13. Clinical pharmacy: As medicines become more powerful (and potentially dangerous), pharmacists need to be integrated into the clinical team. Pharmacists are experts in pharmacology and bringing them closer to the patient improves the quality of care and reduces costs. Pharmacists need to be used to anticipate medication errors, and should reduce their traditional role of retrospective monitoring of prescriptions. Although some hospitals have increased investment in this area, the amount of time spent on clinical pharmacy differs widely between hospitals [EXHIBIT 3, overleaf].

EXHIBIT 3

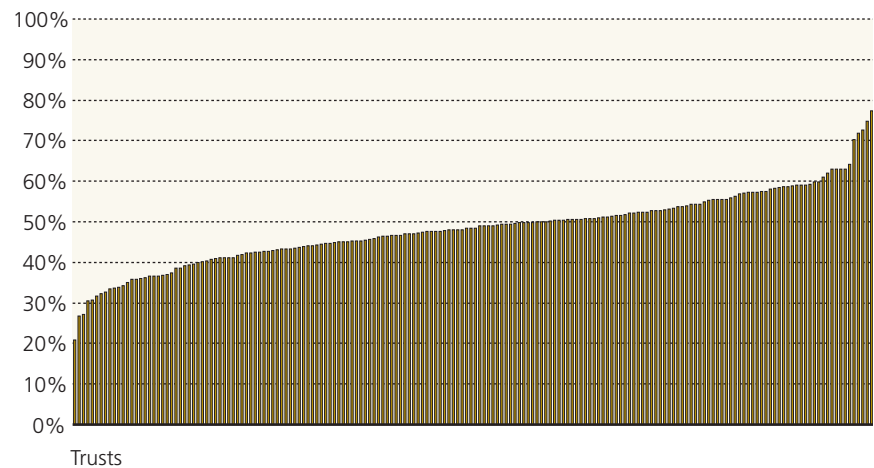
The proportion of registered pharmacists' time spent on clinical pharmacy activities

There is wide variation in the proportion of time that registered pharmacists devote to clinical pharmacy.

Note: N=183

Source: Audit Commission acute hospitals portfolio data

Percentage of time spent by registered pharmacists on clinical pharmacy activities



Forming effective relationships with primary care

14. The third strategic challenge facing trusts is the need to work effectively with primary care in four inter-related areas:

- using patients' own medicines;
- reviewing medication on admission to hospital;
- promoting the self-administration of medicines by patients; and
- supplying medicines in their original packs.

15. Patients' own medicines:

If patients bring their medicines into hospital with them, the medicines can be checked and their suitability for re-issue can be assessed. About £90 million worth of patients' own medicines are destroyed each year, and much of this waste can be prevented.

16. Medication review on admission:

Early assessment of each patient by a pharmacist ensures the taking of an accurate medicines history, which has been shown to reduce risk.

17. Self-administration of medicines: The failure of patients to adhere to the medication regime when they leave hospital is a major healthcare problem. Only one-half of people with chronic diseases take their medicine as recommended, even if their condition is life-threatening (Ref. 6). Both the *NHS Plan* and *Improving Health in Wales* seek to tackle this problem by encouraging patients to take a more active role in managing their own care. Self-administration in hospital allows

patients to be as independent as possible, participate in their own care and make decisions about their treatment in partnership with clinical staff. Almost all patients who self-administer prefer it because it gives them more control, and it has been shown to improve compliance significantly, thereby making medicines regimes more efficacious. But progress with implementing self-administration is patchy [EXHIBIT 4].

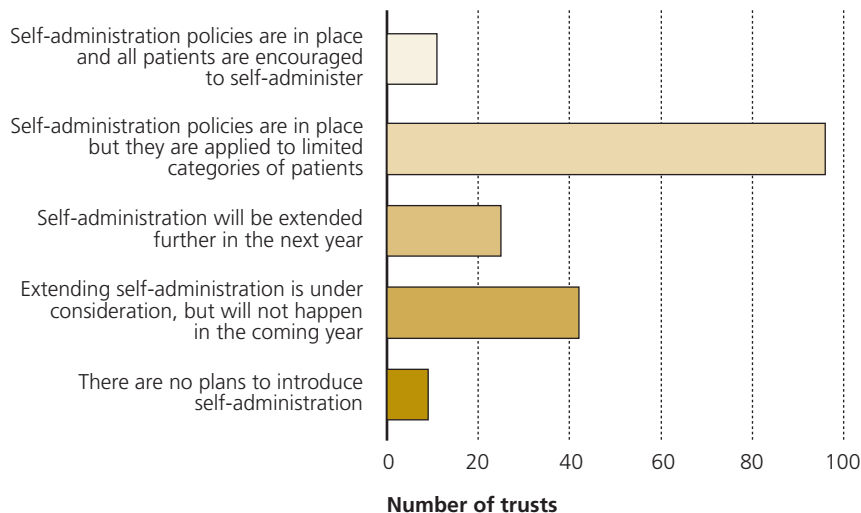
Only one-half of people with chronic diseases take their medicine as recommended...

EXHIBIT 4

Self-administration of medicines by patients in hospital

Progress with implementing self-administration is patchy.

Practice on self-administration



Note: N=183

Source: Audit Commission acute hospitals portfolio data

Original pack dispensing... provides greater convenience for patients...

18. Original pack dispensing: In order to comply with new EU regulations, manufacturers are increasingly supplying oral medicines in individualised packs, usually containing a 28 day supply. This has some important benefits:

- it reduces process costs and provides greater convenience for patients by dispensing enough medicines to cover both the inpatient stay and the initial period after discharge;
- hospital discharge is less likely to be delayed as medicines are readily available at the patient's bedside;

- it reduces GP workload after discharge;
- it reduces the overall cost of medicines to the local health economy because the cost of medicines to hospitals are usually lower than those available to GPs; and
- it reduces medicine administration error rates.

19. Despite the clear benefits of using original packs, not all trusts are maximising their use [EXHIBIT 5].



EXHIBIT 5

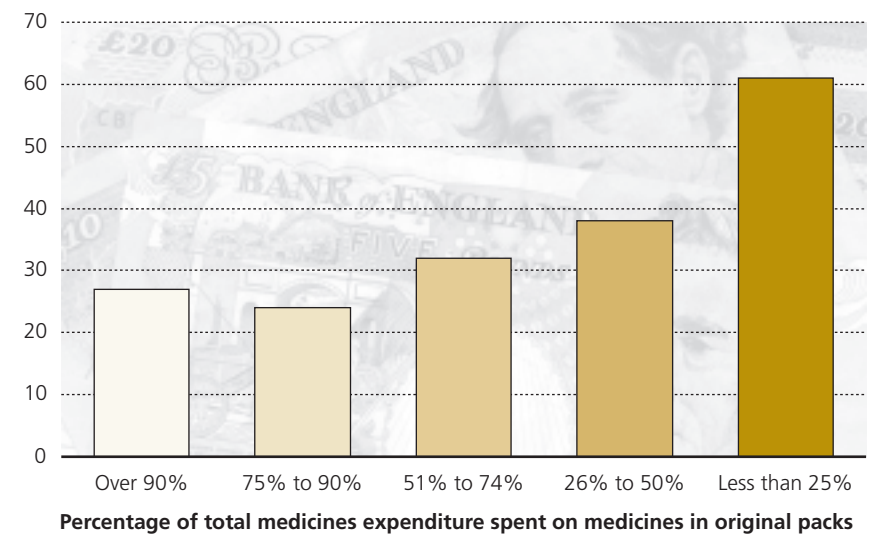
The proportion of trusts' total expenditure on medication supplied to patients in original packs

Not all trusts are maximising their use of original packs.

Note: N=182

Source: Audit Commission acute hospitals portfolio data

Number of trusts



Improving financial planning

20. Most hospitals overspend their medicines budgets [EXHIBIT 6]. To improve annual budget-setting, directorate pharmacists should work with clinical colleagues to prepare an assessment of future

medicines cost pressures. They should develop a planned approach to the introduction of new medicines in consultation with health authorities and primary care trusts or local health groups on the basis of shared risk.

EXHIBIT 6

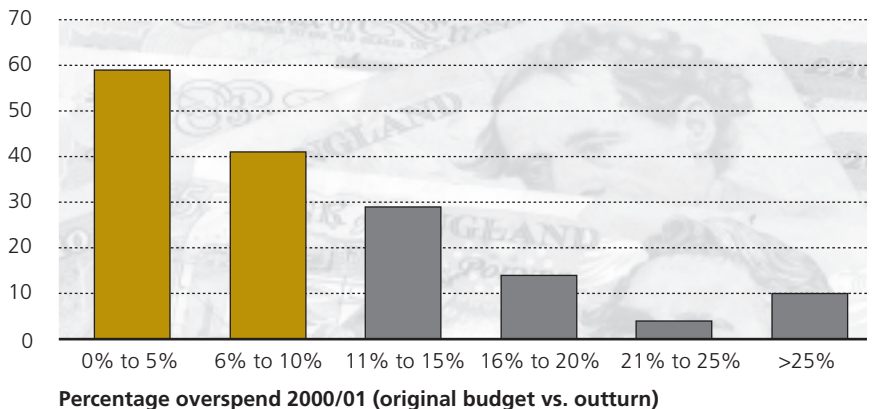
Comparison of trusts' outturn expenditure on medicines and original budgets

One in three trusts overspent their 2000/01 medicines budgets by more than 10 per cent.

Note: N=157

Source: Audit Commission acute hospitals portfolio data

Number of trusts



Obstacles to Progress

...pharmacy services need to be seen as a core clinical function, not a technical support service.

21. To meet the strategic challenges described above, there is a need to:

- change attitudes;
- tackle staff shortages; and
- invest in computer systems and automation.

22. Changing attitudes: Medicines are now so central to patient care that pharmacy services need to be seen as a core clinical function, not a technical support service.

23. Staff shortages: One in six pharmacy posts are vacant. One-half of the hospitals in the UK are unable to provide all their intended pharmacy services because of staff shortages. These shortages should be tackled by:

- introducing more flexible working patterns;
- redesigning and enriching jobs to focus on clinical pharmacy;
- introducing automated dispensing; and
- outsourcing non-core services, such as manufacturing.

24. Computer technology:

Computerised prescribing and health records have been shown to eliminate three-quarters of medication errors, but they are only used in a few hospitals. The DoH's Information Management and Technology (IM and T) strategy expects 35 per cent of trusts to have installed electronic patient record systems, including the reporting of results and prescribing by 2002, and all trusts by 2005 (Ref. 7). However, progress is extremely slow.

25. Urgent action is necessary to put the IM and T strategy back on course. A national system for medicines and diagnostic codes should be commissioned across the whole NHS to support the introduction of electronic prescribing systems. Ear-marked funds and expertise should be made available to enable trusts to meet the 2005 target. Central guidance on systems specifications and screen layouts would make working with the NHS in this area a more attractive proposition to suppliers of IT and software systems.

26. Robotic dispensing systems also offer a way to make better use of scarce staff resources. These systems have been shown to reduce both risk and cost.



The Way Forward

27. *A Spoonful of Sugar* sets out a number of recommendations to improve medicines management. The DoH must deliver on the targets that are set out in *Building a Safer NHS for Patients*, and the IM and T strategy; while the National Assembly for Wales (the National Assembly) needs to deliver the agenda that is set out in the *Report of the Task and Finish Group on Prescribing in Wales* (Refs. 8 and 9). The supply industry, too, should take a more proactive role: it shares the same interests as the NHS in ensuring the efficacy of medicines; in eliminating unnecessary supply-chain costs; and in improving patients' compliance with medication regimes.

28. But trust boards also have much to do. Those that regard medicines management as a support service provided by pharmacy will risk failing to deliver their statutory clinical governance obligations. Managing the way that medicines are used in hospitals is the business of all clinical staff and it directly affects most patients. It is a strategic issue fundamental to the way that hospitals work, to the quality of patient care and to the delivery of the *NHS Plan* and *Improving Health in Wales* (Refs. 4 and 5).

Managing the way that medicines are used in hospitals is the business of all clinical staff and it directly affects most patients.

References

1. Audit Commission, *A Spoonful of Sugar – Improving Medicines Management in Hospitals*, Audit Commission, 2001
2. NHS Executive, *Controls Assurance Standards for Medicines Management*, Department of Health, 1999
3. Department of Health, *Medicines Management Framework*, The Stationery Office, 2001
4. Department of Health, *NHS Plan*, The Stationery Office, 2001
5. NHS Wales, *Improving Health in Wales*, The Stationery Office, 2001
6. Bloom B, Daily regimen and compliance with treatment, *British Medical Journal*, 2001, 322: 647
7. NHS Executive, *Information for Health. An Information Strategy for the Modern NHS 1998–2005*, September 1998
8. Department of Health, *Building a Safer NHS for Patients*, The Stationery Office, 2001
9. National Assembly for Wales, *Report of the Task and Finish Group on Prescribing*, 2000

Key Recommendations

For the Department of Health and the National Assembly for Wales

- 1 The establishment of standard nation-wide definitions and categories of medication errors and 'near-misses' should be an early priority for the new National Patient Safety Agency.
- 2 The DoH and the National Assembly for Wales should commission a specification for automated dispensary systems and consider the provision of earmarked funds to roll-out the introduction of these systems to all hospitals.
- 3 A standard national system for the coding of medicines and barcodes should be introduced across the whole NHS to support the development of electronic prescribing systems and automated dispensing systems. Earmarked funds should be made available to enable hospitals to comply with the targets set in the IM and T strategy. Central guidance on systems specification and screen layouts should also be considered.

For NHS trust boards

- 4 The induction programme of all clinical staff should provide adequate coverage of policies on prescribing practice, medicines administration and incident reporting. Monitoring of competencies in prescription and the administration of medicines should be given high priority.
- 5 Trusts should undertake reviews of pharmacy staffing levels and consider whether there are adequate resources to:
 - (i) provide adequately for clinical pharmacy services;
 - (ii) meet the demands of the NHS Plan in respect of new consultants and nurse prescribers;
 - (iii) take patients' medication histories; and
 - (iv) support dispensing for discharge schemes.
- 6 Arrangements should be made for the use of patients' own medicines in hospital.
- 7 Trust boards should call for a position statement on progress with the introduction of the self-administration of medicines, and provide the necessary staff resource to maximise implementation.
- 8 Original pack dispensing should be introduced in all appropriate areas immediately.
- 9 The transfer of money from non-pay to pay budgets should be considered to fund investment in pharmacy services.
- 10 Recruitment and retention policies and practice should be reviewed to provide competitive working flexibilities and remuneration packages for hospital pharmacists.

If you want to know more:
the full national report, **A Spoonful of Sugar: Medicines Management in NHS Hospitals** looks at all these issues in more detail and includes background information, case studies and specific guidance.

Audit Commission, **A Spoonful of Sugar: Medicines Management in NHS Hospitals** (national report)
ISBN 1 86240 321 X
£20.00

Available from:
Audit Commission Publications
PO Box 99
Wetherby
LS23 7JA
Freephone 0800 502030
Stating stock code: HNR2623
Briefing stock code: HEB2624