

# Managing the use of medicines in hospitals

A follow-up review



Prepared for the Auditor General  
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# Auditor General for Scotland

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# Contents

**Summary**  
**page 2**

Introduction

About the study

Key messages  
**page 3**

Key recommendations  
**page 4**

**Part 1. Planning for medicines management**  
**page 5**

Key messages

Spending on hospital medicines reduced slightly in 2007/08  
**page 6**

There has been a lack of progress in developing national information systems  
**page 7**

The Scottish Medicines Consortium issues early information to support boards' planning for new medicines

NHS QIS does not routinely carry out budget impact assessments for its clinical guidelines and guidance  
**page 9**

Boards monitor medicines expenditure but have identified gaps in the information needed for financial planning

There has been no national strategy for pharmaceutical services since 2005  
**page 10**

All boards have appointed a strategic lead for pharmacy

Recommendations  
**page 11**

**Part 2. Safe and cost-effective use of medicines**  
**page 12**

Key messages

The Scottish Government has set up a new Scotland-wide patient safety programme  
**page 13**

Boards are making progress in implementing new legislation on controlled drugs  
**page 14**

All boards have an incident reporting system but a national approach is not in place

Boards have rolled out the Emergency Care Summary in most emergency departments  
**page 15**

The NHS in Scotland has made good progress in developing prescribing guidance

Recommendations  
**page 16**

**Part 3. The changing workforce**  
**page 18**

Key messages

Workforce planning for pharmacy staff is not well developed

Most boards identified Agenda for Change as a difficulty in recruiting and retaining hospital pharmacy staff  
**page 19**

Only six boards have reviewed their clinical pharmacy service  
**page 20**

The NHS in Scotland has developed national standards for training pharmacy technicians in two extended roles only  
**page 21**

Education on prescribing and medicines for medical students and junior doctors is still developing  
**page 22**

Recommendations  
**page 23**

**Appendix 1. Advisory group members**  
**page 24**

**Appendix 2. Self-assessment checklist for boards**  
**page 25**

# Summary



The NHS in Scotland is improving the way medicines are managed in hospitals but it needs better information to help it provide more benefit to patients.



## Introduction

**1.** Almost all patients receive medicines as part of their treatment when they are in hospital, so medicines need to be used safely, appropriately and in a cost-effective way to maximise their benefit. In 2005, Audit Scotland published a report on the NHS in Scotland's approach to managing medicines in hospital.<sup>1</sup> The study focused on acute hospitals and we carried it out at a time when acute trusts, primary care trusts and health boards were merging to form unified NHS boards.

**2.** Our 2005 report concluded that:

- spending on medicines in hospitals is growing as medicines become available to treat more patients. This rise in spending can be minimised by cost-effective prescribing
- the wider range of medicines available and the increasing number of people involved in prescribing mean that prescribers need easy access to guidance and to advice from clinical pharmacists<sup>2</sup>
- the health service in Scotland needs better information to manage and monitor the use of medicines.

**3.** Since we published our earlier report, the context for managing medicines in hospitals has changed. Unified boards have been in place for nearly five years and are responsible for delivering services across hospitals and in the community. There have also been some key national developments, including the launch of the Scottish Patient Safety Programme and new legislation on controlled drugs.

## About the study

**4.** This report follows up the key recommendations from our 2005 report and gives an overview of

national developments since then. It focuses on acute hospitals and examines progress in relation to:

- implementing new information management and technology developments to support medicines management in hospitals
- financial management for hospital medicines
- promoting safe and cost-effective use of medicines in hospitals
- workforce planning and role development for hospital pharmacy staff
- education on medicines and prescribing for medical students and junior doctors.

**5.** The study involved:

- analysing national data published by the Information Services Division of NHS National Services Scotland (ISD Scotland), including data on medicines expenditure and patient activity
- interviews with the Scottish Government, NHS Quality Improvement Scotland (NHS QIS), the Scottish Medicines Consortium (SMC), NHS National Services Scotland (NSS) and NHS Education for Scotland (NES)
- a survey of the 14 NHS boards and State Hospital. NHS Western Isles did not provide data for the survey. We have used the term boards where statements in the report relate to both the NHS boards and State Hospital
- interviews with NHS Ayrshire and Arran, NHS Tayside and NHS Highland about specific developments aimed at improving medicines management in hospitals.

**6.** We have also produced a report supplement that provides a separate analysis of the board survey that should be useful to the NHS in Scotland for planning purposes. This is available on our website at [www.audit-scotland.gov.uk](http://www.audit-scotland.gov.uk)

## Key messages

- The NHS in Scotland spent £222 million on medicines in acute hospitals in 2007/08, approximately six per cent of overall acute hospital running costs. Total hospital medicines expenditure reduced slightly in 2007/08, but high-cost medicines are a particular pressure on hospital budgets. The Scottish Medicines Consortium is providing boards with better information on the anticipated budget impact of new medicines to help with planning.
- Boards need better information on how medicines are used in hospitals to help them monitor whether patients are getting the most appropriate medicines. Progress in developing information systems that would support medicines management and help improve patient safety in hospitals has been slow. A Hospital Electronic Prescribing and Medicines Administration system is unlikely to be in place in all hospitals in the short to medium term.
- The NHS in Scotland is making progress in promoting the safe and cost-effective use of medicines. Hospitals are taking part in a Scotland-wide Patient Safety Programme. All boards have joint formularies and antimicrobial policies or prescribing guidance, but not all of them are fully monitoring whether staff use medicines in line with the guidance.

<sup>1</sup> *A Scottish prescription – Managing the use of medicines in hospitals*, Audit Scotland, 2005.

<sup>2</sup> Clinical pharmacists work with patients, hospital staff and staff in the community. The role includes checking patients' medicines are appropriate and effective, educating patients about their medicines, advising prescribers and communicating with community staff.

- Hospital pharmacy staff increasingly work directly with patients and staff in wards and outpatient clinics. Workforce planning for hospital pharmacy staff is still not well developed and it is not clear if boards base their pharmacy workforce projections on local service needs. Other than two specific roles, there is no national framework for recognising or approving extended roles for pharmacy staff.

### Key recommendations

The Scottish Government should:

- work with boards to develop a plan and timescales to ensure that a Hospital Electronic Prescribing and Medicines Administration system is implemented across all boards in Scotland as soon as possible and that the data can be centrally collated and analysed to support planning and monitoring across Scotland
- work with NES, ISD Scotland and the boards to develop national pharmacy workforce planning information that supports boards in taking forward workforce plans and workforce development
- work with NES and the boards to develop a national framework for recognising and accrediting extended roles and setting training standards for pharmacy technicians.

The Scottish Government and boards should:

- ensure that the Agenda for Change assimilation and review process for pharmacy staff is completed as a matter of urgency.

NHS boards should:

- ensure that pharmacy workforce plans are based on an assessment of need, which considers the appropriate numbers, skill mix and other resources such as automation, to meet future needs for dispensary, clinical and other work.

NHS QIS should:

- work with the boards to develop a system to share learning and action points from medication incidents and near misses across Scotland, supported by trend analysis and consistent local reporting.

# Part 1. Planning for medicines management



The NHS in Scotland has improved its planning for new medicines, but it needs better information on how medicines are used in hospitals.



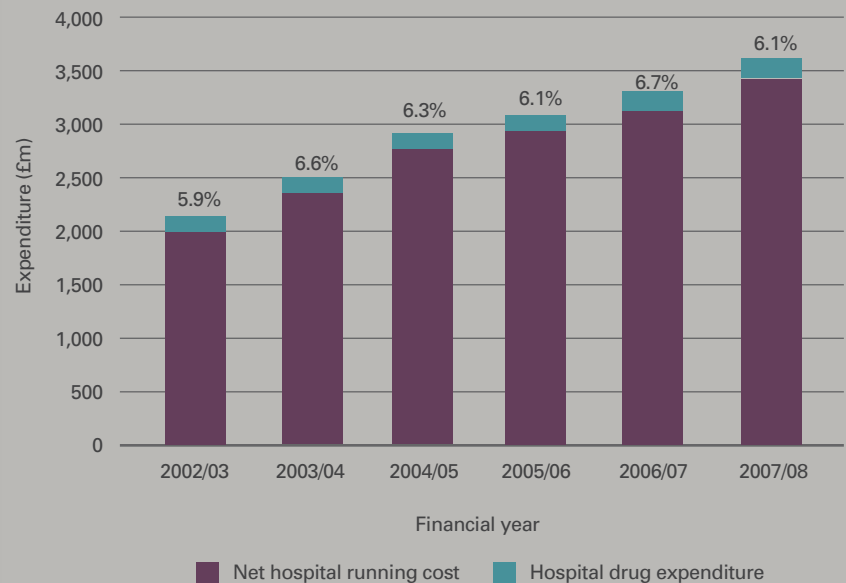
## Key messages

- Medicines are a cost pressure for the NHS. Acute hospitals spent £222 million on medicines in 2007/08, approximately six per cent of overall acute hospital running costs. Total medicines expenditure in acute hospitals reduced slightly in 2007/08, but high-cost medicines are a particular pressure on hospital budgets.
- Progress in developing information systems to support medicines management and help improve patient safety has been slow. A Hospital Electronic Prescribing and Medicines Administration system is unlikely to be in place in all hospitals in the short to medium term. NHS National Services Scotland (NSS) is piloting a national hospital medicines database to provide some information on medicines used in hospitals.
- The NHS has better information for planning medicines budgets, but boards still identified gaps. The Scottish Medicines Consortium (SMC) has made good progress in providing boards with information to help them plan. It now produces annual reports that include an estimate of the budget impact of medicines that should become available in the coming year. NHS QIS does not routinely produce budget impact assessments for its clinical guidelines or technology appraisals.
- There is no current national strategy for pharmaceutical services. In December 2008, the Scottish Government announced plans to develop a national action plan for pharmacy and medicines.

## Exhibit 1

### Hospital medicines expenditure as a percentage of overall hospital running costs

The percentage of hospital expenditure spent on medicines decreased slightly in 2007/08.



Note: The figures have been adjusted to exclude community and long-stay hospitals. They include State Hospital.

Source: Audit Scotland, based on ISD published hospital expenditure statistics, 2002/03 to 2007/08

### Spending on hospital medicines reduced slightly in 2007/08

7. The NHS in Scotland spent just over £1.2 billion on medicines in 2007/08.<sup>3</sup> This includes medicines used in hospitals and medicines prescribed by GPs and other staff in the community. Medicines used in hospitals accounted for a fifth of this spending. Almost all patients receive medicines as part of their hospital treatment.

8. Between 2002/03 and 2007/08, spending on medicines in Scotland's acute hospitals increased by 76 per cent in cash terms, from £126 million to £222 million, while overall hospital expenditure increased by 69 per cent.<sup>4</sup> The growth in spending on medicines has stabilised in recent years, falling very slightly (0.4 per cent) between

2006/07 and 2007/08 (Exhibit 1). The average medicines expenditure per patient rose from £45 in 2002/03 to approximately £70 in 2006/07 and 2007/08.

### Five boards set targets for efficiency savings for hospital medicines budgets for 2008/09

9. The Scottish Government set efficiency savings targets for boards' overall spending of one per cent in 2007/08 and two per cent in 2008/09.<sup>5</sup> Boards are responsible for deciding how to meet these targets and whether any savings should come from hospital medicines budgets. NHS Greater Glasgow and Clyde, NHS Lothian and NHS Tayside set combined efficiency savings targets of £2.5 million for their hospital medicines budgets in 2007/08 and achieved savings of £2.7 million. Five boards set efficiency savings targets for their hospital medicines budgets

3 Audit Scotland, based on ISD published pharmacy drug expenditure statistics, 2007/08.

4 These figures include State Hospital.

5 *Efficiency Technical Notes H/C7*, Scottish Government, March 2007 and *Efficiency Delivery Plans 2008-11*, Scottish Government, March 2008.



for 2008/09, with a combined target value of £2.1 million.<sup>6,7</sup>

### High-cost medicines account for a significant amount of total medicines expenditure

**10.** A number of high-cost medicines contribute to the high level of spending on hospital medicines – we looked at four medicines with a high cost per patient per year.<sup>8</sup> Eleven NHS boards spent over £25 million on these four medicines in 2007/08, 12 per cent of their total medicines expenditure in acute hospitals (Exhibit 2).<sup>9</sup> This increased from four per cent in 2004/05 when these medicines were newer and used less in hospitals. With the exception of NHS Shetland, no board could provide information on the number of patients treated with all these medicines for all four years.

**11.** In 2006/07, boards introduced a scheme to share the cost of a small number of very expensive medicines used to treat specific, extremely rare conditions. The scheme is intended to ensure equitable access for patients who need the medicines while not putting any one board at risk financially if a disproportionate number of patients live in that area. The budget for the scheme was £3.7 million for 2007/08 and the actual cost was £2.6 million.

### There has been a lack of progress in developing national information systems

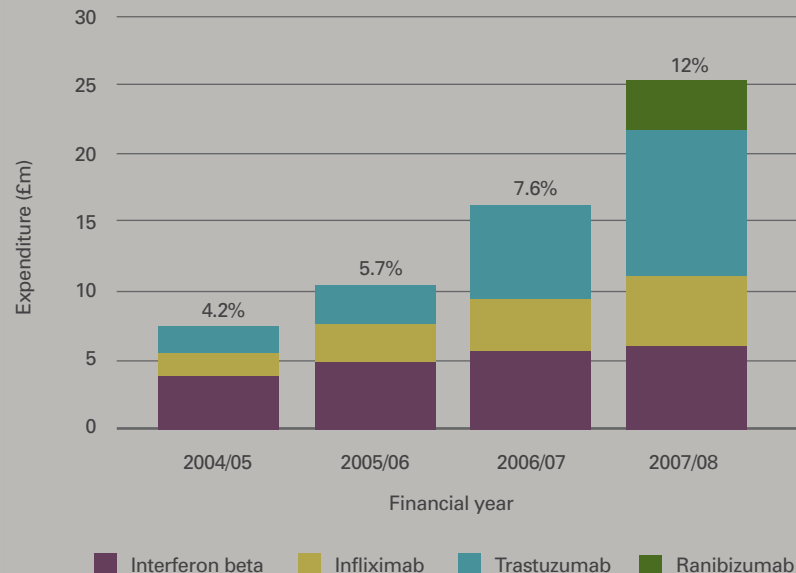
#### Recommendations from 2005 report:

- The Scottish Executive Health Department (SEHD) should develop a clear project plan with key milestones and timescales for procuring, developing and implementing a national Hospital Electronic Prescribing and Medicines Administration system (HEPMA).

## Exhibit 2

### Expenditure on four high-cost medicines in acute hospitals, 2004/05 to 2007/08

Four medicines accounted for 12 per cent of the spending on hospital medicines in 11 boards in 2007/08.



#### Notes:

1. Interferon beta was first accepted for use by the SMC in November 2003, Infliximab in September 2005, Trastuzumab in June 2006 (it was also used before the SMC advice, but to treat a different condition) and Ranibizumab in May 2007.
  2. The percentages relate to the total medicines expenditure in the hospitals that use these medicines.
  3. NHS Orkney and State Hospital did not use these medicines in any years. NHS Shetland used them in 2004/05 and 2005/06 only.
- Source: Board survey, Audit Scotland, 2008

- The SEHD should clarify the timescale for moving to a national drug dictionary and for full roll-out of the Community Health Index (CHI) number to inform other developments.

- The Medicines Utilisation Unit at NSS should work with the National Clinical Dataset Development Programme at ISD, NHS QIS, SMC and Area Drug and Therapeutic Committees to develop a coordinated approach to collating data on medicines utilisation that can be used to review the effectiveness and cost-effectiveness of medicines.

There are no plans for national roll-out of an electronic prescribing system in the short to medium term

**12.** A HEPMA system is used to record the medicines prescribed and administered in hospital for each patient, providing staff with complete and up-to-date information. It is intended to improve patient safety by providing staff with full information when they need it, reducing the potential for errors in prescribing and administering medicines. A HEPMA system also provides monitoring information on the medicines used in hospitals, providing staff and managers with information to review prescribing and identify areas for

6 NHS Borders, NHS Dumfries and Galloway, NHS Greater Glasgow and Clyde, NHS Lothian and NHS Tayside.

7 NHS Ayrshire and Arran and NHS Forth Valley have targets for medicines budgets across hospitals and primary care and do not have separate targets for hospital medicines. The remaining boards did not set targets for their hospital medicines budgets.

8 The four medicines are Ranibizumab, which is used to treat patients with age-related loss of vision; Trastuzumab which is used to treat certain types of breast cancer; Interferon beta which is used to treat multiple sclerosis; and Infliximab which is used to treat autoimmune disorders such as Crohn's disease and some forms of arthritis.

9 The £25 million is an under-estimate because NHS Borders and NHS Lothian were only able to provide their expenditure on some of these medicines in 2007/08. NHS Orkney, NHS Shetland and State Hospital did not incur expenditure on any of these medicines in 2007/08.

improvement. At a national level, the data can inform benchmarking. Our baseline study reported the SEHD's commitment to developing a national system.<sup>10</sup> In 2007, a working group completed a specification for a national HEPMA system and advised the Scottish Government that it must be linked to a wider hospital patient management system.

**13.** The 2008 national eHealth strategy signalled a change in direction.<sup>11</sup> There are no plans to develop a separate HEPMA system and it is now integrated with plans to procure a patient management system for the NHS in Scotland. Five NHS boards are part of a consortium that is working towards procuring a patient management system with an optional HEPMA module on behalf of the NHS in Scotland.<sup>12</sup> The consortium aims to have a national contract signed off by NSS by August 2009, although the dates for implementation have still to be agreed.<sup>13</sup> The Scottish Government has not set any timescales for boards to implement either the patient management system or the HEPMA module; it advised us that boards will be responsible for deciding if and when they implement the HEPMA module and they will need the new patient management system in place to do so. A HEPMA system is unlikely to be in place in all hospitals across Scotland in the short to medium term. Given the potential benefits of a national system, the Scottish Government should ensure that all boards have this in place as soon as possible.

**14.** NHS Ayrshire and Arran is the only board in Scotland with a HEPMA system (Case study 1). This has improved patient safety and it provides information to monitor how medicines are used.

### Case study 1

#### Benefits of NHS Ayrshire and Arran's HEPMA system

NHS Ayrshire and Arran implemented a HEPMA system in Ayr Hospital in 1995, with the aim of improving patient safety. The system electronically records all prescriptions written and the medicines administered to every inpatient in real time, and produces a discharge letter that can be sent electronically to the patient's primary care provider such as their GP. The board has identified benefits to patient safety and medicines management:

- Real-time reporting at ward level displays the medicines staff need to administer to each patient, and when these medicines are due. This has improved the timing of medicines administration, which is crucial for patients with certain conditions.
- The system helps prevent adverse drug events by providing prescribers with information on drug interactions and requiring them to record each patient's medicine allergies.
- Prescribers are provided with information on formulary choices and required to give a reason for prescribing non-formulary medicines.<sup>14</sup> Clinicians can use the system to monitor compliance with the formulary and to monitor controlled drugs prescribing.

Clinicians can also use the system to monitor trends in prescribing and medicines administration and identify peaks in workload or times of the day when staff with specialist skills, such as staff who can manage high-risk medicines like anticoagulants, are likely to be needed. Ayr Hospital has used this information to plan the number and types of staff needed to care for patients at night. Junior doctors have access to an automated worksheet that includes information from HEPMA to help plan their daily workload. Similarly, clinical pharmacists can use an automated screening tool to identify patients with most need, helping them prioritise their workload. Real-time information on medicines administration has reduced the time nurses take to do each drug round.

NHS Ayrshire and Arran is planning to implement the HEPMA system in Crosshouse Hospital and to link the system to Crosshouse Hospital's new pharmacy robotics system. The board is also using the HEPMA to provide data for national programmes, such as the Scottish Patient Safety Programme and the new Scottish antimicrobial action plan.

Source: Audit Scotland, 2008

The NHS is making progress putting in place the building blocks needed for a national electronic prescribing system

**15.** A national system requires a number of building blocks including: a national drugs dictionary so that medicines are coded consistently across the country; and universal

use of a patient's unique Community Health Index (CHI) number on hospital and primary care records so that information on the same patient can be linked. In 2004, the NHS in Scotland agreed to adopt the Dictionary of Medicines and Devices as the national drug dictionary.<sup>15, 16</sup> This will be rolled out as part of implementing

10 In 2007, the Scottish Executive changed its name to the Scottish Government. Where appropriate this report refers to the Scottish Executive rather than the Scottish Government.

11 *eHealth Strategy 2008-2011*, Scottish Government, August 2008.

12 NHS Ayrshire and Arran, NHS Borders, NHS Grampian, NHS Greater Glasgow and Clyde and NHS Lanarkshire.

13 NSS is responsible for procuring national contracts for the NHS in Scotland.

14 A formulary is a list of preferred medicines for prescribers to choose. All boards have their own formulary (page 16).

15 *A Scottish prescription – Managing the use of medicines in hospitals*, Audit Scotland, 2005.

16 The Dictionary of Medicines and Devices, <http://www.dmd.nhs.uk/>

HEPMA. In the meantime, hospitals are continuing to use local drug dictionaries. The CHI number is presently used in 97 per cent of key clinical communications.<sup>17, 18</sup>

#### A national hospital medicines database will be rolled out by 2010

**16.** In 2005, the Scottish Executive established the National Medicines Utilisation Unit at NSS to collect and disseminate information on the use of medicines across the NHS in Scotland. The unit has developed and piloted a national hospital medicines utilisation database (HMUD), which is intended to give basic information and standard reports on medicines used in hospitals. Roll-out from the pilot sites started in 2009 and the unit aims to cover all boards by 2010.<sup>19</sup>

**17.** The HMUD is intended to provide national data on medicines utilisation. It will not be linked to information on individual patients and their conditions, so it will not be able to provide analysis of the effectiveness and cost-effectiveness of medicines. However, it can be linked to other national information, such as high-level population information, so will be able to provide analyses such as expenditure per patient and expenditure per head of population, allowing boards and hospitals to compare their performance against each other. This work is at the testing and piloting phase, including identifying the analyses that will be most useful to boards.

#### The Scottish Medicines Consortium issues early information to support boards' planning for new medicines

##### Recommendations from 2005 report:

- The Scottish Medicines Consortium (SMC) should continue to develop its work on estimating the anticipated budget impact of new medicines so that NHS boards are provided with information on all anticipated costs and cost savings.
- NHS boards should ensure that horizon scanning information and monitoring information on the use of medicines is used to inform budgets for medicines.

**18.** The SMC was established in 2001 to provide a clear and consistent approach to introducing new medicines across the NHS in Scotland. It reviews the clinical and cost-effectiveness of new medicines (including new uses of existing medicines and new formulations of medicines, such as a tablet rather than a liquid) and advises boards on whether the medicine is accepted for use in Scotland. The SMC accepted 56 medicines for use in 2007.<sup>20</sup> Boards are expected to take account of SMC guidance and make the recommended medicines available when they are required. New medicines can have significant cost implications and boards need information on the potential cost to help plan their budgets.

**19.** The SMC has made good progress in providing boards with information to help them plan their

medicines budgets. Since 2005, the SMC has provided boards with annual *Forward Look* reports that give advance information on new medicines, new formulations and new uses of existing medicines that the SMC expects to be licensed for use in the UK in the forthcoming year. The reports include budget impact information on medicines expected to have a net budget impact of at least £0.5 million per year.<sup>21, 22</sup> The SMC also provides boards with spreadsheets they can use to adapt the budget impact information to their local situation. All boards except one are using the *Forward Look* reports to plan more effectively for the introduction of these medicines at least some of the time ([Exhibit 3, overleaf](#)).<sup>23</sup> Over half always use the information for this purpose.

**20.** The SMC does not currently compare its estimates of the budget impact of new medicines with the actual budget impact when boards begin to use the medicines. During 2009, the SMC plans to work with the National Medicines Utilisation Unit to investigate whether information from the HMUD could be used to monitor the accuracy of these estimates.

#### NHS QIS does not routinely carry out budget impact assessments for its clinical guidelines and guidance

##### Recommendation from 2005 report:

- NHS QIS should ensure that SIGN guidelines, NICE technology appraisals reviewed by NHS QIS and NHS QIS Health Technology Assessments (HTAs) that relate to medicines include an assessment of the budget impact for NHSScotland.

17 Monitoring information provided by Scottish Government, January 2009.

18 This includes appointment letters, final discharge letters, diagnostic test requests and results and the Emergency Care Summary. Boards have only been required to monitor the use of the CHI number on hospital prescriptions since November 2008.

19 The pilot sites are in NHS Ayrshire and Arran, NHS Fife, NHS Grampian and NHS Lothian.

20 *Scottish Medicines Consortium Annual Report 2007*.

21 The net budget impact is the cost of purchasing the new medicine minus the cost of existing alternatives, such as medicines that might be replaced. It takes into account factors such as the number of patients who might need the medicine and its predicted uptake. The SMC estimates the net budget impact for one year and five years after introduction of the new medicine.

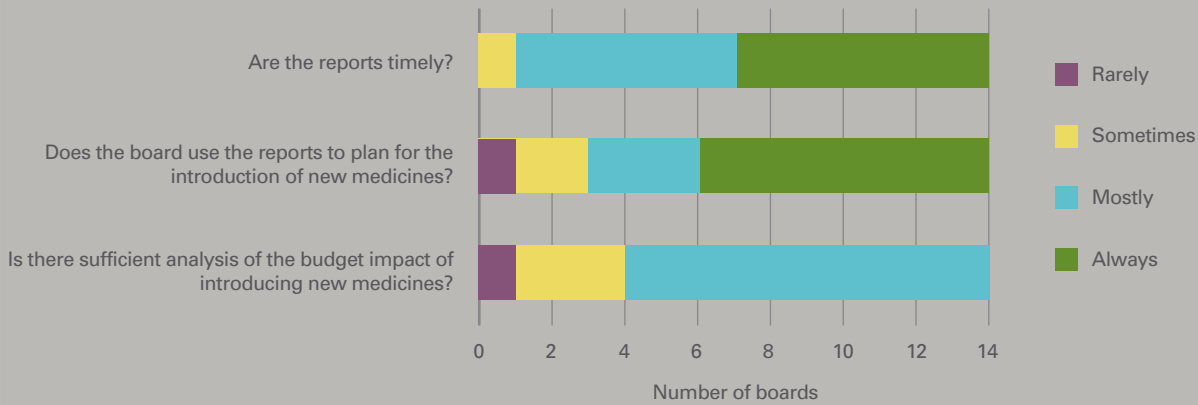
22 The SMC also provides boards with budget impact information where this is submitted by pharmaceutical companies.

23 NHS Orkney stated that the reports did not provide sufficient analysis for this purpose.

### Exhibit 3

#### NHS boards' views on and use of the SMC *Forward Look* reports

Most boards use the SMC reports to plan for the introduction of new medicines.



Source: Board survey, Audit Scotland, 2008

**21.** NHS QIS develops and distributes clinical guidelines and guidance for the NHS in Scotland, and distributes guidance produced by the National Institute for Health and Clinical Excellence (NICE) in England (Exhibit 4). Some of these relate to the use of medicines in hospital. NHS boards are required to take account of the advice and recommendations in NHS QIS Health Technology Assessments (HTAs), Scottish Intercollegiate Guidelines Network (SIGN) guidelines and any NICE Multiple Technology Appraisals (MTAs) that NHS QIS approves for use in Scotland. Implementing these guidelines and guidance can have cost implications, for example using medicines for new groups of patients. Boards need information to plan for this.

**22.** NHS QIS does not routinely carry out budget impact assessments for the clinical guidelines or technology assessments it develops or sends out to boards (Exhibit 4). It recently piloted a process to estimate the budget impact of introducing five SIGN guidelines on heart disease. The medicines-related cost of introducing

the five guidelines in hospitals and primary care across Scotland was estimated as £14 million in year one, rising to £44 million in year six.<sup>24</sup> An independent evaluation concluded that these resource impact tools were helpful in supporting boards implement the guidelines.<sup>25</sup> It recommended that these should be developed routinely for guidelines, unless the guideline is not expected to have a significant impact on budgets or resources, such as staff time spent with patients. In 2009, NHS QIS will decide whether to extend this to future SIGN guidelines.

#### Boards monitor medicines expenditure but have identified gaps in the information needed for financial planning

**23.** Medicines budget holders in all boards but one receive monthly budget reports to enable them to monitor and control expenditure.<sup>26</sup> Nine boards supplied budget reports as part of the audit, eight of which included commentary on reasons for changes in expenditure and on emerging pressures.

**24.** Almost half of the boards said they need more information on the medicines that are used in hospitals, and the patients using them, to support local financial planning. This includes information on high-cost medicines and medicines with low unit costs but high overall expenditure. This information would be available through a HEPMA system but this is unlikely to be in place in the short to medium term.

#### There has been no national strategy for pharmaceutical services since 2005

**25.** The last national pharmaceutical strategy for Scotland ran from 2002 to 2005 and there has been no national strategy since then. *The Right Medicine* provided a framework for change in pharmaceutical services in hospitals and primary care, but there has been no evaluation of whether the objectives were fully achieved and the strategy has not been updated.<sup>27</sup> In

<sup>24</sup> Cost estimates exclude VAT. *Management of Coronary Heart Disease: A national clinical and resource impact assessment*, SIGN, February 2007.

<sup>25</sup> *Independent evaluation of the resource impact tools developed alongside the SIGN CHD guidelines*, draft report, York Health Economics Consortium, March 2008.

<sup>26</sup> The medicines budget holders in NHS Orkney receive budget reports less than four times a year.

<sup>27</sup> *The Right Medicine – A strategy for pharmaceutical care in Scotland*, Scottish Executive, 2002.

**Exhibit 4****NHS QIS progress towards introducing budget impact assessments**

<p><b>SIGN guidelines</b> Clinical guidelines that help health professionals and patients decide about appropriate healthcare in specific clinical circumstances. They aim to standardise treatment across Scotland.</p>	<p>NHS QIS does not routinely assess the budget impact of SIGN guidelines. It carried out a budget impact assessment of implementing the key recommendations in five SIGN guidelines on heart disease.<sup>28</sup> In 2009, NHS QIS will decide whether these will accompany future SIGN guidelines.</p>
<p><b>Health Technology Assessments (HTAs)</b> Evaluations of the clinical and cost effectiveness of health interventions, including medicines, and recommendations on their use.</p>	<p>Since our 2005 report, NHS QIS has not published any HTAs that relate to medicines in hospitals. It has now replaced these with shorter evidence notes which summarise existing published evidence. These do not make recommendations.</p>
<p><b>National Institute for Health and Clinical Excellence (NICE) Multiple Technology Assessments (MTAs)</b> Similar to a HTA, but produced by NICE for the NHS in England, Northern Ireland and Wales.</p>	<p>NICE carries out budget impact assessments routinely for the MTAs, for England, Northern Ireland and Wales. NHS QIS decides whether the MTA is applicable in Scotland and, if so, disseminates it. However, it does not routinely carry out its own analysis of the budget impact of introducing these in Scotland.</p>

Source: Audit Scotland fieldwork, 2008

December 2008, the Minister for Public Health asked the Chief Pharmaceutical Officer for Scotland to develop an action plan for pharmacy and medicines, covering hospitals and primary care. This is due in summer 2009 and is expected to focus on a number of issues including patient safety, IT support for hospital prescribing, workforce planning, performance management and integration between hospitals and primary care.

**26.** In response to *The Right Medicine*, the Scottish Executive published standards, criteria and recommendations for managing medicines in hospitals in 2006, and encouraged boards to adopt these.<sup>29,30</sup> The standards particularly aim to improve patient safety and patient involvement. Eight boards have assessed themselves against these standards and identified actions; four boards have not undertaken an assessment; NHS Ayrshire and Arran and State Hospital have not undertaken a formal audit but use the report as a guide to best practice.<sup>31</sup>

**All boards have appointed a strategic lead for pharmacy****Recommendation from 2005 report:**

- NHS boards should ensure that pharmacy is represented at the senior levels of decision-making in the NHS boards and operating divisions.

**27.** Boards need a good understanding of medicines issues when they are making decisions on budgets for medicines and how medicines are managed. Pharmacists have this knowledge and should have input to the decision-making process at a senior level. The creation of unified boards has increased the opportunities for boards to plan and manage the use of medicines across hospitals and primary care but this needs leadership. All boards have now appointed a strategic lead for pharmacy services across hospitals and primary care. NHS Orkney and NHS Shetland jointly appointed a Director of Pharmacy who is responsible for services across both boards.

**28.** Senior pharmacy staff are consulted on the hospital medicines budget before it is signed off in nine boards, and are responsible for signing off the budget in NHS Borders. In four boards they are not consulted on the budget.<sup>32</sup>

**Recommendations**

The Scottish Government should:

- work with boards to develop a plan and timescales to ensure that a HEMPA system is implemented across all boards in Scotland as soon as possible and that the data can be centrally collated and analysed to support planning and monitoring across Scotland.

NHS QIS should:

- develop criteria to assess whether the introduction of new SIGN guidelines has a high risk of additional cost. Where a high risk is identified, NHS QIS should estimate the budget impact on the NHS.

28 SIGN guidelines 93 to 97, spreadsheets <http://www.sign.ac.uk/guidelines/published/support/guideline93-97/excel.html>

29 *Patients and their medicines in hospital*, National Pharmaceutical Forum and the Scottish Medical and Scientific Advisory Committee, Scottish Executive, February 2006.

30 *HDL (2006) 14*, Scottish Executive, February 2006.

31 NHS Borders, NHS Grampian, NHS Orkney and NHS Shetland have not undertaken an assessment.

32 NHS Fife, NHS Forth Valley, NHS Orkney and NHS Shetland.

# Part 2. Safe and cost-effective use of medicines



The NHS in Scotland is doing more to make sure that medicines are used safely and cost-effectively in hospitals to bring more benefits for patients.



**Key messages**

- Medicines can bring great health benefits to patients, but they need to be used appropriately to maximise their benefit and minimise the risks to patient safety.
- Acute hospitals in Scotland are taking part in a national patient safety programme, which includes the safe use of medicines in hospitals. One of the programme’s aims is to reduce medication incidents. All boards have an incident reporting system but there is still no national approach in Scotland.
- Most boards have rolled out the Emergency Care Summary (ECS) in most emergency departments and wards that patients are admitted to as emergencies, improving communication about patients and their medicines. However, nine boards reported concerns about the ECS data.

- National and local prescribing guidance promotes the safe and cost-effective use of medicines. All boards have antimicrobial policies or prescribing guidance for staff and the Scottish Government recently published a new Scottish antimicrobial strategy.<sup>33</sup> All boards have a joint formulary to promote safe and cost-effective prescribing in hospitals and primary care.

**The Scottish Government has set up a new Scotland-wide patient safety programme**

**29.** All hospitals in Scotland are taking part in a national patient safety programme, the Scottish Patient Safety Programme (SPSP), which includes the safe use of medicines in hospitals. One of its objectives is to reduce adverse drug events. These are mistakes or near misses when medicines are prescribed, dispensed or administered, which result in actual or potential harm to the patient.

**30.** The Scottish Patient Safety Alliance is responsible for developing and overseeing a strategic patient safety programme across the NHS in Scotland. Members of the Alliance include the Scottish Government, NHS boards, NHS QIS, The Health Foundation, the Institute for Healthcare Improvement and other professional, educational and consumer bodies, including public involvement.<sup>34</sup> NHS QIS is responsible for coordinating the SPSP and has formed a steering group to oversee its implementation. Boards are responsible for delivering the programme locally.

**31.** The medicines management workstream of the programme focuses on two high-risk areas (Exhibit 5). The SPSP includes a number of interventions that hospital staff test in small areas, starting with one patient in one ward, before rolling them out across the hospital once they are successfully established. Interventions associated with the medicines management workstream are currently being applied in at least

**Exhibit 5**

Scottish Patient Safety Programme medicines management workstream

Workstream focus	Rationale	Process measure	Outcome measure
To improve core processes for medicines reconciliation	Medicines errors occur most commonly on transfer between care settings and particularly when patients are admitted to hospital. Medicines reconciliation is the process of checking patients’ medicines on admission to hospital and accurately recording any changes. This should happen each time a patient is transferred between wards or departments and before they are discharged from hospital.	Increased number of patients with reconciled medicines on admission	Reduce the percentage of patients experiencing an adverse drug event
To improve core processes for administering high-risk medicines	The potential harm caused to a patient through administering high-risk medicines is significant and potentially deadly. The SPSP uses a recognised tool to help identify parts of the process that are failing and the likely effects of this. Staff can then make improvements to the relevant parts of the process.	Monthly analysis of a core medication process (ordering, dispensing or administering medicines) using the recognised tool	Reduce the percentage of patients experiencing an adverse drug event

Source: Based on IHI Programme information and SPSP goals and measures, Audit Scotland, 2008

33 Antimicrobials are medicines used to treat or prevent illnesses caused by microbes, which include bacteria and viruses. This group of medicines includes antibiotics.  
 34 The Health Foundation is a UK charity working to improve the quality of healthcare across the UK. In 2004, the Health Foundation established the Safer Patients Initiative in the UK, on which the Scottish Patient Safety Programme is based. The Institute for Healthcare Improvement is a charity that is leading a patient safety programme in the US.

one ward in every acute hospital. Boards are developing roll-out plans which will be reported to and monitored by the NHS QIS steering group. The SPSP is being implemented in acute hospitals up to July 2009. Following the implementation phase, the focus will shift to initiatives that support boards in rolling out and sustaining the improvements themselves. That phase will run until 2011. [Case study 2](#) describes how the SPSP has been applied in Ninewells Hospital and the benefits to patient safety.

### Boards are making progress in implementing new legislation on controlled drugs

**32.** Some medicines, such as morphine and methadone, are classified as controlled drugs and are under stricter control than other prescription medicines to prevent them being misused.<sup>35</sup> Following the inquiry into the unlawful killing of a number of patients by Dr Shipman, the UK government introduced legislation to ensure the safe use of controlled drugs by boards and other agencies.<sup>36</sup> The legislation came into effect in Scotland from 1 March 2007. Three key elements affect boards:

- NHS boards and other relevant agencies were required to appoint accountable officers by 1 July 2007, who are responsible for ensuring that the organisation complies with the legislation.<sup>37</sup>
- Co-operation between health bodies and other organisations for controlled drug purposes.
- New powers of entry and inspection.<sup>38</sup>

### Case Study 2

#### Implementation of the SPSP medicines management workstream in NHS Tayside

Ninewells Hospital was part of the UK-wide Safer Patients Initiative which began in 2004 and formed the basis of the SPSP. Front-line staff are responsible for delivering the medicines management workstream. Staff in each clinical area are supported by a designated pharmacist who is responsible for coordinating activities through a multidisciplinary team.

One focus of the medicines management workstream is improving medicines reconciliation. This means maintaining an accurate record of a patient's medicines from admission to discharge, reducing the risk of an adverse drug event. This can be measured by checking the percentage of patients with medication reconciliation performed from a sample of discharged patients. In Ninewells, this increased from 40 per cent in May 2005 to 90 per cent in May 2008, based on checking a sample of 20 patient records per month. Improvements are introduced as small changes in pilot areas, where they are tested and adapted based on learning. When successful ways of working are embedded in the pilot areas, they are rolled out and adapted to other clinical areas.

Another focus is improving the processes for administering high-risk medicines, particularly anticoagulants used to prevent blood clots. Patients taking anticoagulants must be closely monitored to optimise the therapeutic effect and to prevent dangerous side-effects. Ninewells uses three SPSP measures to monitor improvement in how anticoagulants are administered:

- **Failure Modes and Effects Analysis (FMEA):** hospital staff use this recognised tool on a monthly basis to evaluate the process of administering anticoagulants, identify how it might fail and the impact of failure, and to identify the parts of the process that need changing.
- **Anticoagulant adverse drug events:** adverse drug events associated with anticoagulants are identified monthly from a sample of case notes.
- **International normalized ratio (INR):** the INR is a blood test used to monitor patients receiving anticoagulants. The INR also indicates the risk of a patient having an adverse drug reaction.

Progress is reported to a Risk Management and Governance team at Ninewells, the NHS Tayside board and the Scottish Patient Safety Alliance. In 2008, NHS Tayside started to roll out the SPSP to other hospitals.

Source: Audit Scotland, 2008

<sup>35</sup> *The Misuse of Drugs Act 1971 and The Misuse of Drugs Regulations 2001.*

<sup>36</sup> *UK Health Act, 2006; The Controlled Drugs (Supervision of Management and Use) Regulations, 2006 and NHS HDL (2007) 12, Scottish Executive, February 2007.*

<sup>37</sup> Other relevant organisations include local authorities and care organisations.

<sup>38</sup> The powers of entry and inspection extend to police constables, accountable officers and their staff, and to the regulatory bodies with inspection rights such as the Royal Pharmaceutical Society of Great Britain. It also allows these authorities to give other individuals powers of entry and inspection.



**33.** All 14 boards that provided information for this audit have appointed an accountable officer. The guidance did not specify timescales for boards to fully comply with other aspects of the legislation. Four boards have audited their position against the key legislation requirements and a further five have started this process.

**All boards have an incident reporting system but a national approach is not in place**

Recommendation from 2005 report:

- NHS Quality Improvement Scotland should develop a national approach to collecting data on adverse incidents, including medication incidents, to allow robust trend analysis, transferable lessons and benchmarking.

**34.** All acute hospitals in Scotland have an electronic incident and near miss reporting system and most cover both hospital and primary care. These record incidents and near misses, including those involving the use of medicines, and allow boards to learn from incidents and take action to avoid them happening again. The NHS in

Scotland still has no national approach to allow analysis of trends and to identify and share any lessons across boards. NHS QIS has carried out work looking at incident reporting across the NHS in Scotland and is working with the NHS boards to examine the feasibility of developing a national approach. NHS QIS is due to make recommendations by March 2010 on a system for learning from incident reports at a national level as well as locally. The NHS in England and Wales has a national reporting system, managed by the National Patient Safety Agency. Between July 2007 and June 2008, nine per cent of all reported incidents in English and Welsh acute or general hospitals were associated with medicines.<sup>39</sup>

**Boards have rolled out the Emergency Care Summary in most emergency departments**

Recommendation from 2005 report:

- SEHD should develop the Emergency Care Summary for use by hospital staff dealing with emergency patients out-of-hours, in addition to the out-of-hours service.

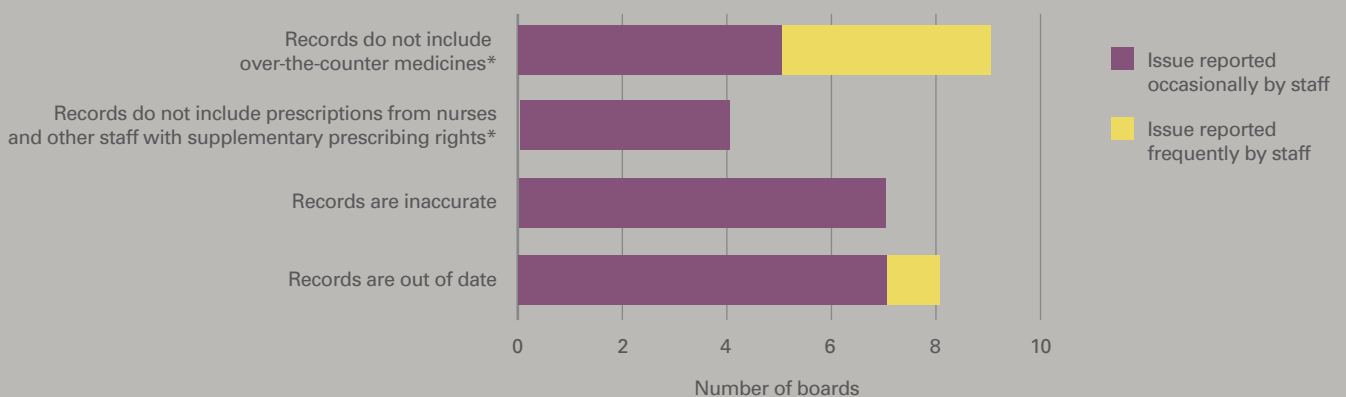
**35.** The Emergency Care Summary (ECS) contains key patient information from GP records. It is intended to provide staff with information to help them manage patients when they do not have access to the full medical records. The ECS includes the prescribed medicines patients are taking and any allergies or other factors that make the use of some medicines inadvisable. Staff need this information to help them manage patients safely in an emergency situation. The ECS is available to staff in NHS 24, out-of-hours providers, hospital emergency departments and wards that patients are admitted to as emergencies (acute receiving units).

**36.** Ten boards have rolled out the ECS in the majority of emergency departments and acute receiving units, although progress by NHS Greater Glasgow and Clyde and NHS Lothian is slower.<sup>40,41</sup> NHS Orkney does not use the ECS in its acute hospital as it does not yet have the necessary electronic systems in place. The State Hospital does not have an emergency department. Nine boards reported concerns about the quality of the data in the ECS and the limitations in its coverage (Exhibit 6). Patient records

**Exhibit 6**

**NHS board staff views on problems with the data in the Emergency Care Summary**

Staff have reported that ECS data are incomplete, inaccurate and out of date.



Note: \* GP records do not include over-the counter medicines and may not include medicines prescribed by staff with supplementary prescribing rights. Source: Board survey, Audit Scotland, 2008

39 Reporting and Learning System Data Summary Issue 10 (workbook), National Patient Safety Agency, November 2008.  
 40 Audit Scotland board survey, 2008.  
 41 NHS Greater Glasgow and Clyde uses it in less than 25 per cent of its units and NHS Lothian uses it in 50 to 75 per cent of its units.

do not include medicines that patients buy themselves over the counter; this information is not necessarily recorded by GPs, but may be useful to staff in an emergency and was identified as an information gap. The ECS is very explicit about the fact that it only contains information about medicines prescribed electronically by GP systems. A warning screen explains to ECS users the limitations of the data.

### The NHS in Scotland has made good progress in developing prescribing guidance

#### Recommendations from 2005 report:

- NHS boards should develop joint formularies and treatment protocols that promote cost-effective prescribing and monitor their use.
- NHS boards should develop antibiotic prescribing strategies and put in place mechanisms to support these strategies, including education, clinical audit and feedback to staff.

**37.** Boards have put in place guidance to help prescribers decide on the most appropriate medicines to use:

- All boards have a local joint formulary (a list of preferred medicines for use in hospitals and primary care) to promote safe and cost-effective prescribing.
- All boards have antimicrobial policies or prescribing guidance for staff to promote the safe and clinically effective use of these medicines, including avoiding them being over used.
- Six boards have introduced a process to audit their position against their antimicrobial policies and a further seven boards are currently developing one.<sup>42</sup>

**38.** It is difficult for boards to monitor individual hospital staff's compliance with the joint formulary due to the lack of electronic prescribing information. NHS Highland has developed its own formulary compliance monitoring system by linking information on hospital medicines usage from its stock control systems with its joint formulary (Case study 3).

**39.** The Scottish Government recently published an antimicrobial strategy that sets out key responsibilities for relevant NHS bodies over the next five years.<sup>43</sup> The strategy aims to establish a national approach to managing antimicrobial resistance by developing systems to collect information on their use and resistance, monitoring antimicrobial policies and educating prescribers. The SMC is hosting the Scottish Antimicrobial Prescribing Group, a national clinical forum of all key delivery bodies, which is coordinating implementation of the work. In January 2009, the group approved an action plan to deliver the programme up to 2011.

**40.** In 2009, NSS will further develop the HMUD database to provide basic information on the use of antimicrobials across Scotland (see paragraph 16).

## Recommendations

The Scottish Government should:

- work with boards to encourage GP practices to ensure that the patient information in the Emergency Care Summary (ECS) is as accurate, complete and up-to-date as possible
- consider widening the information in GP records that feeds into the ECS to include medicines prescribed by supplementary prescribers, as part of its ECS development plan.

NHS QIS should:

- work with the boards to develop a system to share learning and action points from medication incidents and near misses across Scotland, supported by trend analysis and consistent local reporting.

<sup>42</sup> NHS Orkney does not have an audit system under development.

<sup>43</sup> *The Scottish management of antimicrobial resistance action plan*, Scottish Government, March 2008.

### Case study 3

#### Monitoring formulary compliance in NHS Highland

NHS Highland recognised that monitoring compliance with the board's joint formulary would support high quality and cost-effective prescribing. In 2005, the board's formulary subgroup developed an electronic system to monitor GP prescribing against medicines in the board's joint formulary. This helps to control non-formulary prescribing in primary care.

Lead pharmacists in hospitals and Community Health Partnerships (CHPs) wanted a similar system to monitor compliance in hospitals. The primary care monitoring system gets prescribing data from a national ISD Scotland database, but there is no equivalent database that collects information on hospital prescribing. Hospital stock control systems contain information on the cost and movement of medicines to hospital departments or wards. There are two stock control systems in NHS Highland: one for hospitals in the former Highland Acute Trust administered by Raigmore Hospital, and another for hospitals in Argyll and Bute administered by NHS Greater Glasgow and Clyde, with information supplied to NHS Highland. Because these databases use different medicine codes, NHS Highland developed two independent compliance monitoring systems. The Highland acute system was introduced in 2006 and the Argyll and Bute system in 2007.

The lead pharmacist in each CHP and the senior hospital pharmacist in each directorate receive quarterly compliance monitoring reports and are responsible for any actions required, such as feeding back to individual prescribers. These electronic reports focus on the volume and cost of non-formulary medicines provided to hospital departments or wards. Multidisciplinary teams also use these reports to feed into reviews of the joint formulary. Because the primary care and hospital compliance monitoring systems use incompatible data sources, it is not currently possible to produce a combined report for the whole board.

The primary benefit of monitoring compliance within hospitals is improved formulary prescribing at hospital and ward level. NHS Highland reported that reducing prescribing of high-cost, non-formulary medicines has resulted in cost savings, although it has not quantified these. Compliance monitoring has also identified the use of non-formulary medicines that may not provide optimal care for patients, such as a medicine with more side-effects than an equivalent on the joint formulary. The lead pharmacist or senior hospital pharmacist then checks whether the prescribing has been appropriate.

Source: Audit Scotland, 2008

# Part 3. The changing workforce



Workforce planning for hospital pharmacy staff needs to improve.



## Key messages

- Workforce planning for hospital pharmacy staff is not well developed. There is a lack of evidence to show if boards base their workforce projections on local service needs and the Scottish Government and boards have not yet identified activity measures to inform workforce planning. Most boards are still experiencing problems recruiting and retaining hospital pharmacy staff and identified the new grading system through Agenda for Change as a particular difficulty.
- Hospital pharmacy staff increasingly work directly with patients and staff in wards and clinical areas, but this service is not yet available to all patients.
- There is no national framework for recognising or accrediting extended roles for pharmacy technicians, apart from two extended roles that require technicians to have a formal qualification.
- The General Medical Council (GMC) is currently reviewing the national curriculum for medical students. Its proposals for the revised curriculum include a requirement for graduates to demonstrate knowledge of medicines and their effects.

## Workforce planning for pharmacy staff is not well developed

### Recommendations from 2005 report:

- SEHD should improve workforce planning for pharmacists and pharmacy technicians.

- SEHD should work with NHS boards and the pharmacy profession to develop meaningful measures of activity for pharmacy staffing to inform workforce planning.
- SEHD should work with NHS boards to explore the potential benefits of using automation in hospital dispensaries.

- 41.** NHS boards employ three main types of hospital pharmacy staff: pharmacists, pharmacy technicians and pharmacy assistants. Pharmacy staff, particularly pharmacists, increasingly work directly with patients and staff in the wards and outpatient clinics, and this means changes in roles and skill mix.
- 42.** Workforce planning for hospital pharmacy staff is still not well developed. The Scottish Government requires all boards to project their future demand for pharmacy staff in their annual workforce plan. It is unclear whether most boards base their workforce projections on an assessment of need to deliver local services. However, four boards have developed workforce plans specifically for pharmacy staff, using modelling and analysis to identify the number, grades and skill mix of pharmacy staff needed to deliver services in hospitals.<sup>44</sup>
- 43.** The Scottish Government and boards have not identified activity measures to inform workforce planning for pharmacy staff. The Scottish Government has advised us that it will be for the boards to identify their own activity measures according to how they plan and deliver services. Its action plan for pharmacy and medicines is expected to include actions to support workforce planning.
- 44.** Since the move to Agenda for Change pharmacy job titles and pay bands, there has been little published national information on

hospital pharmacy staffing and it is not possible to compare this with previous workforce statistics. There are no current national data on vacancy rates for hospital pharmacy staff in Scotland. The Scottish Government needs to ensure that national workforce data are available to support pharmacy workforce planning.

**45.** Automation involves using a robot to carry out some stock dispensary processes, freeing pharmacy staff time. This has a potential impact on pharmacy workforce planning. The Scottish Government has not developed a national strategy for the use of automation in Scotland's hospitals, or reviewed the potential benefits. We understand this will be considered as part of the action plan for pharmacy and medicines. NHS Ayrshire and Arran introduced robotics in Crosshouse Hospital dispensary in April 2008 and NHS Grampian introduced an automated dispensing system in Aberdeen Royal Infirmary in April 2009. NHS Forth Valley and NHS Greater Glasgow and Clyde have approved funding to introduce automation in their dispensaries.

### Most boards identified Agenda for Change as a difficulty in recruiting and retaining hospital pharmacy staff

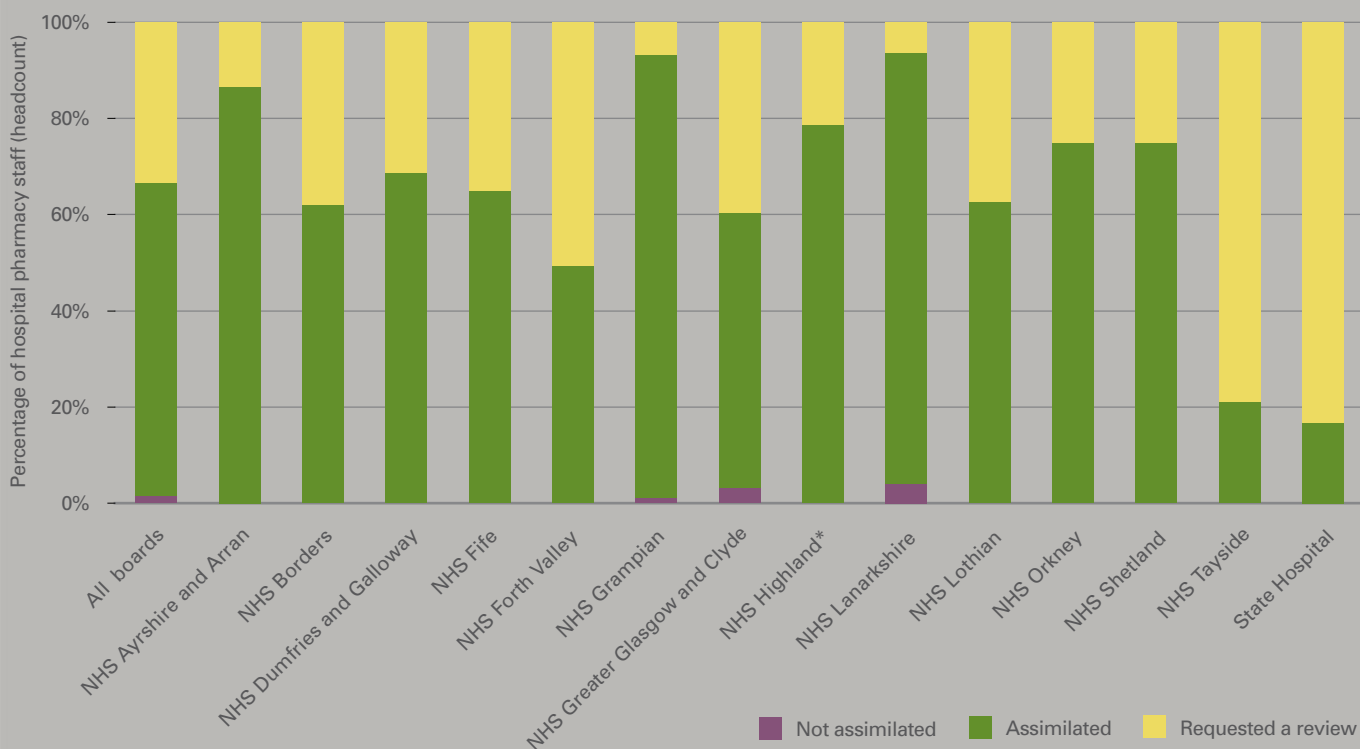
**46.** Most boards reported that they are still experiencing problems recruiting and retaining hospital pharmacy staff. Eleven boards said that Agenda for Change has not improved this. Eight of them reported the process of moving staff to the new bands as a particular difficulty.

**47.** Boards should have assimilated pharmacy staff onto Agenda for Change by March 2008. By December 2008, only ten boards had completed the assimilation process for hospital pharmacy staff. At this date, 34 per cent of assimilated

## Exhibit 7

### Boards' progress in assimilating hospital pharmacy staff to Agenda for Change, December 2008

Ninety-eight per cent of hospital pharmacy staff across Scotland had been assimilated by December 2008.



Note: \* The data for NHS Highland are for Raigmore Hospital only.  
Source: Board survey, Audit Scotland, 2008

hospital pharmacy staff had requested a review of their grade (Exhibit 7). Eighty-seven per cent of staff whose reviews were complete by December 2008 had or will have a change of pay band.<sup>45</sup>

### Only six boards have reviewed their clinical pharmacy service

#### Recommendations from 2005 report:

- NHS boards should review the way that hospitals provide pharmacy services and identify opportunities to change working patterns and the skill mix to give pharmacists and technicians more time to work with patients and staff in wards and clinics.

- NHS boards should review clinical pharmacy services and develop plans to address gaps in the service.

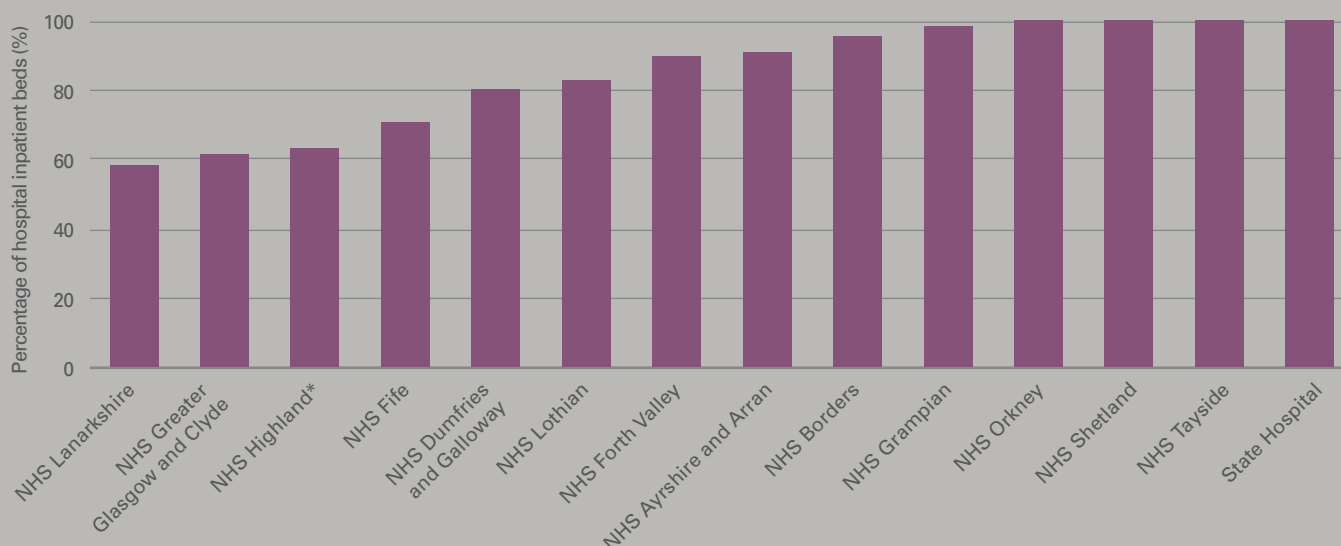
**48.** Hospital pharmacists and pharmacy technicians with a clinical pharmacy role work directly with patients on the wards and in other clinical areas, improving patient care. This role can include assessing patients' medicines, education about medicines and how to use them, and discharge planning. *The Right Medicine* recommended that all patients should receive care from a clinical pharmacist, but our 2005 report found that only two-thirds of the hospitals reviewed had a clinical pharmacy service.

**49.** Six boards have reviewed their clinical pharmacy services since the baseline report. Apart from NHS Shetland, all of these boards identified gaps in their clinical pharmacy services. Boards' arrangements for covering these gaps vary. There is variation among boards in the level of dedicated clinical pharmacy support they provide per inpatient bed in acute hospitals. This ranges from 59 per cent of beds having dedicated coverage in NHS Lanarkshire to 100 per cent of beds in four boards (Exhibit 8). This coverage is in-hours only and it does not include evenings, overnight and weekends. The gaps in coverage also include no cover for annual leave, maternity leave, etc.

<sup>45</sup> Staff who did not request a review may have a change of band if staff in equivalent roles have a change of band following a review.

**Exhibit 8****Percentage of acute hospital beds with a dedicated clinical pharmacy service in-hours, September 2008**

There is wide variation in the percentage of beds covered by the clinical pharmacy service.



Note: \*The figure for NHS Highland includes inpatient beds at New Craigs Hospital.  
Source: Board survey, Audit Scotland, 2008

### NES has developed a new Pharmacist Pre-registration Scheme

#### Recommendation from 2005 report:

- SEHD and NHS boards should ensure that workforce planning includes pre-registration pharmacist posts and that sufficient training posts are available to meet the future needs of the service.

**50.** NES is administering a new Pharmacist Pre-registration Scheme. The scheme was introduced in 2007 to raise standards in the quality of the training provided. Prior to this, NES coordinated the hospital placements for pre-registration trainees. NES is now responsible for all hospital and community placements and has the opportunity to better align pharmacist training placements to where they are needed across these services. While NES has secured an additional ten pre-registration places, placement

of trainees is still based on historical spread and is not explicitly linked to need. NES is continuing to evaluate the scheme to ensure it provides the most effective educational programme in the future.

### The NHS in Scotland has developed national standards for training pharmacy technicians in two extended roles only

#### Recommendation from 2005 report:

- NHS boards should work to national agreed standards for training technicians in extended roles.

**51.** The NHS in Scotland has developed national standards for two extended roles that require pharmacy technicians to have formal qualifications: final checking of dispensed medicines and final checking

of aseptic medicines (medicines prepared in a sterile environment, such as chemotherapy medicines). There is no national framework for recognising or accrediting other extended roles for pharmacy staff, such as technicians working directly with patients providing them with advice and education about medicines. The extended roles pharmacy technicians take on and the training they receive vary among boards. As a result, when technicians move between hospitals, there is no system to provide assurance on their competency to take on an extended role they have already been doing.

**52.** Eleven boards have both pharmacy technicians and higher level pharmacy technicians.<sup>46</sup> A further two boards, NHS Orkney and the State Hospital, have higher level technicians only.<sup>47</sup> Eight boards reported that pharmacy technicians or higher level technicians are carrying out extended roles.<sup>48</sup>

<sup>46</sup> These are national job profiles under Agenda for Change – technicians are band 4 and higher level technicians are band 5.

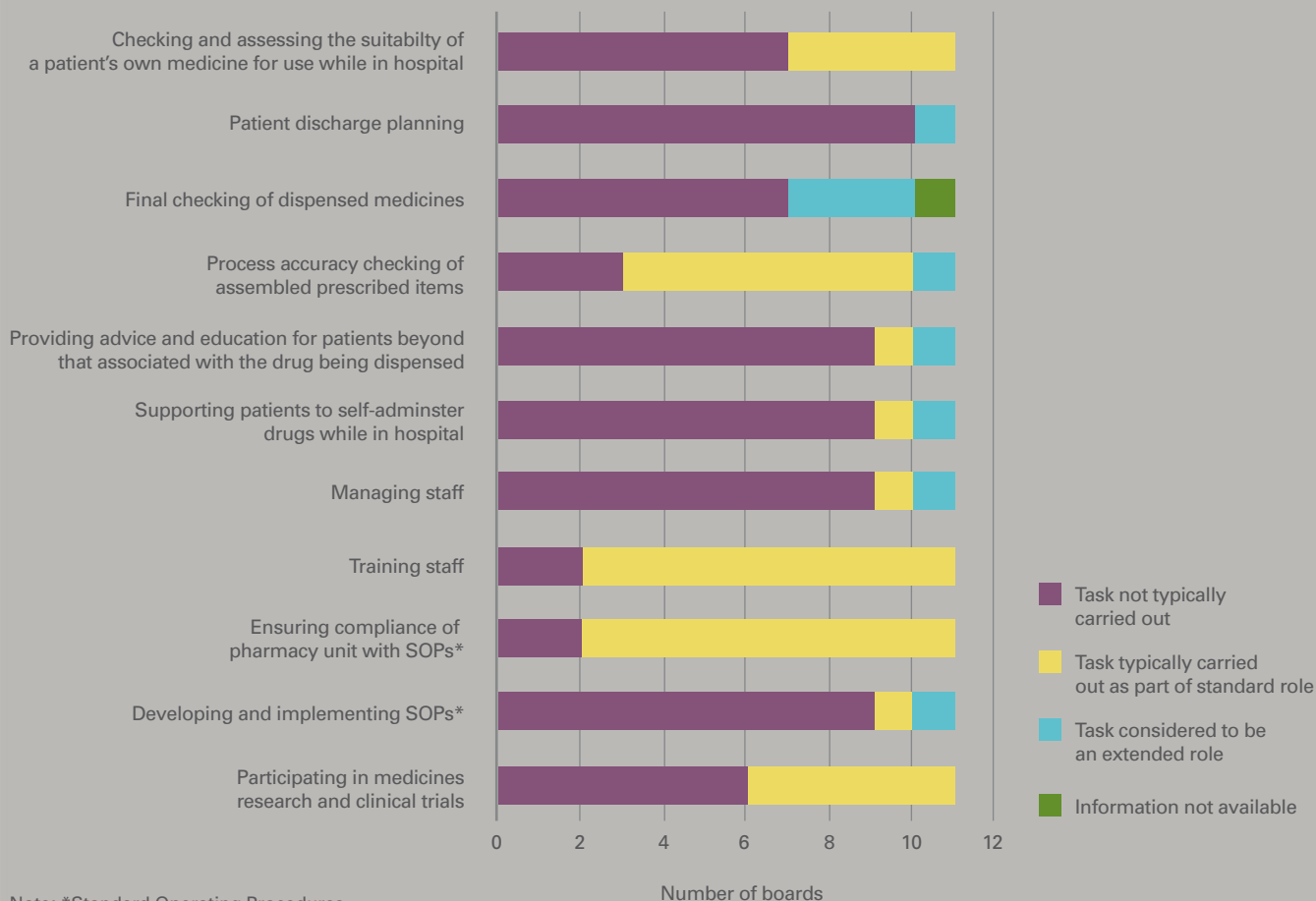
<sup>47</sup> NHS Shetland has student technicians only.

<sup>48</sup> Pharmacy technicians are undertaking extended roles in three boards (NHS Fife, NHS Grampian and NHS Tayside) and higher level pharmacy technicians are undertaking extended roles in seven boards (NHS Ayrshire and Arran, NHS Borders, NHS Grampian, NHS Greater Glasgow and Clyde, NHS Lothian, NHS Tayside and State Hospital).

## Exhibit 9

### Roles of pharmacy technicians

The same tasks are part of extended roles in some boards and part of the standard role in others.



**53.** There is variation among boards in whether different tasks are typically carried out as part of a pharmacy technician's standard role or as part of an extended role (Exhibit 9).

### Education on prescribing and medicines for medical students and junior doctors is still developing

#### Recommendation from 2005 report:

- SEHD should work with universities to review education in medicines and prescribing for medical students to ensure that it meets the needs of patients.

### The General Medical Council (GMC) is developing a new curriculum for medical students

**54.** Our 2005 report raised concerns about whether medical students' training provides them with a sufficient understanding of medicines, and how they work and interact. The GMC is responsible for setting learning standards for medical students across the UK and checking that medical schools are delivering courses that meet these standards. The GMC is currently reviewing the standards and Scotland's Deputy Chief Medical Officer is involved in this through an advisory board of key stakeholders.

**55.** The proposed new standards include education on prescribing that should cover identified competencies; and a requirement for graduates to demonstrate knowledge of medicines and their effects. The curriculum is currently open for consultation and should be published in summer 2009.

### Junior doctors must complete online training on prescribing

**56.** Our earlier report highlighted NHS Lanarkshire's Medical Education system (MedEd) as an example of good practice in assessing junior doctors' knowledge of medicines and prescribing when they start work. Since then, NES has incorporated



MedEd pharmacy modules into the Doctors Online Training System (DOTS) and rolled it out across all hospitals in Scotland. It is now mandatory for junior doctors to complete all DOTS training modules within certain deadlines, including completing an assessment.

**57.** The assessment does not award pass or fail marks and is intended to support self-learning. However, for one pharmacy module covering core topics, NES shares a report on any score considered less than satisfactory with the identified pharmacist at the board employing the junior doctor. Local pharmacists then work with the foundation tutor to provide feedback and support to the junior doctor.<sup>49</sup>

## Recommendations

The Scottish Government should:

- work with NES, ISD Scotland and the boards to develop national pharmacy workforce planning information that supports boards in taking forward workforce plans and workforce development
- work with NES and the boards to develop a national framework for recognising and accrediting extended roles and setting training standards for pharmacy technicians.

The Scottish Government and boards should:

- ensure that the Agenda for Change assimilation and review process for pharmacy staff is completed as a matter of urgency.

NHS boards should:

- ensure that pharmacy workforce plans are based on an assessment of need, which considers the appropriate

numbers, skill mix and other resources such as automation, to meet future needs for dispensary, clinical and other work.

NES should:

- assess workforce needs for pre-registration pharmacist placements and ensure that placements are matched to assessed needs.

<sup>49</sup> NHS Tayside is unable to provide pharmacy support for this, therefore junior doctors contact the foundation tutor to agree support.

# Appendix 1.

## Advisory group members

Marion Bennie	Chief Pharmaceutical Adviser, NHS National Services Scotland
Christine Gilmour	Director of Pharmacy, NHS Lanarkshire
Anne Lee	Acting Chief Pharmaceutical Adviser, Scottish Medicines Consortium
Rose Marie Parr	Director of Pharmacy, NHS Education for Scotland
Mike Pratt	Director of Pharmacy, NHS Dumfries and Galloway
Bill Scott	Chief Pharmaceutical Officer, Scottish Government
Iain Wallace	Associate Medical Director, Women and Children's Directorate, NHS Greater Glasgow and Clyde
Jan Warner	Director of Patient Safety and Performance Assessment, NHS Quality Improvement Scotland
Paul Wilson	Executive Director for Nursing, Midwifery and Allied Health Professions, NHS Lanarkshire

Note: Members of the project advisory group sit in a personal capacity only. The content and conclusions of this report are the sole responsibility of Audit Scotland.

# Appendix 2.

## Self-assessment checklist for boards

The checklist on the next page sets out some high-level statements based on issues raised in this report. Boards should assess themselves against each of the statements and consider which statement most accurately reflects their current situation:

- not in place and action needed
- not in place but action in hand
- in place but needs improving
- in place and working well.

They should consider this alongside our more detailed report on the findings from the survey of boards, available at [www.audit-scotland.gov.uk](http://www.audit-scotland.gov.uk), to identify what action needs to be taken forward.

### Self-assessment of using medicines in hospitals follow-up review

The last column in the checklist can be used to record sources of evidence, supplementary comments to support your assessment or to highlight areas of interest etc.

Issue	Assessment of current position					Comment to support or explain your statement
	No action needed	No but action in hand	Yes in place but needs improving	Yes in place and working well	Not applicable	
Do you have a pharmacy workforce plan that is based on an assessment of need, and which considers the appropriate numbers, skill mix and other resources such as automation, to meet future needs for dispensary, clinical and other work?						
Do you have plans to ensure that the Agenda for Change assimilation and review process for hospital pharmacy staff is completed as a matter of urgency?						
Have you reviewed the provision of clinical pharmacy services and developed plans to meet any identified gaps in the service?						
Do senior pharmacy staff have input to agreeing the hospital medicines budget before it is signed off?						
Have you audited your position against the key requirements of the 2006 legislation on controlled drugs and developed an action plan to meet the requirements?						
Do you use the Emergency Care Summary in all Emergency Departments and Acute Receiving Units?						
Have you taken action to encourage GP practices to ensure that the patient information in the Emergency Care Summary is as accurate, complete and up to date as possible?						

# Managing the use of medicines in hospitals

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