AUDITOR GENERAL

PERFORMANCE AUDIT

Planning ward nursing - legacy or design?

PREPARED BY AUDIT SCOTLAND

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Planning ward nursing - legacy or design?

A report to the Scottish Parliament by the Auditor General for Scotland

Auditor General for Scotland

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Acknowledgements

The study team was Fiona Gailey, Shelagh Stewart, Sara Twaddle and Betty Flynn (secondee from Tayside University Hospitals NHS Trust), under the general direction of Barbara Hurst, Director of Performance Audit. Audit Scotland gratefully acknowledges the input from the Advisory Panel (listed in Appendix 1), Directors of Nursing and ward managers.

AGS/2002/9

Contents

Executive summary

Nurses make up almost 50% of staff in NHSScotland, with more than 50,000 nurses and midwives, over 85% of whom work in hospitals. Across Scotland there is considerable variation among health board areas between those with the highest and lowest numbers of NHS nurses available per 1,000 population.

Expenditure on nurses and midwives was more than £1.17 billion in 2000/01. The proportion of hospital and community health services expenditure on nursing and midwifery varies between NHS board areas from around 30% to 40%. In addition, there is increasing expenditure on bank and agency nursing staff to meet staffing shortfalls; this was estimated to be £35 million in 2000/01, compared with an estimate of £25 million in 1997/98[1].

At a national level, the importance of nursing has been recognised by the publication of *'Caring for Scotland'*[2], the Scottish Executive strategy for nursing. A convention on recruitment and retention of nurses and midwives, held in 2001, identified key issues which are being followed up by a national implementation group. Little is known nationally however about how trusts plan their nursing workforce or set staffing levels at ward level.

Managing nurse staffing is complex. The move towards more family friendly working arrangements in the light of problems with recruitment and retention will add to this complexity. Nurse managers therefore need high quality, timely information on nurse deployment, costs and quality to manage their staff effectively. However, there is significant variation in the availability of information at trust and ward level, limiting the ability of trusts and ward managers to establish whether their use of nursing staff is cost effective.

Other key findings include:

- the need for improvements in workforce planning
- unexplained variation in the number and costs of nurses at ward level

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1 *'Temporary Measures'*, Accounts Commission for Scotland, 2000.

2 *'Caring for Scotland'*, Scottish Executive Health Department, 2001.

- the need to develop and agree quality of care measures which focus on continuous improvement rather than service failures.

The study looked at numbers of nurses, costs and quality indicators in six types of ward in primary care and acute trusts across Scotland. The wards were acute medical receiving, gynaecology, continuing care of the elderly, orthopaedics, paediatrics and psychiatry of old age.

Workforce planning

The importance of workforce planning throughout NHSScotland has been highlighted by the publication of '*Planning Together*'[3] which was followed in August 2002 by '*Working for Health, the Workforce Development Action Plan for NHSScotland*'. We found there is a lack of integrated planning, with just three trusts integrating nursing workforce planning with other professional groups, and few dedicated staff supporting workforce planning – just 16 whole time equivalent (WTE) staff across Scottish trusts.

Good workforce planning should take account of all predictable demands on staff time, such as annual leave and training. Most trusts make an allowance for these factors. However, two acute trusts make no allowance for time out when planning nursing establishments, which is likely to place significant pressure on ward staff and may affect the quality of care provided.

Across trusts, we found wide variations in nursing establishments among the six ward types included in the study (Exhibit 1). In the absence of national guidance for staffing these types of wards, differences can be expected. Some variation is likely as a result of differing patient needs, although this is unlikely to explain the full extent of variation.

[3] *'Planning Together'*, Scottish Executive Health Department, 2002.

Exhibit 1: Nursing establishments per bed

There is a wide variation in nursing establishments per bed.

Note: Exhibit shows establishment in WTE nurses per staffed bed at 30 September 2001.

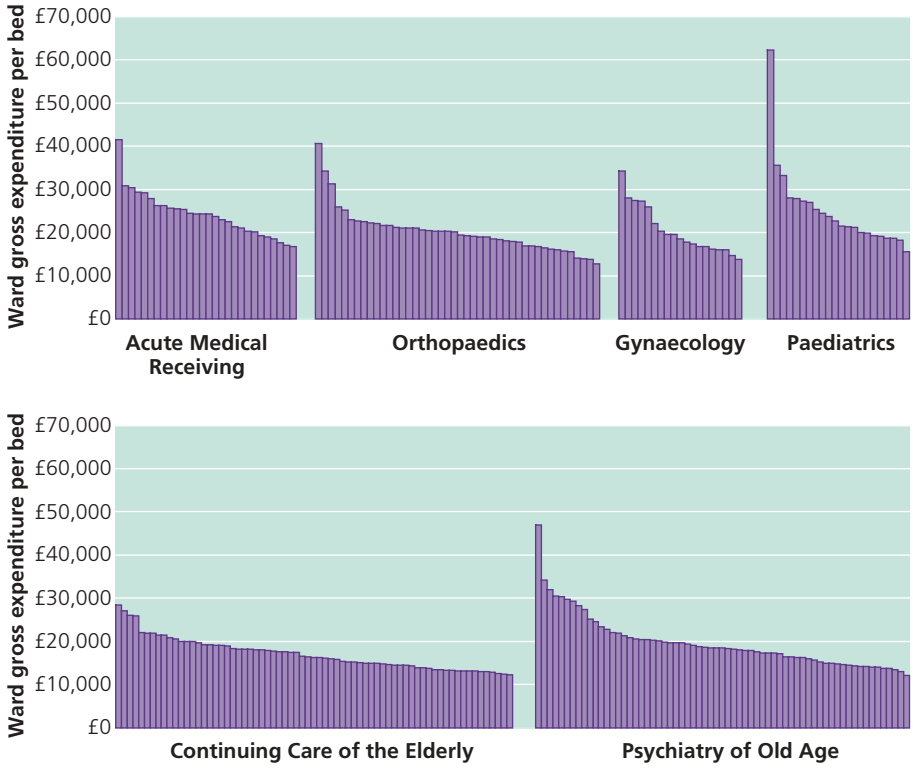
Source: Audit Scotland, 2002

Numbers and costs of nurses at ward level

The nursing cost per bed varies widely (Exhibit 2). This can be explained by differences in the number of nurses, their grade mix, and the use of bank and agency staff (Exhibit 3).

Exhibit 2: Nursing costs per bed

There is wide variation in nursing cost per bed within ward types.

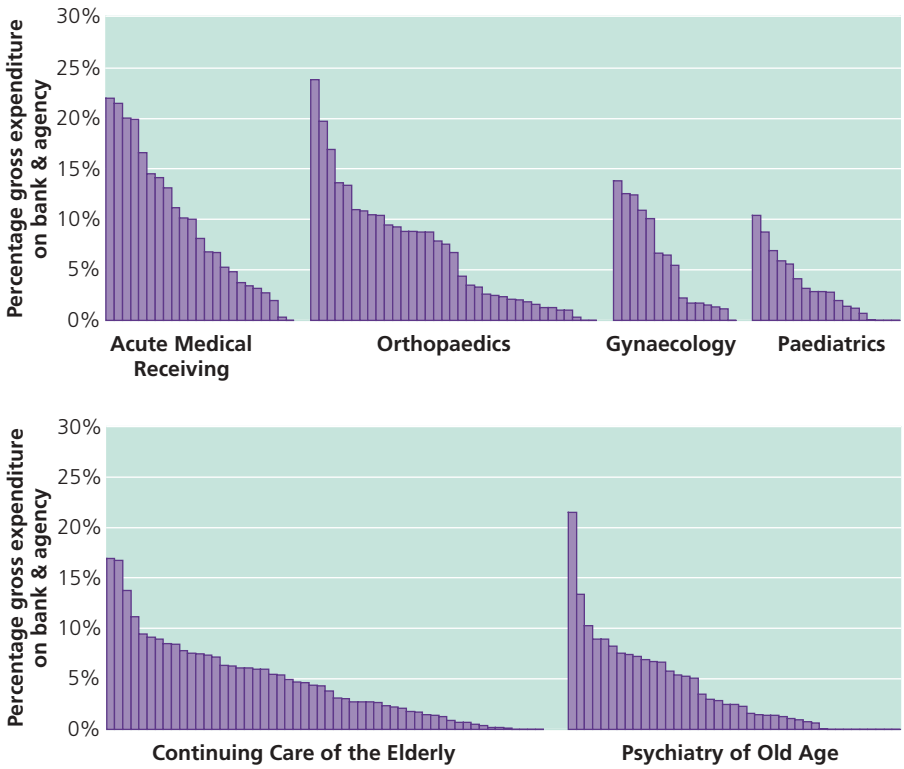


Note: Exhibit shows gross costs of nursing staff in post per staffed bed for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

Exhibit 3: Proportion of total nursing costs spent on bank and agency nursing staff

At ward level there are wide variations in spending on bank and agency nursing staff.



Note: Exhibit shows bank and agency nursing costs as a proportion of total nursing costs for the period 1 April 2000 - 31 March 2001. One acute medical receiving ward, two orthopaedics wards, one gynaecology ward, four paediatrics wards, four continuing care of the elderly wards and nine psychiatry of old age wards had zero expenditure on bank and agency nurses.

Source: Audit Scotland, 2002

Only two-fifths of the wards had nurses in post in line with their locally determined nursing establishment. The proportion of wards running below establishment was relatively high for all ward types: around a third of orthopaedic and continuing care of the elderly wards, and just under half of other wards. This puts pressure on staff in post, may compromise the quality of care, and can contribute to higher use of bank and agency staff with their associated costs.

Quality

Clinical governance places a responsibility on trust chief executives for the quality of care provided[4]; this encompasses a responsibility for the health and safety of patients and staff. Under the staff governance standard, staff are entitled to be provided with a safe working

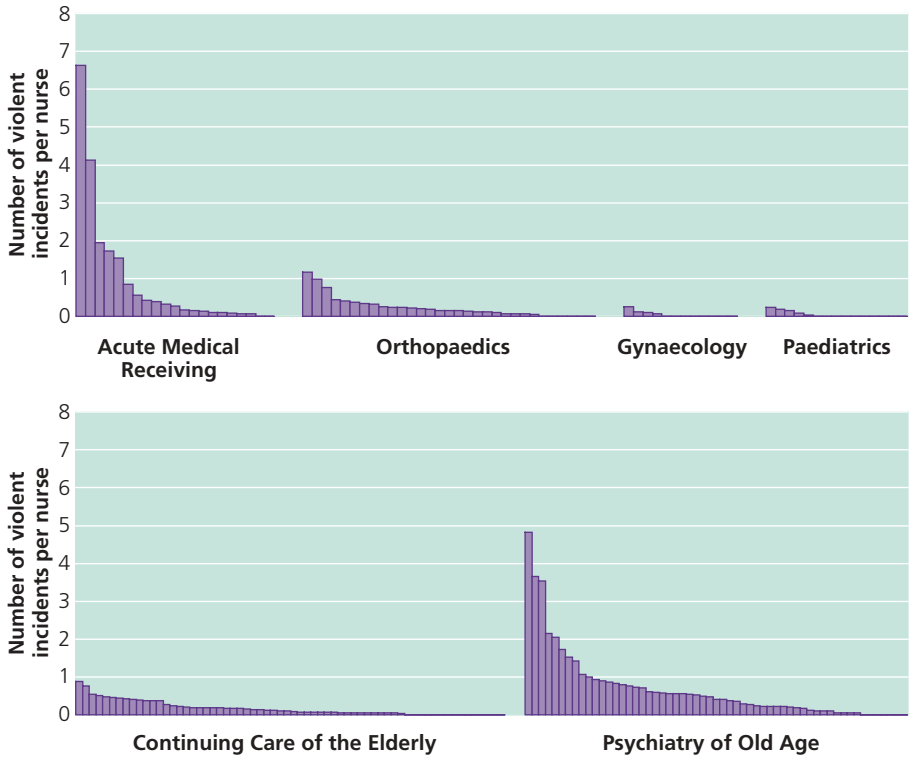
[4] MEL 1998 (75).

environment[5]. There is no single measure of the quality or outcome of care available to use alongside cost information to assess nurse staffing levels. In the absence of such a measure we have used proxies, including accidents to patients and incidents of violence and aggression towards nurses. There is a need for quality of care measures, which focus on continuous improvement rather than on service failures, to be identified and agreed.

Ward types vary in the level of incidents of violence and aggression towards nurses and reported patient accidents. There may be some differences in the type of accidents and incidents which are reported. Violence is relatively rare, but a minority of trusts have problems, particularly in acute medical receiving wards (Exhibit 4).

Exhibit 4: Reported incidents of violence and aggression against nursing staff

The majority of wards have few incidents of violence and aggression.



Note: Exhibit shows reported number of incidents per nurse for the period 1 April 2000 - 31 March 2001.

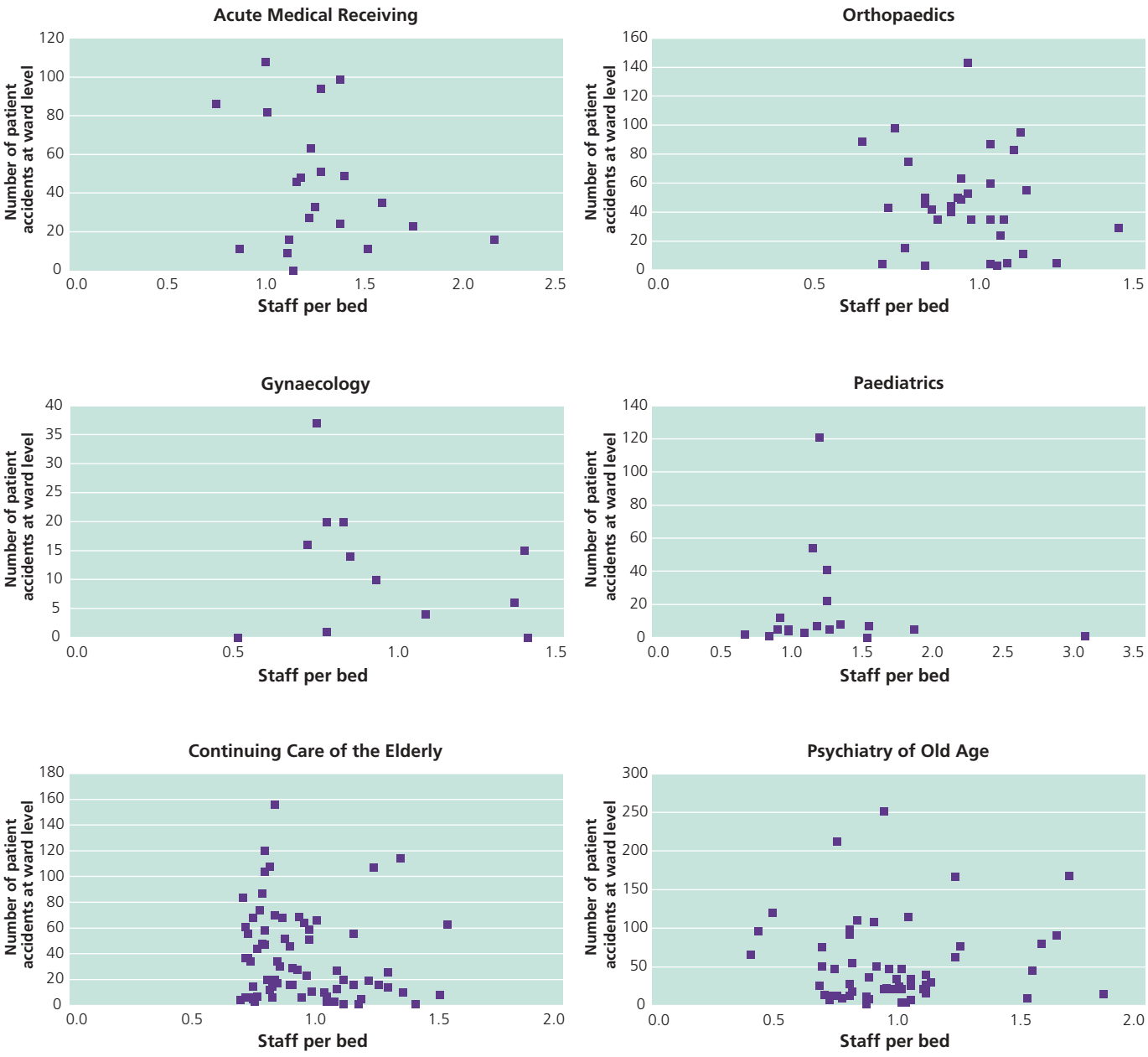
Source: Audit Scotland, 2002

We found no apparent relationship between the numbers of nurses per bed and the number of reported patient accidents (Exhibit 5).

[5] *'Towards a Safer Healthier Workplace'*, Scottish Executive, 1999.

Exhibit 5: Number of nursing staff per bed and the number of reported patient accidents

We found no relationship between staffing per bed and number of reported accidents to patients.



Note: Exhibit shows reported accidents and nursing staff per bed for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland 2002

Audit Scotland recommends a number of actions for trusts, NHS boards and the health department in order to improve the planning of the nursing workforce, in particular through better information and deployment of nurses at ward level. These recommendations are outlined in the main report.

1. Introduction

Nursing and midwifery resources in Scotland

"Nurses and midwives play a dynamic and vital role in improving health and delivering health services to the people of Scotland."[6]

There are more than 50,000 nurses and midwives employed in NHSScotland, over 85% of whom work in hospitals[7]. The NHSScotland nursing and midwifery pay bill was almost £1.17 billion in 2000/01[8].

During 2001, the Scottish Executive published its strategy for nursing, '*Caring for Scotland*'. The strategy describes the nursing profession as delivering evidence-based clinical care, empowering patients, co-ordinating their care, and continuing to improve nursing and midwifery practice, and makes recommendations in these areas. At the same time, '*Nursing for Health*' was published, which proposed plans for revitalising the role of nurses, midwives and health visitors in improving the health of people in Scotland[9].

There are concerns about problems of recruitment and retention and the ageing profile of the nursing and midwifery workforce[10,11]. In November 2001, the Minister for Health and Community Care held a convention on recruitment and retention in nursing and midwifery. The convention identified the key issues that need to be tackled, and highlighted the need to:

- make an explicit connection between supply and demand, planning and distribution, and the mix and diversity of nurses and midwives
- create an improved image for nursing and midwifery
- develop innovative approaches to learning by improving access, increasing flexibility and reducing time lost to the nursing and midwifery service.

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6 *'Caring for Scotland'*, Scottish Executive Health Department, 2001.

7 Scottish Health Statistics, 2000.

8 ISD ad hoc analysis, August 2002.

9 *'Nursing for Health'*, Scottish Executive Health Department, 2001.

10 Buchan J., Nursing and Midwifery Workforce Data, 2001.

11 *'Facing the Future'*, Report of a 2001 Convention on Recruitment and Retention in Nursing and Midwifery.

Since the convention, a Facing the Future Implementation Group has been set up, chaired by the Minister for Health and Community Care, to take practical actions on the key issues.

Nursing shortages have increased pressures to make nursing more 'family friendly' at ward level. This has led to a greater diversity of shift patterns being offered. Other family friendly initiatives include career breaks, child-minding facilities, and more flexible contracts. These initiatives may help to recruit and retain nursing staff, but they can also be more complex to manage. In 2001, the Partnership Information Network published a guideline on family friendly policies for NHSScotland[12], which sets out values and principles that all NHS organisations are required to adopt.

Nurses have also been significantly affected by other health service policies, particularly those relating to the reduction in junior doctors' hours[13], the more widespread use of healthcare assistants, the changing roles of allied health professionals (AHPs), and the European Working Time Directive[14]. Pressures to reduce the numbers of hours worked by junior doctors and a change in the nature of their work has led to expanded roles for nurses to encompass tasks previously undertaken by doctors, and to greater investment in education and training. The Working Time Directive has had implications for nursing staff, affecting their hours of continuous work, night duty, and additional work in nursing banks and agencies.

Despite the high numbers of nursing and midwifery staff and their importance to NHSScotland, limited information is available at a national level. This makes it difficult to compare nurse numbers, costs or quality among trusts. Little is known about how trusts plan their nursing workforce needs or how they set staffing establishments at ward level. As a result of these factors, there may be significant variation in the staffing of Scottish wards, the associated cost and the impact on patient care.

Scope and methodology

The Information and Statistics Division (ISD) of NHSScotland routinely collects information on aspects of nursing at trust and specialty level. The overall aim of this audit was to collect more detailed performance management information on the way in which nurse workforce planning is carried out and the effect this has at ward

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[12] *'Family friendly policies'*, Partnership Information Network, 2001.

[13] *'Junior doctors – the New Deal'*, 1991; (to be implemented by end of 1996).

[14] Working Time Directive (SI 1998/1833).

level. Information was collected using questionnaires and semi-structured interviews at both trust and ward level on:

- methods used for planning nursing levels
- total staffing levels and costs
- quality of care, using proxy indicators of quality.

The audit covered registered[15] and unqualified[16] nurses in a selection of hospital wards in all 28 trusts across Scotland. These wards were selected because they cover the range of services provided from emergency care and elective surgery to long stay care. Island Health Boards also participated in the audit at a local level.

The wards included in the audit were:

- acute medical receiving (30 wards)
- gynaecology (23 wards)
- orthopaedics (52 wards)
- paediatrics (29 wards)
- continuing care of the elderly (103 wards)
- psychiatry of old age (88 wards).

Audit Scotland will revisit the issues raised in this baseline report and assess progress against the recommendations. Poor performance will be named at that stage. At the same time, Audit Scotland will review progress at a national level on the impact of the Executive's work on recruitment and retention, and workforce planning and development.

[15] Nurses registered with the Nursing and Midwifery Council.

[16] Nurses of grades A and B.

2. Nurse workforce planning

"The success of NHSScotland rests on the 135,000 people who work to deliver the service day in, day out." (Malcolm Chisholm, Minister for Health and Community Care, January 2002)

This chapter considers the way in which trusts plan the number of nurses at trust and ward level, and the impact this planning has on actual nurse establishments in the six different ward types[17,18]. We found:

- inadequate workforce planning
- a lack of dedicated support for workforce planning
- variation in the allowance made in ward establishments for 'time out', such as sickness absence
- variation in ward establishments among similar types of ward
- variation in the proportion of registered nurses among similar types of wards.

Introduction

Traditionally, nursing workforce planning has concentrated on establishing the appropriate intake for student nurse places (the SNIP process[19]), and has been carried out in isolation from other disciplines. However, recent work by the Scottish Integrated Workforce Planning Group[20] has focused on the need for better planning of human resources across NHSScotland. The Group's report '*Planning Together*' identified a number of areas for action.

'*Planning Together*' was followed in August 2002 by '*Working for Health, the Workforce Development Action Plan for NHSScotland*', the detailed action plan for taking forward and building on the recommendations[21].

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17 Data are mostly presented by acute and primary care trust. For simplicity, Yorkhill and West Lothian trusts have been included in the acute group.

18 The wards were acute medical receiving, orthopaedics, gynaecology, paediatrics, continuing care of the elderly, psychiatry of old age.

19 Student Nurse Intake Planning.

20 '*Planning Together*', Scottish Executive Health Department, 2002.

21 '*Working for Health*', The Workforce Development Action Plan for NHSScotland, 2002.

These included:

- mechanisms for workforce development at local, regional and national level
- the establishment of a National Workforce Committee to oversee the planning of all professional staff groups
- investment in dedicated workforce development staff in each NHS Board area
- the establishment of a short-life working group to tackle priority issues on careers, recruitment and retention
- plans to drive forward workforce information, planning and employment data in NHSScotland, including investment in improved systems.

Planning nurse staffing levels at trust and ward level is challenging, requiring the identification of the number of nursing staff required, and the skill mix of those staff, in order to meet patient needs[22]. With few exceptions[23], there is little guidance on the appropriate level of nurse staffing, and levels have historically been determined on the basis of experience and professional judgement.

If the level of nurse staffing is too low or the skill mix is wrong:

- the quality of care may be compromised
- there may be insufficient supervision of junior nursing staff
- highly trained nurses may carry out duties that are more suited to other staff, or less trained nurses may carry out duties above their level of training
- additional temporary staff may be required, leading to higher expenditure[24].

Where the level of nurse staffing is too high then scarce resources, which could be better used in other areas to meet the needs of other patients, are used inefficiently.

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[22] The major output of planning nurse staffing levels is the nursing establishment. The nursing establishment is generally a statement of the number of posts for whom funding has been made available.

[23] There are a few specialties for which national guidelines for staffing exist; these include intensive care units, neonatal units, operating theatres and some long stay beds.

[24] *'Temporary Measures'*, Accounts Commission for Scotland, 2000.

Planning nurse staffing for the trust

Trusts' workforce planning systems should include:

- the development of a strategic plan, which integrates nursing workforce planning with that of other healthcare professionals
- a nominated director with responsibility for workforce planning, supported by staff with dedicated responsibility
- an objective basis for determining the number and skill mix of nurses.

Workforce planning process

There is room to improve the strategic planning process. Only three acute trusts and five PCTs reported having a strategic workforce plan or action plan, and most of these strategies focus on continuing professional development rather than workforce planning.

In line with good practice, one acute trust and two PCTs reported having nursing workforce plans which are integrated with those for other professional groups.

Good practice example

NHS Dumfries and Galloway has a Nursing Strategy Development Board covering both trusts to address issues both for workforce and career planning, and to highlight areas for recruitment and retention of staff.

Responsibility for workforce planning

Healthcare staff are central to patient care and account for most NHS expenditure. It is therefore important that trusts plan their workforce effectively. Different people are responsible for planning staffing levels in different trusts, with the Directors of Human Resources and Nursing most commonly having this responsibility. However, one acute trust reported that no director had responsibility for workforce planning at that time, due to staff vacancies.

Dedicated staff supporting trust workforce planning

All trusts reported that they assessed service needs when planning staffing levels. Despite this, trusts reported a low level of support to carry out such assessments. Only five acute trusts and five PCTs reported having any dedicated staff, ranging from 0.2 to three WTE staff from a mix of human resources, nursing and administrative

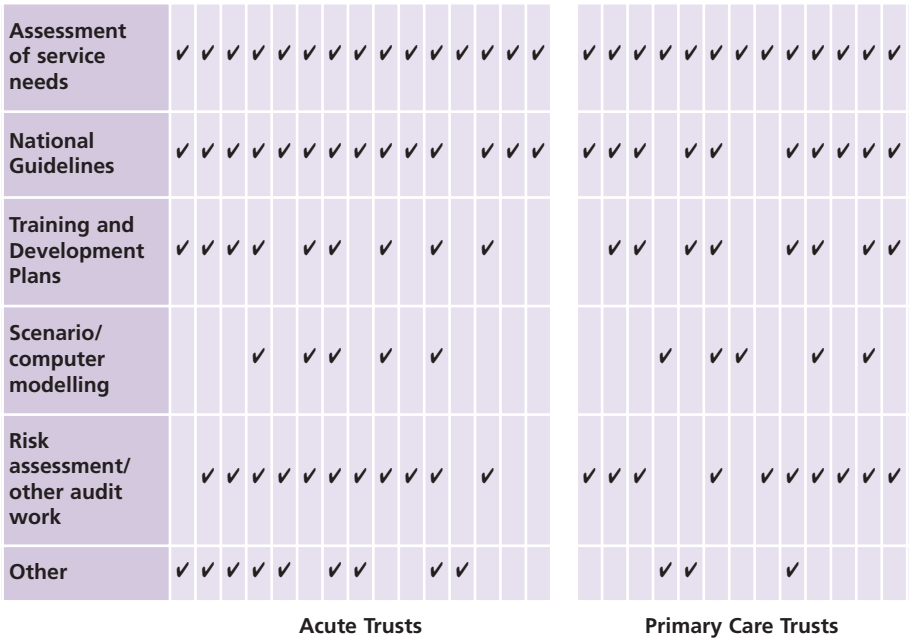
backgrounds. Altogether, we found only 16.35 WTE dedicated staff across Scotland who support workforce planning in trusts. Given the effect of planning on patient care and cost, this level of dedicated staff is low. The recently published Workforce Development Action Plan for NHSScotland should assist trusts in undertaking this work.

Planning nurse and midwifery staffing at trust level

We found that trusts identify their nursing workforce needs in a variety of ways (Exhibit 6). All trusts use assessment of service needs as the basis of planning total staffing and all but one acute trust use national guidelines where these are available. Scenario or computer modelling is not in widespread use in trusts.

Exhibit 6: Methods used by trusts to plan their nursing workforce

Trusts use a variety of methods to plan their workforce needs.



Note: Other methods used include benchmarking, professional judgement, nursing skill mix review, student nurse intake planning, and use of workload tools.

Source: Audit Scotland, 2002

Planning nurse staffing on wards

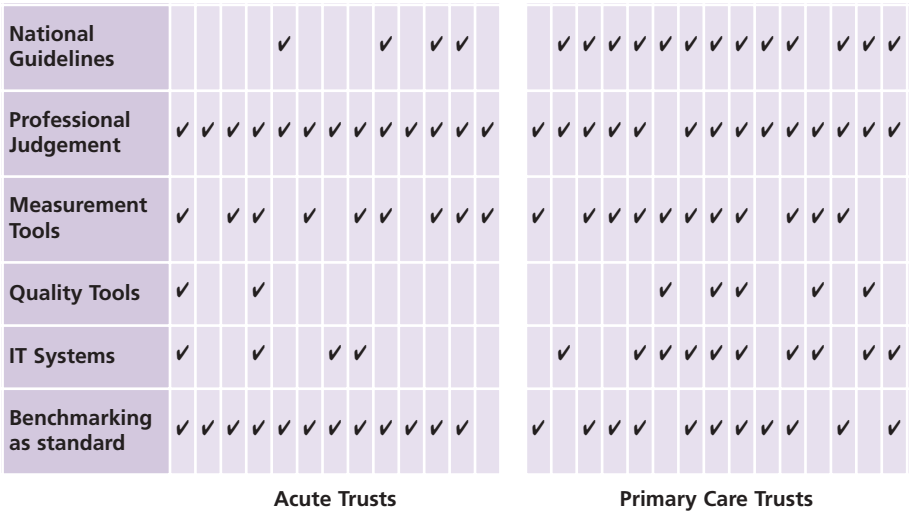
Trust-wide workforce planning should provide the basis for setting nursing establishments,[25] but these should also take account of factors specific to individual wards. The resulting establishments should be reviewed regularly and amended if necessary. Trusts also need to do this for individual wards.

[25] The nursing establishment is generally a statement of the number of posts for which funding has been made available.

All trusts use an element of professional judgement to calculate nursing establishments. We found that nursing establishments were also being calculated in a variety of other ways, including local directorate reviews, patient dependency assessments and research findings (Exhibit 7). Increasingly, systems have been developed to assist decision-making in setting nursing levels and skill mix requirements. For example, computer models forecast staffing requirements using variables such as numbers of beds, bed occupancy, costs, patient needs and skill mix.

Exhibit 7: Methods used to calculate nursing establishments at ward level

Trusts use a variety of methods to plan their workforce needs.



Source: Audit Scotland, 2002

Adjustments for time out

'Time out' is the term used for all paid leave within nursing establishments, including annual leave, public holidays, sickness absence, maternity leave and study leave. Most nursing establishments include an allowance to provide cover for annual leave, study leave and sickness. Annual leave entitlement is fixed at 13.5% of registered nurse contracts; while 11.5% is normally used for unqualified nurses. The nursing average for sick leave is 5.5%, and time out for maternity and study leave at ward level was estimated by the Audit Commission to be 3% in England[26]. Altogether, time out is around 21-22% of contract hours.

[26] *'Ward Staffing'*, Acute Hospital Portfolio, Audit Commission, 2001.

We found variation in the time out allowance made in nursing establishments. Too small a percentage may lead to pressure on ward managers in managing their staffing budgets, and may affect the quality of care delivered to patients. In acute trusts, the majority of trusts allow between 19% and 20%, with two acute trusts reporting that they add nothing to nursing establishments for time out. In PCTs, the allowance ranged from 15-25% (Exhibit 8).

Exhibit 8: Percentage added to nursing establishments for time out

Two acute trusts do not make any allowance for time out in their nursing establishments.

Percentage added for time out	Acute trusts	PCTs
0	2	0
15	0	1
18	0	4
19	1	0
19.5	1	0
20	10	5
22	0	1
25	0	1

Note: Excludes one primary and one acute trust.

Source: Audit Scotland, 2002

Six acute trusts and five PCTs reported that they have a source of specific funding to support maternity leave. Where a source of maternity funding is not available, providing staff cover will be difficult. This may result in poorer continuity and quality of care, increased use of temporary staff, and additional stress for the staff working on these wards.

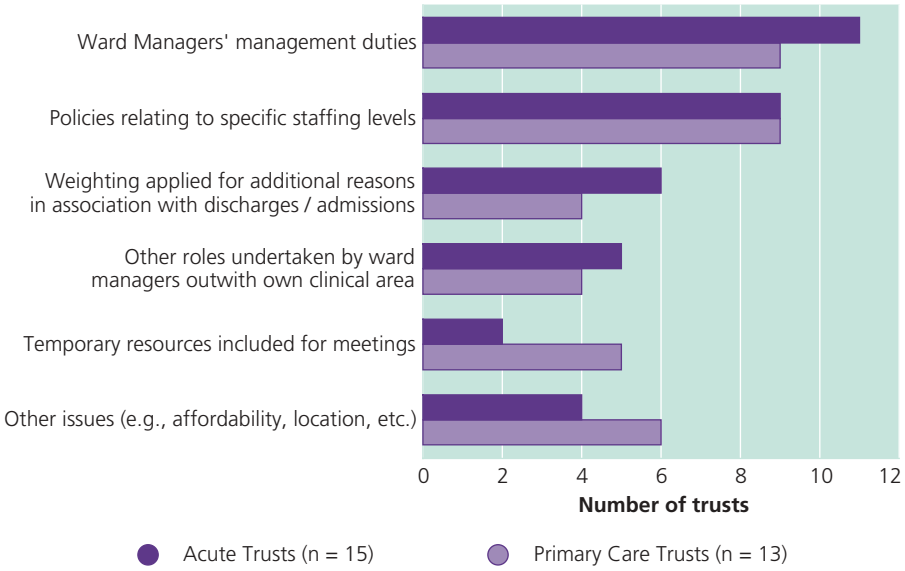
Other issues in calculating nursing establishments

Other calls on staffing should also be taken into account when trusts determine their nursing establishments. Some of these can take up considerable amounts of time and affect the work of colleagues. For example, the management duties of ward managers often include: attendance at meetings; planning rosters; professional development; carrying out appraisals; co-ordinating other services; and participating in local and national working groups.

Overall, we found that there is considerable variation in the staffing issues taken into account when calculating nursing establishments at ward level (Exhibit 9). Two PCTs and three acute trusts do not take any additional issues into account when calculating nursing establishments. In these situations, there may be increased pressures on the staff working in wards.

Exhibit 9: Other issues taken into account in calculating nursing establishments

A variety of other issues are considered when calculating nursing establishments.



Source: Audit Scotland, 2002

Reviewing nursing establishments

Nursing establishments should be reviewed regularly and action taken where appropriate. The frequency of review will depend on the extent of service developments and other changes in care provision. Regular monitoring of management information such as the use of temporary staffing, levels of absence and a comparison of nursing establishments with staff in post will provide pointers to the need for a review. Five acute trusts and seven PCTs reported that they review their nursing establishments annually; other trusts reported they carry out reviews, 'frequently', 'ad hoc', 'ongoing' or 'as changes occur'. One acute trust reported that it does not review nursing establishments. Another reported that, despite annual reviews covering the last four years it had not amended its establishment levels as a result.

Nursing establishments by ward type

There is a statistically significant difference in the funded nursing establishments among ward types[27]. Nurses per bed are highest for acute medical receiving (1.23 nurses per bed) and paediatrics (1.13 nurses per bed) and lowest for gynaecology (0.93 nurses per bed). Continuing care of elderly wards have slightly lower nurses per bed than psychiatry of old age wards (0.94 compared with 1.02).

There is also some variation within ward types (Exhibit 10). Almost all of the acute medical receiving wards and the majority of paediatric wards had nursing establishments per bed of one nurse or above. In one paediatric ward where the ratio reported was 3.24, the ward manager confirmed that the establishment had not changed when the number of beds was reduced. For orthopaedics, gynaecology and psychiatry of old age wards, about half of the wards had ratios of less than one nurse per staffed bed. Around a third of continuing care of elderly wards had a nursing establishment of one nurse per bed or above.

Exhibit 10: Nursing establishments per bed

There is a wide variation in nursing establishments per bed.

Note: Exhibit shows establishment in WTE nurses per staffed bed at 30 September 2001.

Source: Audit Scotland, 2002

[27] ANOVA F = 6.89, p<0.005.

Variation in nursing establishments among ward types

Variation in nursing establishments within ward types may be a result of factors associated with the ward itself, or the dependency of the patients managed in the ward. Such factors include:

- ward layout
- availability of ancillary staff
- extended roles of nursing staff
- case mix of patient population
- ward workload.

We examined whether the average nursing establishment per staffed bed varied according to different characteristics of the wards (such as numbers of admissions, whether the ward received emergency admissions, or the ward layout), using analysis of variance[28]. Exhibit 11 shows those characteristics which were found to be statistically significant. Exhibit 12 shows ward characteristics which were not statistically significant.

Exhibit 11: Factors found to be associated with higher nursing establishments per bed

- Layout of ward – for example, a cubicle layout had the highest establishment per bed
- Direct admission of emergencies from GPs or A&E
- Patients with predominantly acute illness
- Ward staff input to outpatient clinics
- High number of admissions
- High numbers of patients delayed in discharge
- High numbers of consultants linked to wards

Source: Audit Scotland, 2002

[28] Analysis of variance is a statistical procedure used for comparing mean values across different groups or categories. It assesses whether any numerical differences in the mean values of different groups could have arisen simply by chance, or whether the mean differences are statistically significantly different from each other.

Exhibit 12: Factors where no evidence was found of an association with nursing establishment per bed

- Availability of domestics
- Availability of porters
- Whether the ward admits elective patients directly
- Availability of a ward assistant/clerk/hostess role within the establishment
- Number of boarders-in[29]
- Number of ward attenders
- Number of student nurses/midwives placed on the ward each month

Source: Audit Scotland, 2002

These findings suggest that a number of factors are associated with differences in the nursing establishment per bed. In particular, wards with high dependency, acutely ill, patients have higher nursing establishments. Such factors are likely to influence professional judgement in the planning of nursing establishments. There were, however, some unexpected findings; the number of ancillary staff and the numbers of ward attenders do not appear to be associated with different establishment levels. Detailed work by trusts is required to ensure that nurse staffing levels match patient needs.

Proportion of registered nurses in funded establishments

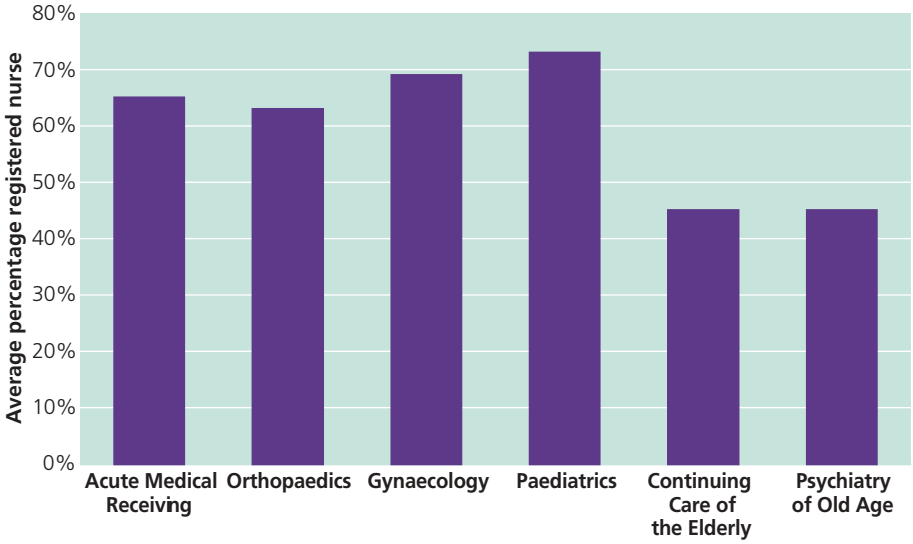
There are significant differences in the proportion of registered nurses in the nursing establishment between the acute and continuing care wards reviewed[30] (Exhibit 13). Among ward types, the highest percentages overall are for paediatric wards.

[29] Patients transferred in from other wards during times of pressure on beds.

[30] Chi square = 374.4, DF=1, p<0.001.

Exhibit 13: Overall proportion of registered nurses

Acute wards have higher overall proportions of registered nurses in their establishment.



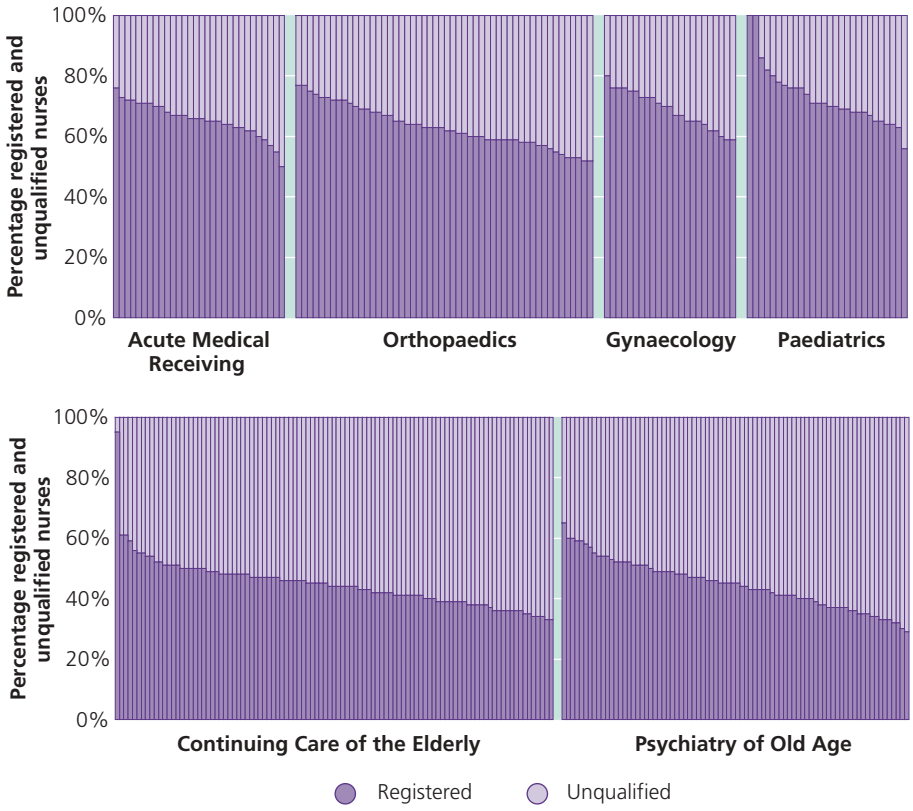
Note: Exhibit shows proportion of registered nurses at 30 September 2001.

Source: Audit Scotland, 2002

Exhibit 14 shows the variation in the percentage of registered nurses within each ward type. Two paediatric wards reported that registered nurses made up 100% of their staffing establishment, which may reflect a high number of specialist nurses, such as Registered Sick Children's Nurses. For some ward types the variation is wide enough to warrant further investigation by trusts, as it is unlikely to be entirely explained by differences in casemix.

Exhibit 14: Registered/unqualified nurse split

There is variation in the proportion of registered nurses in the establishment of all ward types.



Note: Exhibit shows registered/unqualified split at 30 September 2001.

Source: Audit Scotland, 2002

Recommendations

NHS boards should review the work of trusts in workforce planning and planning at ward level.

Workforce planning

- Trusts should ensure that their workforce planning strategies are in line with guidance from the Scottish Executive, including *'Planning Together'* and *'Working for Health, the Workforce Development Action Plan for NHSScotland'*.

- The Scottish Executive and NHS Boards should include progress in this area in their accountability reviews.

- All trusts should identify a director with responsibility for workforce planning.

- Trusts should identify staff with dedicated responsibility for workforce planning in line with the recommendations of the workforce development action plan.

Calculation of establishments

- Trust workforce planning should inform the calculation of nursing establishments.

- Nursing establishments should be regularly reviewed and actions taken when problems are identified.

- The percentage allowance for time out should be reviewed, justified, agreed and incorporated in trust workforce planning policy. In particular, those trusts which do not make allowance for 'time out' should review all nursing establishments.

- Trusts which do not provide a budget for maternity leave should review the impact on ward staffing.

- Trusts should regularly review the number of nursing staff and the proportion of registered staff across wards to ensure that these proportions reflect patient needs. Benchmarking information should assist the process.

3. Nursing numbers and costs

Chapter 2 examined how trusts plan their nursing workforce and how they determine staffing for individual wards. This chapter presents our findings on the numbers of nurses and their associated costs at national, trust and ward levels.

We found:

- a 24% difference between health board areas with the lowest and highest percentage of hospital and community health services (HCHS) expenditure spent on nursing
- variation in the proportion of total expenditure spent on registered nurses among trusts
- expenditure in excess of £35 million on bank and agency nursing staff
- differences in grade mix and proportions of clinical nurse specialists involved in inpatient care among trusts
- nearly half of wards had fewer staff in post than the ward establishment.

The national picture

Nursing and midwifery staff provide a 'round the clock' service to meet the needs of patients and are key players in the delivery of healthcare. There were 52,203 WTE nurses and midwives employed in NHSScotland in 2001[31], with a paybill of £1.17 billion in 2000/01[32].

In addition, data from the Information and Statistics Division of the Common Services Agency (ISD) shows that the number of WTE agency nurses employed by NHSScotland has increased from 537.5 WTE in 1997/98 to 725.1 WTE in 2000/01[33]. This is an increase of almost 35%.

To allow comparisons across Scotland we calculated the total number of nurses and midwives[34] available per 1,000 population in each

[31] ISD Statistics, SKIPPER, 2002.

[32] ISD ad hoc analysis, August 2002.

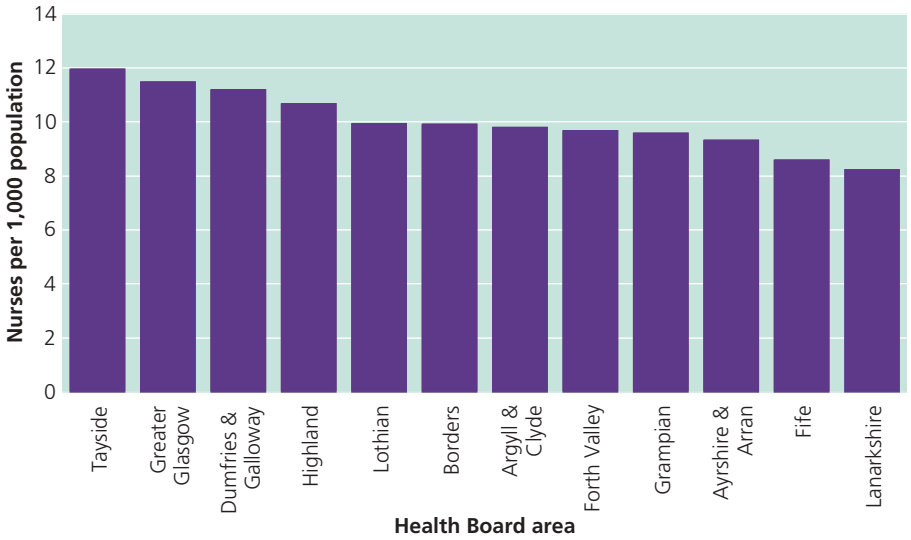
[33] Comparable bank nurse numbers were not collated by ISD for this period.

[34] Includes hospital and community based nurses and midwives.

mainland NHS board area (Exhibit 15). The average nursing and midwifery resource is 10.2 nurses and midwives per 1000 people. There is considerable variation in this NHS resource between Tayside (with the highest number) and Lanarkshire (with the lowest number).

Exhibit 15: Nurses per 1000 population in mainland NHS Board areas

The number of NHS nurses in health board areas ranges from 8 to 12 per 1000 population.

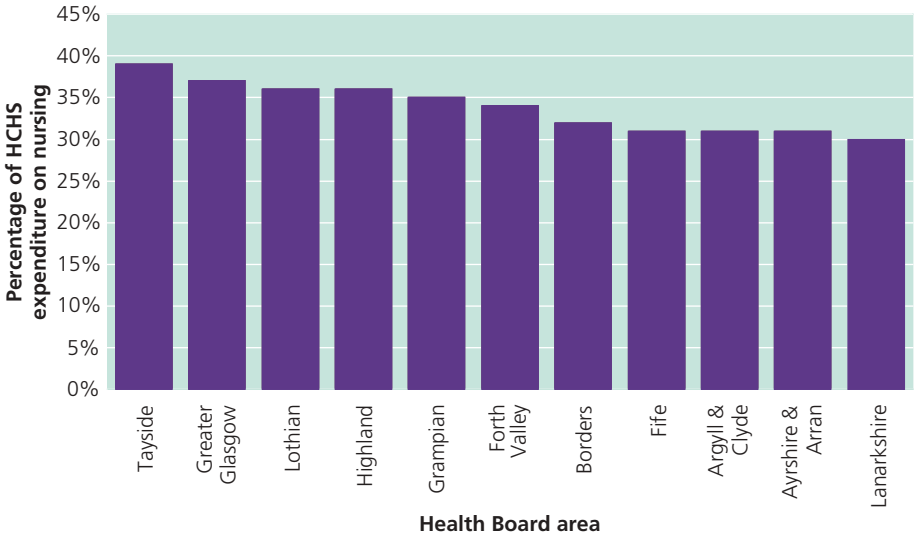


Source: Nurse and midwifery staff in post and mid-year estimates of population, ISD 2001. Numbers will be overestimated in areas that provide supra-regional services such as Glasgow,Tayside, Lothian and Grampian

We also used information on health and community health services (HCHS) expenditure per health board area, combined with nursing expenditure from ISD, to calculate the percentage of HCHS expenditure on nursing and midwifery staff by health board area (Exhibit 16). This percentage varies from 30% to 39%.

Exhibit 16: Percentage of hospital and community health services expenditure on nursing by mainland NHS board area

NHS Boards spend between 30% and 39% of HCHS expenditure on nursing.



Source : ISD provisional data, Nursing and midwifery pay bill, and HCHS expenditure 2000/01. Excludes Dumfries and Galloway because Dumfries and Galloway PCT data are not available

During 2000/01, the gross cost in Scottish trusts on bank and agency nursing was over £35 million[35], of which almost half was associated with agency nursing staff. This spending represents 3% of the total £1.17 billion pay bill for nurses in Scotland for 2000/01. Expenditure on bank and agency nursing staff has risen from approximately £25 million reported in 2000 in *'Temporary Measures'*[36].

The variations in the numbers of nurses per 1,000 population and their associated cost may reflect different ways in which healthcare is organised in a given board area (for example, there may be more staff employed by general practitioners) and the availability of other healthcare staff. The Health Department should review the mechanisms in place to determine the level of nursing staff by health board area. This should form the basis of discussions with NHS boards about the availability of nursing staff and associated expenditure across the health board area.

Nurses and midwives at trust level

At trust level we looked at:

- nurses and midwives as a percentage of total staffing
- balance between registered and unqualified nurses

[35] Estimated from actual expenditure in 26/28 trusts, plus ISD pilot bank costs.

[36] *'Temporary Measures'*, Accounts Commission for Scotland, 2000.

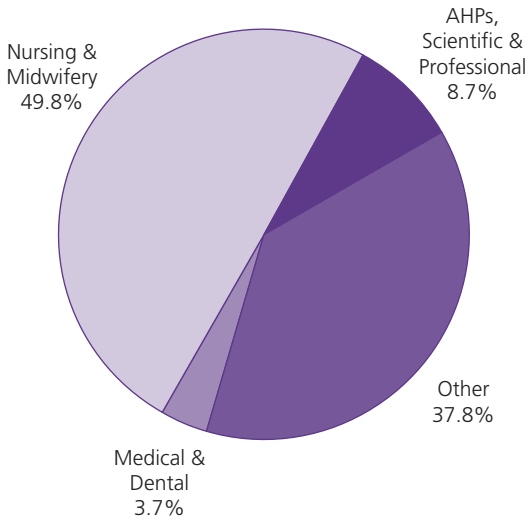
- grade mix
- use of clinical nurse specialists.

Nurses and midwives as a percentage of total staff group

Nurses and midwives make up the biggest single staff group in NHSScotland (Exhibit 17).

Exhibit 17: Staff groups in NHSScotland

Nurses make up the largest group of staff in NHSScotland.



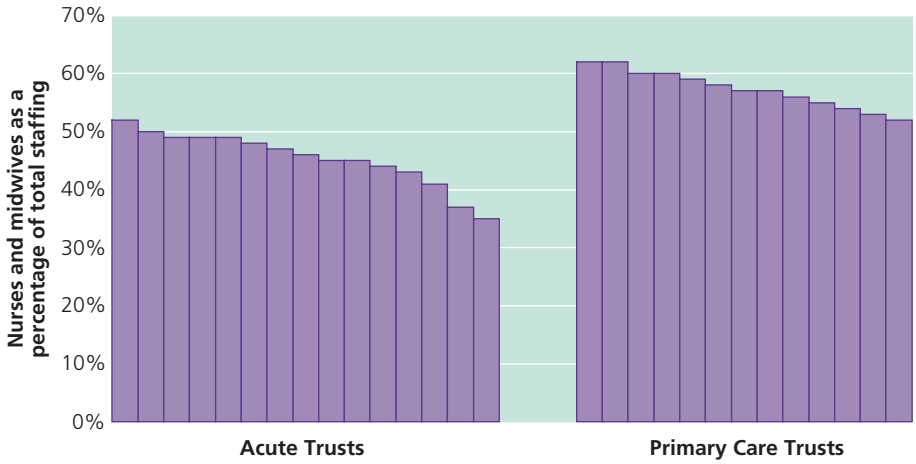
Note: AHPs = Allied Health Professionals.

Source: Skipper, ISD 2001

Among trusts there is variation in the percentage of total staff made up by nurses and midwives (Exhibit 18). In acute trusts, the percentage ranged from 35% to 52%, and in PCTs, nurses and midwives ranged from just over 50% to just over 60% of all staff.

Exhibit 18: Nurses and midwives as percentage of total staffing

Nurses and midwives make up a higher proportion of total staff in primary care trusts than acute trusts.



Note: Includes all hospital and community based nursing and midwifery staff, WTE in post at 30 September 2001.

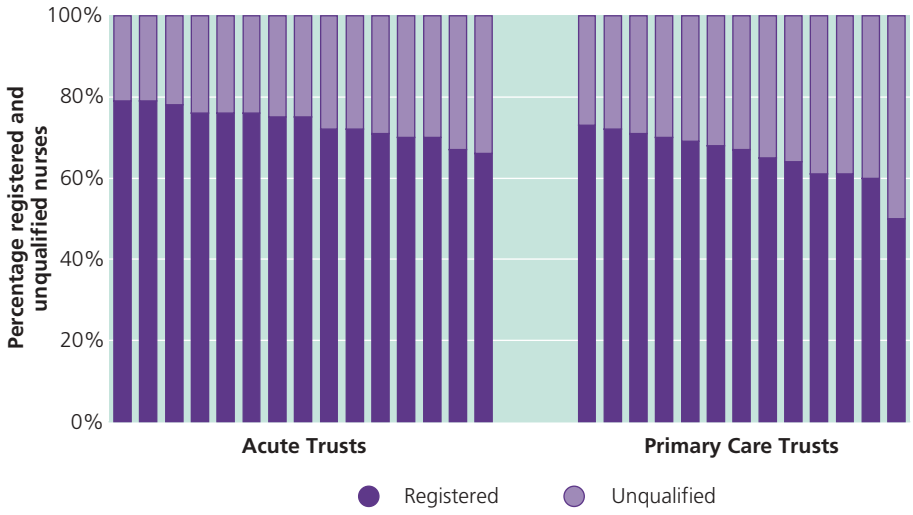
Source: Audit Scotland, 2002

Balance between registered and unqualified nurses

The skill mix of staff should reflect the range of care provided by the trust and the needs of the patients. The proportion of registered staff will differ according to the availability of other healthcare staff. The average percentage split for PCTs was 65% registered to 35% unqualified, and in acute trusts the average percentage split was 73% registered to 27% unqualified (Exhibit 19). In one PCT, the proportion of registered nursing staff was considerably lower than that in other trusts; this trust should review the balance of registered and unqualified staff to ensure that patients' needs are being met with this mix.

Exhibit 19: Registered/unqualified split for nursing staff in post

Registered staff comprise more than 60% of staff in post in acute trusts.



Note: Staff in post WTE, at 30 September 2001

Source: Audit Scotland, 2002

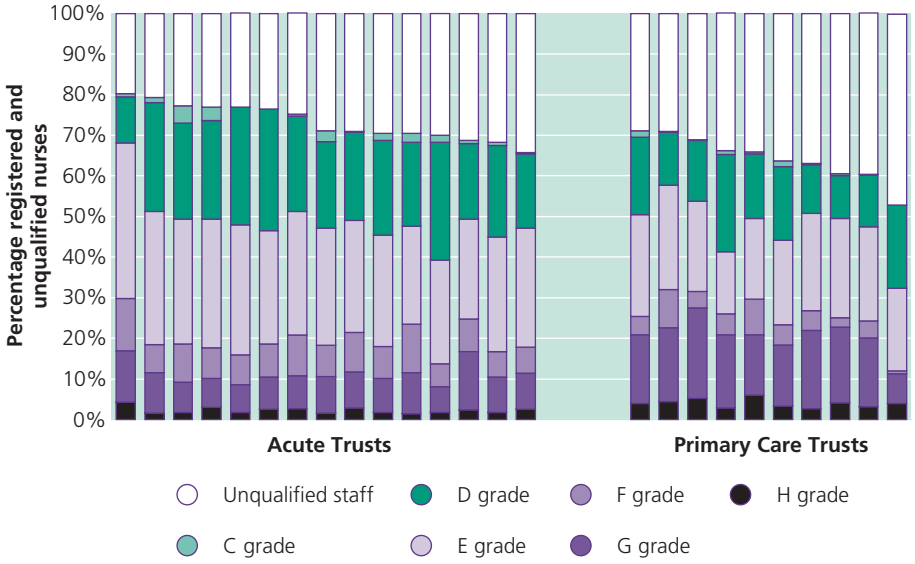
All trusts spend the largest percentage of their nursing budget on registered nursing staff. We found variations in the percentage being spent on registered nurses, ranging from 76% to 87% in acute trusts, and from 64% to 81% in PCTs.

Grade mix

We also found variation in the grade mix among trusts (Exhibit 20). These variations will contribute to differences in costs and quality. Grade mix therefore needs to be managed actively, and care must be taken to ensure that the mix of nursing staff reflects patients' needs.

Exhibit 20: Grade mix of nursing staff in post

There is variation in the grade mix among acute and primary care trusts.



Note: Staff in post, WTE at 31 March 2001. At trust level, hospital and community nursing staff are included. Three PCTs did not provide grade mix information. In one PCT, where a major restructuring exercise had taken place, these gradings are no longer used; instead, nurses are graded as nursing auxiliary, nurse, senior nurse and clinical nurse manager.

Source: Audit Scotland, 2002

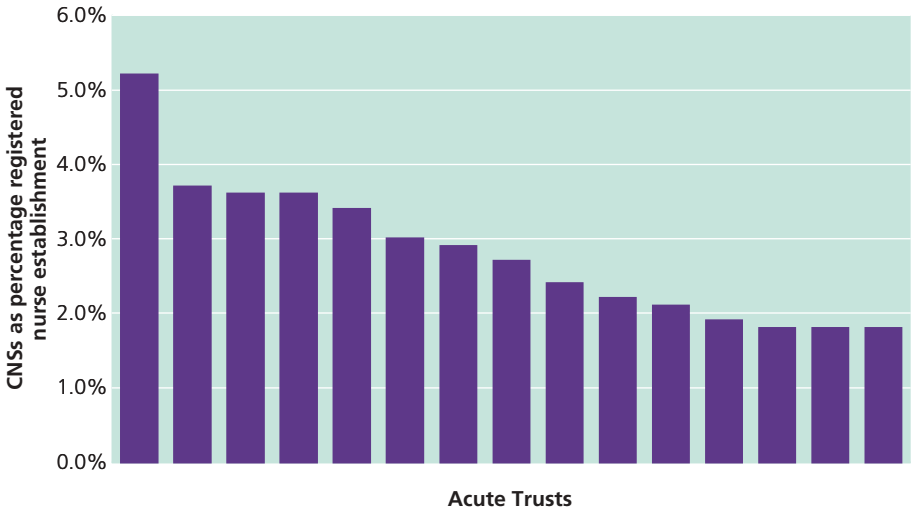
Clinical nurse specialists

Exhibit 21 shows the wide variation in the proportion of clinical nurse specialists[37] (CNSs) of total registered nurses involved directly in inpatient care in acute trusts. A high proportion of CNS staff may reflect innovative practice or it may reflect a lack of ward based staff with the right skills. Trusts should review the use and numbers of CNSs involved in ward-based care to identify the appropriate level of involvement.

[37] Clinical nurse specialists are senior nurses with a specialist interest in an area, and sometimes with additional training. CNSs have a variety of role titles, including advanced practitioner, liaison nurse, practitioner, therapeutic practitioner and manager (Nursing & Midwifery Practice Development Unit, 2002).

Exhibit 21: Clinical nurse specialists as percentage of registered nursing and midwifery staff in acute trusts

There is threefold variation in the proportion of clinical nurse specialists directly involved in inpatient care in acute trusts.



Note: Exhibit shows clinical nurse specialists as a percentage of registered nursing staff in post at 30 September 2001.

Source: Audit Scotland, 2002

Nurses at ward level

At ward level we looked at:

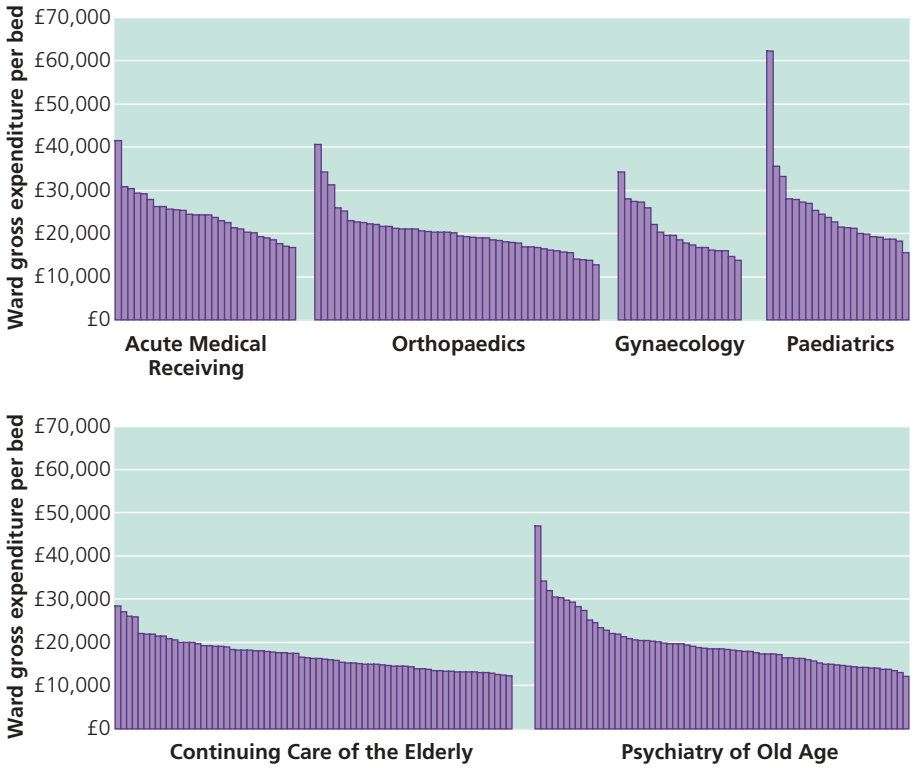
- nursing costs per staffed bed
- costs of bank and agency nursing
- nurses in post compared to nursing establishments.

Nursing costs per staffed bed

We compared actual costs of staff in post among ward types (Exhibit 22). There was wide variation within ward types, reflecting the different number of nurses per bed and grade mix. This type of analysis could provide core benchmarking information for trusts when reviewing their ward staffing levels and grade mix.

Exhibit 22: Nursing costs per bed

There is wide variation in nursing cost per bed within ward types.



Note: Exhibit shows gross costs of nursing staff in post per staffed bed for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

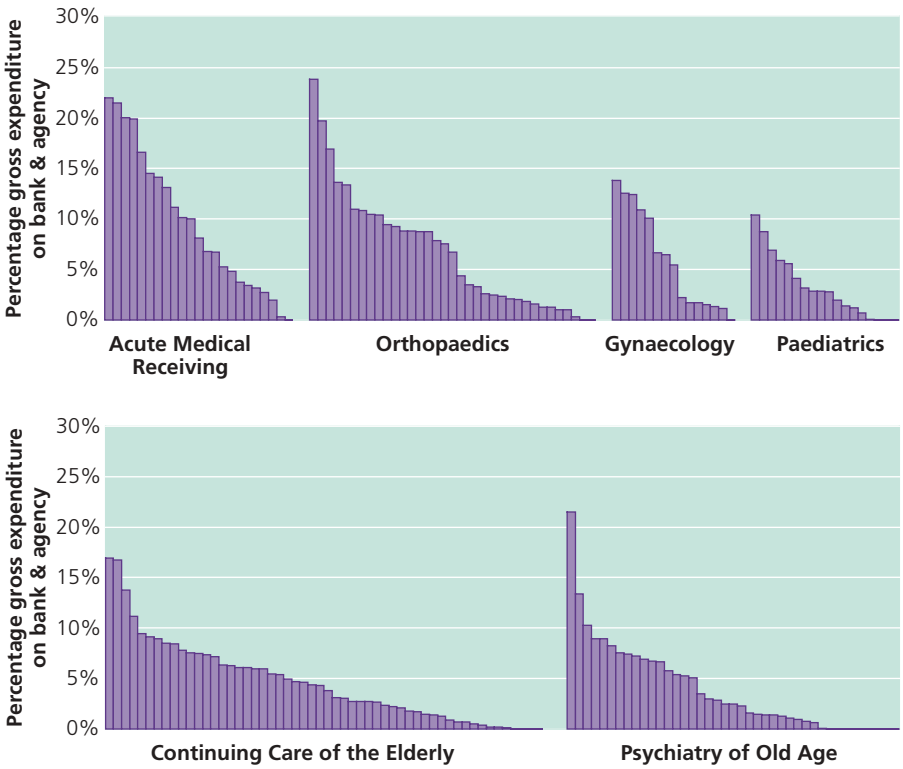
To run a ward efficiently, ward managers need:

- planned establishments, taking account of time out issues
- an active approach to managing staff vacancies
- an agreed protocol for the use of bank and agency nursing staff.

However, we also found wide variation in the proportion of total gross nursing costs spent on bank and agency nurses for the six ward types (Exhibit 23).

Exhibit 23: Proportion of total nursing costs spent on bank and agency nursing staff

At ward level there are wide variations in spending on bank and agency nursing staff.



Note: Exhibit shows bank and agency nursing costs as a proportion of total nursing costs for the period 1 April 2000 - 31 March 2001. One acute medical receiving ward, two orthopaedics wards, one gynaecology ward, four paediatrics wards, four continuing care of the elderly wards and nine psychiatry of old age wards had zero expenditure on bank and agency nurses.

Source: Audit Scotland, 2002

Nurses in post compared to planned establishments

We compared planned establishments with nurses in post at ward level to examine the effectiveness of workforce planning (Exhibit 24). Differences may reflect recruitment problems such as national shortages of certain specialties, high absence rates or poor planning. Where nurses in post are significantly below the planned establishment, the quality of care being provided may be compromised and existing staff may be placed under additional pressure.

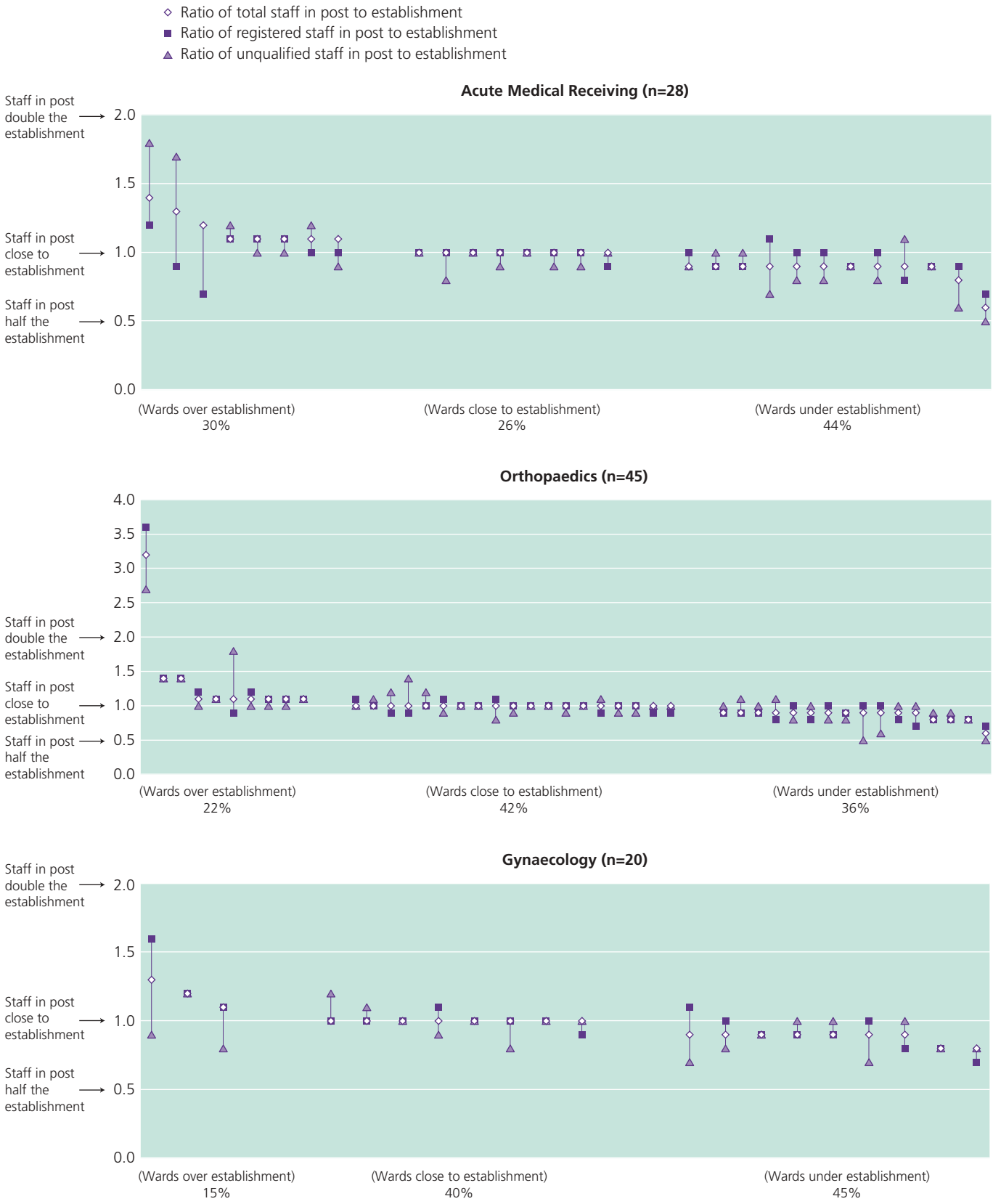
The proportion of wards running below establishment was relatively high for all ward types: around a third of orthopaedic and continuing care of the elderly wards, and just under half of other wards.

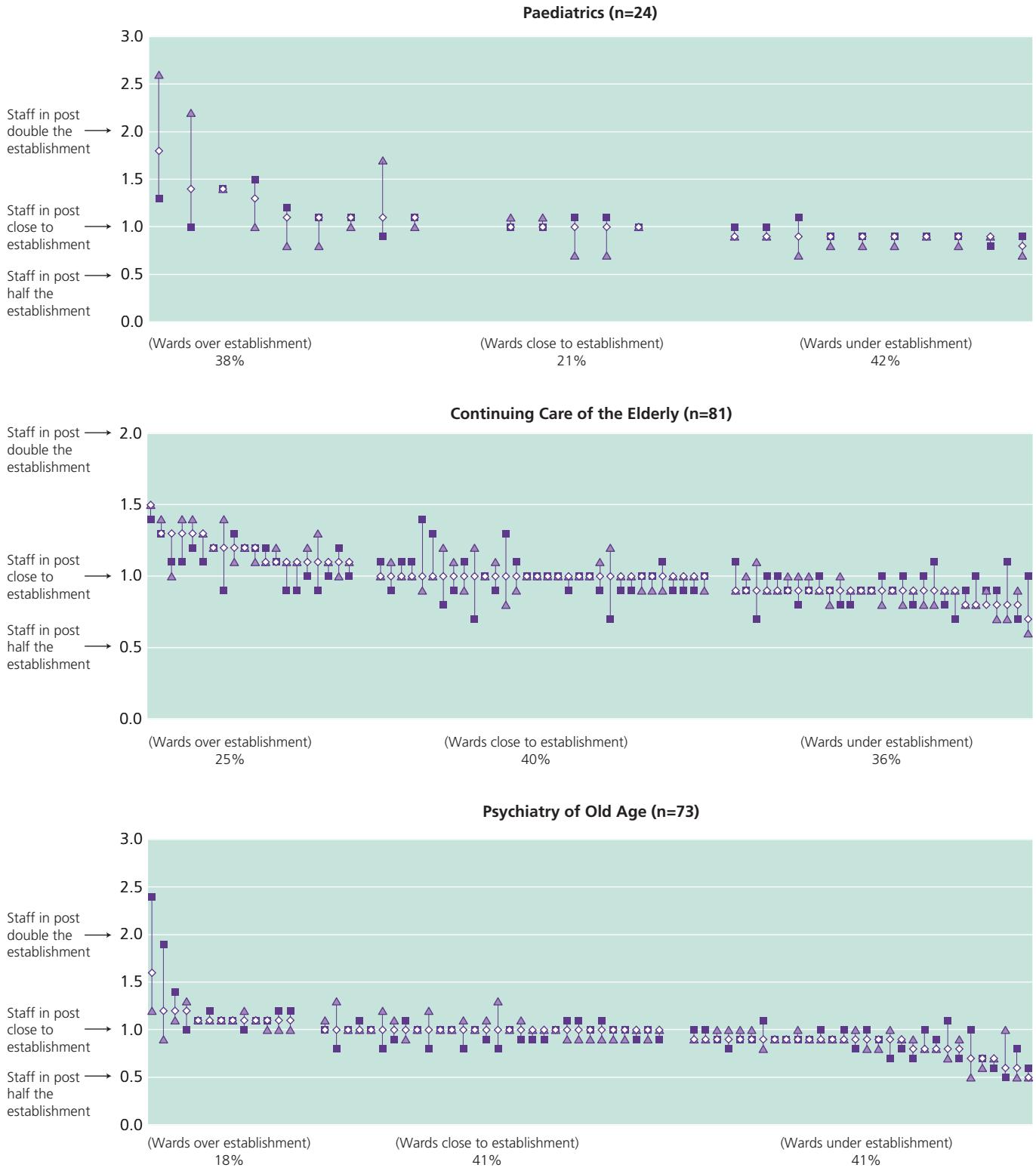
Exhibit 24 provides details of how much under and over establishment individual wards were staffed. In four ward types – gynaecology, orthopaedics, continuing care of the elderly and psychiatry of old age – only two-fifths of wards had staffing in line with establishment. This situation was worse in acute medical receiving and paediatrics wards, with only about a quarter of wards running in line with establishment.

There was also variation across wards with staff in post over establishment. This ranged from 15% of gynaecology wards (although this was a relatively small number of wards) to 38% of paediatric wards.

Exhibit 24: Actual versus planned staffing at ward level

The proportion of wards running below establishment is relatively high for all ward types.





Note: Exhibit shows ratios of nursing staff in post to planned establishments (WTE) for period 1 April 2000 - 31 March 2001. Wards close to establishment have a ratio of staff in post to ward establishment rounded to 1.0, wards over establishment have a ratio rounded to 1.1 and above, and wards under establishment have a ratio rounded to 0.9 and below.

Source: Audit Scotland, 2002

Recommendations

- The Health Department should review the level of nursing staff by health board. This should form the basis of discussions with NHS boards about the availability of nursing staff and associated expenditure across the health board.

- NHS boards should ensure that trusts review nurse staffing levels and the use of bank and agency staff.

- Trusts should investigate reasons for the increase in the use of bank and agency nursing staff.

- Trusts should review the grade mix of staff in post to ensure that it reflects patient needs.

- Trusts should have in place guidelines for the use of bank and agency staff at ward level, and they should monitor compliance with these guidelines.

- Trusts should review the role of CNSs in ward based care to identify the appropriate level of involvement.

- As part of the review of grade mix, trusts should make use of cost information.

- Trusts should review reasons for differences between establishments and staff in post and take action as appropriate.

4. Quality

Quality of care is difficult to measure, and as a result, proxy measures are commonly used. We found:

- some proxy indicators, including accidents to patients and staff, are commonly collected
- these indicators show wide variation among trusts and wards of the same type
- variation in reported patient accidents per nurse do not appear to be affected by levels of staffing.

Given the intrinsic risk to patients of poor quality of care and the variation in the proxy measures of quality, NHSScotland needs to develop and agree quality of care measures which focus on continuous improvement and measure these consistently.

Introduction

Chapter 3 shows significant variation in nurse staffing, which may reflect differences in patient dependency or quality of care. Clinical governance[38] places a responsibility on trust chief executives for the quality of care provided; this encompasses a responsibility for the health and safety of patients and staff. Under the staff governance standard[39], staff are entitled to be provided with a safe working environment.

However, there is no single measure of quality or outcome of care available to use alongside cost information to assess nurse staffing levels. This arises because the majority of care is delivered by nurses working with other members of the healthcare team. There are also other factors which may influence the quality and outcome of care, including:

- severity of illness
- consultant practice

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[38] MEL 1998 (75).

[39] *'Towards a Safer Healthier Workplace'*, Scottish Executive, 1999.

- availability of other staff
- use of temporary staff
- pre-ward care
- discharge arrangements
- numbers of boarders-in or out of ward.

In the absence of a single validated measure for measuring quality and outcome of nursing care, we used a number of proxy measures (Exhibit 25). However, more work is needed on developing and agreeing standards which demonstrate quality of care is being provided, rather than merely indicating the number of reported adverse incidents.

Exhibit 25: Proxy indicators of nursing quality

Indicator	Level of data capture	Reason for inclusion
Incidence or prevalence of pressure sores.	Trust and ward level.	Links to the quality of care by nursing staff in some wards with longer lengths of stay.
Incidence of urinary tract infection.	Trust and ward level.	Links to the quality of care by nursing staff in some wards.
Total accidents to patients; and slips, trips and falls to patients.	Trust and ward level.	When these occur they can impact adversely on patient well being and NHS resource use.
Total accidents to nursing staff; manual handling accidents; and needle stick injuries.	Trust and ward level.	Number of these can link to the nursing resource. There are health and safety implications for staff and trust management.
Violence and aggression against nursing staff.	Trust and ward level.	Included in new health and safety data set being piloted in the NHS[40].
Clinical risk incidents	Trust and ward level.	Included in NHSScotland mandatory risk management scheme.

Note: Not all indicators were relevant for all ward types in the audit.

Source: Audit Scotland, 2002

For three of the proxy quality of care indicators – levels of accidents to patients and staff, and incidents of violence and aggression – trusts were able to provide information for the majority of wards. The other proxy measures were less commonly reported.

[40] HDL (2001) 22.

Pressure sore incidence is most relevant to ward types where patients are immobile or have mobility problems. High incidence of pressure sores may reflect poor care, and the Nursing and Midwifery Practice Development Unit has recommended that it is good practice to maintain a record of pressure sore incidence[41]. Despite this, only two PCTs and eight acute trusts were able to produce this information at trust level. Trusts should consider putting in place mechanisms to collate this information.

A high incidence of urinary tract infection may reflect poor nursing care, as its contributory factors include dehydration and immobility, along with the patient's underlying medical condition. Very few trusts collect this information at trust or ward level.

Good practice example

Lomond PCT has developed a ward based quality tool to monitor and maintain standards of care. The tool is based on standards relevant to the care of older people and includes patient comfort, choice and preferences.

Accidents to patients

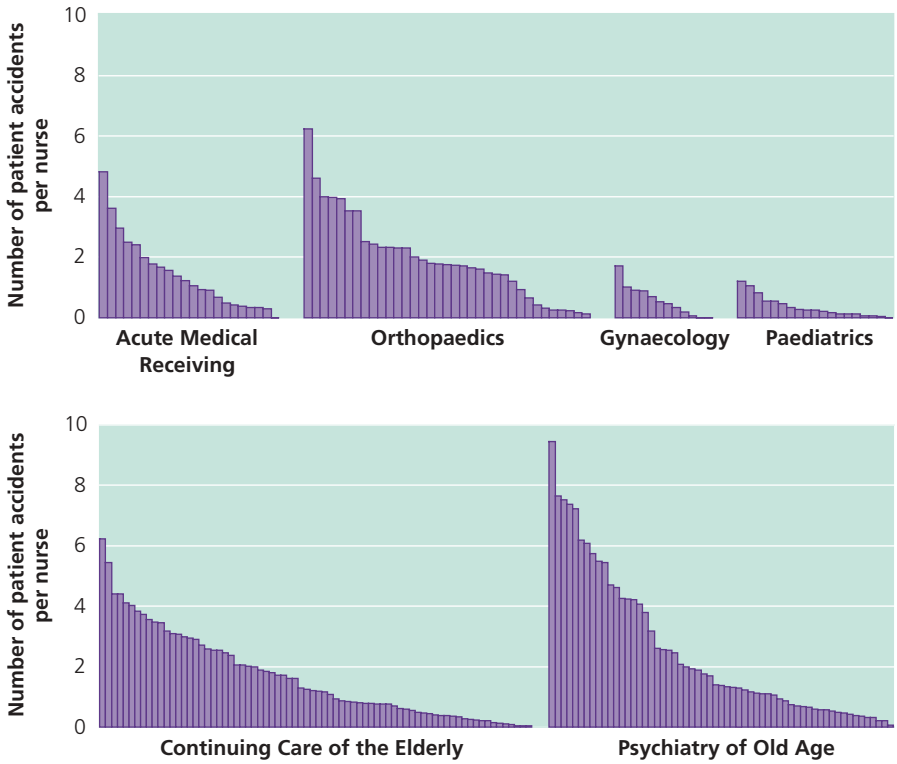
Overall, eight out of 12 PCTs had more than 1.5 reported patient accidents per nurse over a one year period, compared with four out of 13 acute trusts. The level of reported accidents may reflect the effectiveness of trust accident monitoring systems.

However, this indicator is of most use at ward level as it can highlight variations in quality of care on different wards. Exhibit 26 shows the variation in accidents to patients among types of ward, and among individual wards of the same type. The majority of these accidents to patients (59%) were categorised as slips, trips and falls. The highest ratios overall were for the psychiatry of old age wards, which had an overall average of 2.5 patient accidents per nurse. This is likely to reflect the dependency of patients in these wards.

[41] Best practice statement – Pressure Ulcer Prevention, Nursing Practice Development Unit, NHSScotland.

Exhibit 26: Reported accidents to patients per nurse

There are variations in accidents to patients per nurse in types of ward and among different ward types.



Note: Exhibit shows reported accidents for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

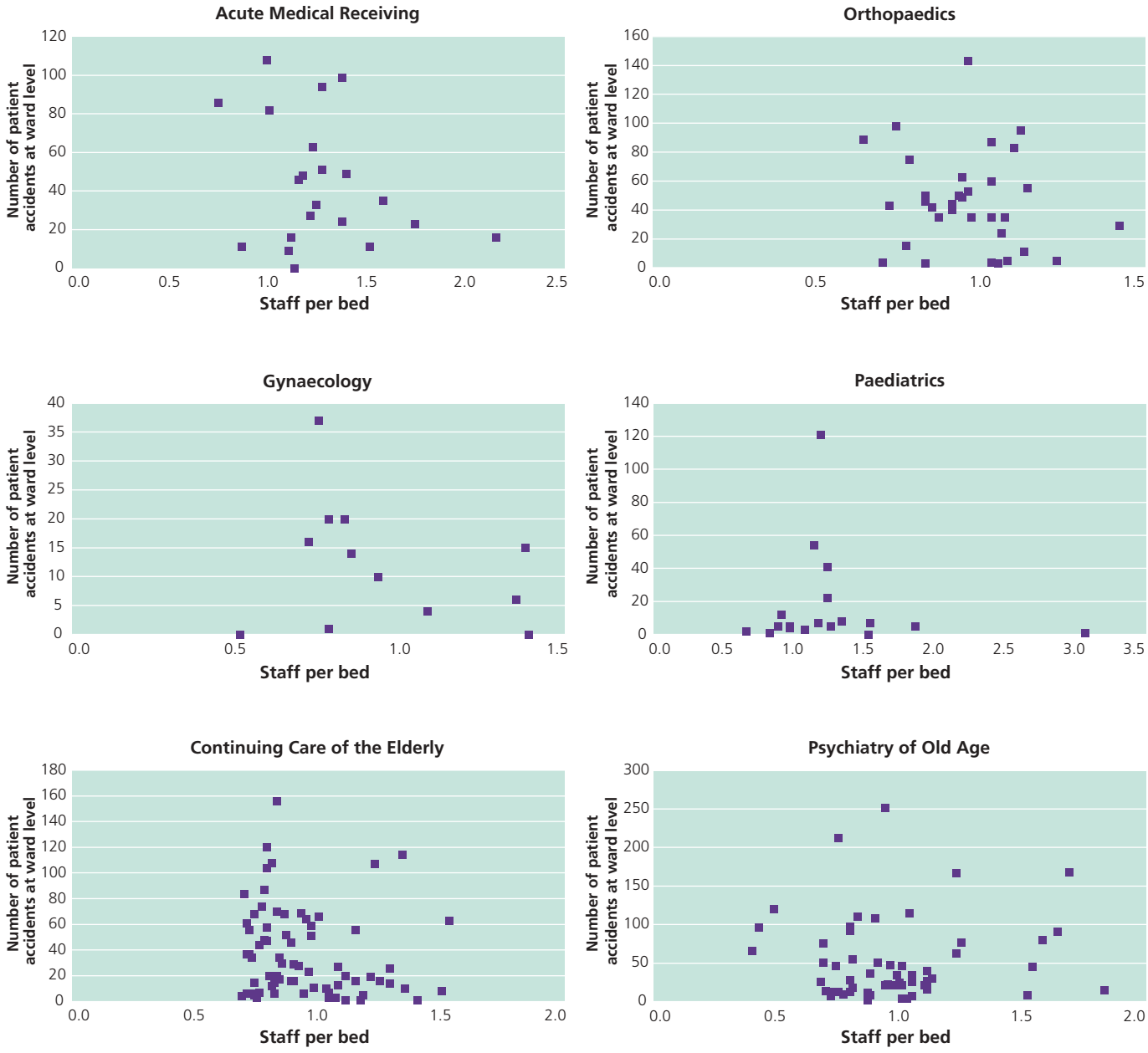
We found no apparent relationship between the number of reported patient accidents and the number of nurses per bed (Exhibit 27). The Audit Commission also found no relationship between the relative amount spent on ward staffing and a composite score based on five quality measures (complaints; pressure sores; patient accidents; staff accidents and ward audit)[42]. However, a recent study covering 799 hospitals in 11 states of America found that a higher proportion of hours of nursing care provided by registered nurses and a greater number of hours of care by registered nurses per day are associated with better care for hospitalised patients[43]. Other factors such as the quality of the ward environment may particularly affect accident rates at ward level.

[42] *'Ward Staffing'*, Acute Hospital Portfolio, Audit Commission, 2001.

[43] Needleman J., Buerhaus P., Mattke S., Stewart M. & Zelevinsky K., Nursing staffing levels and the quality of care in hospitals, New England Journal of Medicine 2002:346.

Exhibit 27: Number of nursing staff per bed and the number of reported patient accidents

We found no relationship between staffing per bed and number of reported accidents to patients.



Note: Exhibit shows reported accidents and nursing staff per bed for the period 1 April 2000 - 31 March 2001.

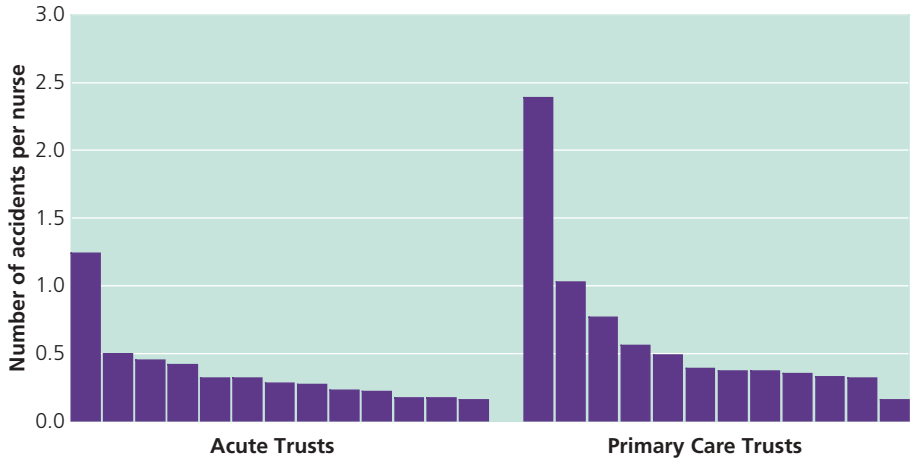
Source: Audit Scotland 2002

Accidents to nursing staff

Reported accidents to nursing staff are less common than accidents to patients, with the majority of trusts having less than 0.5 accidents per nurse (Exhibit 28). However, one PCT and one acute trust had significantly higher rates than other trusts. This may reflect better reporting at these trusts, but reasons for these high levels should be investigated as a matter of urgency.

Exhibit 28: Reported number of accidents per nurse

The majority of trusts have less than 0.5 accidents per nurse.



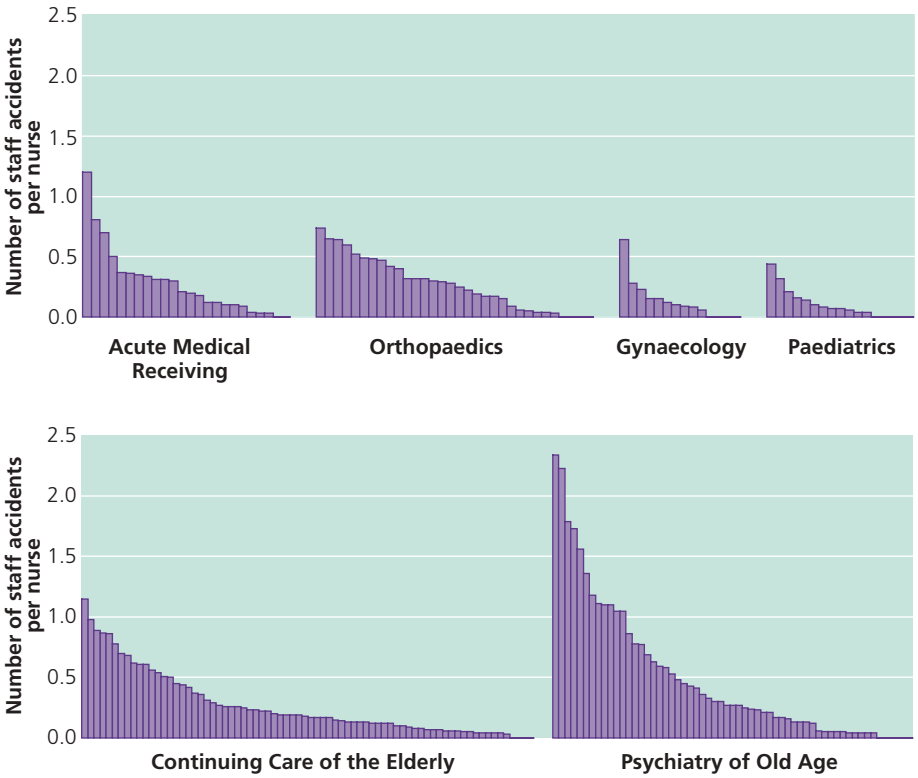
Note: Exhibit shows number of accidents per nurse for the period 1 April 2000 - 31 March 2001

Source: Audit Scotland, 2002

There was also variation among types of ward and among individual wards of the same type in the numbers of accidents to nurses (Exhibit 29). The lowest ratios reported overall were for the gynaecology and paediatric wards (0.1 accidents per nurse on average). Again, the highest ratios were for the psychiatry of old age wards, where the average accident ratio was about twice that of the other wards (0.5 accidents per nurse).

Exhibit 29: Reported accidents per nurse

There is variation among types of ward and among ward types in the numbers of accidents to nurses.



Note: Exhibit shows accidents per nurse for the period 1 April 2000 - 31 March 2001.

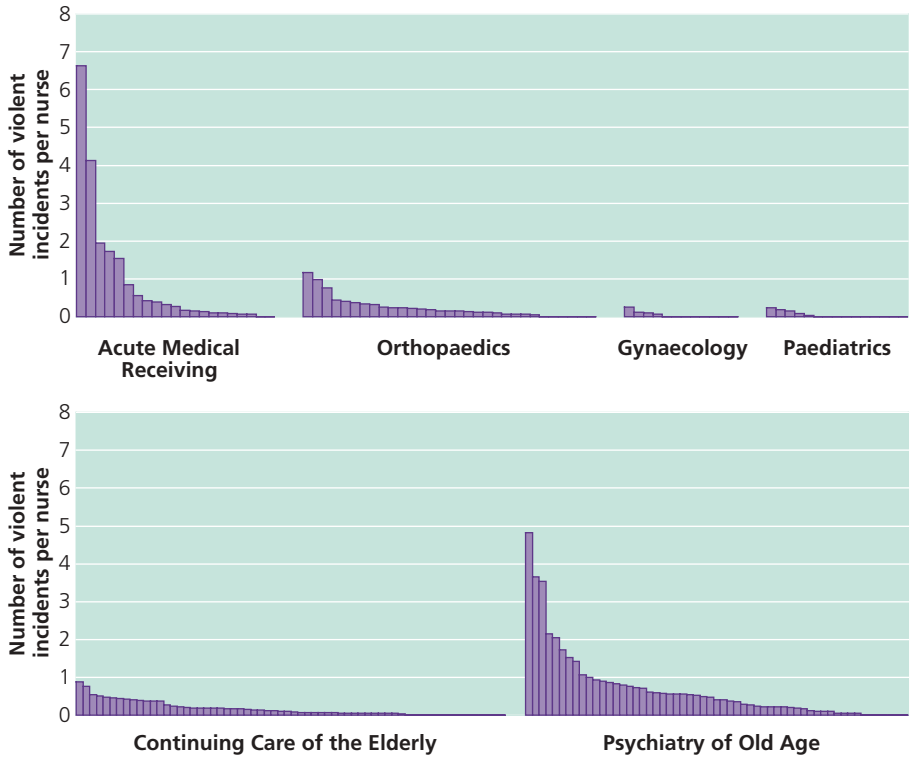
Source: Audit Scotland, 2002

Incidents of violence and aggression

Trusts must ensure a safe environment for all staff. The majority of wards reported few incidents of violence and aggression (Exhibit 30), but some of the highest numbers of incidents reported were for acute medical receiving wards. Trusts with high numbers of incidents of violence and aggression should review their health and safety policies to minimise risk to staff.

Exhibit 30: Reported incidents of violence and aggression against nursing staff

The majority of wards have few incidents of violence and aggression.



Note: Exhibit shows reported number of incidents per nurse for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

Recommendations

Although measurement of the quality and outcome of nursing care is difficult, measures are necessary to ensure that the effectiveness of nurse staffing levels can be considered consistently alongside costs.

- NHSScotland needs to develop and agree quality of care measures which focus on continuous improvement and measure these consistently.

- NHS boards should ensure that trusts review quality indicators and take action where problems arise.

We recommend trusts should:

- review the variation in accidents to patients and nursing staff, and take steps to minimise accidents.

- review the reasons why some wards of a given type have more incidents of violence and aggression, and take steps to minimise the risks of this happening.

5. Information for managing nurse and midwifery staffing

Trusts need access to high quality information to manage nurse and midwifery staffing effectively. It is unclear how effective management can be achieved given the wide variation in the availability of information, particularly at ward level. This needs to be resolved to ensure that nurse staffing can be effectively managed.

In order to manage services effectively, trusts need good management information on staffing, costs, quality and patient need. This information is required at trust, specialty and ward level. Information is currently produced by ISD at a high level; it is not clear how this aggregated information is used by trusts in managing nurse staffing. We found wide variation in the information available to manage nurse staffing at trust and ward level, and, in some cases, the information was inadequate to support effective management.

Staffing information

Staffing information should provide an overview of the funded establishment, the number of staff in post, vacancy and turnover rates and time lost for each category of time out. In each case, this should be available by grade of staff and type of registered nurse to allow intervention to be targeted at problem areas.

Trust level staffing information is shown in Exhibit 31. All trusts were able to provide information on nursing establishments. However, there was wide variation in the availability of other basic management information. Study leave by grade of staff is particularly poorly monitored. This will make it difficult to monitor the aims of *'Learning Together'*[44].

[44] *'Learning Together'*, A Strategy for Education, Training and Lifelong Learning for all staff in the National Health Service in Scotland, Scottish Executive, 1999.

Exhibit 31: Availability of staffing information at trust level

Staff in post by grade	Available in all acute trusts. One PCT did not provide this information, and a further two PCTs provided a split by registered and unqualified nursing staff.
Staff in post split by full and part time staff	Available in eight PCTs and 11 acute trusts
Three month vacancy rates by type of nurse[45]	Available in six PCTs and four acute trusts
Turnover rates by type of nurse[46]	Available in 11 PCTs and seven acute trusts
Sickness absence by type of nurse	Available in three acute trusts and seven PCTs. Two acute trusts and one PCT could provide a split between registered and unqualified nurses.
Maternity leave by type of nurse	Available in four acute and four PCTs. One further acute trust could provide this information split by registered and unqualified nurses.
Study leave by type of nurse	Available in two PCTs and two acute trusts

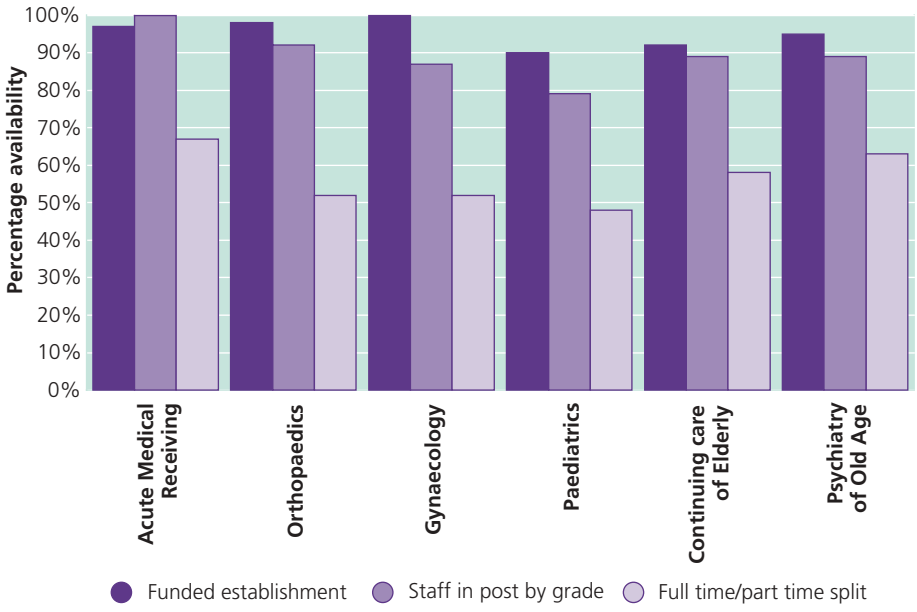
Note: Exhibit shows availability of information for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

A similar picture was found at ward level, where some ward managers do not have access to basic staff information for planning purposes (Exhibit 32).

Exhibit 32: Availability of staffing information at ward level

Some ward managers do not have access to basic staffing information.



Note: Exhibit shows availability of information for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

[45] Number of WTE posts vacant for three months or more as a percentage of the total WTE staff.

[46] Turnover rate calculated as the WTE leavers from the trust as a percentage of total WTE staff.

Cost information

Cost information relating to gross costs of staff in post and costs associated with bank and agency staff by grade of staff should be routinely available at trust and ward level.

We aimed to capture information on nursing establishment and gross costs of staff in post for 2000/01. All acute trusts and 12 PCTs were able to provide this information. One PCT was not able to provide us with cost information as the trust was not in a position to collate the information from their local healthcare co-operatives (LHCCs).

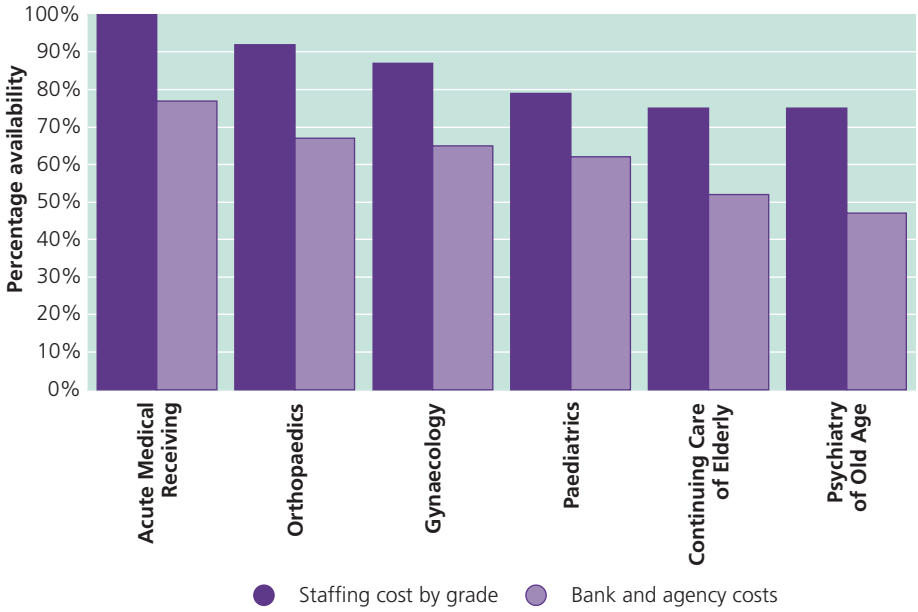
We found that 23 out of the 28 trusts (13 acute trusts and ten PCTs) were able to provide total expenditure on bank and agency nursing for the financial year 2000/01.

Ten PCTs and 12 acute trusts reported that bank and agency monitoring information on expenditure, numbers and grades of temporary staff is collected on a monthly basis, generally by specialty and ward, although fewer than these were able to supply information in this disaggregated form.

At ward level there was variation in the ability of wards to access these data. Exhibit 33 shows the availability of cost information by type of ward included in our study. There were particular problems with accessing bank and agency expenditure split by registered and unqualified nurse. In some cases, this information was available only at directorate level, or for several wards combined together. It is of concern that ward managers did not have access to this information.

Exhibit 33: Availability of cost information at ward level

Some ward managers do not have access to basic cost information.



Note: Exhibit shows availability of information for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

Information on the quality of nursing care

Chapter 4 discussed the problems in measuring quality of nursing care. We found that the majority of trusts could provide information on selected indicators at trust level, with the exception of the indicators relating to pressure sore incidence and incidence of urinary tract infections (Exhibit 34). At ward level there was more variation in availability but there were still high levels of reporting of the majority of the proxy indicators (Exhibit 35).

Exhibit 34: Availability of information on proxy quality indicators at trust level

Most trusts capture proxy indicators of nursing quality of care.

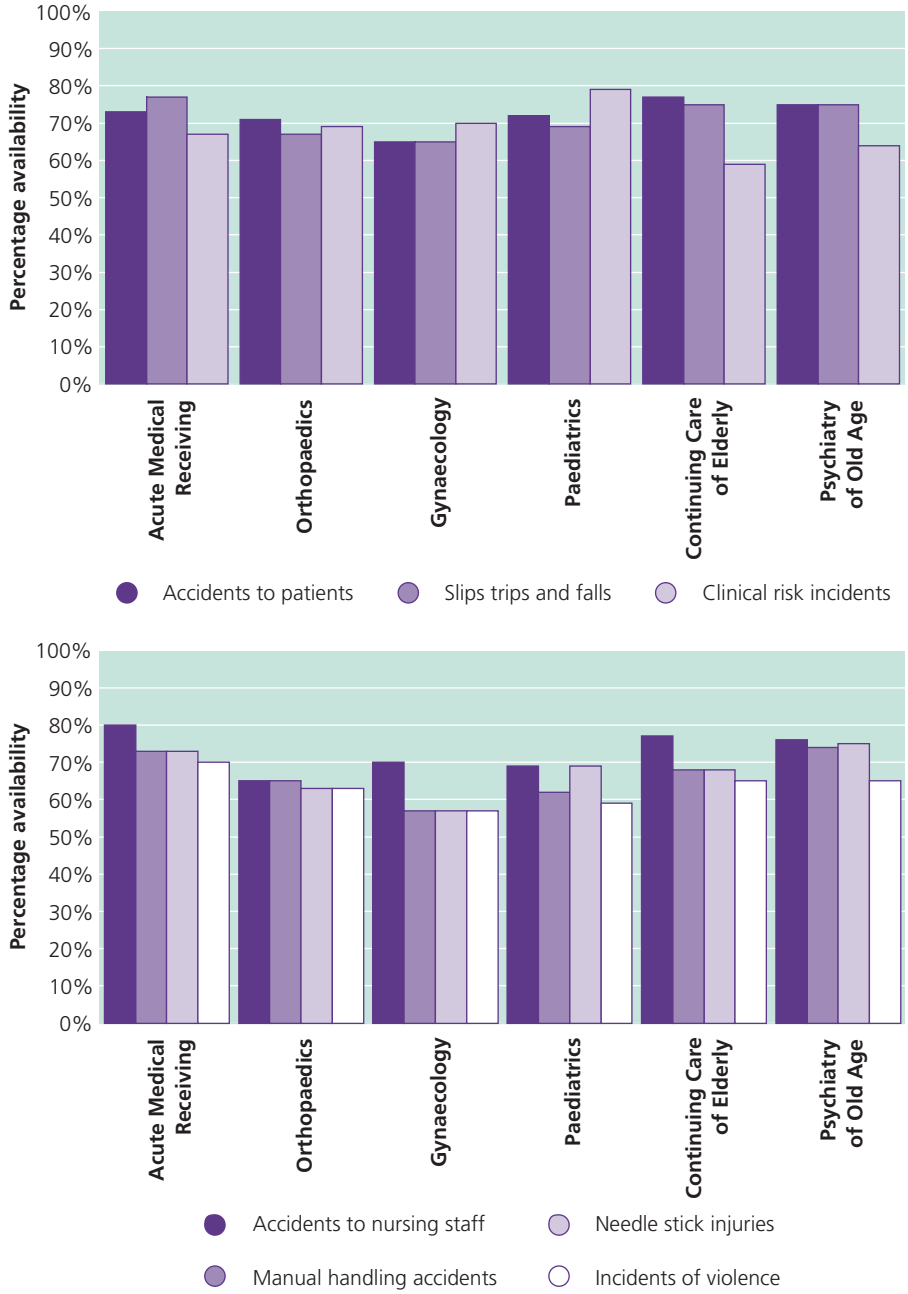
Quality issue	Number of PCTs (n=13)	Number of acute trusts (n=15)
Accidents to patients	12	13
Total recorded slips, trips and falls to patients	12	13
Accidents to nursing staff	12	13
Nursing manual handling accidents	12	13
Nursing needle stick injuries	12	14
Pressure sore incidence or prevalence	2	8
Recording of clinical risk incidents involving nurses	10	10
Violence and aggression incidents against nurses	12	13
Incidence of urinary tract infections	0	2

Note: Exhibit shows availability of information for period 1 April 2000 - 31 March 2001. Systems for recording clinical risk incidents were only being set up in some trusts in 2001, therefore the numbers and types of these incidents were not comparable.

Source: Audit Scotland, 2002

Exhibit 35: Availability of information on proxy quality indicators

Some ward managers do not have access to basic quality information.



Note: Exhibit shows availability of information for the period 1 April 2000 - 31 March 2001.

Source: Audit Scotland, 2002

Recommendations

We found considerable scope to improve information to assist managers in using nursing resources effectively.

- NHS boards should work with trusts to improve the management information available.

- As a minimum, management information should cover the following information by registered/unqualified nurse. This information should be available at trust and ward level and regularly reviewed:
  - numbers of staff in post
  - staff establishment
  - full time and part time staff
  - vacancy rates
  - turnover rates
  - time out for sickness, maternity and study leave
  - gross costs
  - bank and agency costs
  - agreed measures for the quality of care being provided by nursing staff.

- Trusts should have access to information by type of registered nurse, and grade of staff.

- ISD should work with trusts to enhance national data sets, based on this information, to allow benchmarking at trust and ward level.

- Trusts should improve the availability of cost data at ward level, to enable ward managers to manage more effectively.

- Further progress is required to ensure that information on quality indicators and patient need is available at ward level.

Appendix 1: Membership of study reference panel

Ian Aitken, Service Manager, Forth Valley Primary Care NHS Trust

June Andrews, Director of Nursing, Forth Valley Acute NHS Trust

Professor James Buchan, Faculty of Social Sciences and Health Care, Queen Margaret University College, Edinburgh

Ros Derham, Charge Nurse, Royal College of Nursing Nominee

Teresa Fyffe, Nursing Advisor, Scottish Executive Health Department, Chief Nursing Officer Nominee

Maureen Henderson, Director of Nursing, South Glasgow University Hospitals NHS Trust

Professor Kate Niven, Director, Nursing Research Initiative for Scotland

Lesley Summerhill, Director of Nursing, Tayside University Hospitals NHS Trust

In addition, **Dr Linda Pollock**, Director of Nursing at Lothian Primary Care NHS Trust, commented on the draft national report.

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