

Waiting times (both to see a doctor and to be admitted to hospital) have on average got longer since 1996.

There is scope for making better use of nurse practitioners – only 5 per cent of departments have nurse practitioners who treat a significant proportion of their patients.

Any increases in resources need to be better targeted at specific improvements in waiting times or quality of care.

accident and emergency

Children attending A&E departments are twice as likely to be seen by a nurse specially trained to treat them, compared with two years ago.

Departments' information systems have improved since 1998, but there are still 14 per cent without a computer.

The percentage of heart attack patients who need clot-busting thrombolytic drugs and who receive them within 30 minutes of arrival in A&E is increasing but is still only 33 per cent. The target for England is 75 per cent by April 2002.

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Background

The demands placed on A&E departments are inherently unpredictable and varied

1. More than 15 million people attend Accident and Emergency (A&E) departments in England and Wales every year, far more than come into contact with any other hospital service. Some of these people are acutely ill or injured and need immediate, sometimes life-saving treatment. Many, whose condition is not so serious, require urgent assessment and treatment for their injury or sickness. Others are not seriously ill and may not need any treatment at all, but nevertheless rightly expect competent and prompt assessment. For these reasons A&E departments have a high public profile and are viewed by many as an essential local service.

2. The Audit Commission first reported on A&E services in 1996^I. It found:

- long waiting times for emergency treatment or admission;
- poor provision for some vulnerable patients such as children;
- poor supervision and support for junior doctors; and
- poor provision and use of information in many departments.

These findings were made against a background of pressure from increasing demand and shortages of staff.

3. The Commission re-examined A&E services in 1998^{II} as part of its programme of following up previous value-for-money work and found that waiting times had lengthened in many departments. This was despite reduced growth in the numbers of patients attending A&E departments. Given these concerns, A&E services were included for further review in 2000 as part of the Audit Commission's Acute Hospital Portfolio (see back cover). The data were collected in July 2000 and almost all NHS trusts that provide A&E services in England and Wales took part. Auditors then used the comparative data this generated to produce a tailored performance assessment for each trust to identify what, if any, further work was needed. This review reports the national findings from the comparative data, taking into account any amendments that have resulted from discussions with individual trusts.

4. The demands placed on A&E departments are inherently unpredictable and varied, and as a result they are difficult to match. A balance has to be struck between providing resources sufficient to minimise patients' waiting times and maintain good-quality care on the one hand, and avoiding overcapacity and underoccupied staff on the other. It is important to assess performance in A&E departments in the context of this balance. This review addresses four objectives of any A&E department:

- waiting times – minimising the time patients have to wait for treatment in the department;
- staff – making efficient and effective use of staff;

I The Audit Commission, *By Accident or Design*, Audit Commission, 1996.

II Audit Commission Update, *Accident and Emergency Services Follow Up*, Audit Commission, November 1998.

The time patients have to wait in A&E departments matters greatly to them

- quality – delivering a high-quality service; and
- information – having good management information.

Measuring waiting time

5. The time patients have to wait in A&E departments matters greatly to them. Long waits can be very distressing for them and may cause their condition to deteriorate. Long waiting times can also indicate a poorly resourced, poorly managed or poorly co-ordinated department. Careful consideration is therefore required to select measures that are consistent and meaningful to patients.

6. The Department of Health set out official measures in the Patient's Charter in 1996:

- the time from arrival to the time of 'triage'; and
- the time from 'decision to admit' to the time of admission for the 20 per cent (on average) of patients who are admitted to hospital. This period includes what are commonly referred to as 'trolley waits'.

However, both of these measures are unsatisfactory. The first measure refers only to the time that patients have to wait to be categorised according to the urgency of their condition. It does not include the time patients subsequently wait to see a doctor and receive treatment. This might not matter if there were any reason to believe that patients seen more promptly at triage are also more likely to see a doctor sooner. But if anything the opposite is true. The Audit Commission's report of 1996 showed that some departments that returned comparatively good Patient's Charter ratings were among the slowest in actually treating and discharging patients.

7. The problem with the second measure is that the 'decision to admit' is an intermediate point in a patient's treatment that might be relevant to hospital management, but is much less relevant to patients. Moreover, as the Audit Commission report of 1996 stated, it is open to manipulation.

8. The Audit Commission continues to use the two indicators it adopted in both the original report and in the 1998 update because they are more robust, comparable and relevant to patients than the official measures:

- The time from arrival to seeing a doctor or nurse practitioner ('wait to see a doctor').
- The time from arrival in A&E to admission to a hospital bed ('wait for admission').

9. The NHS Plan for England sets out a new standard that measures waiting times for admission from the time of arrival of the patient, as recommended by the Audit Commission, rather than from the time of 'decision to admit' as included in the Patient's Charter:

By 2004, no one should wait more than four hours in accident and emergency departments from arrival to admission, transfer or discharge. Average waiting times in accident and emergency will fall as a result to 75 minutes.

This is a welcome step forward. Although the target is still three years away, there is an intermediate milestone for March 2002, by which time departments must meet these standards for 75 per cent of their patients. In Wales a similar standard has been in place since 1996:

Whether or not you are admitted to hospital, you should not normally have to spend longer than four hours in the Accident and Emergency or Casualty department.

10. In order to be useful standards of performance the accompanying measures must, in future, separate the three categories of patient: those who are admitted, those who are transferred, and those who are discharged. If they do not, the figures for discharge, which cover 80 per cent of patients and which are relatively easy to meet, could mask any indication of performance for the more important and challenging target of admission within four hours.

Findings

Waiting times

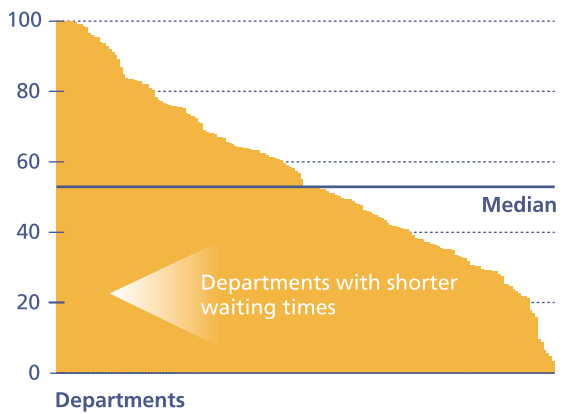
11. Waiting times, both to see a doctor and to be admitted, vary considerably between A&E departments, suggesting scope for improvement in many [EXHIBIT 1]. There is a tendency for departments with long waiting times on one measure to have long waiting times on the other as well, but the weakness of the association suggests that each type of wait should be investigated separately [EXHIBIT 2].

EXHIBIT 1

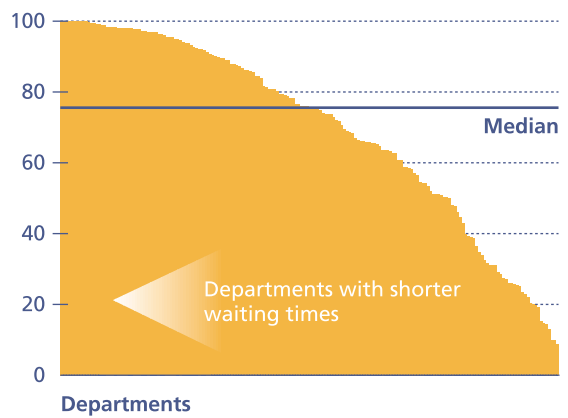
Waiting times by department, 2000

Waiting times vary widely between departments.

Wait to see a doctor – Percentage of patients seeing a doctor or nurse practitioner within one hour of arrival



Wait for admission – Percentage of patients admitted within four hours of arrival



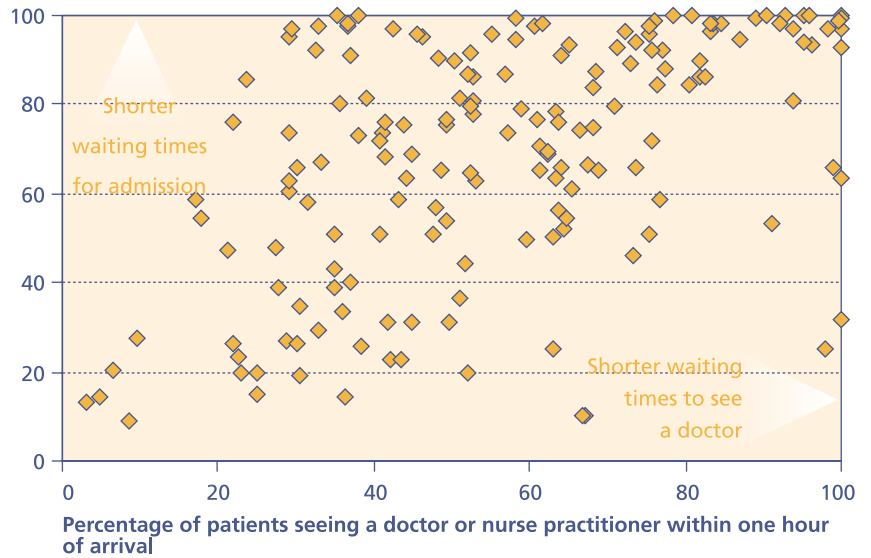
Source: Audit Commission

EXHIBIT 2

Wait for admission compared with wait to see a doctor, by department

There is a tendency for departments with long waiting times on one measure to have long waiting times on the other.

Percentage of patients admitted within four hours of arrival



Source: Audit Commission

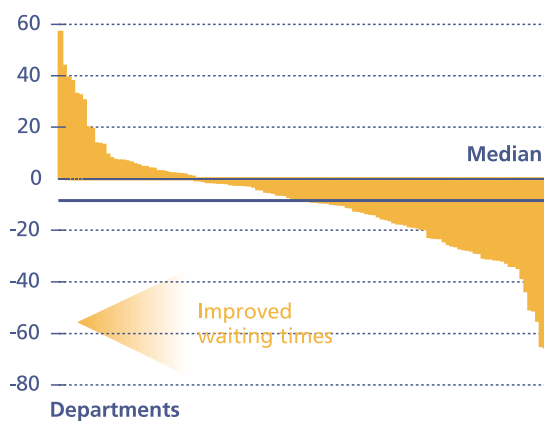
12. Although some departments are seeing more patients within one hour than in 1998, the majority see fewer. The position is similar for admission times; some departments are admitting patients faster, but most are taking longer [EXHIBIT 3]. In fact, waiting times have been increasing since first measured by the Audit Commission in 1996. The rate of deterioration has increased since 1998 [EXHIBIT 4]. Those departments with longer waits will be encouraged by their auditors to carry out further investigation.

EXHIBIT 3

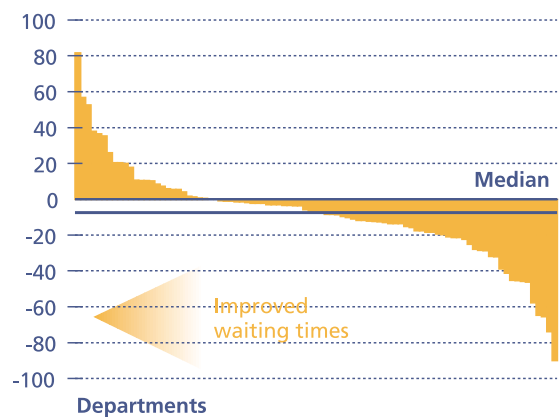
Change in waiting times by departments, 1998-2000

While waiting times have shortened in some departments, in most they have lengthened.

Change in percentage of patients seeing a doctor or nurse practitioner within one hour of arrival



Change in percentage of patients admitted within four hours of arrival

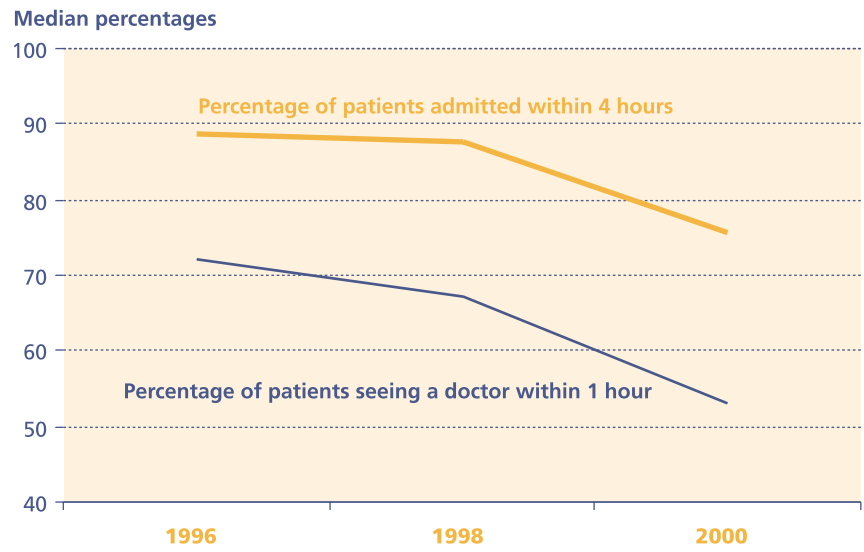


Source: Audit Commission

EXHIBIT 4

Trend in waiting times to see a doctor and to be admitted, 1996-2000

Fewer people are now seeing a doctor or being admitted within the one and four hour target times.

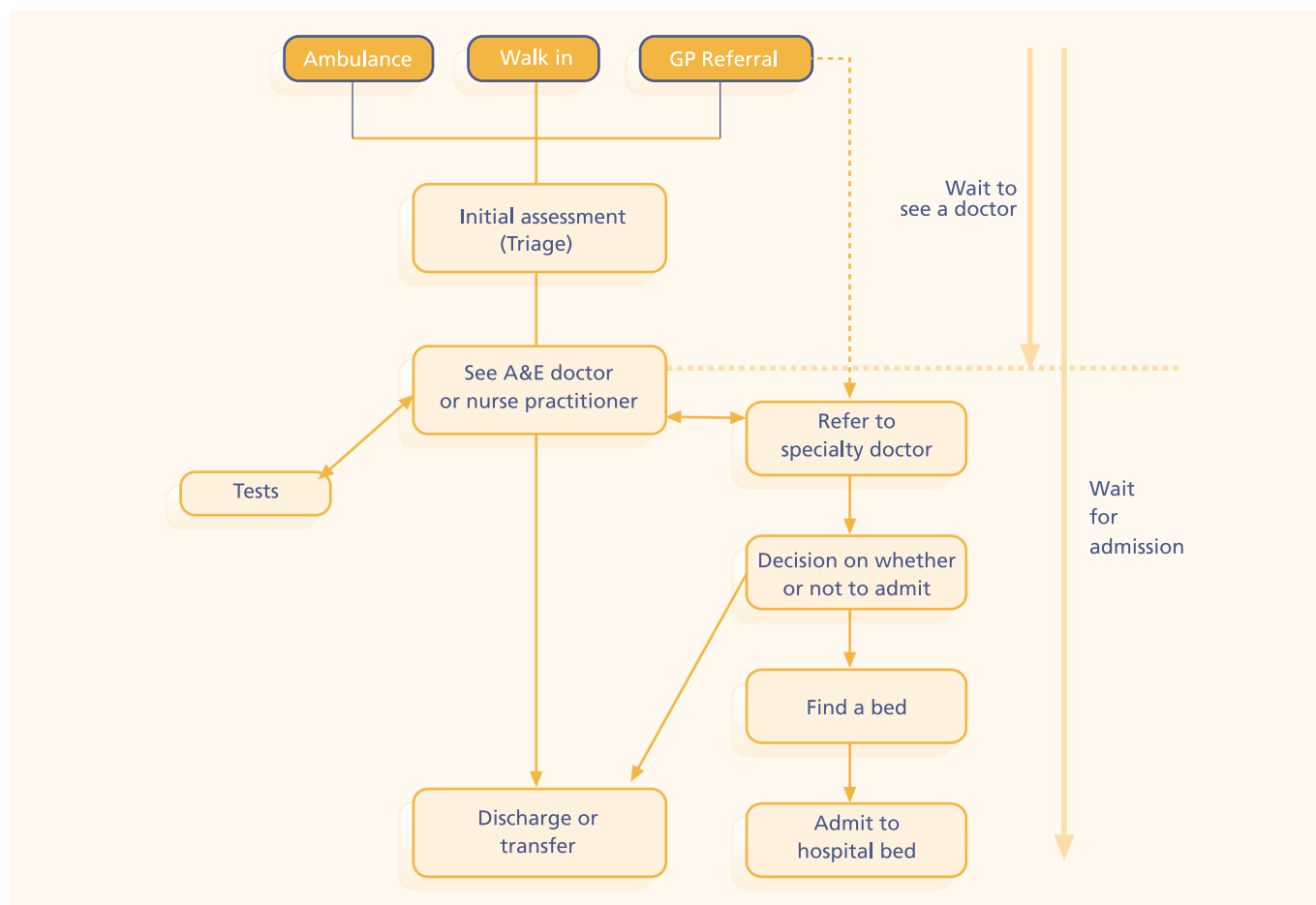


Source: Audit Commission

13. Waiting to be assessed and treated by a doctor or nurse practitioner is more directly under the control of an A&E department than are delays in admission, which can be affected by waits for test results, absence of other doctors or lack of beds [EXHIBIT 5]. However, delays in admission can hold up assessment and treatment of other patients by taking up cubicles and staff time in A&E.

EXHIBIT 5

Flowchart through A&E



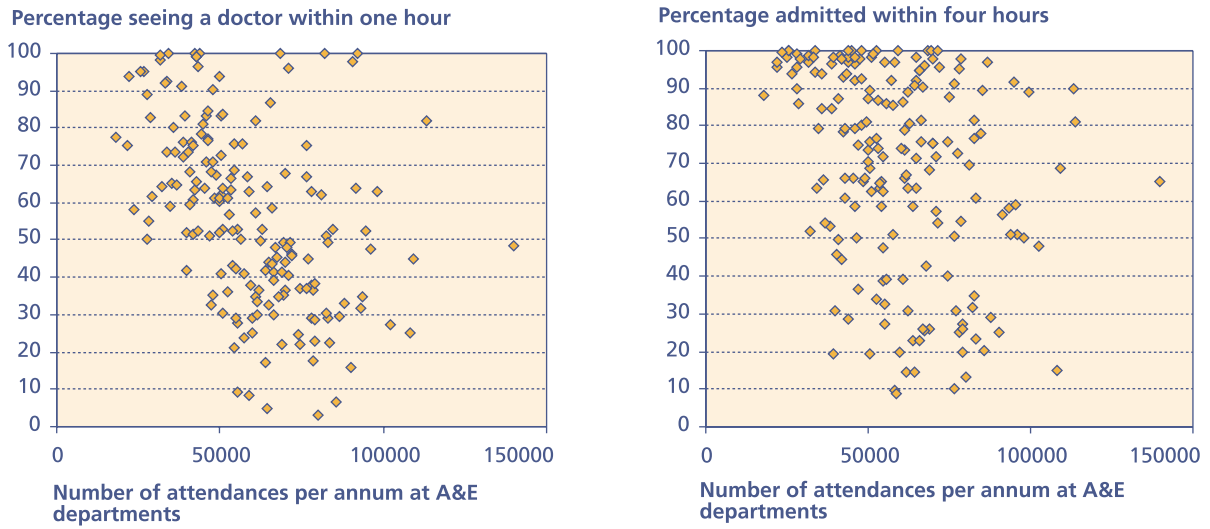
14. Variation in waiting times to see a doctor are found in all sizes of departments. However, small departments (with fewer than 40,000 patients per annum) all manage to have 50 per cent or more of their patients seen by a doctor within an hour. Larger departments in contrast, exhibit variation across the complete range. There is also a tendency for smaller departments to admit patients more quickly [EXHIBIT 6]. Waits also tend to be longer in A&E departments in London¹ and shorter in rural areas such as the South West and Wales [EXHIBIT 7]. This is only partly a reflection of the size of departments (larger ones tend to be in London and other urban areas, smaller ones in rural areas). Other possible factors that might explain differences in waiting times include the different types of patients treated and the availability of other services such as primary care.

¹ Multiple regression analysis on a range of comparative indicators showed that location in or out of London was the most significant factor associated with waiting times.

EXHIBIT 6

Waiting times to see a doctor and be admitted compared with size of the department

Departments seeing fewer than 40,000 patients per annum manage to have them seen by a doctor and admitted more quickly¹.

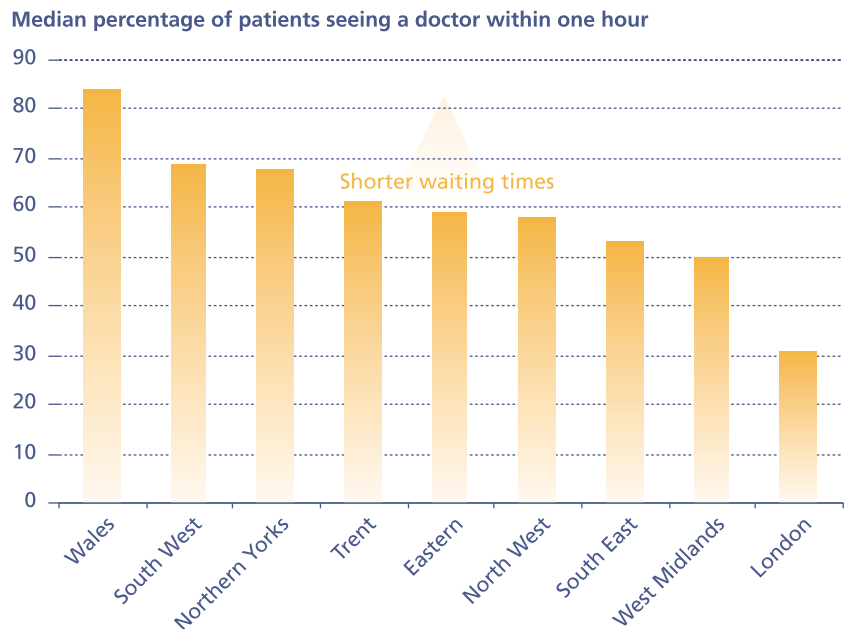


Source: Audit Commission

EXHIBIT 7

Waiting times to see a doctor by NHS English regions and Wales

Times to see a doctor are shortest in Wales and longest in London.



Source: Audit Commission

¹ This was confirmed by a regression analysis which showed that these relationships are significant with 95 per cent confidence.

Waiting times are determined by a host of organisational and managerial differences as much by resources and staff levels

15. If the size of A&E departments accounts for only a small part of the variation in waiting times, what is responsible for the remainder? There is no single answer. The available data can support a particular cause of long waits in some departments (for example too few cubicles for examining patients, or a shortage of doctors or nurses), but in the majority of cases, no cause is discernible. This suggests that waiting times are determined by a host of organisational and managerial differences as much by resources and staff levels. The Commission's auditors are investigating these problems, in co-operation with trusts, and will be developing action plans for improvement and monitoring their implementation in future years.

16. A measure that many trusts have adopted to facilitate admissions, is to establish an 'admission ward', where patients can be admitted as emergencies and properly assessed and stabilised before being transferred to a general ward or discharged. This enables patients referred by GPs to avoid long waits for assessment in A&E, and to be dealt with directly in the admission ward. The success of these wards depends on their having sufficient beds to take patients who would otherwise require assessment in A&E, and enough beds being available in general wards for patients to be transferred quickly from the admission ward to a general ward when appropriate. About half the departments surveyed by the Audit Commission reported the presence of an admission ward in the trust, typically under the management of the medical directorate. However, there is no association between the provision of an admission ward and the length of waiting times for admission through A&E.

17. The response of other hospital departments to requests for assistance from A&E departments is outside the scope of this review, but it can significantly affect waits for admission. Radiology (covering requests for X-rays) and Medical Staffing (covering the availability of doctors in other specialties) are currently being examined by the Audit Commission as part of its Acute Hospital Portfolio. National reviews of these topics, including their links with A&E, will be published in 2002. Explanations of long waiting times in A&E departments are likely to be found in particular combinations of factors at individual departments.

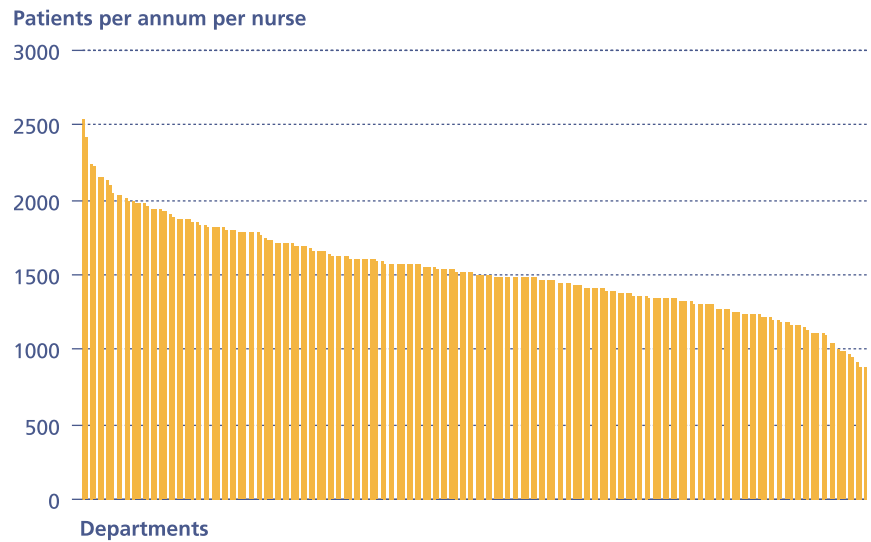
Staffing

18. Nationally, the number of patients attending A&E departments continues to grow, albeit at the modest rate of 1 per cent per annum since the mid-1990s^I. This might lengthen waiting times or reduce the quality of care, if resources, particularly staff, are not increased to match. The number of nurses in A&E departments has remained static overall, which indicates a greater workload for each nurse. However, nurses' workloads vary widely between departments from around 1,000 to 2,000 patients per annum [EXHIBIT 8], and there is no evidence^{II} that those departments that are relatively short-staffed have longer waiting times than those that are relatively generously staffed.

EXHIBIT 8

Nurses workload, by A&E department

The ratio of patients per nurse varies from less than 1,000 to more than 2,000.



Source: Audit Commission

I Hospital Activity Statistics, Department of Health, 1987 – 2000.
 II Investigated in a multiple regression analysis.

Half of departments showed an increase of one or more doctors of this kind

19. In contrast to the number of nurses, the number of doctors has increased since 1998 by 10 per cent, which is more than enough to offset the increase in the number of patients. Most of this growth has been concentrated in the ‘non-consultant career grades’. These are experienced doctors who are not on a training scheme to become a consultant. Almost half of departments showed an increase of one or more doctors of this kind. This should have improved the level of supervision and support to the Senior House Officers (SHOs) – training-grade doctors providing much of the front-line care – which should in turn have improved the standard and speed of clinical care.

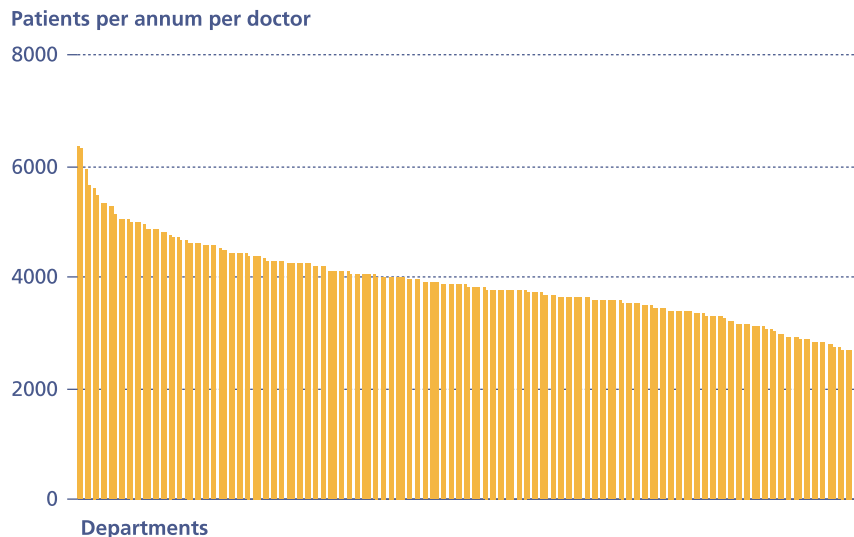
20. There has been very little change in the number of SHOs or their availability. Most SHOs are on contracts of between 50 and 56 hours, which imply shift work, and this has not changed significantly since 1998. Just 16 departments (8 per cent) reported reductions in contract hours that imply a change from an on-call contract to shift work.

21. Doctors’ workloads (measured by the number of new patients arriving in a year, divided by the total number of doctors in the department) vary between departments as much as do nurses’ workloads [EXHIBIT 9]. And, similarly, there is no relationship between doctors’ workloads and either measure of waiting time in A&E used in the survey.

EXHIBIT 9

Doctors workload, by A&E department

The ratio of patients per doctor varies from 2,500 per annum to 6,000.



Source: Audit Commission

The number of departments that make use of nurse practitioners ... has not increased much since 1998

22. The British Association for Accident and Emergency Medicine has devised a system of ‘weights’ that takes account of the amounts of time different grades of doctor spend in direct contact with patients, as opposed to other tasks such as training and managerial duties. On this basis, SHOs count as one unit; non-consultant career grades and specialist registrars are down-weighted, and consultants are not included, because their main role is seen as supporting and supervisory. Using these weights, the variation in the number of patients seen per doctor is still wide, and the reduction in average workload remains valid.

23. Nurse practitioners^I could potentially reduce the workloads of A&E doctors by allowing more patients to be treated and discharged without the need to see a doctor at all, yet only 1 in 20 departments have nurse practitioners who see more than 10 per cent of the patients. Moreover, the number of departments that make use of nurse practitioners to this extent has not increased much since 1998. This is a missed opportunity, given that about 60 per cent of patients attending A&E departments are not classified as urgent.

24. The wide range of workloads for both doctors and nurses in A&E departments, coupled with the absence of any association between staff levels and waiting times, suggests scope for improvement in the way that staff are allocated and deployed. Where staff levels appear to be generous, hospital managers should ensure they are operating efficiently without sacrificing waiting times or quality. Equally, where staff levels are relatively tight, they may need to be increased, but only where their contribution to reducing waiting times or improving quality of care is clear.

Quality

25. It is important to look at the quality of care in A&E departments. Indicators included here are:

- The speed of administration of thrombolytic (‘clot busting’) drugs to patients who have suffered a heart attack;
- The availability of experienced A&E doctors; and,
- The provision of nurses specially trained to deal with children.

26. A standard for the treatment of heart-attack patients as set out in the coronary heart disease National Service Framework for England is that:

75% of eligible patients [should be] receiving thrombolysis within 30 minutes of hospital arrival by April 2002 and within 20 minutes by April 2003. ^{II}

I In order to be included in the survey, nurse practitioners have to be authorised to treat, request X-rays, refer to a specialty and discharge, without referring to a doctor.

II *National Service Frameworks, Chapter Three – Heart attacks & other acute coronary syndromes*, DOH, March 2000

However, only 40 per cent of A&E departments in England were able to provide the Audit Commission with figures against the 30-minute standard. This may be because in many trusts thrombolysis is provided by coronary care units, rather than the A&E department, but even in these cases the figures should have been provided if they were available. Most of those departments that did provide figures on their performance against this standard will need to make substantial improvements if they are to meet the targets by 2002. The variation between departments covered the extremes, with the best departments giving thrombolytics to all eligible patients within 30 minutes of arrival, and the worst taking longer in every case. The average is 33 per cent within 30 minutes, which compares poorly with the 75 per cent set out as the English standard [EXHIBIT 10]. This does however represent a modest improvement since the previous survey in 1998, when the average was 24 per cent, despite performance actually deteriorating in some departments.

27. For Wales, a similar standard is planned:

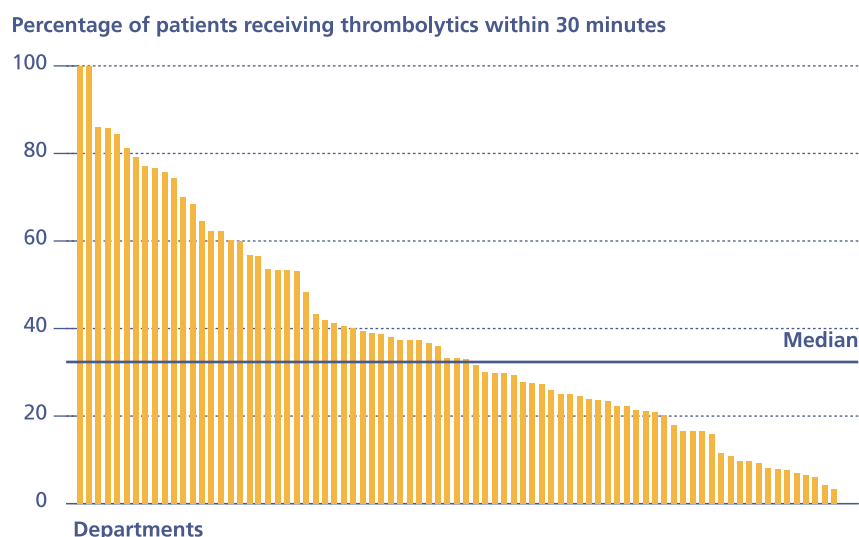
By 2002/3, in cases of diagnosed MI, where thrombolytic therapy is appropriate, [there should be] a maximum twenty minutes for door to needle time.¹

Only three departments in Wales (20 per cent) provided figures. These ranged from 6 per cent to 60 per cent of patients receiving thrombolytics within 30 minutes (the standard used for collecting data from all trusts).

EXHIBIT 10

Percentage of heart-attack patients receiving thrombolytic drugs within 30 minutes of arriving at A&E, by department

Only one third of patients receives thrombolytics within 30 minutes.



Source: Audit Commission

¹ *Tackling CHD in Wales: Implementing Through Evidence*, The National Assembly for Wales

About a quarter of the patients arriving at a typical A&E department are children under 16

28. Most patients who arrive at A&E can be treated competently by an SHO, but it is important that an experienced doctor should be available at short notice to deal with the more serious or complex cases. Only about half of departments had an experienced doctor (i.e. more than 6 months' experience of A&E) available 24 hours a day. This position is little changed since 1998, despite the increase in doctors in the non-consultant career grades who might well fulfil this role.

29. About a quarter of the patients arriving at a typical A&E department are children under 16, and it is important that there should be nurses in the department qualified to care for children, as recommended by the Department of Health. On average, a child-trained nurse was present in departments for 60 hours a week, which represents a marked improvement since 1998, when the equivalent figure was only 37 hours. Seventeen departments reported that they have a child-trained nurse present all the time, also a marked improvement over the seven departments in 1998.

Information

30. In order to improve performance, it is necessary to have good information, and this is one aspect of A&E departments that has improved significantly since the Commission's previous survey in 1998. For example, 89 per cent of departments could supply waiting times for admission, compared with only 55 per cent in 1998.

31. Eighty six per cent of departments have a computerised information system. About half of these systems come from five major suppliers, but the remainder come from many different suppliers or have been developed by a trust's own IT department. This means that, without precise definitions of performance indicators, there are likely to be many inconsistencies in data that will hinder comparisons between departments.

32. The capability of these computer systems is very variable. For example, only half of them could produce the information on waiting times requested by the Commission as a matter of routine. The rest required special reports to be devised. Moreover, only half were integrated with the hospital Patient Administration System (PAS), which would obviate the need for time-consuming duplicate entry of patient details and other information by A&E staff.

33. Despite their increased use, there are still 29 departments (14 per cent) that do not have A&E computer systems and could only supply the Audit Commission data on waiting times by manually surveying patient record cards.

34. The government's requirement for A&E departments to report waiting times from arrival to admission, transfer or discharge, in line with the new standards should greatly improve the usefulness of the information.

Only half the [computer systems] were integrated with the hospital Patient Administration System (PAS)

Conclusions

35. This survey has found that some A&E departments have much longer waiting times than others and that overall they are getting longer. Long waits are found more frequently in London and in larger departments. These indicators of waiting times are high level and do not provide the detail necessary to identify the bottlenecks and the sources of delay in individual departments. This can only be done by the more detailed audits that the Audit Commission is undertaking at those places that demonstrably need it.

36. Staff workloads vary very widely, and there is evidence that some A&E departments do not allocate staff to the tasks for which they are best suited. About 60 per cent of patients are classified as non-urgent, and a high proportion of these could be treated by nurse practitioners. However only a tiny proportion of departments (5 per cent) make any significant use of them. Hospital managers should address these anomalies.

37. Where quality can be measured, the indicators show patchy performance. The provision of child-trained nurses is low but has improved. The availability of experienced doctors is not always adequate and shows little improvement since 1998.

38. Departments will need to improve response times for administering thrombolytic drugs to meet the target for 2002 in the National Service Framework.

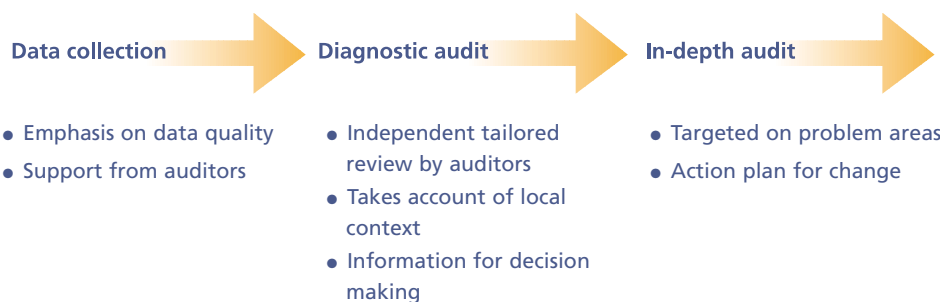
39. Good management information is a prerequisite for improving operational performance. Accurate and timely reporting is needed on indicators that are relevant to patients' experiences. The availability of management information has shown significant improvement since 1998, but these are still major shortcomings. Hospital managers must now make sufficient use of information to improve the organisation of services, and hence the treatment to patients.

40. The evidence from this review and other sources indicates that achieving lasting and demonstrable improvements to A&E services is not easy. The causes of poor performance can sometimes be traced to a factor such as shortage of cubicles. More often however, no remediable cause can be identified within the department. It then requires much management effort and skill, both in A&E departments and more widely in the NHS, to bring about improvements to capacity, efficiency and quality.

Accident & Emergency Ambulance entrance

acute hospital PORTFOLIO

The Acute Hospital Portfolio is a collection of audits that are available for auditors to undertake at acute trusts, according to local priorities. They focus on key service areas or resources within the trust that are of concern to trust managers and patients. Each year the Audit Commission selects up to four topics from the Portfolio to survey across all trusts. There are three main stages to the survey work carried out in sequence.



The data collection and diagnostic work are the core of the survey and each trust receives, from its auditor, a tailored assessment of its performance based on the data collected. In-depth audit work is then carried out at only a minority of trusts – those that demonstrably need it. The survey is repeated for each topic within four years so that progress can be monitored both at individual trusts and nationally. A maximum of 16 topics is currently envisaged to allow coverage of all the key issues and service areas.

This review reports the results from the survey of A&E. This is one of the first four topics in the Portfolio. Similar reviews are also being produced for each of the other three topics this year: Catering, Day Surgery and Ward Staffing, and next year: Medicines Management, Medical Staffing, Radiology and Supplies and Procurement.

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