A Short Cut To Better Services

Day Surgery in England and Wales

The Audit Commission for Local Authorities and the National Health Service in England and Wales
A Short Cut To Better Services

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Preface

1. The Audit Commission became responsible for the external audit of the National Health Service (NHS) in October 1990. The Commission's auditors will review the financial accounts of all health service bodies, but much of their work will be concerned with economy, efficiency and effectiveness in the use of resources. Each year several health service topics will be selected for special study by the Commission and a national report published on each. The topics will then be investigated in every health authority in England and Wales by local auditors appointed by the Commission, who will prepare a report for each authority and its managers. These reports will be prepared according to a standard protocol described in a separate Audit Guide, which will be available from the Commission.

2. This is the first report to be published by the Audit Commission for the National Health Service. Day surgery has not expanded as fast as it might have done and performance varies considerably between district health authorities. The Commission therefore decided to identify the obstacles to growth and to suggest ways of overcoming them consistent with maintaining and improving standards of patient care.

3. This study was carried out by a team led by Dr Jonathan Boyce of the Audit Commission and included: Mr. David Ralphs, Consultant Surgeon, Norfolk and Norwich Hospital, nominated by the Royal College of Surgeons of England; John Bailey, Linda Jarrett, Claire Blackman, Brian Pereira and Penelope Eames of the Audit Commission. The study team visited several district health authorities and hospitals, and a number of regional health authorities provided data. Work on patient satisfaction and attitudes to day surgery is being carried out on the Commission's behalf by Dr Nick Black and Ian Waters of the London School of Hygiene and Tropical Medicine. It will be circulated to health authorities in due course. An Advisory Group consisting of clinicians, managers and academics has met regularly throughout the study. Many others have also assisted in the work and commented on drafts of this report. The Commission is very grateful for their help. A list of contacts is given in appendix 1.
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Summary

1. Many surgical procedures, including a large number for which there are already long waiting lists, can be carried out on patients who enter and leave hospital on the same day.

2. Day surgery offers two considerable advantages:

- the service offered to patients can be better organised and suited to their needs, and above all can be provided sooner as faster throughput allows waiting lists to be reduced;

- hospital costs are lower and there is no evidence of significant offsetting cost increases for community support or extra care of patients at home.

At the same time, outcomes are no different from those of in-patients undergoing the same procedures.

3. In spite of these advantages, day surgery is less common in England and Wales than in many other countries and is very unevenly distributed. The extent to which some common appropriate procedures are treated as day cases varies from 0% to 100% between district health authorities (DHAs).

4. The Commission's analysis shows that if all DHAs performed day surgery consistently at readily achievable levels for each of 20 common procedures, an additional 186,000 patients could be treated each year without increased expenditure. And many other procedures are suitable for day surgery, offering potential for 300,000 additional patients to be treated annually. This is equivalent to about 34% of the existing day-case and in-patient waiting lists in England and Wales.

5. The case for expansion is established and supported by the Royal College of Surgeons. But there are obstacles in the way. The main ones are:

- lack of information to assess current performance, estimate the potential and monitor change;

- lack of specialist facilities;

- inappropriate and insufficient use of those facilities which exist;

- poor management and organisation of day-case units;
• clinicians' preferences for more traditional approaches;

• disincentives for managers to prescribe change.

6. Many of these obstacles can be overcome. In relation to the first four, the Audit Commission has recommended:

• a robust method of assessing performance, recording and monitoring progress;

• measures to improve the use made of day-case units, drawing on best practice in this country and elsewhere.

If these are accepted by managers and clinicians, the latter might be more prepared to change their preferences. The Audit Commission is also developing a questionnaire which DHAs can use to assess patients’ views. This is crucial for ensuring that the quality of service received by patients is adequately monitored and improved where necessary.

7. Financial and management disincentives should be largely overcome as a result of the new structure of the National Health Service, with health authorities as purchasers and hospitals as providers.

8. Clinicians' attitudes are changing gradually. More surgeons and anaesthetists will come to see the advantages of day surgery, for appropriate patients, if DHAs and hospitals respond to the recommendations in this report. These will be buttressed by auditors' reports to each health authority over the next year.
1. Hospital patients may be classified into three main categories: in-patients, out-patients and day cases. In-patients stay in hospital overnight. Out-patients come for minor procedures, investigations or consultations and leave as soon as they are over. Day cases do not stay in hospital overnight, but do need to stay for a short time after a procedure for recovery. Typically, day-case patients would stay in hospital for a morning or an afternoon. Exceptionally they might need to stay for the whole of the working day.

2. Day-case patients attend hospital at a pre-arranged time following an out-patient consultation, and know in advance what needs to be done. In contrast, 50% of in-patients are emergency admissions. In England in 1985 (the latest year for which published data which specify operations are available) 794,000 operations and procedures were carried out as day cases. The 10 most frequent day-case procedures account for over 50% of the total (Exhibit 1). Gastroscopy alone accounts for 15%.

Exhibit 1
THE 10 MOST FREQUENT DAY CASE PROCEDURES (England 1985)
10 procedures account for over 50% of day cases

3. There are other procedures such as hernia repair, varicose vein surgery, cataract extraction and arthroscopy, which:

- are suitable for day surgery;
- are currently carried out extensively on in-patients;
- have long waiting lists.
This study is primarily concerned with the scope for more day surgery. There are also many medical procedures, such as some chemotherapy for cancer, for which a day-case setting is the most appropriate. In both cases substitution for in-patient care is likely to offer benefits to patients, such as shorter waiting times, and considerable potential for improved economy, efficiency and effectiveness.

4. The planned nature of day surgery means that patients can be treated in dedicated wards, which can be closed down at night. Some health authorities have already invested heavily in self-contained day-case units with their own operating theatres. This study is also concerned with the ways in which these units are being used.

5. Day surgery has been practised safely in this country for many years. Nicoll, a surgeon in Glasgow, performed day surgery as early as 1906. But until the late 1960s, surgeons practising day surgery were lone pioneers. Interest in it from both managers and clinicians has increased considerably over recent years (reference 1).

6. Hospital expenditure on day cases, both medical and surgical, amounted to some £100m in England and Wales in 1988/89. This is only 2% of expenditure on in-patients and day cases combined, but it has almost doubled since 1978/79 (Exhibit 2), after adjusting for inflation (National Health Service (NHS) Pay and Price Index).

Exhibit 2
CHANGE IN ESTIMATED EXPENDITURE ON ACUTE IN-PATIENTS & DAY CASES (England- 1978/79 TO 1988/9)
Expenditure on day cases has nearly doubled over the past 11 years; that on in-patients has remained constant

Note: The sudden fall in 1987/8 is due to a change in the definition of day cases. “Acute” is non-maternity, non-psychiatric patients. The figures are adjusted for NHS pay and price inflation.
Source: Department of Health
7. Three main factors have influenced the recent growth of day surgery:

(i) **Changes in clinical practice**: many clinicians are encouraging patients to become mobile again as soon as possible after an operation. This has contributed to a steady fall in the average length of stay of in-patients (Exhibit 3).

*Exhibit 3*

**AVERAGE LENGTH OF STAY OF IN-PATIENTS IN NHS HOSPITALS: SURGICAL SPECIALTIES (England 1974-1986)**

There has been a steady decline over many years

![Bar chart showing the average length of stay of in-patients in NHS hospitals from 1974 to 1986.](image)

*Source: DHSS - NHS Hospital activity statistics, 1974-1986*

(ii) **Technological developments** are transforming the image of day surgery, as well as expanding its scope from minor routine procedures to relatively major operations. These include: faster acting, more precise anaesthetic drugs; better analgesics; lasers and fibre-optics, which have replaced major open surgery with less invasive procedures which can be done as a day case.

(iii) **Financial pressures.** Most countries are trying to control health care costs. This creates pressure to substitute day surgery for in-patient surgery which is exerted in several ways depending on how health care is financed. In the USA, for example, certain insurers stipulate that particular procedures are carried out as day cases to qualify for re-imbursement. In this country, financial pressure has been exerted mainly through reductions in in-patient beds.
8. The advantages of day surgery are:-

(i) **It benefits patients.** This is because:

a) they are treated sooner than in-patients and suffer fewer last minute cancellations. The half-day stay in hospital which is typical for a day-case patient compares, at best, with a one or two night stay for the same procedure as an in-patient. More patients can therefore be treated for the same money. In addition, if patients are treated in a day-case unit they are less likely to suffer sudden cancellation of their treatment by the hospital, as often happens to in-patients because their beds are needed for emergencies;

b) they spend less time away from home. Many patients prefer to stay in their own homes, but the opportunity to do so is particularly important for people with dependent children, disabled or elderly relatives, and those with work commitments. Hospitalisation of children should be avoided wherever possible and can be minimised with the use of day surgery. There is also a much reduced risk of post-operative infection for patients recovering at home (reference 2);

c) patient care is better. Specialised facilities offer the opportunity to provide a service which matches the needs of patients more closely. Activities can be distinct from the main hospital, which is often better for patients psychologically. Children in particular will benefit from specialist services which take account of their emotional needs. In a report published in 1985 (reference 3), the Royal College of Surgeons of England (RCS) was unequivocal in its view that day surgery has much to offer patients (Exhibit 4).

Exhibit 4

**EXTRACT FROM THE ROYAL COLLEGE OF SURGEONS GUIDELINES ON DAY-CASE SURGERY - 1985**

"...it should be clear to all concerned, the surgeon, the nursing staff, and in particular the patient, that day-surgery is in no way inferior to conventional admission for those procedures for which it is appropriate, indeed it is better."

(ii) **Costs are lower.** Two recent reviews of academic studies of the average costs of day-case compared to in-patient treatment (references 3 and 4) have shown that day-case treatment typically costs 40% - 50% less, depending on the procedure being undertaken. However, these conclusions are based largely on studies carried out in the 1970s, and 25% - 30% may be a more realistic figure now because of the steady fall in the average length of stay of in-patients undergoing the same procedures. Nevertheless, this is still a substantial difference.
The majority of the differences in hospital costs reflect differences in the "hotel" element (principally nursing and catering costs which account for about 40% of a typical hospital budget), rather than the "treatment" element. However, there are other cost differences arising from the fact that day-case units are often more efficient than in-patient wards and theatres, because they are more compact and their work is more routine.

There are some additional costs of day surgery outside the hospital which would not be incurred by in-patients. For example, those associated with community nursing services and additional visits by GPs. Few studies have looked at these in any detail. Those which have were carried out in the 1970s and found the additional costs to be small (references 3, 4 and 5). Since then a variety of factors such as improved surgical techniques and the use of absorbable sutures (not requiring removal), have contributed to reducing the need for additional community resources.

In none of the day-case units studied by the Audit Commission were there any routine arrangements for community support. Some had had these links in the past and even arranged routine follow-up visits to patients by community nurses, but all now judged them to be unnecessary.

Some day-case units do have routine arrangements for community follow-up of children, but these are often justified on social or psychological, rather than medical grounds. There are also certain procedures which are not common as day cases at the moment, but would require community back up if they were. As technology continues to increase the range of suitable surgical procedures, a greater need for community support may emerge.

Finally, there may be additional costs incurred by day-case patients and their families providing care at home. One study (reference 5) found that the households of day-case patients saved as much on hospital visiting and extra nightwear, as they spent on fuel, food, laundry and additional analgesics and dressings. But there are other costs which are more difficult to quantify, for example, unpaid help at home provided by friends and relatives who may have to take time off work. There are also equally important unquantified benefits, not least a shorter waiting time for day-case compared to in-patient surgery.

In summary, the additional financial costs outside the hospital are small in relation to the likely differences in hospital costs. The additional non-financial costs which are largely incurred by patients and their families are more difficult to quantify, but are likely to be offset by the benefits they receive.

(iii) **Nurse recruitment and retention are easier.** The numbers entering the nursing profession have been falling steadily over recent years (Exhibit 5) due to a drop in the numbers of school leavers and changing preferences for other occupations. Up
to now this has mainly affected recruitment in London, in specialist branches of
nursing like intensive care and less popular areas such as long term care of the
elderly; but the problems may well become more widespread.

Exhibit 5
NUMBERS OF NURSES REGISTERED AS LEARNERS AT 30th SEPTEMBER
EACH YEAR (England 1982-1988)
There has been a steady decline in numbers entering the nursing profession over
several years

Day-case units provide more attractive working conditions than in-patient wards.
They offer regular hours with no weekend work and a less stressful working
environment. The study team was told at several sites visited that because the units
are relatively small and self-contained, staff morale is higher and staff turnover
lower. These conditions seem to be particularly attractive to mature trained nurses
with families, who are considering returning to the profession. This is an important
source of staff which will need to be effectively tapped in the future.

9. A recent review of comparisons of the clinical outcome of treatment between day-
case patients and in-patients concluded that there are no differences between the two
(reference 4). The studies look primarily at the incidence of complications and rates of
readmission to hospital. Some were carried out by clinicians enthusiastic about day surgery,
which may suggest an element of bias, but the better ones have reduced this by randomly
allocating patients to in-patient or day-case treatment. Several authors have undertaken
large-scale retrospective studies. One of the most recent of these (reference 6) found few
significant differences in the readmission rates of in-patients and day-case patients for 12
common day-case procedures in 5 DHAs in the Oxford Region. Where there were significant
differences, the readmission rate was higher for in-patients (Exhibit 6).
Exhibit 6
EMERGENCY RE-ADMISSIONS OF PATIENTS FOR 12 COMMON PROCEDURES IN 5 DHAs, 1976-1985
Where there are significant differences, the readmission rate for in-patients is higher.

Note: * Significance level less than 5%
Source: Reference 6
1. Day Surgery: The Current Position

10. The most recently available statistics on day cases in England and Wales can be found in the Health Service Indicators Packages produced by the Department of Health and the Welsh Office. They compare the day-case performance of district health authorities (DHAs) by looking at the numbers of day cases as a percentage of in-patients and day cases combined. These are either expressed as aggregate figures for individual specialties, like general surgery, or the DHA as a whole. Neither approach is adequate for assessing performance as they take no account of possible differences in the nature and complexity of cases treated.

11. Figures for individual procedures would avoid these problems but are much less readily available. The Audit Commission therefore obtained its own data from 4 Regional Health Authorities. The variation in the percentages as day cases by DHA for six of these procedures is shown in Exhibit 7.

12. There is a wide range in the percentage of patients treated as day cases for the procedures in Exhibit 7. Inguinal hernia repair is the narrowest at 0% -40%; carpal tunnel release covers the whole range from 0% -100%. DHAs may treat different case mixes, reflecting differences in the demographic and morbidity characteristics of their patients, but this is unlikely to account for such wide variations.

13. In order to evaluate the level of day-case activity in a DHA it is necessary to consider specific procedures. The Audit Commission has chosen 20 common procedures, most of which are carried out in all health authorities and each of which can be performed as day surgery. The Commission is not suggesting that all patients undergoing these procedures should be treated as day cases. Clinicians will always use their judgement in each case. But it is helpful to use procedures like these to assess the extent of variation in the exercising of such judgement. (This "basket" of 20 procedures is discussed more fully in paragraph 39. A glossary can be found in appendix 3).

14. If all DHAs were at or above the upper quartile of the distribution of the percentage as day cases for each of the 20 procedures, about 87,000 existing in-patients in England and Wales could be treated as day cases, releasing £10m which could then be used to treat an extra 98,000 day cases each year.
There is great variation between DHAs in the percentage of cases treated as day cases.

Even these percentages are much lower for some procedures than those already being achieved in other countries, particularly the USA and Canada. International comparisons are difficult because of differences in the methods of funding health care, clinical practices, the classification of patients and their underlying morbidity. An alternative approach to estimating the potential for more day surgery is to use percentages based on the views of clinicians in this country, such as can be found in a recent paper by Gabbay and Francis (reference 7). Using these percentages, about 171,000 existing in-patients could be treated as day cases. This would release about £19m additional resources which could be used to treat a further 186,000 day cases per year. More details are given in appendix 2.
16. These figures apply only to the 20 procedures considered by the Commission, which account for about 30% of all admissions in all surgical specialities. The Royal College of Surgeons (reference 3) suggests that many other procedures are suitable for day surgery (procedures which in total amount to 50% of all surgery). If a similar percentage of patients could be treated as day cases for these other procedures as for the Audit Commission's "basket" procedures, about 145,000 to 285,000 (depending on which target percentages in paragraphs 14 and 15 above are used) existing in-patients could be treated as day cases, releasing £16m to £31m which could then be used to treat 155,000 to 300,000 extra cases as day cases. These extra cases represent 17% and 34% (respectively) of the existing waiting lists in England and Wales.

17. The choice between treating more patients and spending the cash saved elsewhere in the NHS is a matter for health authorities. More day surgery should not be viewed primarily as a means of cutting costs. Indeed it may be much easier to create capacity in a hospital to treat more cases than to convert this capacity into cash savings which can be transferred elsewhere. This is because it is often difficult to close beds and reduce staffing levels if only small numbers are involved (see reference 8 and appendix 2).

18. It is perhaps surprising, given all the advantages identified in the previous chapter and the apparent potential for expansion, that day surgery has not developed more rapidly. But of course the cultural change involved and the associated management effort are not trivial. It is not simply a matter of sending people home earlier. Day surgery needs to be properly organised and managed to ensure that the quality of service received by patients is as good as that for in-patients and that resources are used efficiently and effectively. It is important to understand the barriers to change.

19. Six main barriers have been identified:

(i) lack of information to assess current performance, estimate the potential and monitor change;

(ii) lack of specialist facilities;

(iii) inappropriate and insufficient use of those facilities which exist;

(iv) poor management and organisation of day-case units;

(v) clinicians' preferences for more traditional approaches often backed up by a belief that patients do not like day surgery;

(vi) disincentives for managers to bring about change, particularly the fear that in-patient numbers will not be reduced, there will be more surgery overall, and they will lose control of costs, threatening their cash limits.
2. Problems in the Development of Day Surgery

DIFFICULTIES IN ASSESSING CURRENT PERFORMANCE, ESTIMATING THE POTENTIAL AND MONITORING CHANGE.

20. Day-case performance is difficult to assess because the available data often lack sufficient detail and are not consistent from one health authority to another. Without a clear assessment of the current position it is impossible to estimate the likely potential for expansion and to draw up firm plans for achieving it. The 2 main problems are:-

(i) Appropriateness of the data. The greater the degree of aggregation on which day-case percentages are based, the less valid they are likely to be as a means of comparing performance between DHAs. This is because the observed differences will reflect differences in the underlying characteristics of the service, for example complexity of cases treated, as well as differences in efficiency. Aggregate performance measures also leave more scope for manipulation to show an apparent increase in day cases without any real improvement in efficiency or change in clinical practice. For example, it is possible to bring about an improvement in day-case percentages at specialty level by selecting for treatment a larger proportion of the simpler cases which are easier to treat in this way.

Performance comparisons therefore need to be based on individual procedures. To form part of operational plans they also need to identify individual consultants. Without such data it is unclear exactly who should do what, in what time period or how the plans should be monitored. Clinicians also need this information for their own personal monitoring.

The usefulness of any data to assess day surgery performance depends heavily on complete and accurate coding of the procedures. The Audit Commission has found levels of completeness in some DHAs as low as 25% of all cases treated. The DHAs included in the data in Exhibit 7 had an average of 88% of cases with procedure codes.

Accuracy is more difficult to assess. It relies on interpretation of entries written in patients’ case notes and the appropriateness of the computer codes assigned. Often such coding is carried out by relatively junior staff who were not involved in the procedure, some time after the procedure took place, using clinical notes which were probably written with little or no attention to the needs of coders. In the past
many health authorities have not attached a very high priority to the computer
coding of procedures because they have found little need to use the data.

(ii) **Inconsistencies in the definition of day cases.** The official definition of day cases is
as follows:

> "Patients admitted electively to a hospital bed during the course of a day with
> the intention of receiving care or treatment which can be completed in a few
> hours so that they do not require to remain in hospital overnight and who are
> discharged as scheduled."

(Source: Hospital Episode System Interface Document. Department of Health,
1986)

Although it appears to be unambiguous, the term "admitted...to a hospital bed" has
caused considerable confusion. It is arguable whether a patient who recovers for a
short time after a procedure on a trolley or in a chair should be recorded as a day
case or an out-patient. This would not matter if all procedures were recorded,
together with details of where they took place (in-patient ward, day-case unit or
out-patient department). But no information is collected on procedures carried out
in out-patient departments. The consequence of this is a tendency for health
authorities to favour patients being treated as day cases rather than out-patients or
to record patients as day cases when a fair interpretation of the official definition
would have categorised them as out-patients.

The extent to which day cases are sometimes over-recorded is shown for one DHA
in Exhibit 8. 50% of its "day cases" are comprised of 3 procedures: colposcopy,
gastroscopy and cervical laser treatment. None of these procedures would normally
require in-patient treatment, and in the majority of DHAs would be treated in a
specialised out-patient clinic.

Over-recording of day cases in turn:

a) impedes the development of out-patient procedures which are likely to be even
better value for money than day cases;

b) invalidates performance comparisons between DHAs. The DHA in Exhibit 8 is
ranked in the top 10 out of 190 for day-case performance, by the Department of
Health's Health Service Indicators.
DAY CASE PROCEDURES IN ONE DHA 1988/9
The 3 most common procedures would not normally require a day-case bed. They were recorded as day cases in this DHA, putting it spuriously in the top 10 in Department of Health Statistics.

LACK OF SPECIALIST FACILITIES

21. Several of the advantages of day surgery cited in the introduction rely on the provision of self-contained, dedicated day-case units. For example good day-case units:

- offer benefits to patients such as fewer last minute cancellations and more information about what will happen to them;
- are a more efficient way of treating day cases compared to treatment on ordinary wards;
- are less likely to experience severe staffing problems, because of the attraction of regular hours without week-end or night work.

22. Evidence collected by the Audit Commission’s study team shows that most DHAs in England and Wales do at least have a dedicated day-case ward. About a third of these wards also have dedicated theatres (Exhibit 9). Day-case percentages are significantly lower on average for DHAs without units compared to those with them (Exhibit 10). However, many DHAs with units still have low percentages: having a unit is not sufficient.
Exhibit 9
DAY CASE UNITS IN DHAs
(England and Wales - 1989)
Most DHAs have at least 1 day-case unit.

Exhibit 10
DISTRIBUTION OF THE % OF PATIENTS TREATED AS DAY CASES IN DHAs WITH AND WITHOUT DEDICATED DAY-CASE UNITS
England and Wales 1988/89

Source: Audit Commission survey

23. When these facilities are lacking, day cases, if treated at all, have to be treated on in-patient wards. This usually takes one of two forms:-

(i) **Exclusive use of in-patient beds.** This offers none of the benefits to patients and nurses and is only likely to result in a minimal release of resources. To release
resources which can be used to treat more patients, bed utilisation overall must increase. It is no good replacing an in-patient stay with a day case and an empty bed overnight. No more patients will be treated and there will be no reduction in nursing costs. Moreover, there is a disincentive for surgeons to use their beds in this way if the empty beds at night are interpreted by management as under-utilisation.

(ii) "Hot Bedding". In this case in-patients are asked to vacate their beds during the working day and wait in a lounge so that the beds can be used for day-case patients. This is unsatisfactory for two main reasons:

a) it offers a very poor quality of service to both in-patients and day-case patients;

b) it puts severe pressure on existing nurses, who are often expected to deal with more patients without additional nursing cover.

The extra day cases treated by hot bedding will always be in addition to, rather than instead of, the in-patients. Use of this option is therefore limited to instances where additional cases rather than substitution is the aim of the policy.

24. Either method of treating day cases on in-patient wards is also unsatisfactory because:

• day cases are administratively more demanding than in-patients because they require admission and discharge on the same day;

• in general, the demands of the two types of patients do not mix well.

INAPPROPRIATE AND INSUFFICIENT USE OF DAY-CASE UNITS

25. There are hundreds of different procedures carried out in a typical day-case unit. Some of them are entirely appropriate as day cases and would otherwise undoubtedly be in-patients. Most of the procedures in the Audit Commission's "basket" fall into this group. Others are relatively minor procedures, such as varicose vein injections, and in many hospitals are dealt with in a side room in the out-patient department. Between these extremes are procedures which have a varying need for full operating theatre facilities and post-operative nursing care, depending on such factors as the severity and site of the pathology. For example, removal of a sebaceous cyst may be so minor a procedure that the patient can walk away immediately afterwards, or the cyst may be so positioned that it requires a general anaesthetic and prolonged surgery to remove it.

26. There is substantial variation in the procedures currently carried out in day-case units (Exhibit 11). The "basket" procedures are appropriate for a day-case unit; those in the "other" category are mainly appropriate. The "lumps and bumps", "dental" and "pain relief" categories contain a range of procedures with widely varying needs for facilities. The
implication is that units vary in the extent to which the complexity of the work they are doing is matched to their resources. Three of the units studied were carrying out large numbers of gastroscopies on patients who were occupying day-case beds after the procedure. Gastroscopy is a procedure which does not normally require operating theatre facilities nor the level of nursing cover found in most day-case units.

Exhibit 11
PROCEDURES CARRIED OUT IN 8 DAY-CASE UNITS
There is a substantial variation in the mix of procedures carried out in day-case units.

Source: Audit Commission Survey of day-case units

27. Inappropriate use of day-case units has two effects:-

(i) Day-case performance statistics are artificially inflated compared to districts that carry out more of these procedures in out-patient settings.

(ii) Day-case unit capacity is taken up, rendering it unavailable for more appropriate cases. This may not matter if the unit is under-utilised anyway, and could even be considered a sensible use of marginal capacity, but as more and more appropriate day surgery is done, it will become a significant inefficient practice.

28. The study team has observed wide differences in the throughput (patients treated per bed per year) of the day-case units it has studied (Exhibit 12), which do not appear to reflect differences in case mix. Units with "high", "medium" and "low" proportions of "basket" and "other" cases, which are generally more complex, are considered to have corresponding case
complexities (Exhibit 11). Assuming a 10-bedded ward with one adjacent operating theatre, an average time in the theatre of 20 minutes for each procedure, and 16 procedures per day and 5 days per week for a 48 week year, 384 cases per bed per year could be treated if the ward were fully utilised. There will inevitably be occasions when a whole theatre session has to be cancelled because of staff shortages or equipment failures which cannot be foreseen. 90% of this maximum may therefore be a more realistic target. This is 346 cases per bed. Only one unit achieves this figure (Exhibit 12). The average is 257 cases per year, only 75% of the target. Such a target is not immutable, and as the complexity of day cases increases and more patients need to stay for the whole day, the potential throughput of day-case units will decline.

Exhibit 12
THROUGHPUT IN 8 DAY-CASE UNITS
Overall throughput appears to be low and there are wide differences which do not reflect differences in case complexity.

29. Where the day-case ward and theatre are some distance apart, it is more difficult to achieve high levels of throughput because of the delay in transporting patients between them. In order to avoid patients waiting long periods in the anaesthetic room prior to entering the theatre, good communications between ward and theatre staff are essential, and are likely to be much easier if the theatre is adjacent to the ward.

POOR MANAGEMENT AND ORGANISATION OF DAY-CASE UNITS

30. The low levels of utilisation reported in the previous section must in part be due to poor management and organisation of the units. The study team found examples of:
• lack of clear objectives and operational policies;

• inadequate managerial control with only superficial monitoring of activity;

• insufficient attention to the information needs of patients.

31. Instead of cataloguing these problems in detail, the Commission has defined what it considers to be the main elements of good management and organisation in a well-run day-case unit. These are discussed later.

CLINICIANS’ PREFERENCES FOR MORE TRADITIONAL APPROACHES

32. The variation in day-case percentages between DHAs overlies a much greater variation between individual surgeons (Exhibit 13). The shape of the distribution for a particular procedure reflects the extent to which individual surgeons take up day surgery and varies considerably between procedures. The higher percentages for some procedures achieved by the "pioneers" are swamped by their colleagues in the DHA aggregates.

33. The decision to treat as an in-patient or a day case for appropriate procedures is usually made when the patient is first seen in out-patients. In a recent survey of the attitudes of consultant surgeons to day surgery for inguinal hernia repair (reference 9), 45% expressed the view that they never consider the day-case option and were not interested in it. Evidence from interviews conducted by the Audit Commission study team indicates that the main disincentives for surgeons and anaesthetists to undertake day surgery include:

• more routine work considered by them to be of low status with no extra reward;

• a loss of their in-patient beds if resources are redeployed.

34. It is sometimes argued that surgeons are deterred from day surgery as it will, in the long run, reduce the number of patients seeking treatment privately. Certainly, the market for health insurance is very much affected by the perceived difficulty of obtaining prompt treatment in the NHS. A recent survey of the reasons for purchase of personal private health insurance (reference 10) showed that apart from the "expected health status of self and/or family", the main influencing factors were "choice of time to go into hospital" and "avoiding waiting lists".

35. Nevertheless, many surgeons are keen to do more day surgery, as evidenced for example by a recent study which found that 55% hold positive attitudes towards performing inguinal hernia repair as a day-case procedure, representing 5 times as many as currently "often" operate in this way (reference 9). The interviews carried out by the Audit Commission study team showed that of those surgeons and anaesthetists who do at least consider doing more day cases but choose against, the main reasons are:-
Exhibit 13

VARIATIONS IN THE % OF OPERATIONS CARRIED OUT AS DAY CASES BY DHAs AND CONSULTANTS

The variation in day-case percentages between DHAs overlies a much greater variation between consultants. The higher percentages for some procedures achieved by the “pioneers” are swamped by their colleagues in the DHA aggregates.

Source: Audit Commission analyses of data from 54 DHAs in England - 1988/89

(i) Inadequate or poorly managed day-case facilities. The need for both adequate and well run facilities has already been stressed. 66% of surgeons interested in day surgery for inguinal hernia repair, but currently undertaking it only rarely or never, expressed these types of difficulties (reference 9).
(ii) **Fear that the outcome of the treatment will not be as good as that for in-patients.**
The evidence from the available studies does not support this view (see paragraph 9). But at local level it does depend on the organisation and management of day surgery as well as clinical practices. Few hospitals appear to monitor clinical outcomes routinely, but more will do so in the future as part of medical audit which is being introduced throughout the NHS.

(iii) **Lack of community support for patients.** As discussed in paragraph 8(ii), community support is not necessary for many of the procedures currently considered to be appropriate for day surgery. But as technology continues to increase the range of suitable surgical procedures, a greater need for community support may emerge.

(iv) **A belief that patients prefer to be treated as in-patients.** There is very little evidence on what patients think about day surgery. The few studies which exist are limited to patients' views about length of stay (reference 4) and are often based on small samples covering one hospital and one procedure. Nevertheless the majority of patients questioned favour day surgery. Few studies have attempted to investigate the reasons behind these views, or more importantly, why some patients favour a longer length of stay. The latter view may simply reflect poor patient care in general, which can be improved, rather than any inherent disadvantages of day surgery.

The available evidence does not support the proposition that patients do not like day surgery. If anything, the tendency is in the other direction. But the evidence is poor and more work needs to be done.

(v) **The unsuitability of the patients they treat.** Clinicians often correctly point out that external factors can render patients unsuitable for day surgery. There are 5 main reasons why this might happen; They may:

- be medically unfit (e.g. suffering from diabetes or being overweight);
- have no one to accompany them from the hospital or look after them at home;
- live in unsuitable accommodation (e.g. no telephone at home, too many steps to climb, inadequate heating);
- live too far from the hospital to travel home on the same day;
- have difficulty with transport arrangements.

These are all good reasons for not treating a patient as a day case, but they are only likely to apply to a minority of cases.
(vi) **Lack of proper training and experience in day surgery.** Good day surgery means using the most modern surgical and anaesthetic techniques. For example, surgeons who do day surgery inguinal hernia repair are more likely to use absorbable sutures than those who do not (reference 9). It also means that clinicians have to work to a strict timetable with little scope for the procedure to overrun its allotted time. The potential benefits of day surgery are easily lost if patients have to attend accident and emergency departments for additional treatment or be admitted as in-patients at the end of the day. Clinicians therefore need to be even more skilled in the procedures they are carrying out than is the case for in-patient surgery.

Older surgeons and anaesthetists may not be familiar with some of the newer techniques, such as arthroscopy. There is some evidence that the degree to which surgeons express a positive attitude to day surgery declines with age (reference 9).

**MANAGERS’ DISINCENTIVES FOR CHANGE**

36. Managers face important disincentives for increasing the extent of day surgery. The main ones are:

- poor financial information which makes it very difficult to estimate the likely increase in efficiency at the level of individual procedures and to demonstrate that these gains have been achieved;

- fear that moves towards more day surgery will inevitably lead to an increase in the number of cases treated, with little or no substitution of day cases for in-patients, and consequently increased difficulty keeping within a cash limit;

- worry that decisions on where surgery should take place are still viewed by many clinicians as entirely within their remit. Any attempt to “meddle” in clinical matters will be met with resistance and is unlikely to achieve change.

37. These disincentives coupled with clinicians’ preferences for the more traditional approaches - for the reasons already discussed - have in the past developed into an impasse. Clinicians will not do more day-case work because the conditions are not right. Managers, on the other hand, are reluctant to encourage change because they believe their clinicians are basically against the idea and would not use any facilities they provide.
3. Overcoming the Barriers to Change

38. Many of the barriers discussed in the previous chapter can be overcome. The Audit Commission has developed an approach to achieve this which it commends to managers and clinicians. The main elements of this approach, which will form the basis of local audits over the next year, involve:

- measuring performance, estimating the potential for more day surgery, developing plans and monitoring change;
- providing adequate facilities for day surgery;
- appropriate staffing of day-case units;
- efficient and effective use of day-case units;
- improving organisation and management of day-case units;
- changing clinicians’ preferences;
- improving incentives for managers.

MEASURING PERFORMANCE, ESTIMATING THE POTENTIAL, DEVELOPING PLANS AND MONITORING CHANGE

39. Individual procedures should form the basis of performance comparisons at DHA and specialty level, but for operational planning and monitoring, it will be necessary to go to the level of individual consultants. In practice, analysis at this level of detail will only be possible for a limited list of procedures. The 20 procedures in the Audit Commission's selected "basket" are an example of such a list (Exhibit 14 and appendix 3). These procedures:

- are considered by surgeons to be clinically appropriate (references 3 and 7);
- cover the main surgical specialties;
- account for about 40% of all surgical procedures in these specialties (including those procedures too major ever to be considered as day cases);
• are on the day case/in-patient boundary rather than the out-patient/day case boundary to avoid the problems of inconsistency in the definition of day cases. In other words it is very unusual for most of these procedures to be carried out on out-patients. This also means they are the procedures which will offer the greatest potential for improved value for money.

Exhibit 14
THE AUDIT COMMITTEE'S "BASKET" OF PROCEDURES

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Upper (1) treated as day cases</th>
<th>Optimistic (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inginal hernia repair</td>
<td>10</td>
<td>55</td>
</tr>
<tr>
<td>2. Excision of breast lump</td>
<td>41</td>
<td>60</td>
</tr>
<tr>
<td>3. Anal fissure dilatation or excision</td>
<td>66</td>
<td>70</td>
</tr>
<tr>
<td>4. Varicose vein stripping or ligation</td>
<td>17</td>
<td>60</td>
</tr>
<tr>
<td>5. Cystoscopy, diagnostic and operative</td>
<td>59</td>
<td>70</td>
</tr>
<tr>
<td>6. Circumcision</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>7. Excision of Dupuytren's contracture</td>
<td>18</td>
<td>70</td>
</tr>
<tr>
<td>8. Carpal tunnel decompression</td>
<td>79</td>
<td>95</td>
</tr>
<tr>
<td>9. Arthroscopy, diagnostic and operative</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>10. Excision of ganglion</td>
<td>84</td>
<td>95</td>
</tr>
<tr>
<td>11. Orchidopexy</td>
<td>24</td>
<td>50</td>
</tr>
<tr>
<td>12. Cataract extraction, with or without implant</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>13. Correction of squint</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>14. Myringotomy, with or without insertion of grommets</td>
<td>72</td>
<td>97</td>
</tr>
<tr>
<td>15. Sub mucous resection</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>16. Reduction of nasal fracture</td>
<td>66</td>
<td>95</td>
</tr>
<tr>
<td>17. Operation for bat ears</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>18. Dilatation and curettage</td>
<td>73</td>
<td>86</td>
</tr>
<tr>
<td>19. Laparoscopy, with or without sterilization</td>
<td>16</td>
<td>65</td>
</tr>
<tr>
<td>20. Termination of pregnancy</td>
<td>40</td>
<td>70</td>
</tr>
</tbody>
</table>

(1) Based on a sample of 54 DHA's in England 1988/89 (see also appendix 4)
(2) These estimates are based on various sources including published literature and data from other countries
40. No such list will remain useful for ever as some of the procedures will eventually move to out-patient settings or be superseded by new treatments. DHAs may wish to use the Commission's list as a basis for their monitoring, or they may wish to use their own clinical advice to draw up another one.

41. In the longer term, the problems of inconsistencies in the definition of day cases will need to be tackled. The Audit Commission supports moves by the Department of Health (reference 11) to collect information on patients undergoing many, if not all, procedures irrespective of whether these are carried out as in-patients, day cases or out-patients. As well as details like the age and sex of the patient, district of residence etc., this should include the exact nature of the procedure(s), the context in which they are carried out (in-patient ward, day-case unit and out-patient department); and the length of stay of the patient (day, half day or less).

42. During the next year local auditors appointed by the Audit Commission will produce an estimate of the potential for substituting day cases for in-patients in each DHA. It will be based on the Commission's "basket" of 20 procedures. The number of day cases found in a DHA for each of three age groups within each of the 20 procedures will be compared with the number expected if it were at the upper quartile percentage for all DHAs in England and Wales. An alternative figure will also be given using percentages based on the opinions of clinicians and experience in other countries.

43. Plans for increasing the percentages of existing caseloads treated by day surgery should be drawn up by managers and clinicians in each DHA. These must include clear targets for the following year which are agreed by the managers and clinicians involved. Performance can then be monitored against them. The distributions of day-case percentages for each of the procedures in the Commission's "basket" covering the 54 DHAs for which it has data are given in appendix 4. The upper quartiles of these percentages are also summarised in Exhibit 14 together with more optimistic levels which are based on the opinions of leaders in the field of day surgery in the UK (reference 7), and practice in other countries.

44. Whilst analysis of individual procedures should form the basis of performance assessment, planning and monitoring in individual DHAs, it does not provide an overall picture of day-case performance in the DHA as a whole. There will be occasions where a summary measure is valuable. Simple aggregation of the numbers of day cases and in-patients for all 20 procedures to form a global percentage for the "basket" as a whole would be misleading because of differences in case mix (Exhibit 15).

45. The Commission has therefore devised a method of standardising for the mix of procedures within the "basket". This method also standardises for differences in the ages of patients treated. The number of day cases performed by a DHA for each procedure/age group is compared with the number it would be doing if it was at the national average percentage of day cases for that group. Positive scores are above average, negative scores are below. The measure provides a means of comparing the overall performance of an individual DHA with that of others, giving credit for all-round performance.
Ignoring case mix differences can lead to misleading comparisons.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>% as day Cases</th>
<th>Total Number of Cases</th>
<th>Number of Day Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>District A</td>
<td>District B</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>400</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>200</td>
<td>400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggregate percentage as day cases for district as a whole:</th>
</tr>
</thead>
<tbody>
<tr>
<td>District A = 310/900 = 34%</td>
</tr>
<tr>
<td>District B = 230/900 = 26%</td>
</tr>
</tbody>
</table>

Assume Districts A and B carry out the same number of cases - 900, and the same percentages of each of 3 procedures as day cases. But because district A deals with relatively more requiring procedure 1 - a procedure with a relatively high percentage as day cases, and district B deals with more requiring procedure 3 - with a relatively low percentage as day cases; in aggregate district B has a lower percentage of day cases than district A.

46. Even after standardisation there is considerable variation between districts which can be used to compare their performance (Exhibit 16).

47. The validity of all these estimates depends on the completeness and accuracy of the clinical coding. Where there is any doubt about either, use of these data may lack the support of those involved at an operational level, particularly the clinicians. In the long term it is necessary to take steps to improve the completeness and accuracy of the data by, for example:

- reducing the time period between the procedure being carried out and its subsequent coding and entry on the computer;

- transferring the responsibility for allocating codes to those directly involved in the procedure, primarily the clinicians. Clinicians may perceive a greater incentive to do this if the data become part of everyday management and clinical information, as they clearly should. Accurate data are also a prerequisite for medical audit;

(The National Health Service and Community Care Act 1990 will more closely relate the funding of a hospital to the procedures carried out and provide a further incentive for more accurate coding. Further implications of the Act for day surgery are discussed later);
DISTRIBUTION OF DAY-CASE PERFORMANCE BY DHA. "BASKET" PROCEDURES STANDARDISED FOR AGE & CASE MIX

Even after standardisation there is considerable variation between districts which can be used to compare their performance.

Source: Audit Commission analyses of data from 54 DHAs in England 1988-89

- establishing a regular system of feedback of data to clinicians to enable them to check and amend as necessary.

48. In the short term the auditors appointed by the Audit Commission will overcome the problems of possible incompleteness and inaccuracy in computer data by collecting a sample of patients treated for each of the 20 procedures in its "basket" from theatre registers. Trials have shown that such collection can be carried out with a high degree of accuracy, provided the auditors are properly trained. Each local audit report will include the results of this exercise, both for individual procedures and the summary measure (Exhibit 16).

PROVIDING ADEQUATE FACILITIES

49. It is possible to carry out day surgery in various facilities. The two essential requisites are an operating theatre in which to perform the procedure and a ward for recovery. These could be an integral part of an existing hospital, but could equally well be free standing, probably close to a district general hospital. The hospitals visited by the study team have these facilities in varying degrees of dedication to day-case patients. Four main types were identified ranging from no dedicated facilities to completely self-contained day-case units comprising both wards and operating theatres (Exhibit 17). Dedicated wards are a minimum requirement for efficient and effective day surgery. This is clear from the evidence on the use of in-patient beds presented earlier. Beyond this, having a theatre which is an integral part of the day-case unit results (Exhibit 18) in:
Exhibit 17
TYPES OF FACILITY FOR DAY CASES
There are 4 main types of day-case facilities depending on the combination of dedicated wards and theatres

Exhibit 18
ADVANTAGES & DISADVANTAGES OF DIFFERENT TYPES OF FACILITIES
The greater the dedication of the facilities exclusively to day cases, the higher the quality of service offered to patients, the lower the running costs of the facilities and the higher the initial capital costs.
- a better quality of service for patients (e.g. fewer last minute cancellations);

- lower running costs as a result of reduced turn-round time in theatres and portering of patients between ward and theatre. There is also some potential for more efficient use of nurses if they are rotated between ward and theatre (see next section);

- higher capital and set-up costs.

50. Large scale capital investment in a self-contained day-case unit is not necessary for good day surgery, but is likely to offer distinct advantages which must be set alongside the capital costs involved. All these factors need to be considered as part of an option appraisal, which makes the trade-offs between costs and benefits explicit. Dedicated theatres can be added to dedicated wards at a later stage as part of a phased programme of capital expenditure.

51. Regional Health Authorities will probably provide the main source of funds for expansion, but a number of DHAs are now co-operating with the private sector in the provision and use of day-case units. This may involve the private sector building the unit and leasing it to the DHA in exchange for some capacity to treat private patients and the prestige and emergency back-up afforded by its location on a major hospital site.

52. Apart from the factors already identified which relate to day-case units, option appraisals will need to consider the likely effects of more day surgery on other parts of the hospital. The overall degree of dependency on in-patient wards will increase if all the short-stay patients are transferred to treatment as day cases. However, there will be a compensating reduction in the admission rate. If the extra day cases are to be treated in addition to, rather than instead of, existing in-patients, the option appraisal should also take account of the additional costs which might result from extra out-patient visits, pathology tests and x-rays that will be needed. These will be particularly significant if the demands of the extra day cases cannot be absorbed within existing capacity.

53. The number of beds in a day-case unit is determined primarily by theatre capacity. 5.5 hours per theatre seems to be the norm found in day-case units visited by the Commission study team (Exhibit 19). This is also supported by the Bevan Report on operating theatres (reference 12), which looked at 6 day-case theatres. Time needs to be allowed for preparation of the theatre prior to the session and cleaning-up afterwards. There is also a limit on session times which is set by the need to ensure all patients are fit enough to leave the hospital when the day-case unit is due to close. The Commission therefore recommends 5.5 hours as the norm, assuming the unit is open no later than 6pm. If it is, then these hours can be extended.
Exhibit 19
BALANCE OF THEATRES AND BEDS IN DAY-CASE UNITS
The variation in theatre session hours is small and that in beds per theatre seems to centre around 10.

<table>
<thead>
<tr>
<th>Unit</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of theatres</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Theatre session hours</td>
<td>6.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Beds per theatre</td>
<td>10</td>
<td>10.5</td>
<td>13</td>
<td>8*</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: *4 additional beds available as overflow
Source: Audit Commission survey of day-case units

54. The Royal College of Surgeons Report (reference 3) recommended 10 beds per theatre. This is supported by observations of existing day-case units (Exhibit 19). Treating 3 cases per hour in a theatre open for 5.5 hours would result in 16 cases per day out of a maximum potential of 20 cases per day for the 10 beds (assuming each patient stays for half the day only). This figure therefore builds in some scope for patients to stay all day if necessary and may be used as an average. But the precise local needs for beds per theatre will depend on the relative importance of day and half-day procedures. In units without dedicated theatres the numbers of beds can be more easily matched to the likely numbers of cases. In any case, what matters in terms of efficiency is the extent to which the beds are fully staffed by nurses.

STAFFING

55. The variation in numbers of staff per available operating theatre hour in units with theatres is high and does not appear to be related to the numbers of cases treated nor case complexity (Exhibit 20). Case complexity is defined in paragraphs 25 to 27, and Exhibit 11.

56. The provision of clerical staff also differs considerably between units, and in the units studied was not associated with lower numbers of staff per theatre hour except in unit 3, which had two full time clerical staff compared to 1 in the other units (Exhibit 20). All dedicated wards should have clerical as well as nursing staff. Day cases involve considerable paperwork because of their high turnover. In well-run units, clerical staff should also be the patient's main point of contact with the hospital and administer bookings. These tasks should be part of an operational policy (paragraph 63).
Exhibit 20

STAFFING OF DAY-CASE UNITS WITH DEDICATED THEATRES

The variation in staff per available theatre hour is high and not explained by differences in throughout or case complexity. Where there is rotation of staff between ward and theatre, fewer staff are needed.

<table>
<thead>
<tr>
<th>UNIT</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit staff (wte)</strong> per available hour of theatre time per day</td>
<td>2.4</td>
<td>2.2</td>
<td>1.7</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>Cases per wte member of staff per year</strong></td>
<td>143</td>
<td>n/a²</td>
<td>357</td>
<td>188</td>
<td>294</td>
</tr>
<tr>
<td><strong>Case complexity</strong></td>
<td>low⁴</td>
<td>n/a²</td>
<td>low</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td><strong>Clerical support</strong></td>
<td>yes</td>
<td>yes</td>
<td>yes³</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Rotation of nurses between ward and theatre</strong></td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes:**
1. wte is 'whole time equivalent'. "Staff" includes Nurses and Operating Department Orderlies/Assistants
2. Just opened, no information available
3. 2 wte compared to 1 wte in other units
4. Orthopaedic and dental cases only
5. As defined in Exhibit 11

**Source:** Audit Commission survey of day-case units

57. In 2 out of the 5 units in Exhibit 20, nurses rotate between the ward, theatre and recovery areas according to the demand over the day. As the figures demonstrate, this results in lower numbers of staff because they can be concentrated where they are most needed, which varies according to the time of day. It may also increase the attractiveness of working in a day-case unit for some nurses who seek a greater variety of work. The Commission therefore recommends rotation of staff as good practice, but it does require nurses to be adequately trained in both ward and theatre nursing techniques.

58. The need to escort patients to and from the operating theatre can place extra demands on ward nurses if there is no theatre attached. A comparison of units with and without theatres attached does not show significant differences, either in the ward staffing levels per bed or in the percentage of untrained nursing staff (Exhibit 21). Staffing levels and grades are best determined locally. While primarily reflecting the particular needs of the unit, they will be shaped to some extent by the ability to recruit and retain the numbers and grades required.
Staffing levels on the ward and the use of untrained staff do not appear to be dependent on whether the day-case ward has a theatre attached.

<table>
<thead>
<tr>
<th>UNIT</th>
<th>With theatre</th>
<th>Without theatre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Nurses (wte) per bed</td>
<td>0.9</td>
<td>0.5</td>
</tr>
<tr>
<td>% of nursing staff untrained</td>
<td>22</td>
<td>32</td>
</tr>
</tbody>
</table>

Notes: 1. Includes units from exhibit 20 with separate staffing of ward.
2. wte is 'whole time equivalent'.

Source: Audit Commission survey of day-case units

EFFICIENT AND EFFECTIVE USE OF DAY-CASE UNITS

59. The variation in the mix of procedures carried out and the throughput of cases in a sample of day-case units were shown in Exhibits 11 and 12 respectively. Few units are utilising their capacity to the full and a number appear to be performing procedures which do not need the full facilities of a day-case unit.

60. Procedures which are appropriate for day-case units include those which could not be carried out in an out-patient department, such as the Audit Commission's "basket" of 20. They also include some of the intermediate procedures mentioned earlier: removal of lesions from the skin, dental procedures and pain relief. Procedures such as gastroscopy in adults, colposcopy and any others which local clinicians and managers judge can mainly be treated as out-patients (that is, without the need for a bed in which to recover), are inappropriate for day-case units, though often require specialised facilities of their own.

61. The Audit Commission recommends that:

(i) all cases should be treated in facilities with staffing levels sufficient for their needs, not in excess of them. If suitable space is already available, then the cost savings which will result are likely to be quickly realised. The implications of moving such work out of the unit should be part of the option appraisal suggested earlier;
(ii) the capacity released as a result of this change, together with any existing unused capacity should be taken up with:

a) day cases currently being treated on in-patient wards. The capacity released here will have a value which should be taken into account;

b) new day cases identified as part of a planned overall increase in day surgery.

Where the numbers of patients identified from these sources exceed the available capacity, additional capacity will be needed (Exhibit 22).

Exhibit 22
IMPROVING UTILISATION OF DAY-CASE UNITS
Units should be fully utilized with appropriate cases

IMPROVING ORGANISATION AND MANAGEMENT

62. There are 3 main aspects of good organisation and management:

(i) an operational policy;

(ii) adequate managerial control;

(iii) good management information.
Every day-case unit should have an operational policy setting out clear objectives, responsibilities and procedures for monitoring and reviewing each of its elements (Exhibit 23):

(i) **Appropriate procedures**: A statement of which procedures are appropriate and inappropriate for the unit.

(ii) **Booking of patients**. All patients should be given a firm appointment rather than be placed on a waiting list. The day-case unit should then hold the list of bookings and be the main future contact point for the patient with the hospital. It is good practice to ask patients to telephone in advance to confirm they will be attending and, if possible, to contact those who do not do so. These simple measures may provide reassurance and improve patients’ experience of the service as well as reducing the numbers who fail to attend.

(iii) **Allocation of sessions/beds to consultants**. This is essential so that clinicians are clear how much day-case work they can do, and to ensure that capacity is fully used.

(iv) **Admission procedures**. In day-case units with theatres, where the workload in each theatre session is more predictable, admission of some patients can be staggered over the session to avoid unnecessarily long waits which often occur when all patients arrive at the same time. This is particularly important for children, where excessive waiting can be very distressing. It is also important to be precise about who should “clerk-in” patients and when this should be done.
(v) **Discharge of patients.** Discharge should normally be carried out by nurses. This means that a major source of potential delay for patients - waiting for final approval for discharge from the surgeon or anaesthetist - is avoided. It does however mean that clinicians will need to delegate responsibility to nurses using written guidelines. Patients not falling clearly within the guidelines would then have to be referred to clinicians.

(vi) **Selection of patients.** Patients need to be carefully screened for their suitability for day surgery at the time of their initial consultation. They should be screened for:

- medical fitness, including any necessary routine investigations;
- availability of someone to escort them to and from the day-case unit;
- provision of post-operative care at home;
- suitability of home circumstances (e.g. availability and accessibility of a telephone);
- distance they will need to travel after the procedure and having access to a suitable means of transport.

In some DHAs visited by the study team this assessment is carried out by nursing staff in the day-case unit. This has the advantage of introducing prospective patients to the unit in advance of their treatment and gives them an opportunity to ask questions about their admission.

Careful selection avoids the wasted resources which might result from patients who turn up for day surgery on the appointed day but cannot be treated because of their unsuitability. The process can also be assisted if GPs are advised of these criteria in advance of their referring patients so that they can point out to consultants any potential difficulties in the suitability of their patients for day surgery.

(vii) **Information for patients.** Patients need to have good written information about each stage of their treatment, backed up as much as possible orally.

This should include:-

a) **Before admission:**

- appointment time and date at the day-case unit (DCU);
- person to contact at the DCU;
- explanation of the procedure to be undertaken and of the anaesthetic;
• how to plan aftercare at home;
• the need to be accompanied to and from the DCU;
• what to expect when they get to the DCU;

b) On admission:

• what to expect on discharge, in particular, post-operative pain and how to control it;
• details of any dressings, drugs etc.;
• explanation of community follow-up, if any;
• whom to contact if problems arise;
• what aftercare is needed from relatives.

c) On discharge:

• reiteration of the above;
• a letter for the GP.

(viii) **Patient attitudes and satisfaction.** Patients’ perceptions need to be assessed and regularly monitored. The Audit Commission has commissioned the London School of Hygiene and Tropical Medicine to develop a questionnaire which can be applied confidently by any DHA. It will also provide the first large scale survey of patient attitudes to day surgery with a target sample size of 900 cases, covering 4 hospitals, 10 separate procedures and both in-patients and day cases. The results of this survey, and the questionnaire will be made available to DHAs later.

(ix) **Any special arrangements for particular groups of patients.** Children would certainly come into this category, and some mentally handicapped people might also be included.

Staff should be aware of the need for parents to accompany children as much as possible throughout their treatment and make specific arrangements for accommodating them within the unit. It is generally undesirable to mix children and adults in the same session. Children are best dealt with in dedicated sessions where the skilled support required from specially trained paediatric nursing staff can be provided. If numbers of children likely to be seen are high enough, specialist paediatric day-case facilities may be justified. Indeed some DHAs already have them.
The need for specialist care may mean that, in some hospitals, paediatric surgery fits more appropriately into a paediatric unit covering medical day-case admissions as well. However, treating children as day cases in paediatric in-patient wards is less satisfactory than properly supported sessions in a day-case unit, because the children undergoing relatively minor procedures are mixed with others who are much more seriously ill. The subject of children and day surgery is currently under investigation by the National Association for the Welfare of Children in Hospital, which expects to publish a report early in 1991.

(x) **Detailed job descriptions and job plans** (statements of specific tasks and objectives over the coming year or 6 months) for all staff involved.

(xi) **Financial matters.** The budget for the unit should be devolved as much as possible to the unit itself. This should improve the quality of financial information and make the resource consequences of management actions more explicit.

**MANAGERIAL CONTROL**

64. Managerial responsibilities and control in respect of each of the items in the operational policy statement should be set out as part of that statement. The day-to-day running of a day-case unit should be under the control of a senior sister who reports to a clinical director appointed from amongst the consultant staff.

65. All day-case units visited by the study team had a consultant at least nominally responsible for co-ordinating clinical aspects of the service; but they differed greatly in the extent to which this responsibility was actively taken up. The units found to be operating well, with a mix of cases which made best use of the available facilities and high levels of throughput per bed, had a clinician actively involved in their day-to-day management. Anaesthetists are often involved in this way as they have a broad overview of surgical activity. But whatever the specialty of the individual, the most important attributes are that they should be committed to day surgery, be prepared to devote time to the task and enjoy the confidence of colleagues.

66. The Clinical Director should play a key role in implementing the operational policy. Involvement of the Clinical Director in management issues, including budgetary control, accords with the idea of clinical directorates being developed as part of the Resource Management Initiative. The effectiveness of this approach for day-case units looks very encouraging.

**MANAGEMENT INFORMATION**

67. The key to an effective operational policy and management control lies in good information. This should include:
• staffing levels, hours of work and expenditure;

• utilisation of beds and theatres (e.g. cancelled sessions together with reasons);

• feedback from staff and GPs;

• number of patients treated by procedure and type of anaesthetic used.

68. The quality of service received by patients needs much more attention than has hitherto been the case. All day-case units should record:

• the length of time between the date a booking is made and the subsequent treatment or cancellation;

• the numbers of patients who do not attend for treatment. If these levels appear high or start rising, attempts should be made to find out why;

• the numbers of patients who have to be admitted as in-patients at the end of each day, together with reasons;

• the extent of and reasons for post-operative emergency treatment and readmission;

• patients’ attitudes to and satisfaction with their treatment and their use of GP and community nursing services. This might be done using a questionnaire such as the one which the Audit Commission is developing (see paragraph 63 viii).

CHANGING CLINICIANS’ PREFERENCES

69. Adequate and well run day-case facilities are essential for good day surgery. Most of the fears held by clinicians will be overcome if:

(i) the outcomes of treatments are regularly assessed as part of the medical audit procedures being set up in every hospital. Any deficiencies identified should be investigated as part of the medical audit machinery and steps taken to rectify them;

(ii) there are good patient-selection procedures. With a well designed and implemented policy (paragraph 63 vi) there is no reason why clinicians should be anxious about the suitability of the patients they treat. Problems such as patients being medically unfit, having no one to look after them at home, living in unsuitable accommodation or too far from the hospital, or a lack of adequate transport will be avoided. Their existence is insufficient justification for not doing day surgery at all.

In any case there are sometimes ways of getting round these problems which maintain, or even improve the quality of service offered to patients at lower cost. For example, patients who live too far from the hospital could be accommodated in
a local hotel, perhaps under a special arrangement, for the night before or the night after surgery. Similarly, some patients will need to stay overnight with minimal nursing cover following their operation, for example, those with concurrent illness such as diabetes. This may be provided more efficiently in a setting other than an acute in-patient ward, such as through services contracted with local hotels or private hospitals.

(iii) patients' attitudes and satisfaction are regularly monitored (see paragraph 63 viii).

70. Both surgeons and anaesthetists must be prepared to change their practices as new techniques develop. These often offer considerable benefits to patients as well as making more efficient use of resources. Appropriate in-service training should be available for clinicians who are prepared to change and sufficient time made available for them to attend courses. Clinicians can be encouraged to change by setting up meetings with colleagues who are already performing day surgery to discuss some of the problems they think might arise. The newly formed British Association of Day Surgery* may become a focus for such activity.

71. Since the decision on appropriate mode of treatment is taken at the out-patient appointment, surgeons might be asked to indicate on a simple form why they are not opting for day-case, rather than in-patient treatment, for appropriate procedures. The reasons can then be recorded and discussed. But perhaps the chief effect would be that day surgery were considered as a possibility in every case. Surgeons may be more prepared to do this if they are given regular information on their own day-case activity in comparison with that of their colleagues. They might also be offered a direct incentive to treat more day cases if a proportion of the resources released by the substitution of day-case for in-patient treatment were retained for service enhancements.

72. In a recent Department of Health circular (reference 13) regional health authorities have been asked to devolve the management of consultants' contracts to DHAs, giving the latter more direct day-to-day responsibility for clinical practices. Job plans are to be introduced for all NHS consultants. These will describe the doctor's duties, responsibilities and a work programme over a "typical week". DHAs will also have a role in specifying the contract for and selecting new consultants. Both job plans and contracts should include a greater emphasis on day surgery.

73. Clinicians' attitudes are changing gradually. More surgeons will come to see the advantages of day surgery, for appropriate patients, if DHAs and hospitals respond to the recommendations in this report. It will be buttressed by auditors' reports to each health authority over the next year.

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IMPROVING INCENTIVES FOR MANAGERS

74. Successful change depends on a good working relationship between managers and clinicians. Both parties must seek to develop this. It is important to ensure that:

- the views of both parties are clearly understood and taken into account. Poor communications may be the essence of the problem;

- the objectives and the plans are mutually agreed.

75. Managers will have a greater incentive to develop day surgery if they can demonstrate benefits in the form of more patients treated or resources released for other purposes. The poor quality of financial information is a major problem. This should be improved as the Resource Management Initiative sponsored by the Department of Health spreads throughout the NHS. But detailed cost information still seems some way off. In the short term, it is necessary to make the best use possible of existing financial information systems.

76. Managers should document the changes in resource use expected to result from a shift from in-patient to day-case treatment and estimate the costs and benefits directly associated with these changes, rather than use average costs which contain a large fixed cost element. This approach is much simpler as only the costs which are likely to change need to be estimated. It is illustrated in appendix 2 where it has been used to estimate the likely national resource consequences of such a change, but can be applied equally well at local level. Other factors more relevant at local level are also discussed in paragraphs 49 to 52.

77. Day surgery is often thought to be associated with an increase in surgery overall rather than with substitution for in-patients. Such an outcome is of course possible but the matter ought to be under the control of managers and clinicians. If in-patient beds are not closed when day surgery facilities become available, the tendency will be to treat more patients, which may of course be the intention. But if the aim is to substitute day-case patients for in-patients rather than expand, then clearly the in-patient beds should be closed. The health authority must decide and state its objectives explicitly at the outset.

THE NATIONAL HEALTH SERVICE AND COMMUNITY CARE ACT (1990)

78. The National Health Service and Community Care Act (1990) is also likely to improve the quality of financial information and remove some of the existing disincentives faced by managers. The Act imposes a new structure on the NHS, with DHAs becoming purchasers of health care. They will contract for specific services for their populations from a range of providers: the hospitals they control and others they do not control including NHS Trusts and privately run hospitals. More detailed cost information than is currently available will be needed to achieve this. The DHA as purchaser will also be better placed to influence clinical practices if it includes in its contracts:
• how many of which procedures should be undertaken;

• the expected mode of treatment: in-patient, day case or out-patient;

• standards of patient care.

79. Some large GP practices will also be allowed to become budget holders and may be able to influence clinical practices in the same way. Stand-alone centres for day surgery, probably attached to main hospitals to provide the necessary emergency back-up, may develop in this country as they have done in the USA. Because of their much lower overhead costs compared to units working within main hospitals, they will be able to compete very effectively on both price and quality. One such unit has already been set up. Its Director recently said:

"The idea is that if your GP has his own budget and sees that there is a centre like ours which will undercut the local hospital..., he will refer you to us"


80. The Act should improve the allocation of funds so that “the money follows the patient”. This means that hospitals introducing day surgery will be able to attract more funds to treat more patients as they become more efficient, and not be constrained by internal cash limits. This will of course be at the expense of less efficient hospitals. Patients travelling appreciable distances for day surgery may be unable to travel home the same day. In some cases it will be necessary for the hospital to arrange or provide overnight accommodation.

81. The DHA as purchaser may still be financially responsible for one or more local hospitals. The success of the new Act therefore depends in part on the degree to which DHAs are able to separate their roles as purchasers and providers and the degree to which competition between providers results in greater efficiency.
4. Next Steps

82. Over the next year the Commission's auditors will be undertaking audits of day surgery in every health authority in England and Wales. These, together with this report, should form the basis for a local strategy for developing day surgery. The key elements of such a strategy are:

- an assessment of current levels of day-case activity and the potential to do more;
- detailed operational plans with firm targets for achieving this potential;
- phased introduction of (further) day-case facilities where there is insufficient capacity to accommodate the levels thought to be achievable;
- improvements in the organisation and management of existing day-case units.

DHAs AND HOSPITALS

83. The main thrust for change must come from health authorities themselves. DHAs and individual hospitals are the most directly involved. Managers at this level should establish a dialogue with their clinicians now if this does not already exist.

84. The preparation of service plans will require more detailed data than most managers now routinely use. It is crucial in interpreting these data that managers fully appreciate the clinical aspects of the service and the views of their clinicians. If managers are prepared to provide the necessary facilities and resources for good day surgery, clinicians should respond by seeking to make the most efficient and effective use of them. It is in everyone's interests, in particular the patients’, to ensure that this is achieved.

REGIONAL HEALTH AUTHORITIES

85. Regional health authorities (RHAs) will probably be the main source of capital for expansion. They will need to give a high priority to requests for capital to develop day surgery. They have powers to earmark capital expenditure for specific purposes. RHAs are also well placed to take further some of the other recommendations in this report. For example:

- improving management information systems to include a much greater emphasis on the quality of service received by patients and their satisfaction with it;
• establishing methods of data audit to ensure both greater completeness and accuracy of data.

THE DEPARTMENT OF HEALTH AND THE WELSH OFFICE

86. The operational definitions used in collecting data are heavily influenced by the statutory requirements laid down by the Department of Health and the Welsh Office. These departments should pay close attention to the problems with data identified in this report. Moves to collect information on all procedures (reference 11), whether in-patient, day case or out-patient are welcomed by the Audit Commission. It also recommends that a standard “basket” of procedures (on the lines of the one it has developed) should be established and regularly updated to provide a consistent means of comparing day-case performance between health authorities.

THE ROYAL COLLEGES

87. Adequate training for surgeons, anaesthetists and nurses in day surgery is essential for its success. This means including it in the training of junior doctors and nurses, and establishing in-service training for existing staff who are keen to obtain the necessary skills. The relevant medical Royal Colleges and the Royal College of Nursing could play a major role here. They could, for example, make coverage of day surgery a condition for the approval of training posts.

88. The Royal College of Surgeons of England should also update the guidance it has produced on appropriate day-case procedures, including percentages suitable for day surgery, and ensure that it is widely publicised.
References


Appendix 1

LIST OF CONTACTS

The following District Health Authorities were visited:
- Bradford
- East Suffolk
- Cambridge
- South West Hertfordshire
- Winchester
- Aylesbury Vale
- Milton Keynes
- Northampton
- Coventry
- Crewe
- East Dyfed

The Following Regional Health Authorities supplied data:
- North West Thames
- South Western
- West Midlands (also helped with data processing)
- Mersey

The Project Advisory Group was:
- Dr N Black, Senior Lecturer in Public Health, London School of Hygiene and Tropical Medicine
- Dr H T Davenport, Consultant Anaesthetist
- Mr H B Devlin, Consultant General Surgeon, North Tees General Hospital
- Dr J Gabbay, Senior Lecturer in Public Health, St Mary’s Hospital, London
- Mr A Gordon, Consultant Obstetrician and Gynaecologist, Hull and East Riding Hospital
- Dr M Prophet, Senior Medical Officer, Department of Health
- J Smythe, Director of Commissioning & Planning, Basingstoke and North Hampshire Health Authority
- C R West, District General Manager, Portsmouth and SE Hants Health Authority

The following organisations were consulted on earlier drafts of this report:
- Conference of Royal Colleges
- College of Anaesthetists
- Royal College of Obstetricians and Gynaecologists
- College of Ophthalmologists
Royal College of Surgeons of England
Royal College of Nursing
Department of Health
Welsh Office
British Medical Association
National Association for the Welfare of Children in Hospital
National Association of Health Authorities
Institute of Health Service Management
Trades Union Congress

The following individuals also commented on parts of the report:

Dr Tom Ogg, Consultant Anaesthetist, Addenbrooke's Hospital, Cambridge
Sister M Penn, Day Surgery Unit, Barnet Hospital

Additional consultancy work was carried out by:

Dr. James Gray, Independent Consultant
Dr. Mary Fuller and Dr. Keith Postlethwaite of the Department of Education and Management Studies, University of Reading.
ESTIMATING THE RESOURCES RELEASED FROM
SUBSTITUTING DAY-CASE FOR IN-PATIENT SURGERY

1. In paragraphs 14 and 15 of this report, two separate estimates are made of:

   (i) the resources released nationally from treating a larger proportion of patients as day cases;

   (ii) the numbers of extra patients that could be treated with these resources.

This appendix explains how these estimates were made.

THE RESOURCES RELEASED

2. The total resources released nationally by a shift from in-patient to day surgery depend on the changes which actually take place in individual hospitals. It would be an overestimate to calculate these from broad average cost differences between the two types of patients, because these figures include many overhead costs which would probably not be affected. Estimates should be based on the incremental changes in costs which are likely to occur.

3. A recent paper based on this approach for one hospital (reference 8) shows that if nurse staffing levels are not reduced, or if it is not possible to consider the closure of beds short of closing a whole ward, then the release of resources in terms of cash which could be transferred elsewhere in the hospital is minimal. While this may be true in the short term, subsequent re-organisation of services may facilitate the release of more cash. Regardless of this argument, a shift in treatment methods along the lines suggested undoubtedly creates spare capacity which can be used to treat more patients. The value of the resources released therefore depends partly on their intended use.

4. In order to arrive at national estimates in the absence of detailed information for individual hospitals, the Audit Commission has made several assumptions. These are:-

   (i) There is no net difference in the "treatment" costs associated with a particular procedure, e.g. use of the operating theatre and diagnostic tests are the same for both in-patients who are potential day cases and day cases themselves. Although anaesthetic drugs for day-case patients are more expensive than those for in-patients, day surgery generally does not involve the use of pre-medication and anaesthetic gases, which are used for in-patient surgery. The differences in these costs is likely to be small and is therefore ignored.
(ii) The differences are all in the "hotel" costs of the service and relate primarily to nurse staffing costs. The cost of food for patients will also be reduced, but the shift in the number of patients from in-patients to day cases is unlikely to be enough to allow reductions in catering staff and capacity. In most hospitals the effect on catering costs is likely to be marginal and is therefore ignored.

(iii) Non-hospital costs are ignored for the reasons set out in paragraph 8ii of the main report.

(iv) It is assumed that the resources released will be used to treat more cases. The estimates therefore represent the value of the capacity released, not cash savings.

5. Separate estimates are needed of the nursing costs per in-patient and per day-case patient in order to calculate the difference. The resources released can then be calculated by multiplying this difference by the estimated number of cases affected.

NURSE STAFFING COST

6. The differences here reflect the much longer time in-patients spend in hospital. The Audit Commission has estimated the nurse staffing costs of a typical in-patient surgical ward of 28 beds and about 21 whole time equivalent nursing staff. These take account of premium payments to staff for night and weekend work. Assuming that 80% of the beds are occupied at any one time, the average cost of nurse staffing is calculated at £31 per patient day at 1990/91 pay rates.

7. The costs of nursing staff per patient in a day-case ward are calculated in a similar way. A typical day-case ward of 10 beds, open from 0800 - 1800 hrs, five days a week will have about 1 whole time equivalent nursing staff. Assuming 16 cases are treated per day out of a maximum potential of about 20 (i.e. 2 cases per bed per day), the average nursing cost per case is about £8.

THE DIFFERENCE IN COSTS PER IN-PATIENT AND DAY CASE FOR "BASKET" PROCEDURES

8. The average length of stay of in-patients undergoing procedures in the Audit Commission's "basket" of 20 is 3.8 days from the sample of 54 DHAs for which it has data. The average nursing cost of treating such patients is therefore:

\[ £31 \times 3.8 = £118 \] per in-patient

Subtracting the £8 nursing cost per day case, results in an excess cost of £110 per case for in-patients undergoing "basket" procedures compared to day cases. Not all these costs will be saved if the overall dependency of in-patients increases (see paragraph 52 of the main report).
THE NUMBERS OF PATIENTS AFFECTED

9. The potential number of existing in-patients who could be treated as day cases for the 20 “basket” procedures is calculated for each DHA in the Commission's sample of 54 by multiplying the total number of cases treated for each procedure by a target percentage as day cases and summing for all 20 procedures. Two target percentages are used:

(i) the upper quartile percentage as day cases for each procedure using the Audit Commission's sample of 54 DHAs;

(ii) the percentages reported in the paper by Gabbay and Francis (reference 7) based on a survey of clinical opinion.

The national estimate for each is calculated by assuming that the 54 DHAs are representative of England and Wales as a whole, and scaling accordingly. The national figures for the number of existing in-patients who could be treated by day surgery are therefore:

- 87,000, using the upper quartile percentages as day cases;
- 171,000 using the Gabbay and Francis percentages as day cases.

10. The resources released are calculated by multiplying these figures by the excess cost of in-patients given in paragraph 8 above. They are:

- 87,000 x £110 = £10m
- 171,000 x £110 = £19m

USING THE RESOURCES RELEASED TO TREAT MORE DAY CASES

11. In order to calculate the likely extra numbers of day cases that could be treated using the resources released it is necessary to estimate an average cost per day case. In one of the day-case units examined by the study team a detailed costing exercise had recently been undertaken. About 75% of the day-case procedures undertaken in this unit includes those in the Commission's "basket". The estimate is therefore particularly relevant for this exercise. The figure given is £71 per day case at 1986/7 prices. This amounts to about £102 at 1990/91 prices (based on the NHS pay and price inflator produced by the Department of Health). The likely number of extra cases which could be treated at this unit cost for each of the resource levels given above are:

- £10m divided by £102 = 98,000 extra day cases
- £19m divided by £102 = 186,000 extra day cases

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Appendix 3

GLOSSARY OF THE "BASKET" OF 20 PROCEDURES

1. Inguinal Hernia Repair: repair of a rupture in the groin.

2. Excision of breast lump.

3. Anal fissure-dilatation or excision: treatments for a tear at the margin of the back passage.

4. Varicose veins-stripping or ligation: removal or tying off of tortuous veins in the leg.

5. Cystoscopy, diagnostic and operative: inspection* of the inside of the bladder to establish a diagnosis and/or carry out simple procedures.

6. Circumcision.

7. Excision of Dupuytren's contracture: removal of contracted tissue just under the skin of the palm which has led to clawing of fingers.

8. Carpal tunnel decompression: division of a band which lies across the front of the wrist, to release a nerve.

9. Arthroscopy, diagnostic and operative: inspection* of the inside of a joint - most commonly the knee.


11. Orchidopexy: bringing down a testes that has failed to descend naturally from the groin.

12. Cataract extraction, with or without implant: removal of an opacified lens from the eye sometimes including insertion of an artificial lens.

13. Correction of squint: by readjusting the muscle attachments to the eyeball.

14. Myringotomy, with or without insertion of grommets: a small cut in the ear drum sometimes accompanied by the introduction of a tube.

*Using a rigid or flexible 'scope' passed through the skin or along a natural channel from the surface of the body
15. Sub mucous resection: removal of part of the lining to the inner nose above the palate.


17. Operation for bat ears: plastic surgery to hold back protruding ears.

18. Dilatation and curettage: opening up of the neck of the womb to allow for its lining to be scraped out.

19. Laparoscopy, with or without sterilisation: inspection* of the abdominal cavity sometimes including blocking the 'tubes' from the ovaries to the womb.

20. Termination of pregnancy: through the next of the womb.

* Using a rigid or flexible 'scope' passed through the skin or along a natural channel from the surface of the body.
THE DISTRIBUTION OF DAY-CASE PERCENTAGES FOR THE "BASKET" PROCEDURES.

1. The following graphs show the distribution of the percentage of patients treated by day surgery (together with the median and upper quartile percentages) for each of the 20 "basket" procedures selected by the Commission. The distributions cover the 54 DHAs from West Midlands, Mersey, S Western and N W Thames RHAs for which the Commission has data. They are for the financial year 1988/89.

1 INGUINAL Hernia
2 EXCISION OF BREAST LUMP

3 ANAL FISSURE - EXCISION OR DILATATION

4 VARICOSE VEINS - STRIPPING OR LIGATION
5 CYSTOSCOPY

6 CIRCUMCISION

7 DUPUYTREN'S CONTRACTURE
8 CARPAL TUNNEL DECOMPRESSION

![Bar chart showing the distribution of DHA cases for carpal tunnel decompression. Median: 60.1%, Upper Quartile: 79.1%.]

9 ARTHROSCOPY

![Bar chart showing the distribution of DHA cases for arthroscopy. Median: 41.6%, Upper Quartile: 59.9%.]

10 EXCISION OF GANGLION

![Bar chart showing the distribution of DHA cases for excision of ganglion. Median: 74.0%, Upper Quartile: 84.2%.]
11 ORCHIDOPEXY

12 CATARACT EXTRACTION

13 CORRECTION OF SQUINT
14 MYRINGOTOMY

15 SUB MUCOUS RESECTION

16 NASAL FRACTURE
17 BAT EARS

18 DILATATION & CURETTAGE

19 LAPAROSCOPY
20 TERMINATION OF PREGNANCY

The diagram shows the distribution of the number of DHAs (District Health Authorities) as a percentage of day cases. The median value is 15.2%, and the upper quartile is 40.2%. The distribution is as follows:

- 0-10: 20
- 11-20: 10
- 21-30: 5
- 31-40: 3
- 41-50: 2
- 51-60: 1
- 61-70: 1
- 71-80: 1
- 81-90: 1
- 91-100: 1

No of DHAs

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