The Audit Commission’s original reports, A Short Cut to Better Services and All in a Day’s Work, published in 1990 and 1992, reported that...

- in many hospitals and for many procedures, a higher percentage of elective surgery could have been carried out as day surgery
- facilities should have been made available to enable more day surgery to be carried out
- existing day surgery units were not always used as effectively as they might have been

This update examines the main changes that have taken place between the audits in 1990/91 and the update survey in 1997/98, showing many improvements...

- a much higher percentage of many elective surgery procedures is being carried out as day surgery
- many more dedicated day surgery units have been established in hospitals – 93 per cent of trusts have at least one unit, compared with 75 per cent in 1990/91

- throughput of patients per bed in day surgery units has increased from 17 to 20 per month
- more units are directed by consultants – the proportion has risen from one-third to one-half – which should improve quality and commitment

But there is still plenty of scope for further progress...

- day surgery rates for particular procedures are very variable and many trusts still fall well below the levels achieved by the best
- for some procedures, there is a minority of trusts where day surgery rates have decreased
- the potential to do more day surgery has increased because more elective surgery is now being carried out
- the targets for day surgery rates have increased
- day surgery units with low levels of activity and staff productivity should be investigated

Trusts and health authorities must work together to achieve further improvements by...

- identifying the procedures at local level that offer the greatest potential for more day surgery
- ensuring that the relevant clinicians are involved
- planning for more facilities if these are needed, or making better use of the facilities that already exist
- agreeing an action plan for implementation

Value-for-money indicators

This update is part of a series that tracks progress on a number of selected national value-for-money studies, using indicators based on the original study recommendations.
Introduction

1. There is wide acceptance that elective surgery should be carried out as day surgery wherever practicable. A shorter stay in hospital is welcomed by patients and releases bed capacity without any detrimental effects on clinical outcomes.

2. The Audit Commission reported in 1990 that progress had been slow in introducing day surgery. The report set out the main barriers and ways to overcome them:
   - better information on day surgery performance;
   - more specialist facilities;
   - more efficient use of facilities;
   - changing clinicians’ preferences for patients to remain in hospital after surgery; and
   - providing better management information.

3. The Commission then audited acute hospitals in 1990/91 and the results were reported in 1992. This update presents the progress that has been made since then and covers 85 per cent of trusts that perform day surgery. More details of the follow-up methodology are given on p12.

Day surgery performance

4. At the time of the original report it was common to compare day surgery rates across specialties or even whole hospitals. This approach – which to some extent continues today – ignores differences in the mix of patients treated and of the procedures carried out. It can also be misleading if patients receiving certain types of treatment are counted as day cases by some trusts, but are counted as outpatients by others. Performance should be compared for individual procedures.

5. The Commission therefore devised a ‘basket’ of 20 procedures that represents a substantial proportion of day surgery and covers all the main surgical specialties. These procedures have been assessed by expert clinicians as generally suitable for day surgery, but are of sufficient complexity to make it unusual for them to be carried out as outpatients. Since the original audit the appropriate procedures may have changed for certain conditions – for example, diagnostic arthroscopy can now be replaced by magnetic resonance imaging (MRI). However, the figures indicate that substantial numbers of patients are undergoing all of the original procedures, both as day surgery and inpatients, and that the procedures are still relevant.

6. At the time of the original audit, data held by the Department of Health (DoH) and the Welsh Office was not sufficiently reliable for calculating day surgery performance. So the figures relating to the basket procedures were collected by auditors who conducted manual surveys of hospital theatre registers. Since then, the central data has greatly improved in reliability.
improved and can now be used reliably to extract equivalent day surgery figures for all trusts in England and Wales for the financial year 1996/97 – the most recent available. The overriding finding is that day surgery rates have increased very significantly for all of the 20 basket procedures [EXHIBIT 1].

7. These improvements are such that the median rates now exceed the best (upper quartile) rates found in 1990/91 for all of the basket procedures except two (anal fissure excision and submucous resection). In some cases – for example, hernia repair, cataract extraction and laparoscopy/sterilisation – the current median rates greatly exceed the earlier upper quartile rates.

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EXHIBIT 1

Median day surgery rates, England and Wales 1990/91 and 1996/97

Day surgery rates have increased significantly for every basket procedure.

Note: Procedures are in descending order of improvement.

Source: Audit Commission, based on DoH Hospital Episode Statistics (HES) and Patient Episode Database for Wales (PEDW)
Despite these advances, there is still much variation between trusts and therefore much room for improvement. If all trusts matched the levels of the best, 154,000 procedures per year (England and Wales) could be transferred from inpatient to day surgery. This number of potential transfers is close to twice the number calculated in 1990/91, using the upper quartile rate as the target. This increase in potential is partly because the performance of the best trusts has increased and partly because the number of patients having these procedures has also increased.

The data for hernia repair illustrates the changes that have taken place for an individual procedure [EXHIBIT 2]:
- the best performers now exceed the rates of the best performers at the time of the audit;
- many more trusts are now approaching the levels of the best; but
- the range is still wide, with some trusts still doing little or no hernia repairs as day surgery.

The general increase in day surgery rates for all procedures masks the performance of individual trusts. While most trusts have improved their performance, there is a minority for each procedure whose performance has deteriorated – for example, excision of breast lump [EXHIBIT 3].
Variations in day surgery rates between procedures within trusts are also wide. One trust, for example, has an excellent performance for arthroscopy, myringotomy and submucous resection but a poor performance for anal fissure excision, cataract extraction and dilatation and curettage [EXHIBIT 4].

Variations of this kind are typical; very few trusts have consistently high performance across all procedures and specialties and, equally, very few trusts are consistently low. The few that do have a consistent performance, high or low, show no particular characteristic; large trusts and small, rural and urban are all represented.

While most trusts have improved their performance, there is a minority for each procedure whose performance has deteriorated.

EXHIBIT 4
Comparative day surgery rates by procedure within one trust, 1996/97
Performance between different basket procedures within a trust varies widely.

Source: Audit Commission, based on HES
A separate indicator of performance is the percentage of patients who are not able to go home as intended on the day of their surgery, known as the ‘stay-in rate’. A modest number of stay-ins is to be expected – it is impossible to predict exactly how every individual patient will respond to surgery. A very low rate might even indicate that clinicians are being overly cautious in their selection of suitable patients, whereas higher rates may indicate poor selection of patients, or the possibility that clinicians are performing more complex procedures as day surgery. The median stay-in rate is 1.8 per cent, and this has not changed since the original audit, but the range is from zero to 17 per cent. Rates above the upper quartile (4 per cent) merit investigation as they are likely to disrupt hospital inpatient schedules [EXHIBIT 5]. Stay-in rates may be reduced if clinicians allocate patients to day surgery at the time of their outpatient attendance and reassess them as suitable for day surgery shortly before admission.

The momentum of improvement in day surgery must be maintained to achieve the potential identified in this report. The priority now is to tackle those procedures where there are long waiting times, such as arthroscopy, cataract extraction and submucous resection. The revised targets for all 20 procedures are given in the appendix, based on the current upper quartile of trusts. Separate figures are given for different age groups as there are important age-specific differences for some procedures such as hernia repair, arthroscopy and dilatation and curettage.

Independent evidence shows that much of the recent growth in day surgery rates has occurred because of an overall growth in the amount of surgery. Many of the new day surgery episodes represent additional activity rather than substitution for inpatients. A second priority for trusts must now be to achieve more transfer of inpatient surgery to day surgery, so that resources can be released for other inpatient surgery.

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15. Independent evidence shows that much of the recent growth in day surgery rates has occurred because of an overall growth in the amount of surgery. Many of the new day surgery episodes represent additional activity rather than substitution for inpatients. A second priority for trusts must now be to achieve more transfer of inpatient surgery to day surgery, so that resources can be released for other inpatient surgery.
Specialist facilities

16. The Audit Commission’s original study found that many hospitals did not have a dedicated day surgery unit, which is essential for high quality and efficient day surgery. It also found that of those units that did exist, most did not have an attached theatre. The report strongly recommended that to improve efficiency and quality, day surgery units should be self-contained, ideally with a theatre attached.

17. Since the original audit, the position has greatly improved. Whereas in 1990/91, 75 per cent of health authorities (the service providers at the time) had a day surgery unit, 93 per cent of trusts carrying out day surgery now have at least one. The proportion with attached theatres has increased from one half to two-thirds. [EXHIBIT 6]. In addition, 26 per cent of trusts have more than one unit and quite a number have both general and specialist units. The most common kinds of specialist unit encountered were ophthalmology and gynaecology units.

EXHIBIT 6
Availability of day surgery units, England and Wales 1990/91 and 1997/98
Nearly all trusts have a day surgery unit and most units have an attached theatre.

Percentage of trusts

<table>
<thead>
<tr>
<th></th>
<th>1990/91</th>
<th>1997/98</th>
</tr>
</thead>
<tbody>
<tr>
<td>No unit</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Units without theatre attached</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>Units with theatre attached</td>
<td>60%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Source: Audit Commission
Use of facilities

18. The original audit found that many of the units that existed at the time were being under-used. Since then, the average throughput of patients per bed has increased from 17 to 20 per month. This increase is possibly due to the increased proportion of units with attached theatres, as these units tend to have a higher throughput.

19. A factor that influences the effectiveness of units is the complexity of procedures carried out, namely ‘casemix’. Procedures can be divided into two categories:

- ‘true day surgery’ – that is, basket procedures and others of comparable complexity, which require a sterile theatre; and
- minor procedures such as colposcopy and endoscopy, which do not require sterile facilities.

20. A high level of throughput of patients per bed in a unit is often associated with a high proportion of minor procedures [EXHIBIT 7]. If there is spare capacity to carry out these minor procedures, or if these high levels of throughput are found in special purpose units which are integral with the day surgery unit, then carrying out these minor procedures is not detrimental to performance. If, on the other hand, minor procedures are displacing true day surgery, they should be relocated elsewhere, to release the day surgery facilities for procedures requiring a theatre.

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EXHIBIT 7

Throughput for minor procedures and true day surgery compared, England and Wales 1997/98

High levels of throughput overall are associated with high throughput of minor procedures.

Throughput (patients per bed per month):

- True day surgery
- Minor procedures

Source: Audit Commission
21. There is a pronounced relationship between the level of activity in day surgery units and staff productivity. As the level of activity (the number of procedures per month) increases, so does staff productivity (procedures per month per whole time equivalent member of staff) [EXHIBIT 8].

22. This relationship is particularly marked at activity levels below 200 procedures per month where there is a cluster of units with very low productivity. This suggests that these units may be significantly under-used and that staff numbers might need to be scaled down to match the level of activity, or that the level of activity needs to be increased. Units falling into this category should be investigated at local level.

CLINICIANS’ PREFERENCES

23. The Commission’s original report on day surgery identified clinicians’ preferences as a significant determinant of day surgery performance. It found that the variation in individual consultants’ day surgery rates was greater than the variation between health authorities: ‘The higher percentages for some procedures achieved by the ‘pioneers’ are swamped by their colleagues in the DHA [District Health Authority] aggregates’. Clearly, the new figures show that many more consultants are adopting day surgery as normal practice. However, consultants’ preferences still have a major effect on the adoption of day surgery, as suggested by the wide range of performance within trusts.

24. Consultant surgeons are individually responsible for their patients, and the decision to carry out a particular procedure as day surgery rests with them. Clinicians need to follow the example set by their peers who have already expanded day surgery and they need to be committed to any plans to do the same in their own hospitals. A positive sign, which should increase peer pressure, is that the proportion of units directly managed by consultants has increased from one-third to one-half.
Management information

25. In the original study, managers’ capacity to implement change was found to be limited by poor management information. This has improved greatly; the very fact that this update survey could use DoH and Welsh Office data, which have their origins in trusts’ own patient administration systems, is a major advance compared with the original audit where data had to be collected manually. Moreover, most of the trusts were able to provide the information required in the update survey without difficulty and 47 per cent of them had used computerised data.

26. The rate at which patients do not attend their appointments (DNAs) may give an indication of how well units communicate with patients but is also determined by factors outside the control of management. Nevertheless, the DNA rate has important implications for the efficiency of units. The rate is unchanged since the original audit, ranging between 0 and 5 per cent for most units, but it is much higher for some hospitals, notably London teaching hospitals [EXHIBIT 9]. High rates disrupt the management of a unit, contribute to the inefficient use of resources, displace patients on waiting lists who could be treated, and should be investigated.

EXHIBIT 9

Variations in DNA rates, England and Wales 1997/98

High percentages of DNAs mean that treatment slots are being wasted and should be investigated.

<table>
<thead>
<tr>
<th>Percentage of day surgery patients who did not attend their appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
</tr>
<tr>
<td>25%</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td>15%</td>
</tr>
<tr>
<td>10%</td>
</tr>
<tr>
<td>5%</td>
</tr>
<tr>
<td>0%</td>
</tr>
</tbody>
</table>

Day surgery units

Source: Audit Commission

The next steps

27. The use of day surgery has greatly increased since the original audit – a substantial achievement by the NHS. But there is still considerable scope for those trusts doing very little day surgery to achieve more. The procedures with the longest waiting times should be tackled first. Waiting times for other procedures that are not suitable for day surgery may also be reduced if more capacity could be released by substituting day surgery for inpatient surgery. Auditors may be able to help trusts to identify their problem areas using the specially developed computer software provided to them by the Audit Commission.

28. The comparative data generated from this update survey should also provide trusts with much needed guidance on levels of staff productivity, stay-ins and DNAs to which they should aspire.

29. Achieving these improvements will depend on support from clinicians and it is important to involve them at all stages of planning and operation of day surgery services. More guidance on this and other operational issues can be found in the original reports, which are still very relevant.
## Appendix

### Age-specific day surgery rates* for basket procedures – England and Wales (1996/97)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>MEDIAN (All ages)</th>
<th>MEDIAN (0-15)</th>
<th>MEDIAN (16-64)</th>
<th>MEDIAN (64+)</th>
<th>UPPER QUARTILE (All ages)</th>
<th>UPPER QUARTILE (0-15)</th>
<th>UPPER QUARTILE (16-64)</th>
<th>UPPER QUARTILE (64+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inguinal hernia repair</td>
<td>35</td>
<td>74</td>
<td>40</td>
<td>9</td>
<td>46</td>
<td>85</td>
<td>55</td>
<td>19</td>
</tr>
<tr>
<td>2. Excision of breast lump</td>
<td>56</td>
<td>–</td>
<td>61</td>
<td>–</td>
<td>69</td>
<td>74</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3. Anal fissure excision</td>
<td>60</td>
<td>–</td>
<td>65</td>
<td>–</td>
<td>74</td>
<td>78</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4. Varicose vein stripping or ligation</td>
<td>44</td>
<td>–</td>
<td>48</td>
<td>–</td>
<td>60</td>
<td>65</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Cystoscopy</td>
<td>71</td>
<td>–</td>
<td>81</td>
<td>63</td>
<td>79</td>
<td>85</td>
<td>73</td>
<td>–</td>
</tr>
<tr>
<td>6. Circumcision</td>
<td>76</td>
<td>84</td>
<td>73</td>
<td>–</td>
<td>82</td>
<td>90</td>
<td>82</td>
<td>–</td>
</tr>
<tr>
<td>7. Dupuyten’s contracture excision</td>
<td>28</td>
<td>–</td>
<td>28</td>
<td>–</td>
<td>45</td>
<td>46</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8. Carpal tunnel decompression</td>
<td>84</td>
<td>–</td>
<td>88</td>
<td>73</td>
<td>91</td>
<td>93</td>
<td>84</td>
<td>–</td>
</tr>
<tr>
<td>9. Arthroscopy</td>
<td>69</td>
<td>–</td>
<td>73</td>
<td>30</td>
<td>76</td>
<td>80</td>
<td>44</td>
<td>–</td>
</tr>
<tr>
<td>10. Excision of ganglion</td>
<td>87</td>
<td>–</td>
<td>90</td>
<td>–</td>
<td>92</td>
<td>94</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>11. Orchidopexy</td>
<td>69</td>
<td>70</td>
<td>–</td>
<td>–</td>
<td>81</td>
<td>83</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>12. Cataract extraction</td>
<td>63</td>
<td>–</td>
<td>63</td>
<td>61</td>
<td>85</td>
<td>78</td>
<td>85</td>
<td>–</td>
</tr>
<tr>
<td>13. Correction of squint</td>
<td>61</td>
<td>70</td>
<td>–</td>
<td>–</td>
<td>81</td>
<td>90</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>14. Myringotomy</td>
<td>83</td>
<td>87</td>
<td>74</td>
<td>–</td>
<td>91</td>
<td>93</td>
<td>86</td>
<td>–</td>
</tr>
<tr>
<td>15. Submucous resection</td>
<td>12</td>
<td>–</td>
<td>8</td>
<td>–</td>
<td>23</td>
<td>19</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>17. Operation for bat ears</td>
<td>45</td>
<td>25</td>
<td>–</td>
<td>–</td>
<td>73</td>
<td>58</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>18. Dilatation and curettage</td>
<td>71</td>
<td>–</td>
<td>78</td>
<td>24</td>
<td>80</td>
<td>87</td>
<td>33</td>
<td>–</td>
</tr>
<tr>
<td>19. Laparoscopy/sterilisation</td>
<td>74</td>
<td>–</td>
<td>75</td>
<td>–</td>
<td>82</td>
<td>83</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>20. Termination of pregnancy</td>
<td>88</td>
<td>–</td>
<td>87</td>
<td>–</td>
<td>93</td>
<td>93</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Percentages are not shown where the numbers of procedures are insufficient.

* The number of day cases as a percentage of the sum of elective inpatients and day cases for each procedure.
Following up value-for-money studies and audits

Each year the Audit Commission follows up selected national studies and associated local audits that it has carried out to see what changes have taken place. It does this by identifying key indicators – value-for-money indicators (VFMIs) – which are based on the recommendations made by the study. New data for these indicators is compared against the data collected at the time of the original audit. The choice of studies depends on the continued relevance of the topic and recommendations, and the scope for change. The results provide not only a valuable national picture of change, but also allow individual trusts to gauge their own progress against that of other, similar trusts. Separate results are produced by auditors for each individual trust using computer software that allows them to select indicators and tailor comparative groups to particular local needs. This information for day surgery services has recently been given to auditors, and chief executives should discuss the mechanisms for local feedback with their auditor if they have not already done so.