

Bed cost savings in day surgery in Australia

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Abstract

Sophisticated high quality day (ambulatory) surgery, in purpose constructed centres together with hospital based units, has been steadily progressing over the past 25 years, especially the last 10 years, but more so in some countries than in others. One of the many claimed advantages of day surgery is the bed cost saving where more major procedures are carried out in day surgery rather than overnight stay surgery in acute bed hospitals. In 1994–95, the National Day Surgery Committee of Australia carried out a study to estimate, with acceptable accuracy, the number of bed days which would be saved if a group of commonly carried out operative procedures were carried out in day surgery rather than overnight stay surgery. It was determined to express these savings as bed days rather than dollar value, however the dollar-cost saving is easily calculated by applying the known bed-day cost for a given hospital. It is shown that, for the 18 operative procedures included in the study, many thousands of bed days (and therefore many millions of dollars) can be saved by treating these patients in day surgery rather than overnight surgery.

Keywords: Ambulatory surgery; Bed days/cost savings

1. Background

The National Day Surgery Committee of Australia was formalised in 1985 to address standards of day surgery. In 1988, its scope was extended to advise on measures that would encourage the success of quality day surgery. The preparation of this paper is a continuation of this role to demonstrate the possible savings which may be achieved by a determined strategy to encourage a change in designated procedures from overnight to day-only surgery.

The growth figures for day-only surgery, in Australia, have been slower than anticipated and are indicated in Table 1 [1].

These data are Australian National Data collected for privately-insured patients in public and private hos-

pitals, and included medical as well as surgical patients.

Other sources and Medibank Private [2] (the largest private hospital insurance organisation in Australia) claims experience reflects a similar percentage trend in surgical patients; however, compared with international trends there is still considerable scope for increase.

Available information suggests that part of the increase in claims related to day-only surgery has been due to a movement of patients previously treated in casualty, out patients, diagnostic units or doctors' surgeries into day-only facilities.

2. Outline

This paper identifies potential savings within the health care industry if a designated percentage of selected procedures, as recommended by the National Day surgery Committee's 'Incentives for the Expansion of Day Surgery', March 1992, (Table 2) were to shift to day-only surgery. Examination of the claims figures of Medibank Private can be reasonably expected to provide a snapshot of the trends in health insurance claiming patterns.

Table 1
Incidence of day surgery in Australia

1989/1990	27.10%
1990/1991	31.60%
1991/1992	33.20%
1992/1993	35.50%

Table 2
Selected procedures for transfer to day surgery

Description	% Day only	% Overnight
Breast: Excision of cyst or fibroadenoma or other local lesion	37.2	62.8
Breast: Excision of cyst, fibroadenoma or other local lesion where frozen section is performed	38.6	61.3
Femoral or inguinal hernia, or infantile hydrocoele repair of	13.2	86.7
Umbilical, epigastric or linea alba hernia repair of... < 10 years of age	44.9	55.1
Pilonidal sinus or cyst or sacral sinus or cyst excision... < 10 years of age	10.7	89.3
Varicose veins, multiple ligation... one leg	30.7	69.3
Varicose veins high ligation and complete stripping... one leg	5.6	94.4
Cystoscopy with urethroscopy... not associated with any other urological endoscopic procedure	47.2	52.8
Cystoscopy with ureteric catheterisation	43.8	56.2
Cystoscopy with one or more of ureteric dilation, insertion or ureteric stent, biopsy	29	71
Cystoscopy with ureteric catheterisation, unilateral or bilateral	38.2	6.2
Cystoscopy, with biopsy of bladder	44.6	55.4
Hysteroscopy with dilation of cervix under GA	48.9	51.1
Hysteroscopy with endometrial biopsy or suction curettage or both	61.4	38.6
Hysteroscopy with uterine adhesiolysis or polpectomy or tubal catheterisation or R/O IUD	66.3	33.7
Lens extraction and artificial insertion	30.5	69.5
Squint operation for one or both eyes involving one or two muscles	37.8	62.2
Lop ear, bat ear or similar deformity correction of	27.3	72.7

The results are extrapolated to provide an estimate of the national savings in bed days to the private health insurance funds using the premise that Medibank Private covers approximately 25% of the insured population. These results can be further extrapolated to estimate the national savings of both the public and private hospitals of bed days based on the premise that approximately 38% of the population have private health insurance.

3. Methodology

A statistical report was produced from the Medibank Private data base detailing the number of patients and the day-only accommodation band (related to length of time in theatre and type of anaesthetic) for the calendar year 1993. These were aggregated national figures. A second statistical report was produced from Medibank Private claims data detailing the average length of stay of all patients in private hospitals in all States. The claims experience related to the list of procedures, recommended by the National Day Surgery Committee as those which might be more appropriately undertaken on a day-only basis, was reviewed using data from both these reports. The review included a comparison of the number of these procedures undertaken on a day-only basis and those undertaken on an overnight basis with the average length of stay of overnight patients included in the analysis.

It was found that 80% of those undertaken on a day-only basis occurred as Day Only Band 3 (procedures requiring general anaesthetic of less than 1-h duration) and the benefit used in the calculation of savings was a weighted average of the Band 3 benefit in

all States (Australia has seven States with a total population of approximately 18 million people). The figures used to calculate the overnight bed rate was a weighted average of the general surgical shared (private) ward rate and where applicable the 'Medical Other' rate from the highest hospital benefit table in all States. The figure was weighted to take into account the different number of claims and the different amount of benefit paid in each State (Table 2).

4. Notes to data

Data have been extracted on a national basis from Medibank Private claims history for services in private hospitals and day-only facilities.

Identified savings relate to accommodation benefits only and assume that the procedure benefit for the services is the same whether performed as an overnight or day-only patient. Benefits used to calculate possible savings were the top hospital brochure benefits in each State and the applicable day-only Band accommodation benefit calculated from a weighted average of the relevant benefits in each State.

To protect the commercial sensitivity of using benefit calculations from only one fund no dollar amounts have been quoted.

5. Findings

From the figures available, the percentage of bed days for designated procedures undertaken on a day-only basis in the period under review is indicated in Table 2. The procedures where the greatest savings in

dollar amounts could be achieved in order of ranking are:

- Lens extraction and artificial lens insertion.
- Varicose veins, high ligation and complete stripping — one leg.
- Cystoscopy with urethroscopy — not associated with other urological endoscopic procedure.
- Breast: excision of cyst, fibroadenoma or other local lesion where frozen section is performed.
- Pilonidal sinus or cyst, or sacral sinus or cyst, excision — over 10 years of age.
- Breast: excision of cyst or fibroadenoma or other lesion.

The number of overnight bed days which could be saved over all the designated procedures if 80% of cases were undertaken on a day-only basis is calculated to be approximately 22 129 overnight bed days per annum, and if 60% of cases were undertaken on a day-only basis, the amount is calculated to be approximately 12 881 overnight bed days per annum on 1993 figures.

The increase in day-only bed days at the lesser cost and benefit rate is 12 253 bed days if 80% of these cases were to be undertaken on a day-only basis and 6602 if the number was 60%.

The overall calculated savings in bed days is 9876 at 80% rate and 6297 at the 60% rate.

6. Conclusion

The costing of the two options achieving an increase to 60% or 80% of these procedures on a day-only basis suggests significant annual savings in expensive bed days.

Using the premise that Medibank Private covers 25% of the insured population, these figures can be extrapolated to predict savings of approximately 40 000 bed days each year throughout the private health care sector. (Private hospital bed days per annum 5 176 000).

If these savings are considered in respect to the public health care system, using the premise that only 38% of the population is covered by private health insurance thus 62% of the population rely principally on the public sector, with minimal being self insured, the savings in the public sector in bed day costs would be expected to be in the order of 65 000 bed days nationally (public bed days per annum 15 587 000).

This is a simplistic view based only on direct calculation on the figures and does not take into account the many other factors which could affect the possible savings. However, the figures suggest significant savings in hospital costs if strategies can be developed to encourage any movement from overnight to day-only surgery.

Any reference to specific dollar values has been purposely omitted on the grounds that predicting specific dollar savings frequently results in unrealistic expectations and can give rise to inappropriate re-allocation of dollar amounts which may result in insufficient funds being initially allocated in the budgetary process to hospital accommodation. It can be seen that the savings in bed days demonstrates savings in the total health care industry of millions of dollars in a twelve-month period if the suggested targets can be reached.

Acknowledgements

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References

- [1] PHIAC: Private Hospital Insurance Association Council Annual Report. Canberra ACT, Australia.
- [2] Medibank Private: Health Insurance Commission — Medibank Private, Federal Government, Canberra ACT, Australia.