

# What price the London Hospital Plan\*

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The proposed changes in acute hospital services in the four Thames regions, detailed in the London Health Planning Consortium's *Acute Bed Profile*,<sup>1</sup> mean a restructuring in line with projected population and hospital admission trends. One possible consequence could be a saving on the revenue costs of acute care, providing funds to be diverted to other sectors. Total case loads are expected to increase overall and average duration of stay to fall. Thus the plan should be viewed not simply as a reduction in hospital activity in central London but as a change in its composition. The realisation of the London acute bed plans will depend on several factors, including the political will for—sometimes controversial—change. Not least among these factors is the cost of operating the restructured service. Increases in cost from higher case loads must be set against possible savings from shorter durations of stay in estimating the final impact on revenue budgets. This paper presents an assessment of that impact.

The London Health Planning Consortium did not give the cost of its proposals in any degree of detail. Perhaps this was because of the difficulties of projecting, 10 years ahead, the costs of a mode of medicine likely to be susceptible to technological developments. Indeed, our knowledge of existing specialty or disease treatment costs is limited by current data sources. Costings have rested on simple averaging or statistical analyses rather than on first-hand expenditure data.

This paper is no exception in that its calculations rest on estimates of costs and on assumptions about the future costs of each broad type of acute hospital care that are unverifiable. The results presented here should be viewed cautiously as a first approximation to the likely cost consequences of the proposed changes in acute hospital services in London.

Several statistical analyses of hospital costs<sup>2,3</sup> have been based on the plausible hypothesis that the total costs of different hospital activities depend on different dimensions of the "output" of the hospital. A hospital's costs are arguably separable into overheads, hotel costs, and treatment costs. Overheads will depend, among other things, on the size of the hospital. Hotel costs, such as catering, laundry, and some of the more routine nursing tasks, will depend on the number of patient days of the hotel services provided. Treatment costs will depend on the numbers and types of cases being treated. Obviously, this crude division of costs is oversimplified as the boundaries between, for example, treatment and other costs may be hard to draw. Treatment patterns may affect overhead costs because of the types of equipment used. Hotel costs may depend on the type of case treated. Even so, these categories provide a useful basis for the approximate separation of costs.

A further simplification, again potentially distorting the picture, is to assume that the cost of each activity varies in direct proportion to the activity. This need not be the case, though a recent empirical analysis of general economies of scale in English hospitals suggests no clear non-linear relations between costs and hospital size (unpublished DPhil dissertation by PAW, University of York, 1979; *Regional equity in the National Health Service in England: an economic analysis of the hospital*

sector). Finally, a statistical difficulty must be dealt with. If occupancy rates are broadly comparable across the sample of hospitals examined the number of beds and the number of occupied bed days will obviously be closely related. This prevents the simple separation of overheads and hotel costs in the statistical analysis. So the final method adopted in recent cost estimations assumes that the overhead and hotel costs may be combined into a single cost per day in hospital. The resulting relation may then be estimated by regressing the average cost per case in each hospital on the average duration of stay and the proportion of cases treated in each specialty hospital. A convenient source of cost estimates of the kind discussed above was available to us.<sup>4</sup> This analysis, using 1976 SH3 returns (statistical returns for the hospital service) and 1976-7 cost returns, was based on large numbers of acute hospitals and also included estimates of the effects of London location and teaching hospital status on average costs. For statistical reasons treatment costs were estimated for groups of specialties. We saw no obvious scope for improving on this method and so, in the calculations that follow, we have largely accepted the estimates of costs that it provides.

Obviously, the next step is the identification of the numbers of beds and cases existing in 1977, the base year of the London plan, and projected for 1988. Most of the relevant data are provided in that plan. One difficulty is that projected bed supply for 1988 was based on groups of specialties rather than single specialties and so the case loads for specialties falling into different treatment cost groups were calculated from 1977 and projected 1988 patterns of case mix. For ease of calculation, the average case-mix pattern was used rather than attempting to disaggregate by hospital. Some manipulation of a similar kind was required to derive future numbers of teaching beds. Given the cost, case load, duration of stay, and turnover interval data, the final step in the cost of calculation is simple (if cumbersome) arithmetic (tables I and II).

TABLE I—Cost of 1977 number of cases and bed days (£)\*

Total treatment cost	137 374 503
Total hotel cost	208 390 647
Additional London cost	54 818 370
Additional teaching hospital cost	8 863 722
Total	409 447 242

\*All costs are in 1976-7 prices.

TABLE II—Cost of 1988 projected number of cases and bed days (£)\*

Total treatment cost	158 697 618
Total hotel cost	189 373 428
Additional London cost	55 089 772
Additional teaching hospital cost	10 477 462
Total	413 638 280

\*All costs are in 1976-7 prices.

Comparing tables I and II, total treatment costs are projected to rise with the rising future case load and its changed composition. Total hotel costs are projected to fall in line with the reductions in bed days of hospital care provided, a fall achievable in the face of growing case load by an appreciable, projected fall in average duration of stay.

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The small change in the higher costs of hospital activity projected for London reflects the estimated extra cost of labour and other services in the metropolis and the comparative stability of the number of cases to be treated in London itself in the LHPC projections. (This constancy of case numbers implies a fall in London hospital beds since duration of stay is projected to fall.)

The rise in teaching costs projected may seem puzzling at first glance because of the planned changes in medical teaching activity in the next eight years. It arises because the effect of the proposed acute bed plan will be to increase the case loads of the teaching hospitals as a whole. This higher case load, when combined with the estimated higher cost per case of teaching hospitals, yields the projected increase in costs. Both this and the London cost adjustment should be viewed with caution, as the effects of higher case loads and falling durations of stay may well change the cost increase that occurs in London and in teaching hospitals.

The implication is that, based on a crude set of calculations, the cost of the proposed plan for acute hospital inpatient services in the Thames regions in 1988 will not be appreciably lower in real terms than in 1977.

## Discussion

Certain reservations must be borne in mind in interpreting these results. Firstly, the assumption that 1977 costs are meaningful as a basis for calculating 1988 costs is questionable. The pace of technological change and its consequences, even over an eight-year period, are problematical. For example, a particular therapeutic advance could change patterns of demand, as has occurred with the growth of surgical joint replacement. Secondly, the technological input to existing types of case may change. While in industry, and potentially in some of the hotel and technical support services in hospitals, technology has produced labour-replacing equipment of growing sophistication, in much of medicine new capital has increased labour inputs by creating new skills that are intended to augment existing medical practice rather than replace it. Similarly, the growth of technical manpower in the NHS shows the effects of increased complexity in medicine.

Any tendency to underestimate 1988 treatment costs, arguably the more plausible effect of technical change, will increase the cost of meeting the 1988 plans. Hotel costs may also rise faster than prices in general, at least where they remain labour intensive. (Labour intensity leads to more rapid cost increases if the pace of wage increases is set by industries with more capital per worker and more scope for increases in productivity. Higher

wages will then be claimed in the labour-intensive sector or must be paid to prevent loss of workers to other sectors.)

Conclusions on costs cannot be readily drawn from the available evidence. A comparison of cost estimates for 1976-7 with those derived for 1971-2 in an earlier study<sup>3</sup> indicates rising hotel costs and falling treatment costs. This is counter to expectations though may partly reflect the attribution of some portion of the cost of routine treatment practices to the hotel cost category. Certainly, we did not feel sufficiently confident of one set of comparisons to develop a further set of cost figures for 1988 incorporating any such cost trends.

## Conclusions

A first approximation of the cost of acute inpatient services in the Thames regions, planned by the LHPC for 1988, suggests that appreciable revenue savings will not accrue in real terms. Thus the suggestion that the proposed rationalisation of the acute sector will free resources for other sectors is not confirmed by the available and undeniably limited evidence. In consequence, and since the Thames regions are currently funded above their RAWP (Resource Allocation Working Party) target budgets, any growth in the non-acute sectors of the health services of south-east England may well have to rest on the minimal growth of the total budget if plans for the acute sector are realised. Alternatively, if average duration of stay continues to fall and acute bed provision does not contract to the planned level the so-called priority sectors may be further constrained by the acute sector.

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## References

- 1 London Health Planning Consortium. *Acute hospital services in London*. London: HMSO, 1980.
- 2 Deeble JS. An economic analysis of hospital costs. *Medical Care* 1965;3: 138-46.
- 3 Gibbs RJ. *The economics of early discharge from hospital—a pilot study*. London: DHSS Operational Research Unit, 1971.
- 4 Nurse KR. *Making allowances for cross-boundary patient plans in RAWP: the use of specialty costs*. London: DHSS Operational Research Unit, 1978.

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## From the Council—continued from page 919

Williams wanted people to be encouraged to participate locally rather than being coerced. The recommendation placed too much emphasis on education; he thought audit should be more of a service activity. LMCs and RCGP faculties were being encouraged to take initiatives locally on audit in general practice, Dr R A A R Lawrence told the Council (7 March, p 839).

The President, Sir John Walton, is dean of Newcastle Medical School and chairman of the GMC's Education Committee. It would be wrong, he said, for general practitioners to have a monopoly of self-audit of their work. The recommendation meant that educational bodies at large should be encouraged to pay more attention to continuing education, and that, he said, was something everyone could support.

## Confidentiality of medical information

The Central Ethical Committee had considered the Council of Europe Convention for the Protection of Individuals with regard to Automatic Data Processing of Personal Data, and the proposed draft recommendations by the European Committee on Legal Co-operation on regulations for automated medical data banks. The committee had welcomed both documents as their contents were in agreement with much of the evidence that the BMA had given to the Younger Committee on Privacy (1972) and to the Lindop Committee on Data Protection (1978). Seven western European nations had already signed the convention, and the CEC was dismayed that the UK Government had no intention of enacting enabling legislation within the present Parlia-

mentary programme. The Council agreed to impress on the Government the urgent need for data protection legislation in the medical field and to give maximum publicity to the matter.

## Correction

### Milage payments for hospital doctors

In the article by Michael Lowe (28 February, p 755) we said that the Scottish circular, NHS 1980 (PCS) 48, was operative from 20 December 1980. In fact, the arrangements in Scotland are effective from 1 April 1980 as in England and Wales. In table I the third figure in the first column (for cars up to 1000 cc over 9000 miles) should read 6.9p and not 6.0p.