Hospital Building in the NHS

Policy II: reduced expectations

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Since the demise of the Vaughan consultation document there has been no formal hospital policy in the NHS. But the outlines of a policy may be inferred from other statements of the DHSS: from the amount of money allocated to capital projects; from the current preoccupation with option appraisal, management of the estate, and refurbishment; and from the values embodied in the nucleus hospital.

Capital investment in the NHS reached a peak in 1973-4 (at almost £900m in 1983 prices, representing 12% of all health care resources). At about £700m a year now it has declined to 6% of all health care resources. Even at the peak, however, there was not enough money for health authorities to sweep away their Victorian asylums and Emergency Medical Service huts, and in practice they have responded as flexibly as Gerard Vaughan would have had them do. Indeed, as the changes demanded of the NHS during the 1970s and 1980s have grown greater—in terms of both efficiency and technology—the capital investment needed to make them possible has declined to a point where health authorities cannot even maintain their existing stock.

The optimism of the '60s and its gradual disappearance also brought with it some unintended (and often wasteful) consequences. Most of the money spent in the '60s and '70s did go, as planned, on district general hospitals. And as a result many districts now have modern or modernised hospitals offering better care and more of it locally than before. Progress in including geriatric and psychiatric units within general hospitals proved much slower, however, partly because planning and building in the NHS are slow (mainly because money comes through slowly) and partly because of the way in which hospitals are phased.

Large scale hospital developments in Britain are invariably phased and, almost as invariably, the acute wards and departments of the hospital form the early phases, with psychiatric, geriatric, and other non-acute departments in later phases. The postponement of many of these later phases because of overambitious planning and, after 1973, reduced capital expenditure has meant that many second and third phases of general hospitals have never been built. Some of these hospitals have been left as a result with extremely large boilerhouses and kitchens—built early but with enough capacity to serve the entire hospital when it was ultimately built. More seriously, this concentration on acute facilities has undermined policies aimed at closing down the large long stay hospitals and caring for their patients in the community with the support of facilities at the general hospital.

Another consequence of the way the hospital plan was implemented was the planning blight that affected many smaller and medium sized hospitals. The NHS has always spent precious little on maintaining its assets, and these hospitals were neglected because authorities thought that it was a waste of money improving them with a new hospital on the horizon.

The gradual backing down from the idea of a centralised district

Capital spending in the NHS: volume figures at 1982-3 prices.

general hospital towards acceptance of split site hospitals for the foreseeable future has also changed the perspective for those working in these hospitals. With the promise of replacement, staff were willing to make the best of substandard conditions. Once that promise has been broken, they are left with ill maintained, inadequate facilities with little hope of any improvement.

Trading off capital and revenue

Thinking about the use and the cost of hospitals has got much sharper over the past decade—both prompted and limited by the squeeze on resources. As early as 1956 the Guillebaud report had commented on the increased costs of running new hospitals, though it also added that these generally came about because standards of space and equipment were better and that a better service was being provided. Because of this health authorities who opened a new hospital were guaranteed an extra allocation of revenue to help run the building—known as the revenue consequences of capital schemes (RCCS). This had several consequences. Firstly, it did not encourage those planning hospitals to think particularly rigorously about the running costs of various design options. Secondly, it did not encourage authorities to think more generally about the use of their resources and the trade off between capital and revenue: if an authority was successful in bidding for a capital project it got the extra revenue as well. It did not have to “pay” for its new asset, so it did not need to look at rationalising the use of its resources or closing other hospitals.

RAWP—which abolished the revenue consequences of capital schemes—changed all that. The RAWP (Resources Allocation Working Party) formulas have been much criticised, but few have challenged the principle that money should be allocated to authorities according to some set of criteria that tried to determine need rather than on a purely historical basis. The formula for allocating capital funds has probably been less successful. Although it is based on population and the value of existing stock,

it ignores the fact that buildings might not be in the right places and that a district with a lot of badly placed hospital beds may need as much money to put this right as a district with very few beds.

The abolition of "revenue consequences" meant that authorities had to find money from their existing resources to run a new hospital. That gave them an incentive to consider designs that would keep down running costs and, even more, to look hard to see what hospitals they might have to close. Ironically, this policy, together with ever tightening resources, has actually had the effect of increasing the proportion of capital spent on acute schemes—simply because considerable resource saving rationalisation rests on them.

Option appraisal and refurbishment

Cynics might see the NHS's sudden new emphasis on option appraisal and the possibility of refurbishment as an alternative to building new as a ploy to justify their diminished chances of getting a new hospital. Portakabins between the buildings of Victorian hospitals testify to authorities' willingness to modify existing buildings—often because they despaired of getting a new one; and good authorities have for years been assessing the options before deciding to build a new hospital.

Many Victorian hospitals are well built, generously proportioned buildings, and the King's Fund Jubilee project showed the scope for modification and upgrading possible. It provided just over £1m to several old London hospitals so that they could upgrade Nightingale wards to modern standards—by forming small bays, increasing the sanitary facilities and day rooms, and providing piped gases. Likewise, the DHSS's own project, in collaboration with the former Wandsworth, Sutton, and Merton area health authority at Nelson Hospital showed the feasibility of rearranging and restructuring facilities rather than building new. At a time when buildings erected in the 1950s and 1960s with 11 inch cavity walls and flat roofs are badly in need of repair it is not a bad idea to see what you can put within an envelope built by the Victorians with 13½ inch stone walls and high ceilings, but it does seem like making a virtue of necessity and the policy does have its limits. For years hospitals have been adapting their old buildings, adding extensions, squeezing laboratories between the wings of Nightingale wards, and putting secretaries in cupboards. These expedients may provide much needed accommodation quickly but they also freeze the hospital into inefficient ways of working.

When the government is demanding efficiency savings and cuts in manpower the obvious way of achieving these—by massive capital investment to provide hospital services in a way that does not depend heavily on labour—seems to be the one option that cannot be considered. Instead many authorities are left with not enough revenue to run a labour intensive service well and not

enough capital to build a less labour intensive service. The best that most can hope for is a nucleus hospital.

Nucleus

As its name suggests, the nucleus design aims at providing a district with the basis of a hospital service: a first phase capable of standing on its own but nevertheless relying on some existing services elsewhere in the district. Nucleus represents the culmination of all the work on standardisation that the DHSS works group has been doing since the 1950s (see next week's article) and at the same time embodies the diminished expectations of the time.

Nucleus was introduced in 1974 in response to the oil crisis and the monetary crisis that followed it. It marked an abrupt end to the expansionist programme of the late '60s and early '70s. Almost overnight the region's expectations of finance for their capital programmes and doctors' expectations of higher standards of space in their hospitals were reversed.

The DHSS works group quickly came up with a small first phase hospital that could be used intensively and could stand on its own with the support of facilities elsewhere, such as a district laundry, laboratory, pharmacy, and central sterile supply department. It would contain about 300 beds, with the possibility of growth in later phases up to 900 beds, would allow a limited choice of content to meet local needs, would be economical to run, and could be built for under £6m at 1975 prices.

The essential content of the hospital comprises mainly support departments such as stores, a kitchen, mortuary, telephone exchange, staff changing, dispensary, laboratory outstation, but it also includes some clinical departments such as an x ray department of four rooms and two operating theatres. To some extent these determine the choice of the remaining content, but the original options included adult, children's, maternity, geriatric, and psychiatric wards, an accident department, an intensive care unit, a day care unit, more theatres, a larger x ray department, and an outpatient department. Since then the nucleus team at the DHSS has provided plans for further departments, such as a special care baby unit and a day hospital for the elderly.

The departments are all designed to fit within cruciform "templates," sometimes taking up a whole template, sometimes only part. The limited amount of choice allowed to the users is provided by allowing them to select the templates they want and to string them together in the order they wanted along either side of the main "street," which provides a link for both people and engineering services between the templates themselves and between the templates and the service centre (housing workshops, distribution, the mortuary, and kitchens). The whole hospital is designed to be two storeys high (no more than three), to take full advantage of natural ventilation and light.

(Left) A typical nucleus layout, showing six templates linked by a street, with the services block on the right. (Right) Standard plans for the templates containing the main entrance and acute wards.

For each department that they choose the users are provided with a standard set of operating policies and a standard layout for the department, including scale plans and engineering drawings. What nucleus leaves to the planners and architects are:

(a) the decision to opt for nucleus in the first place, rather than design a one off hospital from scratch;

(b) some decisions about the content of the hospital—though to some extent choices about content have to be made before the decision to use nucleus can be made. Too wide a deviation from the possible contents it offers may make it not worth choosing;

(c) some decisions about the relationships of departments within the building; and

(d) for the architects, decisions on materials, structure, and finishes.

To the extent that planners and architects start altering the content or layout of a nucleus hospital the benefits and savings in time in using it diminish.

Some of the criticisms of nucleus in practice have in fact arisen

because of insufficient appreciation of this last point; one or two regions have adopted it wholesale to speed up their building programmes and in some places have had to modify it so much to meet local needs that they might have been better off not adopting it in the first place. Others have criticised it for providing a bad design solution to its own brief (see next week's article). Nevertheless, eight nucleus projects have now been completed and there are many more in various stages of planning and construction. All have so far come out at prices within their original budget.

The medical profession's attitude towards nucleus has tended to be one of resignation: that it is nucleus or nothing, and to an extent this attitude is correct because nucleus was conceived as a means of maintaining the overall number of hospital schemes being planned in the face of very reduced financial resources. Without nucleus, or something like it, the odd district might have got its (rather grander) hospital but many more would undoubtedly have had theirs postponed yet again.

The Maidstone Hospital

Maidstone's nucleus hospital, one of the earliest and the "purest," is widely agreed to be the prettiest so far.

Like many county towns Maidstone had a nineteenth century voluntary hospital in the middle of town—the West Kent—which had been added to over the years and had gradually outgrown its site. A new hospital on a new site appeared in the *Hospital Plan* of 1962; there was money for Maidstone in the region's programme, but, as with so many others, the hospital kept getting postponed. Meanwhile successive management committees looked at various designs—best buy and later harness. When nucleus was first mooted in 1975 the district, which had been talking about a new hospital since 1948, quickly volunteered to act as a guinea pig for the new design. It got its hospital, but because the DHSS wanted to test the design in its original form the project team found it very difficult and sometimes impossible to change some aspects of the brief during planning. The major deviation from nucleus is the pathology department, which is not a nucleus design and provides haematology and chemical pathology services for the district (nucleus assumes that the main pathology services will be provided off site).

The content of the hospital and the relation of the departments were the responsibility of the project team, who used the briefing data and departmental and room plans provided by the DHSS's nucleus team. The architects Powell and Moya were responsible for the way the hospital looks.

Maidstone General has 276 acute beds, and phase 1A, a ward block of 112 beds, is already being built. Phase 2, which the district hopes to build at the end of the decade with the proceeds from the sale of the West Kent Hospital, will include acute psychiatry, a postgraduate medical centre, and a pharmacy. It will also rehouse the ENT and ophthalmic departments now rather isolated in the centre of the town at the Kent County Ophthalmic and Aural Hospital.

The staff's major criticism of the hospital is the familiar one: that working space and facilities provided for staff as opposed to patients are inadequate. The inadequacy of the medical records department and the mortuary was identified by the project team during planning, but they were unable to enlarge them. There is very little space for doctors and their secretaries, and the seminar rooms on the wards have been taken over as offices. The opposite problem has occurred in the maternity and paediatric departments. The standard nucleus paediatric department of 40 beds is too big for the district's needs and only 24 beds are used. But, because of its position this space is difficult to reuse and cannot help relieve the pressure where space is tight.

Despite the criticisms, the general reaction to the hospital is very good. The wards work well, and patients like them; so do the nurses, except for the perennial complaint about lack of storage space.

Despite initial misgivings nurses and other staff used to treating patients on the wards have found that the central treatment department works well. To the patient or casual visitor the hospital appears open and spacious, with plenty of light from attractively landscaped courtyards. Nevertheless, success has brought its own problems. Because of inadequate facilities before many patients were sent to London for hospital treatment; these patients are now being referred to the new hospital, which has seen a 20% increase in work load over its first nine months—all without any extra revenue.