CASPE
RESEARCH

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CAPITAL COSTS
and
SPECIALTY BUDGETING

...h are exploring Clinical Accountability, Service Planning and Evaluation in the N.H.S.

CASPE RESEARCH PROJECT

King's Fund College

CAPITAL COSTS
and
SPECIALTY BUDGETING

A Report of a Day Seminar held at the

King's Fund College on 1 May 1980

C O N T E N T S

INTRODUCTION

Iden Wickings welcomed the participants to the King's Fund College, briefly outlined the CASPE Research Project and the purpose of the working seminar. He explained that CASPE Research were exploring a method of service planning and budgeting for clinical specialties which would enable a planned level of resources to be allocated to each clinician for use in carrying out a planned workload. It was necessary to establish a comprehensive information system to enable the expenditure incurred by resource consumption to be reported back to the clinical staff. A considerable proportion of such expenditure included fixed costs and the CASPE team was currently considering to what extent fixed costs should be included. The current seminar had been arranged with a view to discussing the importance of taking capital costs into account in a specialty budgeting system, and if their inclusion was thought necessary, to consider how such costs should be represented. This topic appeared to have been given little consideration previously and therefore the speakers had been invited because of their wide experience of different practices.

LIST OF PARTICIPANTS

M. Buxton Esq	Economic Advisor, DHSS
E. Camp Esq	District Finance Officer Southend Health District
M.P. Carvell Esq	District Finance Officer Brent Health District
J.M. Coles Esq	Operational Research Scientist CASPE Research
M.P. Cox Esq	Assistant Treasurer Coventry AHA
D.P. Dearsley Esq	Senior Assistant Area Treasurer Oldham AHA
R.B. Flux Esq	Research Team Manager Brent Health District
J. Frith Esq	Financial Director, C & J Clarks Ltd and Chairman, Somerset AHA
Dr. H. Glass	Regional Scientific Officer North West Thames RHA
Mrs. L. Howard	Research Assistant CASPE Research
J. Hurst Esq	Senior Economic Advisor, DHSS
C. Lee Esq	Capital Administrator North East Thames RHA
Miss C. Macdonald	Chief Accountancy Assistant Oldham AHA
G.T. Macklin Esq	District Finance Officer East Birmingham Health District
Mrs. E. Mayne	Senior Administrative Assistant Regional Scientific Department South East Thames RHA
B. Patch Esq *	Senior Accountancy Assistant Southend Health District
Mrs. G. Potts	Research Team Leader East Birmingham Health District
K. Rundle Esq	Assistant District Finance Officer Brent Health District
C.J. Savory Esq	Project Team Leader NHS Financial Information Project

R. Stern Esq	Research Team Leader Southend Health District
Dr. H.I. Wickings	Project Coordinator CASPE Research

*	Professor John Perrin	Director, Centre for Industrial Economic and Business Research, Warwwick University

CAPITAL AND CLINICAL BUDGETING

Professor John Perrin, Director of the Centre for Industrial Economic and Business Research, Warwick University, suggested that as he was not specifically an expert on Health Service Capital, he would endeavour to start the seminar by giving a broad outline of the subject without necessarily drawing conclusions.

1. The NHS Budgeting System Generally

Professor Perrin said that he was assuming the terms 'specialty budgeting' and 'clinical budgeting' to be synonymous. He suggested that the phrase 'specialty budgeting' implied budgeting for an activity which enabled managers to have control over the resources used and expenditure incurred as a result of that activity. The way in which funds are made available for each specialty could be seen either as

(i) budgets built up from costs, which would require reasonably detailed cost information, or

(ii) a large allocation of funds which would be broken down into smaller allocations to provide a budget for each specialty.

He suggested that whichever method was used it would soon become apparent that detailed information would be required about the content of any particular budget. Professor Perrin described budgeting as the act of quantifying plans in monetary terms and it was important that detailed cost information was available to enable budget holders to monitor the progress of expenditure incurred, compared with the plan, and if necessary to improve their management of the budget.

Professor Perrin described some of the problems he had identified two years earlier during the course of compiling information for the Royal Commission on the NHS:-

(a) the difficulties caused by the restrictions on virement of capital to revenue funds. It had been noticeable that many Treasurers were very reluctant to delegate any automatic rights of virement (even between revenue

accounts) below the management team level, and he had no experience of delegated virement powers involving capital accounts;

(b) the problem of motivating managers to achieve economies when savings were usually put into a central pool of funds. It was found that Treasurers were generally prepared to agree to the manager using such savings if he had identified them in advance, but this presented the additional problem of whether such funds should continue to be included in the manager's budget for subsequent years;

(c) the lack of innovation, staff time and computerised facilities in Finance Departments often resulted in inaccuracies and considerable delay in the distribution of financial reports to budget holders. As a consequence it had been found that many departments maintained their own informal book-keeping systems to make sure that their commitments and expenditure did not exceed their budget. This duplicated work wastefully.

(d) the fact that budgets are so often given to managers who provide a service but who cannot determine in advance the level of provision required. Hence the interest in involving clinicians, who are the resource consumers, in budgeting.

2. Capital

Professor Perrin went on to describe the different interpretations of the term "capital":-

(i) an economist views capital as postponed consumption or real resources;

(ii) a financial accountant would regard capital as a heading on one side of a balance sheet and related to the sources of capital investment, interest, repayments, etc;

(iii) a management accountant tends to think of physical resources or assets with a life of more than one year.

3. Capital in the NHS

Although the NHS has assets that are charged to capital funds, unlike industrial practice they are not charged to capital accounts. This is because the Health Service has no balance sheet. Capital assets would include major capital such as plant and buildings which had a long life, but in addition there would strictly be capital assets which are not charged to capital spending, but direct to revenue. This includes most replacement items of plant and equipment. Professor Perrin said that a questionnaire circulated to Treasurers had included items on capital spending and it was found that fewer than half of the Treasurers had a running sub-total from which they could identify how much revenue spending related to expenditure on capital items. In other words they would not know, as is essential in industry, the proportion of expenditure to be put into fixed assets accounts and subjected to depreciation.

4. Constraints or distortions in NHS use of capital

Professor Perrin described RAWP as an example of a constraint on the use of capital. He suggested that if capital was to be taken into account in specialty budgeting, it should not include major hospital buildings because decisions about these would not be taken on a specialty basis.

It was pointed out that in the NHS capital is seen as a "free good" because no interest is paid, no capital repayment of the principal itself has to be met and no depreciation charge has to be entered into anyone's accounts. Professor Perrin suggested that this must be a deterrent to the recognition of the real importance of the capital cost. He did not think this necessarily meant that such costs need be routinely reported down to individual specialty or clinician level. They would, however, need to be identified when considering future developments so that any decision took into account the implications of capital costs involved. To illustrate the disadvantage of capital being seen as a "free good", Professor Perrin reported the claim that some authorities found it easier to allow buildings to deteriorate in the hope of increasing their chances of receiving capital funds to rebuild, rather than to allocate sufficient revenue funds for maintenance purposes.

Clearly, however, capital was not a "free good" because replacements for many capital assets had to be met from revenue funds. This meant that the entire replacement cost had to be charged to revenue in the year of the purchase. Professor Perrin queried the desirability of such a system and compared it with industrial practice whereby the cost was charged to revenue spread over the total life of the asset concerned.

Professor Perrin referred briefly to a DHSS document recently published concerning a review of health capital which included an example of capital appraisal. He had not yet studied the document in detail, but it appeared that it might be useful to combine this type of analysis with the cash analysis used in industry. He was, however, doubtful whether sufficient information was currently maintained to make this a feasible proposition. He noted that the document primarily dealt with major capital spending and not the smaller items of capital expenditure on equipment and facilities which, in his opinion, would be of more relevance to clinical budgeting.

It was noted that without Asset Registers it would not be possible to charge budget holders with the consumption costs of the capital resources they used. Currently the only registers maintained in the NHS were usually the responsibility of works officers or scientific officers and limited to a physical description of the asset and records of its maintenance. They did not include sufficient information on costs to use as the basis of capital-cost-consumption measurement.

5. Relevance of Capital Costs in Planning and Budgeting

Professor Perrin suggested that consideration should be given to whether it would make any difference if the importance of capital costs was recognised in the NHS by their inclusion in financial accounts. If, for example, depreciation was to be included in the accounting system, then presumably as in industry the NHS would adopt the practice of replacement cost rather than historical cost. He doubted the value of its inclusion in specialty budgeting, however, and as an example pointed out that clinicians have no freedom of choice to change a building and therefore it seemed irrelevant for the depreciating value of that building to

be included in the reports they received.

He stated that if clinical budgeting was to be used as a planning device, the inclusion of cost information which cannot be controlled by the manager may not be particularly helpful. Alternatively, if the absence of such information gives an incomplete picture of the resources consumed, then it may be that the educational aspect would justify its inclusion.

Capital costs would be relevant in the planning sequence when consideration is given to whether greater benefits would be gained from an alternative use of the funds available. If, however, there is no alternative use it is presumably a 'sunk cost' situation and and information about such costs becomes irrelevant to the short-term planning cycle.

Professor Perrin suggested that for the purposes of budgetary control, a budget should contain details of all costs which can be controlled or changed by the budget holder. The inclusion of capital costs would therefore be dependent upon whether they complied with this definition. He accepted, however, that there may be a need to give clinicians an initial statement of capital resources in the early stages of introducing a new budgetary system, or perhaps in recognition of the particular professional role of the clinicians.

6. Conclusion

Professor Perrin concluded that whether or not it was desirable to include capital costs in specialty budgeting, it might prove impractical to do so in the absence of asset registers and bearing in mind that finance officers in the NHS have no experience of depreciation accounting systems. It was also possible that the benefits such practices could introduce to specialty budgeting might not justify the additional expense incurred by their implementation, relative to alternative services Finance staff could provide from their strictly-limited resources.

HOW INDUSTRY COPES

Mr. John Frith, Financial Director of C & J Clarks Ltd. and Chairman, Somerset AHA, explained that the view he would be expressing concerning capital costs would be put forward in his capacity as an industrialist. Mr. Frith said that he proposed to outline the methods used in industry for taking account of capital costs, to highlight the differences between the accounting systems used in the NHS and industry, and to consider whether it would be appropriate for industry to offer guidance on this subject to the NHS.

He explained that industry did not share the rigid distinction of the NHS between capital and revenue and the further distinction made by the NHS between financial accounting and management accounting was a meaningless concept. Mr. Frith suggested that consideration should be given to the questions:

Why does industry not have the distinction between capital and revenue?

and

What is the purpose of a management system?

Mr. Frith referred back to Professor Perrin's definition of a budget and suggested that before any plan could be formulated, the organisation concerned needed to identify its objectives. The objective for industry was easily defined: to survive in an independent and profitable state. Mr. Frith accepted that it was not such a simple matter for the NHS to specify its objectives although presumably its primary aim was to provide the best possible service for its patients. However, he suggested that until such objectives were clearly identified, any accounting or budgetary system set up would prove inadequate as it would never satisfy the needs of everyone concerned.

Mr. Frith stated that for an industrial concern to survive it was essential to maintain a positive cash flow and this could be obtained from three sources:-

(i) new capital subscribed by shareholders;
(ii) short or long term borrowing;
(iii) profit

If reliance is placed upon (i) and (ii) to maintain cash flow a company needs to be very much concerned with the use to which the money is put. The provider of capital will be looking at the price earnings yield, the return that he can expect in the form of dividends or interest, and the asset cover for his investment. Similarly if funds are borrowed, a Bank will be concerned with the borrower's ability to pay the interest and ultimate ability to pay. Mr. Frith went on to explain that a company has to report regularly to the providers of its capital, not only the revenue which it expects to earn, but also the way that money will be invested in assets. The increasing importance of asset cover could thus be appreciated.

He suggested that the way for a company to control both capital and revenue requirements was to see its objective in the following terms:-

to maximise the profit of the capital employed

It was then possible to organise its business to achieve the desired results. Mr. Frith said that despite the changes brought about in 1974, the NHS had never been organised and commented that, without an objective and without organisation, he found it surprising that any financial accounts were produced at all!

For industry to achieve results it was necessary to identify "profit centres" or "points of decision" where there could be an opportunity to produce revenue or, just occasionally, to reduce costs. Mr. Frith explained that employees of C & J Clarks Ltd, including senior management, were rewarded in both monetary and promotive terms, in accordance with the success achieved by each department. However, although the company continued to adhere to the principle of personal accountability it was facing similar problems to those in the NHS in that it was not easy to hold one man entirely responsible for all the results of his department. For example there were common services which covered several departments, and the boundary

lines identifying one person's responsibilities from another, or who took certain decisions, had become increasingly blurred.

Mr. Frith explained that industry placed great importance on the balance sheet (or capital base) and regarded it as the primary control document. It was the document that illustrated what resources were available for use in order to provide a service or earn a profit.

It was essential that if accounting was to be used as the basis for a management information system, each manager had to be told at an early state precisely what he was responsible for and thereafter receive regular reports to monitor the results of his decisions. To illustrate his point, Mr. Frith said that each manager had to know how much investment was tied up in the factory for which he had responsibility and that a manager in charge of a factory valued at £2,000,000 must know that he is expected to make twice the profit of another manager whose factory is only valued at £1,000,000.

Referring to the problems of specialty budgeting, Mr. Frith suggested that the first difficulty would be one of measurement. C & J Clarks Ltd had decided that current or replacement values must be used if a meaningful accounting report is to be obtained. The company could not, for example, permit a manager in charge of a factory built in 1820 to produce less revenue than a manager in an equivalent factory built in 1970. Sooner or later the 1820 factory will need replacing.

It was also important in industry to know where the wealth of the company lay so that if surplus capacity is identified, the plant which is most valuable can be sold. It would be impossible to take such a decision without a balance sheet. Mr. Frith pointed out that the absence of a balance sheet caused the NHS difficulties when it found itself in a similar position of having surplus buildings. For example, it had been obvious that with the large number of hospitals in the Somerset AHA, the

Authority were in possession of a great many valuable assets. However, he had been astonished to learn that a physical check had to be undertaken on the buildings concerned because the existing information systems did not contain relevant information about their value.

Mr. Frith warned that one of the weaknesses associated with depreciation accounting arose from the fact that funds were automatically available to replace assets. This tended to put into peoples' minds the concept that at the end of an asset's useful life it will automatically be replaced and the system did not lend itself to consideration of whether or not the asset was still required. A possible consequence of this tendency was that a company continues to employ the same methods and finds that it is producing an article which the community no longer wants to purchase.

Mr. Frith went on to describe the ways in which capital budgeting could prove useful. He suggested that the information made available to managers by the use of capital budgeting was of value when a choice had to be made as to whether "Project A" or "Project B" should be followed. However, from industry's point of view he had concluded that any intelligent manager can make out a case to suit his own arguments without any difficulty. As far as the industry was concerned, the manager who had been most successful in earning a profit in the past will be given first bite of any cake of expansion. It was industry's policy to build success upon success. Mr. Frith said that he realised that this concept could have no relevance in the Health Service and he did not think that industry could offer any guidance in this respect.

However, from experience gained in industry, Mr. Frith could confirm the value of making managers aware of the capital resources that are being consumed. He pointed out that there was a tremendous volume of information already available in that the revenue consequences of capital assets in the NHS were always clearly identified. He felt that it should be possible to abstract at least some of this information without a great deal of effort, which could be presented to clinicians to give them some idea as to the relative share of the total resources that

they were using.

He stated that in Somerset RAWP seemed to work reasonably well in so far as revenue costs were concerned. However, when the RAWP principle was applied to capital monies, Somerset had found that it was being allocated capital funds in relation to its "capital stock". Mr. Frith pointed out that no-one seems to know by whom or on what basis the stock was evaluated. This example showed that the need for the NHS to bring capital assets into their accounting system had already been demonstrated.

A summary of the main points put forward in the discussion that followed Mr. Frith's presentation is given below:

1. Dr Wickings suggested that the main point to emerge from the information provided by Mr. Frith was that it was not worthwhile routinely reporting capital costs to those who cannot control the value of the capital they are using, but that the importance of such assets should not be ignored.

2. Mr. Frith pointed out that in all the arguments and consultation associated with a Health Authority's attempt to close a hospital, he had never heard the site value quoted, or the suggestion that one site should be chosen rather than another because of its potential resale value. Similarly, the cost of the site did not seem to feature prominently in discussions concerning the location of a new health centre.

3. Mr. Hurst said that he believed RAWP was the one example where the NHS had tried to use a method which approached the type of accounting procedures used in industry, and asked whether Mr. Frith's criticism was levelled at the principle of using written down replacement costs or the way in which the calculations had been prepared. Mr. Frith confirmed that his criticism stemmed from the suddenness of RAWP's introduction and the fact that information on which its formula is based is suspect.

4. Professor Perrin suggested that industry was able to ignore the distinction between capital and revenue because it operated under an accounting system which measured resource use against

time independently. The NHS did not have a profit to measure and the cash flow was the only control feature in its financial systems. He did not believe the NHS could achieve the same results as industry by simply abandoning the distinction made between revenue and capital, and that until the NHS had a more complete accounting system it could not adopt industrial practice. Mr. Frith accepted this but pointed out that a great deal of what the NHS called capital was already reported in the revenue account and was thus being incorrectly accounted.

5. Mr. Savory said that from his discussions with Finance Officers it was apparent that the majority adhered rigidly to the accounting system imposed upon them by the DHSS. He asked whether Mr. Frith thought Treasurers were naturally reluctant to develop upon the minimum reporting standards required. Mr. Frith confirmed that this was almost inevitable in any large organisation where a common system has to be installed and suggested that if local managers were allowed too much autonomy there would be considerable problems for the DHSS to maintain control. He pointed that that the NHS was no different in this respect to a large industrial company such as Fords, where you would find the identical format used for financial reports whether the factory was in the U.K., Canada or U.S.A. However, he did agree that Finance Officers should demonstrate more imagination in their interpretation of the financial reports for the benefit of their colleagues.

SCIENTIFIC EQUIPMENT COSTS

Dr. Harold Glass, Regional Scientific Officer, North West Thames RHA, commenced his presentation with the comment that the only objective he had observed in the NHS was one of survival!

Dr. Glass explained that when appointed to the post of Regional Scientific Officer he had been asked to look into the planning of scientific, or diagnostic, services. He quickly discovered that even the most basic information required to undertake this task, such as details of the current staff and equipment, was not available, and that no form of inventory or asset register existed. It was therefore decided to establish a computerised scientific equipment inventory. The current replacement value of such equipment in the NWT Region has thus been identified as £49,000,000 at July '79 prices.

However, Dr. Glass believed that the potential usefulness of the information contained in such an inventory could not be realised whilst the limitations on NHS funding continued. To illustrate his point he stated that out of the total budget of about £600,000,000 for the NWT Region, the sum of about £25,000,000 was allocated for capital expenditure and that only £2,500,000 could be used for scientific equipment. He said that it was impossible to try and maintain a current level of equipment worth 49 million pounds with only 2½ million pounds per annum and that it seemed a pointless exercise to even attempt to solve such a problem. It was his belief that the debate on whether the NHS should emulate industry and adopt their type of accounting systems was totally irrelevant. Dr. Glass suggested that the lack of funds and other restrictions imposed by the DHSS on the staff in post did little to encourage a more efficient use of the resources available. During the course of his presentation he cited various examples where proposals to achieve an optimal use of funds had been thwarted.

Dr. Glass said that he had been interested to hear it suggested that Finance Officers could with advantage be more innovative in their use of the accounting system. In his experience Finance Officers were only too ready to introduce different budget headings which made comparisons of expenditure between Districts impossible. For example, if one tries to check upon expenditure incurred in Pathology Departments it becomes apparent that depending upon local inclination the costs of the doctors, nurses, phlebotomists, porters, clerks, secretaries etc. would all appear in different budgets.

Dr. Glass pointed out that the service provided by the NHS did not relate in any way to the level of health care required. No-one knew how much it cost to provide a certain standard of care and the current level of health care was based on a sum of money arbitrarily allocated to the NHS. This resulted in services being unavailable if funds did not exist to purchase items of equipment, and service developments could only be introduced at the expense of other services being discontinued. Dr. Glass emphasised that no matter how intelligently limited funds were used or staff encouraged to use resources in an optimal way, it did not change the fact that the level of services provided was based upon the amount of money allocated. To illustrate his point, Dr. Glass said that where appropriate it would make sense to automate pathology tests, reduce staff and use the funds thus released in staff intensive units which could not be automated. An attempt to achieve this would meet with little success because:

(1) DHSS regulations relate senior staff salaries to the number of staff for which they are accountable, and they are therefore disinclined to reduce their staff;

(2) On-call duty for staff in diagnostic service departments is not a contractual duty and therefore if the pool of "volunteer" staff is reduced, there would be insufficient cover to maintain emergency services.

Dr. Glass suggested that another example of the inefficient use of resources could be seen in the method of obtaining new X-ray equipment via the DHSS central purchasing arrangements. He said

that whilst it was appropriate to encourage coordinated purchasing policies when these arrangements were established in 1948, they were now outdated and the absence of competitive tendering was probably costing the NHS several millions of pounds each year. He informed the participants that the North West and South East Thames RHAs had decided to combine forces and go out to tender on a single tender, for X-ray equipment worth £2,000,000. It was anticipated that this would result in considerable savings.

Dr. Glass went on to describe the scientific inventory in more detail. The value of equipment is initially recorded at its current replacement cost and updated once a year with information sought from the manufacturers. Information on the "life times" of various items of equipment was thus available and estimates could be prepared as to how much money would be required to maintain the current stock in the Region.

Having formally recorded the available equipment in the Region, Dr. Glass now initiated a procedure in which items which had been identified as either unused or used infrequently, and thus likely to be unreliable or sometimes dangerous, would be removed. He estimated that this exercise would reduce the value of capital stock needing to be maintained by about 10 million pounds.

Dr. Glass described the way in which doctors were involved in approving the requests for scientific equipment. A Regional Scientific Equipment Committee advises the Region on how the money allocated should be used. He pointed out that it was impossible to use a formula for allocating the money between different disciplines and as a result the decisions taken by this committee were often very arbitrary.

The regional committee had seven sub-committees of the various disciplines. Multi-discipline working parties were established to comment upon requests for equipment, such as ultrasound, which would be of interest to more than one specialty. These various working groups are invited to put those requests which they believe should be approved in an order of priority for consideration by the Regional Committee.

Dr. Glass commented on the assumption that serious consequences relating to the standard of care would always result if the allocation for equipment in a certain department is reduced. He believed this was not true. In his experience the demand for diagnostic services increased to meet the level of funds, equipment and staff available. It was his contention that a reduction in the level of funding for the diagnostic services could act as a kind of negative stimulus to medical staff to reappraise their practice of requesting tests. They would be forced to assess tests and place them in some order of priority and restrict their requests to tests which are regarded as the most clinically effective.

A summary of the main points put forward in the discussion that followed Dr.Glass' presentation is given below:

1. Mr. Savory clarified his earlier comment which was not meant to suggest that Finance Officers should adopt entrepreneurial practices but that they placed undue reliance upon going no further than demanded by the statutory minimum. He commented that despite the general pessimism expressed, Dr. Glass had apparently made considerably more progress towards the efficient use of resources than had been achieved elsewhere. He wondered why other Regions were unable to do likewise. Dr. Glass said that he had at an early stage concluded that it was impossible to maintain the entire equipment stock with such limited funds and pointless to allocate those funds by simply dividing the total by the number of Districts in the Region. It was therefore decided to set up a small committee structure which actively involves the professional staff using scientific equipment in advising the Region on the policy to be adopted for authorising requests.

2. Dr. Glass confirmed that the inventory enabled the identification of equipment which, whilst still functioning, was no longer of use to the hospital where it is located. This enabled such equipment to be transferred to units where it could be of use.

3. Dr. Glass confirmed that the computer printouts were distributed down to District level but the information was confidential and therefore each District only received details concerning its own equipment stock.

ECONOMIC ASPECTS OF CAPITAL FOR CLINICAL BUDGETING

Mr. Jeremy Hurst, Senior Economic Advisor to the DHSS, explained that he was not attending the seminar as a spokesman for the Department of Health and the views he expressed were personal. Mr. Hurst said that he would be attempting to explain why economists lay stress on the importance of capital and to relate this to clinical budgeting.

He pointed out that when describing the nature of capital, economists tended to think in terms of real estate which had the following features:-

(1) Durability
(2) Large scale
(3) Inflexibility
(4) Heterogeneity (particularly through time)

and to regard the acquisition of capital assets as an act of investment.

Mr. Hurst continued by suggesting that there were three main areas of decision associated with capital:-

1. Investment - the initial decision to acquire an asset and allocate funds subsequently to improve it through time
2. Disinvestment - a subsequent decision to run down an asset prior to its being scrapped
3. Alternative use - this needed continuous assessment of the opportunities presented by different uses.

Mr. Hurst suggested that there was a need to distinguish between the cost and the value of capital assets. It was comparatively simple to assess cost as data was available about historical cost and replacement cost. The value of a capital asset was, however, more complicated, partly because the future flow of services from an asset was uncertain and partly because the NHS was not currently in a position to put monetary values to its output. He believed that the whole question of evaluating the benefits gained from the existing use of an NHS building or a service provided was a matter of judgement. There was another concept of value to be considered and this came under the heading of the alternative use of capital. For example, a better use of an NHS building might be achieved if it changed from acute care to the care of the chronically ill.

There remained the same problems associated with evaluation and it would still be necessary for such a decision to be taken largely on the basis of judgement by those concerned.

Mr. Hurst described the economist's concept of depreciation, that is the change in the discounted future use value (net of costs) of an asset through time. Unfortunately it was not easy to see how such depreciation could be estimated and taken into account when preparing budgets in the NHS.

He suggested that it was necessary to identify what clinical budgeting was meant to achieve before reaching a decision as to whether capital assets should be taken into account. He believed that its primary features could be described as:-

(a) a budgetary exercise undertaken to encourage clinicians in the view that certain resources could come under their control;

(b) a system of resource allocation and planning to encourage clinicians to realise the optimal value of available funds and to transfer resources from less useful to more useful purposes;

(c) a facility to compare the use of resources by individual or groups of clinicians and thus encourage self-monitoring exercises and improved efficiency.

Mr. Hurst said that it made sense for clinicians to be concerned with re-current expenditure that came within their province of control. On this basis it appeared equally sensible for clinicians to be involved with investment budgets,especially for equipment used by the clinician concerned. It was not so clear whether investment associated with buildings would be relevant, at least outside the wards and clinical support departments. He referred to the fact that the DHSS were currently exploring the value of investment appraisal in relation to building projects. The application of investment appraisal required considerable time and analytical skills, but he believed that the concept could, to a limited extent, be applied at clinical level.

Mr. Hurst thought it was more difficult to justify a case for involving clinicians in a series of accounting calculations including existing capital (depreciation accounts) in order to make them feel accountable for capital assets. He did, however, believe it was desirable for clincians to be made increasingly aware of the need to use existing

capital resources efficiently, such as buildings, beds, equipment etc., that were made available to them, and it would be wrong not to take capital resources into account if one was, for example, comparing the performance of clinicians.

Mr. Hurst went on to consider further the choice between putting monetary values on existing assets and alternative methods such as capital asset registers, which merely give a physical description. He said that it would be quite possible to prepare a series of valuations for capital assets based on replacement cost and to establish methods of writing down these, but he wondered how useful such an exercise would be. He suggested that such information would be irrelevant to clinicians if one was concerned with the way they could improve their performance in the shortterm. There would be other occasions on which information about capital cost based on depreciation accounting could mislead clinicians. There were times, however, when such information could be useful, for example as in RAWP, or to act as a reminder of the extent to which resources had been historically committed. Mr. Hurst concluded that, in general, he did not think it was helpful for clinicians to be made aware of their capital resources via the accounts. He went on to suggest that some mechanism along the following lines might be more appropriate:-

Each clinician could be given three different types of budget:

(i) a regular budget to cover routine expenditure on salaries, nursing services, laboratory tests etc;

(ii) an investment budget for capital resources; and

(iii) a physical budget or "statement of assets" under the control, or allocated for the use of, the clinician.

To illustrate (iii) above, Mr. Hurst gave the following outline of the details such a statement might contain:

Assets	Mr. A.	Mr. B.	Total Use	Total Available	Surplus
Bed Days Equipment X Equipment Y Etc ?					

He emphasised that this would ensure that the clinician did not forget the resources available for his use; it would identify surplus capacity and thus enable rational discussion between clinicians and managers as to whether such resources should be used more intensively, be improved or be closed down. He doubted whether it would help to apply cash values to the information.

A summary of the main points discussed following Mr. Hurst's presentation is given below:-

1. Professor Perrin said that if data did not have monetary values applied it would not be possible to compare the use of resources by clinicians in different disciplines, and Mr. Hurst agreed that it would be made simpler by doing so.

2. Dr. Glass expressed surprise to have heard depreciation discussed. In his view unless an item could be shown to have a resale value it could not depreciate, and therefore the inclusion of depreciation in NHS accounts seemed irrelevant.

3. Mr. Buxton pointed out that when talking of the expenditure incurred in the health service, it should surely be attributed to patients and that frequently in discussion the clinicians were used as proxies for different sets of patients. This was agreed.

4. Dr. Wickings referred to the "statement of assets" described by Mr. Hurst and said that in fact the CASPE Project was already providing this type of information to clinicians, and was thus identifying the efficiency of resource consumption, surplus capacity, etc.

GENERAL DISCUSSION

Dr. Wickings said that the primary aim of the seminar from the point of view of the CASPE Project, was to decide whether or not capital costs should be included in the information systems being developed. He suggested that at present managers undertook very little analysis of the choices open to them when planning developments, although investment decisions were usually related to care groups. He also noted that disinvestment hardly ever featured in discussions unless it arose as a result of proposals to close a hospital. He concluded that it was not possible for managers to know whether or not capital resources were being used efficiently.

Dr. Glass suggested that as capital only comprised 4% of a District's total allocation, the importance of involving capital investment was questionable. To clarify the point he was making, Dr. Wickings explained in more detail the philosophy of the CASPE Project. It was suggested that there would be advantages in running the Health Service in such a way as to enable regular planning discussions about the resources required for a clinician's planned workload. As a distinct but associated issue the possibility of giving budgets to clinicians was being explored. The CASPE Project needed to reach a conclusion as to whether capital costs, either historical or current, should play any part in the systems being developed. He believed it was important that clinicians be made aware of the substantial investment in buildings, plant and equipment that was made available to them, and the costs associated with the use of capital resources such as beds and expensive laboratory equipment. It was, however, difficult to decide how best this might be achieved. In the USA, for example, there was an increasing tendency to undertake regular capital audits and the information thus obtained was being used to assist managers in disinvestment decisions and to influence the way in which such resources are used.

It was noted that at present the CASPE Project only reported to clinicians their share of the cost of the recurrent annual expenditure. Dr. Wickings wondered whether inclusion of the capital element would encourage clinicians to reduce the number of tests requested. Dr. Glass did not think so. He said that a reduction would only occur if clinicians were persuaded of the need to assess tests and place them in some order of priority, and that this would only be achieved by

restricting the level of service available.

The participants considered at length the various opinions put forward during the day and the main points of the discussion are summarised below:-

(1) The introduction of new technology in pathology laboratories to replace labour intensive processes did not necessarily result in the cost of tests being reduced. It could be misleading to circulate information to clinicians that did not reflect the real cost of each test and this would include the cost of replacing a machine at the end of its life.

(2) The same results might be achieved by the introduction of an investment appraisal scheme but such a system assumed that circumstances do not change and any decisions have to be taken on that basis.

(3) The CASPE Project's objective in developing comprehensive information systems was to provide the basis upon which planning agreements could be negotiated with clinicians. It was suggested that the information on capital resources need only be made available to the planners who took the investment decisions and not the clinicians.

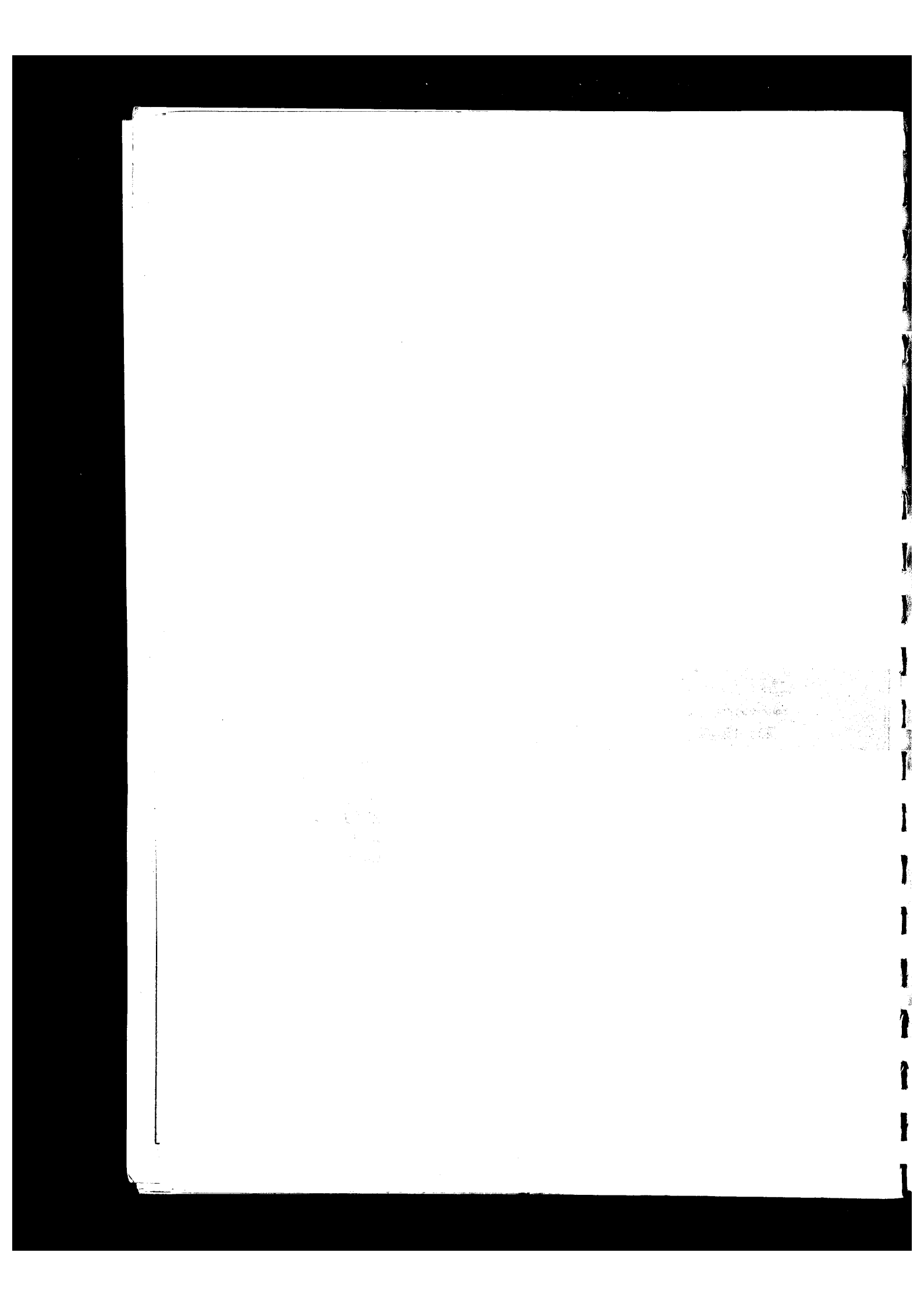
(4) It was noted that there was a considerable training requirement in educating clinicians in interpreting any financial information and it was suggested that the chances of it being used efficiently may be diminished as it became more complex.

(5) Doubt was expressed as to the desirability of pursuing the inclusion of capital costs in the CASPE Project. It was thought to be a too ambitious step bearing in mind the current situation in the NHS and the fact that there was no statutory requirement to include capital costs in financial reports. It was felt to be more worthwhile concentrating on improving the quality of information concerning revenue costs which could be more readily understood by the clinicians.

(6) It was a generally held view that, whilst clinicians should be involved in the planning process and possibly responsible for budgets, it would not be appropriate for them to receive information about costs that are not under their control.

CONCLUSION

In conclusion Dr. Wickings said that at this stage it did not seem appropriate for the CASPE Project to include capital costs in the information circulated routinely to clinicians. He thanked the speakers and participants for a most enjoyable and interesting day.



APPENDIX

CAPITAL STOCKS AND DEPRECIATION IN THE NHS

Mr. Howard Mellett of the Department of Accountancy and Financial Control, University College, Cardiff, was unable to participate in the Seminar. He was therefore invited to talk at an informal meeting on 21 April 1980 attended by the following members of CASPE Central Team and representatives of the experimental Districts/Areas taking part in the CASPE Project:-

Mr. M.P. Carvell	-	D.F.O. Brent Health District
Mr. J. Coles	-	CASPE Research
Mr. D. Gilburt	-	Assistant D.F.O. Southend Health District
Mrs.L. Howard	-	CASPE Research
Mr. G.T. Macklin	-	D.F.O. East Birmingham Health District
Mr. K. Rundle	-	Assistant D.F.O. Brent Health District
Mr. P. Worsley	-	Principal Assistant Regional Treasurer West Midlands RHA
Dr. H.I. Wickings	-	CASPE Research

Mr. Mellett has indicated his willingness for the following summary of his presentation and the subsequent discussion to be included as an appendix to the report of the seminar.

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SUMMARY OF PRESENTATION

Introduction

Mr. Mellett explained that his interest in the way that the NHS dealt with capital and depreciation stemmed from his involvement with Professor Magee's project on specialty costing. He had been immediately struck by the fact that the NHS does not use all of the accounting procedures which are standard practice in commerce. For instance, it does not accumulate from year to year the value of its capital assets and it does not, as part of its cost statements, show any cost relating to the using up of its capital stock by way of depreciation. This presentation was based on research undertaken to date to investigate this difference in procedure and to see whether the usefulness of accounting reports in the NHS would be increased by the inclusion of information about capital assets and depreciation. Where possible, this presentation was related to specialty budgeting.

Definition of Terms

For the purpose of research it was necessary to develop definitions of the terms "capital stock" and "depreciation" so as to clearly delineate the scope of investigations. In the case of capital stocks it was decided to exclude intangible assets, such as developed treatment techniques, and human capital, resulting from the build up of investment in training and experience, since developed and generally accepted procedures for measuring and reporting on them are not yet available. Also, current tangible assets are excluded as, for accounting purposes, their value is allocated to specific individual periods rather than apportioned over a number of them. Consequently, the definition of "capital" within this presentation was:

> "Tangible fixed assets which are material. In this context fixed assets are freehold land and those assets which are retained and used up over a number of years in the course of providing services. A fixed asset is material if the accounts would be distorted and made less useful to users by its not being subjected to capitalisation and, where appropriate, to depreciation."

the corresponding definition of "depreciation" was given as:

> "The measure of the fall in value of capital stock over a period of time."

In broad terms, and assuming a stable price level, depreciation can be calculated in two ways:

i. Value of each asset at the beginning and end of a period of time. Any fall in value over the period of time is the appropriate measure of depreciation.

ii. Take the value of each asset at the beginning of its life and apportion this value over its expected life according to a predetermined formula. The formula for each asset should be chosen so that, as far as can be anticipated, the resulting depreciation charge approximates to that which would result from the use of method i. above.

The assignment of an actual current value to each asset as envisaged in method i. above would present great difficulty, and so intuition leads to the conclusion that, were depreciation to be introduced into the NHS accounts, the second approach would be the one adopted.

Fixed Asset Registers

The basis of a system for the production of figures on capital stocks and depreciation would be a fixed asset register in which would be entered details of individual assets. The initial preparation of such a register containing details of existing assets could prove to be a time consuming and costly operation, and after its creation systems would have to be introduced to ensure that it is kept up to date on a routine basis. It is questionable as to whether the introduction of full fixed asset registers could be supported solely on the grounds of aiding the provision of information on the value of capital stocks and depreciation for accounting purposes. However, the maintenance of registers can be justified on other grounds since they provide a record with which fixed assets can be controlled and monitored. This assists management to carry out their custodial responsibilities towards assets and would aid Works Officers to schedule planned maintenance programmes. Also, the existence of registers should foster an awareness among managers of the capital endowments of their organisation. One result of this might be that, once their values had been established, the assets, especially land and buildings, could be regarded as a potential source of revenue because they could be sold and the funds obtained could then be used elsewhere to improve overall services.

Although the bulk of expenditure on capital assets is made by Regions and Areas it would appear appropriate that such registers should be maintained at District level since this is the closest administrative tier to the assets themselves. Specialties do not have the resources to maintain their own registers, but once established their contents could easily be divided if so required into appropriate units, such as hospitals, and these sub-divided into specialties. In the same way, information produced from them could be summed to give details for Areas or larger units. Alternatively, information relating to individual specialties within the larger units could be compiled. Thus, the individual specialty units may be looked on as the basic building blocks of information which may be combined in any desired manner. To update the registers would require that the District be given details of all asset disposals and an analysis of capital expenditure. This would be likely to involve more detailed analysis than is carried out at present, and the NHS definition of capital expenditure may be too crude to enable the identification of the relevant details, especially at the specialty level.

Depreciation as a Cost

Reports prepared by the King Edward's Hospital Fund and the Nuffield Provincial Hospitals Trust in 1952 recommended the use of normal accounting principles, and as a result an element of depreciation was included in the cost accounts of hospitals from 1957 onwards. This applied to the equipment of a limited number of departments, namely X-ray, laundry, radiotherapy, catering and boilerhouse. The basis of calculation initially used was the reducing balance method and this was later changed to the straight line method. This may be seen as a first step towards full acceptance of using normal procedures, but since reorganisation in 1974 the cost accounts have no longer contained this limited element of depreciation and so, presumably, there was no great enthusiasm or demand for its inclusion. This contrasts with the position in the USA where the American Hospital Association in its "Chart of Accounts" shows the inclusion of depreciation as an element of cost and also produces guidance information on such matters as asset lives. Although hospitals in the USA operate in a different financial climate than those of the NHS, it should be possible to learn from their experience with depreciation accounting.

If the view is taken that depreciation is an important element of cost and should be accounted for, careful consideration must be given as to whether it would be appropriate to do this at the specialty level. This is because specialty budgets would have to be set in terms of cash to be expended and so the routine reports intended to control activity would deal with the amount of cash actually spent. To include elements of non-cash costs in such reports could be misleading since the implications of their nature may not be appreciated by those using the reports. However, information on depreciation could be seen as a useful adjunct and, if reported say once a year, might encourage clinicians to appreciate the capital endowments that exist for each specialty, the fact that they are using long term resources, and the inevitable cost of replacing them in due course.

The Stock of Capital

It is a matter of political decision whether the capital stock of the NHS should be kept stable at a given level, increased, or reduced. However, it is made difficult to monitor this as there is no information on the basis of which to compare total capital endowments at different times. The accumulation of data on the value of the capital stock of the NHS and its related depreciation would allow the calculation of its written down value and the routine provision of such information would enable regular reviews to be undertaken of relative capital endowments both at the national level and below, with the

possibility of using it as an input to the capital budget at the specialty level.

During periods of financial stringency the capital and maintenance budgets are likely to suffer to a relatively greater extent than others. Such short term savings can lead to the need for increased expenditure in the future as neglect can result in accelerated deterioration, and hence depreciation. Consideration of the movement in capital stock values over time should indicate the effect and adequacy of current expenditure on the maintenance and acquisition of capital assets.

The Cash Effects of Capital Endowments

The endowment of a specialty with a capital stock will have two effects on its related cash requirements. There will be irregular payments to cover the asset's acquisition, major maintenance and possible replacement, and regular payments for routine maintenance and other revenue consequences. The latter of these should be largely predictable, especially with the use of planned maintenance, but the former can be expected to contain a significant element of unpredictability and so some form of contingency budget would have to be held at a level above that of specialty to meet such expenditure. Specialties should be involved in setting such budgets, but care should be taken to ensure that they are not able to take decisions which while reducing their own costs have an adverse effect on those of the organisation as a whole. If specialties were to be responsible for the revenue consequences of their own capital schemes, then they must be made aware of the full impact of capital expenditure, especially if they were to be allowed to independently spend any revenue budget savings on small items of capital.

Conclusion

The creation and maintenance of fixed asset registers can be supported on grounds other than their possible input to the accounting function. Whether the inclusion of information on capital stocks and depreciation in the accounts of the NHS would be useful depends on the uses for which the accounts are required and the relevance of the valuation procedures and bases adopted. Further research work in these areas is currently being undertaken to consider whether the inclusion in the accounts of such information can be justified.

SUMMARY OF DISCUSSION

1. Dr. Wickings suggested that in relation to specialty budgeting Mr. Mellett had identified the following possible advantages from taking capital investment into account:

   (a) the ability to monitor and compare the efficiency with which capital stocks are used;
   (b) the possibility of freeing capital resources;
   (c) the ability to forecast the revenue expenses of capital intensive specialties; and
   (d) the possibility of capital/revenue "trade offs".

2. Mr. Worsley suggested that it was essential to identify the types of decisions for which it would be worthwhile considering capital costs, before setting up a system to provide that information. For example, he did not think a detailed breakdown of the valuation of capital stock would be required as an alternative to the RAWP formula. However, detailed information would prove useful if it was necessary to compare two clinicians' use of fixed resources.

3. Mr. Gilburt suggested that where a clinical firm was making an inefficient use of their beds it would be useful to be able to make the clinicians concerned more aware of the value of the asset being wasted. Mr. Worsley believed that in such circumstances a complicated exercise in costing was not warranted and that a general outline of the cost would be sufficient. Dr. Wickings agreed in principle, but believed that currently there was sometimes insufficient information available to give to clinicians if one wished to encourage cost comparisons of different specialties and to influence the way in which clinical teams used the allocated resources. He said, however, that it might prove difficult to present detailed information on capital costs in a meaningful way to those with no financial training and this could endanger the credibility of financial information currently provided to clinicians in the CASPE project. There followed a general discussion on the possibility of actually charging specialties either an amortised cost for their equipment or interest on the value of their capital stock. The concensus was that the use of purely notional transfers may not be advisable, but that this possibility warranted further consideration.

4. Mr. Mellett emphasised that the cost and effort involved in setting up an asset register would be offset by the various uses for which the information could be used apart from accounting purposes.

5. Several members present expressed interest in the identification of equipment costs which would be provided by an asset register. It was suggested that it would be useful to be able to forecast which items of equipment would require replacement in any one year and that such information could form an important aspect of negotiating Planning Agreements with Clinical Teams as envisaged by the CASPE Project.

6. Mr. Mellett was thanked for his presentation, which all those present had found very interesting.

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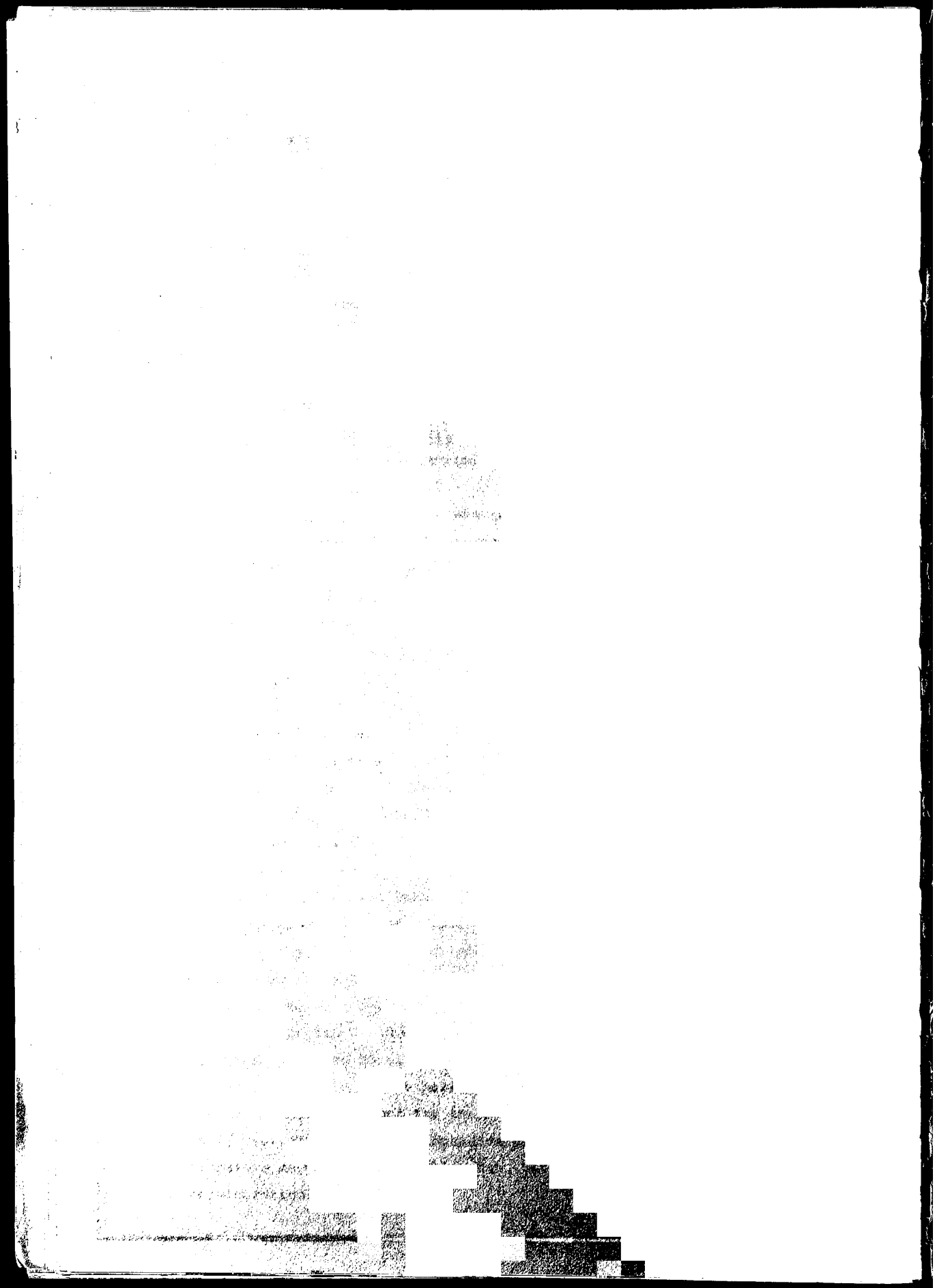

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