

PROGRAMME BUDGETING IN THE NHS

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INTRODUCTION

Recent policy initiatives support the case for the introduction of programme budgets (PBs) in the NHS. The White Paper "*The New NHS. Modern. Dependable*" (NHSE, 1997), gave greater weight to clinical and quality issues in the measurement of performance in the NHS. It was announced that the 'purchaser efficiency index' would be dispensed with. In its place, the Government committed itself to introducing a broader approach to performance monitoring that also encompasses outcomes and quality.

Most of the existing expenditure information relates to inputs to the health care production process, such as the type of provider (eg. district nurses, or ambulance services), or the location of the provider (eg. community, or hospital). It is difficult to link this information to health outcomes. The move to broader performance measures, therefore, underpins the case for PB.

In addition, as part of the 'resource accounting and budgeting' (RAB) agenda, there is a Government wide initiative to introduce outcome based accounting. Schedule 5 of the RAB accounts introduces a requirement for Government Departments to link resource use to their objectives, and outcomes, in a way that is open to scrutiny and is auditable¹. Again, this strengthens the case for measuring resource use in a way that is consistent with meaningful expressions of objectives, and with outcome measures.

Ideally, the NHS would link resource use directly to outcomes. For example, one way to do this would be to measure the cost per quality adjusted life years (QALYs). Given the lack of information on outcomes from health care, and the difficult methodological issues yet to be resolved, PB offers a pragmatic stepping stone.

Rather than accounting for expenditure on inputs, such as buildings and staff, PB links resource use to specialty, client group, or condition/disease. Programme budgeting uses

estimates of past expenditure by care programme to prioritise future resource use. Measuring resource use by client group or condition, allows a judgement to be made about the impact of the existing expenditure patterns, and possible alternative expenditure patterns, on the health of the population. Where possible, PB can be supplemented with measures of quality, outputs (eg. number of people receiving care), and outcomes (eg. QALYs) that are consistent with the PB categories.

The remainder of the paper contains the following sections:

- (I) Uses of programme budgeting,
- (II) Evidence of current practice,
- (III) The case for change,
- (IV) Options for change,
- (V) The preferred option, and
- (VI) Conclusion.

(I) USES OF PROGRAMME BUDGETING

Ultimately, the case for PB depends on the impact it has on the health of the population. Potentially, PB could provide useful information: (a) to local commissioners and providers - to set priorities and improve performance, and (b) to the NHS Executive (NHSE) for monitoring and managing performance, and to improve the wider accountability of public expenditure.

Local commissioning bodies and service providers

Programme budgeting can be useful for increasing the efficiency and equity of resource allocation within programmes and between programmes. Where more than one programme is costed, marginal analysis can be used to examine the impact at the margin of moving resources from one programme to another – such as between cancer services and services for coronary heart disease. And by mapping resource use to local need, comparing different resource allocations can be used to improve equity, particularly if expenditure by

¹ Schedule 5 of the RAB accounts will be audited from 2000/01

demographic/ethnic group and geographical location is also measured.

If the information is available across health care settings, the equity and efficiency of resource allocation within a programme can also be examined using PB. Again, the retrospective information is analysed as the basis for planning future use. In this case, the possible re-allocation of resources between, for example, primary prevention, secondary care, secondary prevention, community care, palliative care, and rehabilitation.

It would be possible to estimate the impact of marginal changes without knowing the current expenditure levels. However, according to practitioners of PB, it is an essential first step (see, for example, Cohen, 1995 and Miller, 1997). Programme budgeting is valuable in identifying the areas that should be considered for further analysis, and it is useful for commissioners in negotiations with providers to know current expenditure patterns.

Marginal analysis can be powerfully reinforced by the ability to benchmark performance and outcomes against other commissioners and providers. Uncovering explanations for differences in performance will require more detailed information than that provided by PB. Nevertheless, data on expenditure patterns across different conditions and client groups would add significantly to the information currently available to the 'HA Benchmarking Club', other informal benchmarking clubs, and the information on the 'NHS Learning Zone' on the NHS Web. Hence, although in theory PB can be carried out in isolation, consistency of approach across the country would significantly increase its usefulness.

The NHS Executive

Programme budgets could be useful to the NHSE for at least three main purposes: to improve the accountability of public expenditure; to support performance assessment and management; and in resource allocation as part of the agenda to reduce inequalities. These are discussed in turn below.

As part of Schedule 5 of the resource accounts, the Department of Health (DH) must produce accounts that link its objectives to resource use, and the outcomes of that resource use (HM Treasury, 1998). Programme budgets offer a potential method of allowing some flexibility

whilst attaining the necessary level of accountability. They could be used to demonstrate the amount of resources directed to the objectives across the entire NHS. It should also be possible to develop some measures of performance that are consistent with the categories of expenditure in the programme budgets. This compares with the current situation, where the only available information is either input based, such as expenditure on capital goods, or where the expenditure programmes are very broad, such as 'general and acute' health care (DH, 1999).

As part of the 'performance assessment framework' (PAF), the DH is committed to improving the delivery of health care in six categories of performance (NHSE, 1998a):

- (i) Health improvement.
- (ii) Fair access.
- (iii) Effective delivery of appropriate healthcare.
- (iv) Efficiency.
- (v) Patient/carer experience, and
- (vi) Health outcomes of NHS care.

Knowing the resources used in delivering a service is a necessary condition for evaluating the value for money of the service. Programme budgets offer a way of measuring expenditure by categories that are consistent with measures of activity, quality, and outcomes. There is also an equity dimension to the PAF. Programme budgets can contribute to this if approaches to predicting health care need at a local basis are also developed on a consistent basis to those used in the PBs.

Programme budgets could also be used at a national level to improve equity. The 'Acheson Report' recommended a review of the weighted capitation formula for distributing resources for hospital and community health services (HCHS), to "*consider alternative methods of focusing resources for health promotion and public health care to reduce health inequalities*" (DH, 1998: recommendation 38). The resource allocation mechanism for HCHS now has the explicit objective of reducing inequalities in health, and the weighted capitation formula is under review whilst ways of delivering the new objective are explored. Programme budgets are already used in the weighted capitation formula to determine the weight given to the

various aspects of the formula, and to estimate the expenditure per head of population for various age groups (NHS Executive, 1998b). But the available data lacks detail (see section II below), so an extension of PB in the NHS could be used to explore the cost implications of targeting resources to reduce inequalities.

(II) CURRENT PRACTICE

Health Authorities

Programme budgeting is not a new idea. There has been interest in PB in the NHS for some time. But informal investigations, mainly through Regional Offices (ROs) of the NHSE, suggests that the use of PB by HAs at the moment varies widely around the country. Whereas eight of the nine HAs in the old Anglia and Oxford (A&O) Region are involved in a 'resource mapping' exercise², other regions appear to have very little PB activity. Around 21 HAs appear to have done some PB in recent years (see annex A for a summary). Some of these have focused on a single condition (eg coronary heart disease), rather than across all health care services.

Although feedback from the HAs doing resource mapping in the A&O Region suggests that the process was worthwhile (NHSE, 1998c), many of the experiments in PB have not continued on an annual basis. This suggests that PB tends to be practised only when there is external pressure or a 'local champion'. However, evaluation of the work in the old A&O Region also showed that HAs would value the PB exercise more highly if they could compare themselves with more HAs (ibid). This demonstrates that there are positive externalities in implementing PB on a consistent basis, which suggests that leaving the implementation of PB to local discretion may lead to an inefficient amount of use being made of PB.

NHS Executive

The NHSE currently produces retrospective PBs for HCHS expenditure, and for PSS expenditure (DH, 1999). These PBs are calculated centrally for the entire NHS in aggregate

²The A&O RO described their exercise as 'resource mapping' because the expenditure categories are at a higher level than is usual for PBs.

from routinely collected data.

The HCHS PBs are derived using routinely collected financial returns from both Trusts and HAs; the Trust data is used to derive the weights given to the various programmes, and this is scaled using HA data. The expenditure is also allocated across age groups using various activity data, such as korner returns and the General Household Survey. This relies on the assumption that the national average cost of providing a service is the same for individuals in each age group.

Each programme is separated into different methods of care, and location of delivery. The mental health programme, for example, is divided into: inpatient, day patient, outpatient, and community. Some programmes, however, do not cover all care settings. For instance, there is a programme for 'geriatric' expenditure in the hospital setting but not in the community. Many of the community programmes are, in fact, exclusive to that setting, such as health promotion, chiropody, and family planning.

Moreover, many of the categories are very broad. The 'general and acute' programme, for example, accounts for over 60 percent of hospital expenditure (nearly 50 percent of all HCHS expenditure). Also, although categories such as mental health are notionally consistent throughout HCHS and PSS, much of the expenditure is categorised differently. In addition, there is no PB for primary care services.

The 'Burdens of Disease' document (DH, 1996) estimates expenditure in much more narrow programme categories, and so is more meaningful when comparing expenditure with objectives. It also includes estimates of primary care expenditure. However, there are no HA level estimates: the necessary information is not sufficiently robust at the HA level to use as a basis for allocating resources or to measure performance.

(III) THE CASE FOR CHANGE

Although the number of HAs producing PBs on a regular basis is relatively small, the technique may be more appealing if it was co-ordinated by the NHSE. This would increase the comparability of the information. It would also reduce the duplication of effort.

Furthermore, a number of recent policy initiatives have strengthened the case for extending the use of PB in the NHS:

- the introduction of health improvement plans (HImPs);
- the introduction of long term service agreements (LTSAs);
- the development of national service frameworks (NSFs); and
- the improved information sources – including the implementation of ‘Information for Health’.

Each of these are discussed in turn below.

Health improvement plans

Health improvement plans “*are in essence, the local plan of action to improve health and modernise services*”. Health authorities have already produced the first HImPs, and the intention is for “*fully developed HImPs to be in place by 2002*” (NHSE, 1998d)

As part of their HImPs, HAs are required to show their existing resource allocation, and how they are going to re-allocate resources to deliver their priorities. They also need to show how they are going to improve their performance against the six dimensions of the PAF. Although in the first instance HImPs are not expected to be comprehensive, they are expected to encompass the conditions covered by the NSFs: coronary heart disease, mental health, and cancer. At present, most HAs do not have as much information as they would ideally like to deliver these requirements. For example, very few know how much they are spending on cancer services in the various health care settings. Until HAs have the type of information provided by PBs, therefore, this attempt to improve the quality of planning and priority setting by HAs can only be partially implemented.

Long term service agreements

Long term service agreements have replaced contracting between commissioners and providers in the NHS. It is expected that there will be LTSAs for the services covered by NSFs by April 2000 (NHSE, 1998e). LTSAs will identify the overall cost of the services

covered by the agreement. And where unforeseen circumstances force a change in the expected cost, this will be agreed between the commissioner and the provider.

Furthermore, LTSAs "*will gradually be based on pathways of care for different client groups or diseases*" (NHSE, 1998e), so they will eventually incorporate primary care, as well as secondary and tertiary care. Hence, as LTSAs are developed, the commissioners will need to know the patterns and levels of expenditure on the relevant programmes, and by care setting. This highlights the opportunity for extending the use of PB. Where LTSAs are in place that cover the full range of services by care pathway, PBs will not impose an extra data collection burden, because the information required for PBs will already exist.

National service frameworks and the PAF

The Government is committed to introducing NSFs for "*major care areas and disease groups*", which specify a minimum quality of service across the NHS (NHSE, 1998a). The local implementation of the NSFs will be monitored against the PAF. Programme budgeting, therefore, can help local decision makers to implement the NSFs in the most efficient way possible. The information will also be useful for performance assessment and benchmarking.

Improved information sources

The 1999 data collection for health care resource groups (HRGs) will be extended to include all surgical and medical inpatient and daycase activity and costs (NHSE, 1998f). HRGs categorise 'clinically meaningful' treatments or health care that use approximately the same resources. As HRGs are extended further, therefore, it will become easier to measure total expenditure by programme.

In addition, the Government recently published an ambitious information strategy for the NHS: 'Information for Health' (NHSE, 1998g) In time, this should improve the quality of patient level data about resource use, especially in health care settings outside of hospitals.

(IV) OPTIONS FOR CHANGE

With the data that are currently collected centrally further progress will be limited. The following discusses the case for extending PB in the NHS in terms of:

- A. Ownership
- B. Scope;
- C. Detail;
- D. Health care setting;
- E. Type of categories;
- F. Level of aggregation;
- G. Dimensions; and
- H. Administrative costs.

A. Ownership

This section considers whether the PBs should be derived centrally or at HA level (and, in due course, at the PCG/PCT level). The PBs could be derived at the national level, using routine data collection. This would ensure that the methodology used to derive the PBs was consistent across all HAs.

On the other hand, separating the collection of individual data from the final information may alienate those responsible for assembling the data, which could lead to less accurate information. Therefore, local derivation and ownership of the PBs, with a nationally determined methodology, may offer the best chance of robust and comparable information.

B. Scope

'Scope' refers to the proportion of expenditure, within each type of setting, which is covered by PBs. The expenditure in the PBs could sum exactly to total expenditure by a commissioner, or the PBs could cover the priority areas only, such as the conditions covered by the NSFs. Alternatively, the PBs could be derived in detail for NSF conditions, with broad programmes for the remainder of expenditure.

Deriving a comprehensive set of PBs enables more analysis of the effects of re-allocating

resources between programmes - at both the local level and the national level. In addition, comprehensive coverage reduces the scope for undesirable data manipulation. If PBs are only derived for selected programmes, and they are used for performance assessment, there may be a temptation to allocate fixed costs in such a way as to give an impression of the performance of a services which is more favourable than it deserves. As far as possible, therefore, the PBs should encompass all expenditure.

C. Detail

There are options for how detailed each of the programmes should be. They could be very detailed, with a very large number of programmes. Or the programmes could be defined at a much higher level. Where the programmes are more narrow, it should mean that the services provided within each category are more homogeneous and, therefore, more comparable. For example, a single category covering all of mental health services would cover a wide range of needs, and types of health care. If the categories become too broad, the information becomes difficult to interpret. This also increases the possibilities for the kind of data manipulation discussed above under 'scope'.

The larger the number of programmes, however, the more difficult it is to produce a standard methodology. For example, if mental health is divided into a number of categories, a methodology is needed to allocate expenditure between more programmes. This is not always straight forward, even if the analysis is patient based, because of issues such as co-morbidities, and patients whose diagnosis changes over time. It is probably appropriate, therefore, to have more detailed programmes for the services covered by NSFs than for other services. This would mean that the number of programmes would increase over time.

D. Health care setting

One approach would be to define PBs where the categories are consistent across all care settings - primary care, community care, secondary care, tertiary care, and personal social services (PSS). This would allow analysis of expenditure within programmes. It would also have the desirable characteristic of enabling benchmarking of different services models. For example, comparing HAs that provide a high proportion of their mental health services in the

community with HAs that have a lot of inpatient services.

In addition, including health care in more settings reduces the scope for cost shifting. This may be a particularly appropriate issue with regards to the boundary between health care and social care. Including the appropriate PSS services would also be consistent with the objective of increasing “*joined-up Government*”, which the Government is committed to as part of the “*Modernising Government*” programme (Cabinet Office, 1999).

However, categorising expenditure by conditions, specialties, or client group in the community and primary care setting is difficult, because community and primary care staff tend to provide care for a wide range of conditions. Many of their clients also have co-morbidities. Nevertheless, some PB work by HAs has managed to group most expenditure in the community sector into the same categories as the acute sector (see, for example, Brambleby, 1995). Furthermore, collecting and using data tends to result in an improvement over time in the quality of data collection.

Given the desirability of including all settings, it should be seen as a long term objective. In the mean time, transitional arrangements will be needed for those areas where there is insufficient data, such as in the primary care setting.

E. Type of category

There are a number of options for categorising expenditure in PB, such as specialty (eg oncology), conditions (eg cancer) or client groups (eg the elderly). And there are a number of possible criteria for identifying the preferred categorisation of programmes, such as:

- the proportion of expenditure;
- the proportion of morbidity/mortality;
- clinical issues;
- the effect on incentives;
- data availability;
- consistency with other policies, such as the NSF; and
- consistency with outcome indicators.

F. Dimensions

Programme budgets are often derived in a matrix format. For example, the expenditure in each programme could also be categorised by a number of age groups, or by the geographical location of the recipients of health care. This is potentially useful information to assess the equity of health care use at the local level, and is consistent with the way resources are allocated. Much of this data is also relatively easily available.

G. Administrative costs

The extension of PB would clearly involve collecting additional data. The burden this places on commissioners and providers should be minimised. Some of the data will be required, even without PB, to deliver existing policy initiatives, such as LTSAs. In addition, PB could probably replace data which is already being collected. The extension of PB, therefore, could be seen as an opportunity for a review of information gathering.

(V) THE PREFERRED OPTION

This section draws on the discussion in the previous section, and summarises some of the desirable characteristics of PBs if they were implemented throughout the NHS. This is followed by a outline of the issues about which this paper does not draw firm conclusions.

Desirable characteristics

Bearing in mind the trade-off between costs and benefits, this paper suggests that programme budgets should:

- probably be derived and 'owned' locally, but with a national definition of the categories and methodology;
- have the long term objective of including all health expenditure, in all health care settings;

- in the first instance, cover the high priority services in more detail than other services; and
- include expenditure by local geographical location, and age group, where this is available.

Issues to be addressed

There are some issues where this paper is unable to draw conclusions, even about the long term direction to which the PBs should be heading. Defining the optimal categories of expenditure (or programmes) needs more analysis of the costs and benefits of different approaches to the various stakeholders. This includes those responsible for collecting the data, and the potential beneficiaries: the NHSE – for producing Schedule 5 of the resource accounts; the NHSE – for performance assessment and management purposes; and local NHS bodies – for benchmarking and priority setting.

The process of producing a methodology should involve learning the lessons of earlier analysis. There have been previous attempts to develop a common methodology for a number of HAs, including the production of some supporting software (see: Plant, 1995).

(VII) CONCLUSION

There are a number of developments which make this an opportune time to examine the feasibility and desirability of producing PBs more widely in the NHS. Firstly, the Government's commitment to a new PAF and the development of NSFs requires the availability of information on costs, in addition to other measures of performance, to assess value for money. Secondly, the introduction of HImPs and LTSAs requires commissioners to inform their decisions about priority setting on better information than most have available currently. Finally, the process should be made easier by the availability of better information, at least in the acute sector. For example, HRGs should put HAs in a position where they can more easily categorise expenditure into different programmes.

This paper concludes that the case for the NHSE co-ordinating a common set of PBs is strong, principally because this would increase the comparability of the information, and

reduce duplication of effort by HAs. The paper also considered various options for the structure and content of PBs. In general, the conclusion was that the PBs should be relatively ambitious by covering as much health care expenditure as possible.

But there is a trade-off between the quality of information, and minimising the burden on the NHS of collecting data. Therefore, the process of defining the categories of expenditure, and developing a methodology for producing the PBs, should seek to keep this burden to a minimum. In addition, where possible, the NHSE should aim to use the information provided by PBs to replace some of the existing data collection requirements.

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ANNEX A: HAs involved in programme budgeting

The following table summarises HA based PB that has been carried out in the last (approximately) four years. It was put together following informal discussions, mostly with finance staff at Regional Offices. It is probably not complete.

Region	Health Authority	Description
Northern and Yorkshire	Newcastle and North Tyneside	Comprehensive PB, also covering different settings
North West	Liverpool	Services for coronary heart disease, and respiratory disease.
	St Helens and Knowlsey	CHD across a number of services areas
Trent		
West Midlands	'Black Country project' (Dudley, Sandwell, Walsall, and Wolverhampton)	Comprehensive PB, initially in the acute sector but extending to community and FHS.
Eastern	Cambridge and Huntingdon, Northamptonshire, NW Anglia, Oxon, and Suffolk	As part of the 'resource mapping' exercise in the old Anglia and Oxford Region. The programmes are based on 89 specialties.
	East Norfolk	Comprehensive PB covering acute and community setting.
South East	East Sussex, West Sussex, and East Kent	Project to develop standardised approach to PB with help from the South East Institute of Public Health. It programmes were speciality based, and encompassed acute and community sectors
	Buckinghamshire	Programme expenditure on cancer services (project to be expanded to surrounding areas).
	Berkshire	As part of the 'resource mapping' exercise in the old Anglia and Oxford Region
South West		
London	Greenwich and Bexley.	As part of the project to develop standardised approach to PB – see South East Region