Editorial

Updating unit costs of health and social care

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1. Introduction

This is the tenth in an annual series of volumes that brings together information from a variety of sources to estimate unit costs for a wide range of health and social care services. One issue that increasingly raises its head over the years is the degree to which information has become dated. While each year attempts are made to improve the quality and range of estimates, necessarily the passage of time draws into the question the relevance of some of the sources on which we draw. Can information drawn from studies conducted say five or ten years ago still be used as a reasonable basis for current unit costs? While considerable effort goes into updating information each year it is not without problems.

There are three main items of information needed for unit cost estimation: a clear description of service inputs; a financial valuation for each input; and a measurement of service output or activity (Beecham, 1995; Netten and Beecham, 1999). In relation to any service, each of these may change over time. In some cases, such as home care services, changes that have cost implications will be small and implemented slowly; qualitative changes such as a move from domestic work to personal care have little immediate impact of the unit cost per hour of service, for example. For other services, the change will occur quite quickly, perhaps within a year or so. Relatively large pay rises aimed at improving recruitment and retention of healthcare professionals will have an immediate impact on the costs of services. Thus, the speed at which services change and the availability of information influences the ‘shelf life’ of our unit cost estimates.

As usual, this editorial starts by describing the new developments incorporated in this volume. The approach taken to updating cost information in this series of volumes is then described and areas in which there is a need for better data are identified.

2. New developments

The policy emphasis on maximising independence, rehabilitation and intermediate care is reflected in the new schemata included in this volume. The new section on services for disabled people includes rehabilitation and independent living services, and nurse-led rehabilitation wards. Other new costs information covers the patient costs of visiting GPs, a nurse practitioner service for nursing and residential home residents, and social services child care.

Services for disabled people

This section is one of the most important new developments in this volume. Little information has been available to date about the costs of services for disabled adults but it is an area of increasing policy importance. The National Service Framework for Long-term Conditions, for example, will focus on the needs of people with neurological conditions and brain and spinal injury.

1 My thanks once again to Jennifer Beecham for her advice and comments on this editorial.
The new schemata on services for disabled people are:

- A high dependency care home for people with severe physical disabilities for example multiple sclerosis and brain injury. (schema 5.1, page 81)
- A residential home for people with disabilities such as cerebral palsy and brain injury (schema 5.2, page 82)
- Special needs flats for people with varying disabilities. (schema 5.3, page 83)
- A rehabilitation centre for people with brain and spinal injury check (schema 5.4, page 84)

The cost estimates are based on information provided by John Grooms, a Christian-based charity providing services to over 38,000 people with disabilities and their families. Necessarily, each schema reflects only one or two establishments but even so, this provides us with some very valuable cost information in an area where there is a dearth of detailed data. Each schema includes information about the types and severity of conditions among the people supported, the facility’s purpose and the type of service provided. The organisation aims to provide high quality physical accommodation and support that maximises the independence of disabled people. The impact of this overarching ethos is reflected in the services’ relatively high capital and revenue costs when compared to ostensibly similar services for other client groups.

**Hospital based rehabilitative care**

Although there are a number of ongoing studies exploring the cost-effectiveness of intermediate care, there is little unit cost information currently available. For this volume, we have been able to draw on information kindly provided by Gerald Richardson at the Centre for Health Economics at York about the costs of nurse-led rehabilitation wards for older people. The objectives of this service are very much in line with the intermediate care agenda, even if the service is provided in a hospital setting. There is a detailed breakdown of the service’s inputs providing us with much better information about the composition of hospital ward costs.

For the rehabilitation wards, the bottom-up estimates (shown in schemata 2.6 and 2.7 on pages 58 to 59) separately identify the capital costs associated with providing the bed and associated treatment space. The approach taken by these researchers is in stark contrast to most publicly available information in which the costs per type of bed day are based on top down data that links expenditure to activity by specialty. For example, the hospital costs on page 95 are derived from the high-level TFR2 returns to the NHS Executive. They exclude any capital element. As we suggest in the introductory paragraphs, these data should only be used if no other data are available. Reference costs, as we have identified previously, are also produced by NHS Trusts, but the estimations are based on mandatory guidance on a wide range of aspects of what is in essence a bottom up costing process (www.doh.gov.uk/nhsexec/refcosts). The guidance is that at least 75 per cent of total expenditure as reported in TFR2 returns should be accounted for by reference costs of procedures. Reference cost data include capital costs. However, as discussed in a previous editorial (Netten, 2000) the data should still be treated with considerable caution.

**Patient costs**

The focus in this series of volumes has always been on the unit costs of providing formal health and social care services. In full economic evaluations, however, best practice recommends taking a societal perspective, which should include the costs to society at large and to those benefiting from the intervention (Knapp, 1993). This information is often difficult to collect, as it should be specifically related to the condition or practice being evaluated. It also generates a time-consuming set of tasks and may make the economic evaluation too expensive for research funders. This year,
to begin to meet these demands for cost information, we have included data from a small-scale study about the cost to patients of attending a GP consultation (schema 9.7, pages 115 to 117).

**Nurse practitioner costs**

Nurse practitioners are a relatively new development for nursing. They are very experienced nurses and have advanced nursing and clinical decision-making skills. Nurse practitioners are at the forefront of debates about the skill mix required in general practice, the roles and responsibilities of the various professional groups, and nurse prescribing. Nurse practitioners can be found in many service contexts and often, but not solely, work with a specific client group. The short article on pages 17-19 describes the activities and costs of one nurse practitioner service set up to supplement and complement the local GP service by providing health care for older people living in care homes.

**Child care costs in social services**

The Children in Need (CIN) survey yet again provides a rich source of information on the costs to social services as they carry out their responsibilities towards children in need. Data are taken from the CIN 2000 survey for which local authorities returned summary data to the Department of Health. Local authorities provided data on the number of children receiving different types of support, the reasons why support was provided, and the cost implications. On pages 90 to 91, average costs data for England are presented for children and young people served by different types of authorities (for example, London boroughs, unitary authorities), the different need groups, and the type of placement. One of the most important facets of this survey is that it considers not only children who are looked after (accommodated) by local authorities but also children who are receiving services but living with their families or independently. Within the survey, the cost estimations follow a standardised methodology and all costs to social services are included with the exception of capital costs.

**Articles**

We include five brief articles in this year’s volume. The first two focus on estimation of service unit costs. Jennifer Beecham and colleagues (pages 17-19) have estimated the costs of a nurse practitioner service as described above. The following article (page 21-23) examines the costs of child and adolescent psychiatric inpatient units. The results of this detailed costing exercise of 66 units, including 45 NHS units, show less variation and generally lower costs than indicated by NHS reference costs. Two of the articles focus on developments in data sources. Keith Childs describes the development of the PSS EX1 return that draws together social services expenditure and activity information, replacing previous data collections and forming the basis for performance indicators among other uses. Jennifer Beecham and colleagues describe the Mental Health Service Mapping exercise that is likely to provide a very valuable source of information in the future.

The final article to note here provides an important link between forthcoming policy needs for cost information and this volume. Phillip Lee’s article (page 33-35) describes how national health accounts are being developed which will enable valid comparisons to be made between OECD countries with respect to expenditure on health. Such exercises in international standardisation are as important as national ones, as typified by this volume and central government initiatives such as *Costing for Contracts* or the *Children in Need Survey*. In England, the development of such health accounts has particular resonance following the publication of the Wanless report (Wanless, 2002). This recommends that policy initiatives and expenditure levels should be influenced by how we compare internationally.
In summary, in this year’s *Unit Costs of Health and Social Care* we have included five new schemata and short articles describing the estimation process behind two other services’ unit costs. As with other years, these articles are likely to form the basis for schemata in next year’s volume. These, together with the articles on data developments make it possible to track back through the volumes for more detail on the estimation procedures employed and the source data for many services.

### 3. Timely and accurate information: updating costs

If we are to draw correct conclusions about the resource implications of a particular innovation or policy, it is essential that the unit costs of services provide an accurate estimate of the opportunity costs. There are two ways of identifying opportunity cost: those that *are* incurred (incorporating inefficiencies of current practice) and those that *should be* incurred (if there were no inefficiencies). It could be argued that for efficient resource distribution we should use the latter definition as otherwise we continue to fund historical inefficiencies (Hutton, 2002). However, this raises a number of estimation and judgement issues; not the least of these is gaining sufficient information to assess the extent to which inefficiencies exist in current practice.

For the most part the information we provide in these volumes reflects the actual costs of services as we draw on assessments of resources used and working practices, or descriptions of expenditure levels and activity. By implication, therefore, the unit costs reflect the practices at the time of data collection. Ideally, therefore, the unit costs should be interpreted with each component of the unit cost examined. When using the data for local purposes, for example, one should ask: Do the inputs described in this volume accurately reflect the local service? Are local prices for the inputs similar? Does the local service provide the same level of activity? So when data from this volume are used to evaluate a new policy or service, they should be adapted to reflect the circumstances of the evaluation. Only where this is not possible can national estimations, as used in this volume, be considered the next best alternative.

Thus the objective of this series of volumes is to provide information that is as close to current national practice as possible. Each year, therefore, the schemata are reviewed to assess the extent to which they meet this criterion and, where sensible, updated by drawing on a wide range of sources. These sources include:

- Sample surveys of local authorities to establish grades and wages for social workers, occupational therapists and home care workers
- Updates of terms and conditions and salary scales
- Routine statistics available in the public domain (for example, PSS Key Indicators)
- Statistical returns (for example, TFR2 returns about expenditure and activity from Healthcare Trusts to NHS Executive)
- Regular surveys (for example, the Laing and Buisson survey of care home prices)
- Special collections (for example, data collected to identify GP remuneration and allowances)
- Data from completed or ongoing research
- Specific inflators for the type of information being updated.

However, a dearth of current data on inputs, financial values and activity measures reduces the accuracy of the unit cost estimates. Where we have no confidence that our data sources reflect current services and practice the schema is withdrawn. For example, data on the cost of meals-on-wheels services were withdrawn in 1997 as they no longer reflected existing practice and the
schema on NHS nursing homes costs was withdrawn in 1996 because this type of provision was no longer commonly available.

Many different sources of information are required to create the data required for these volumes, some of which are more readily accessible than others. The availability of data and the consequences for unit cost estimation are discussed below for four main areas; salary costs, time use, overheads and facility-based services.

**Salary costs**
The costs of peripatetic services such as district nurses and social workers depend fundamentally on information about salaries (because they commonly absorb around 80 per cent of the total service cost) and time use data that reflect (changing) patterns of service delivery to clients. Adjustments to these data may result in quite a significant change in the unit cost. Information about salary scales is readily available and very helpful when building up a bottom-up cost estimate of a health or social care professional. However, a key piece of information is the point on the scale at which workers are employed. Research in the past has identified that cost differences between authorities – particularly between London and non-London authorities - are often attributable to the fact that similar workers are paid on different scales or sections of spinal points systems (Bebbington and Kelly, 1995).

The importance of grade drift and changes in the composition of the workforce can be illustrated by the difference between the predicted Hospital and Community Health Services (HCHS) price inflation index and the actual figure calculated at the end of the year. For example, based entirely on pay awards we would have expected pay inflation of just 3.4 per cent between 1999/2000 and 2000/2001; the actual pay inflator was 7.1 per cent. Historically the difference between pay awards and pay inflation has not been that great so if this larger difference continues to be found in future years, the best approach to predicting pay inflation for the current year is not yet clear. This year pay awards predict an HCHS pay inflator of around 4 per cent. This is the same as the National Average Earnings increase, which is based on the New Earnings Survey, which in turn is used to predict Personal Social Services (PSS) pay inflation.

This year the PSSRU has carried out a survey of 40 local authorities in order to establish wages for social workers and home care workers. The sample reflected the national distribution of social care workers in each authority type. Six per cent of workers were employed within the Inner London authorities, 8 per cent in Outer London, 30 per cent in the Metropolitan authorities, 19 per cent in the unitary authorities and 37 per cent in the English counties. Forty authorities were selected in order to maintain the weighting as closely as possible.

Information was collected about minimum and maximum salary or wage for each type of staff member. The mid point data were then weighted according to the number of social worker staff for which the calculation was being carried out employed within the authorities.

**Time use**
The importance of incorporating time use information can be illustrated by comparing the unit costs of health service professionals that are paid very similar salaries but have different patterns of activity. District nurses and health visitors costs are both estimated using the mid point salary for a G grade nurse and are assumed to incur the same level of overhead and qualification costs. However, the unit cost of a patient contact hour is £55 for a district nurse and £75 for a health visitor. This reflects the different distribution of activities; much more of a health visitor’s time is spent on activities of benefit to patients that do not involve face-to-face contact. Clearly it is essential that our information about time use is accurate.
Most of our information about community nurse activity is based on an excellent study conducted in the early 1980s (Dunnell and Dobbs, 1982). Much has changed in community health services since that time so ideally we should reflect these changes in the sources of information we use. In practice, however, it has only proved possible to identify a small amount of service-specific time use information from individual trusts and this has tended to confirm the overall distribution of activity in the 1980s study, even if the activities undertaken have changed. In this situation we prefer to use data from the older but larger and more detailed study of the 1980s. Indeed there is remarkable consistency in time use in some instances. For example a recent international study of primary care consultation length found that the length of GP consultations was 9.4 minutes (Deveugele et al., 2002). In 1993 we were using consultation lengths of 9.3 minutes and most recently have been using 9.36 minutes.

There is, however, an obvious need for more up-to-date information about time use of health and social care professionals generally. Potentially there are two sources. The first source is routinely collected data. Many health service professionals record time use as part of their clinical practice or as part of the service’s audit or management information system but unfortunately the information is not made available in the public domain or collated at a national level. Collation of routinely reported information would allow a better estimation of time use, facilitating regular updating of this volume to reflect current practice.

The second major source of such information is large-scale descriptive surveys. Costs of teams depend both on this time use information and on the composition of teams; that is the balance of different types of staff working within the team. Information on the composition of community mental health teams is now available from the Mental Health Service Mapping exercise. The survey uses web-based technology to gather information on the components of local services. On pages 29 to 31, data from the second annual survey are used to compare the current staffing profile of community mental health teams with the data used in schema 11.2 (page 134) which came from a mid-1990s research survey (Onyett et al, 1996)

**Overheads**

One important aspect of the costs of services that is particularly difficult to identify and update is the overhead element. This includes direct overheads such as supervision and clerical support to peripatetic staff and indirect overheads such as financial and human resource services. Under the current funding arrangements, expenditure on direct overheads for most GPs is included in Health Authorities’ annual accounts. Although the calculations are not straightforward it is possible to estimate those costs that are not associated with direct care activities (see pages 115 to 117). While the information is up-to-date, variations do reflect the problems associated with data of this kind. For example, the level of overheads estimated is based on deducting from overall expenditure the cost of staff employed to provide direct services, such as practice nurses. This is sensitive to assumptions about the level of salaries paid to such staff.

However, for most services all overheads are estimated on the basis of a percentage add-on to salary or service provision costs based on previous studies. Such studies are often small and dated but there is no other information available. It is possible that in the future some information about overhead costs associated with healthcare staff may emerge from reference cost data collections as these are now extending into community services. However, with these as with social service costs reported in the new PSS EX1 returns cost information is reported centrally with overheads already devolved down to the service level. Disaggregated information is needed for us to really understand the impact of overheads on total unit costs.
Facility based services

In many instances the costs of facility-based services such as care homes and day centres are based on top-down information, where total expenditure is divided by number of resident days or sessions during the year. This type of information is easier to collect on a routine basis as part of accounting and monitoring procedures, and so costs based on such sources are easier to keep up to date. However, there are many problems associated with such data collections, including appropriate attribution of expenditure to activity, consistent application of definitions, and the range of services included in some expenditure categories. This leads to concerns about whether outliers (authorities where costs are very much higher or lower than most other authorities) reflect real variations in costs of services (perhaps driven by higher staffing ratios) or estimation errors, such as different interpretations of the accounting definitions. As a result we now use the median cost when drawing on routine data collection sources, as this tends to present a more stable picture of the service costs. To provide as much information on the cost variations we always include information on the mean cost and the distribution of costs, again with the most obvious outliers excluded.

In the past we have drawn on Cipfa or Department of Health and Department of Transport and the Regions’ statistics about PSS service unit costs, expenditure and activity used to compile Key Indicators. The new PSS EX1 return that replaces these should improve accuracy as it allows those completing the survey to match expenditure to activity and has a higher response rate than was common for CIPFA returns (see Childs, pages 25 to 27).

Price information provides different challenges. The annual Laing and Buisson market survey provides regular up-to-date information about the price of care home places for older people. Expenditure and activity data are collected from local authorities on independent sector provision but local authority accounting practices mean that expenditure data may be aggregated across a whole range of services that fall within the overall heading and may also include different types of contractual arrangement. For example, the rehabilitation service for disabled people shown in schema 5.4 (page 84) is purchased under a block grant for a Brain Injury Rehabilitation Centre. No doubt that authority also commissions other, less costly, day services for disabled people such as employment services. To combine expenditure information on all day care services for disabled people would allow an average price per day to be calculated but it would misrepresent the costs of any of the individual services which, in the example here, provide very different types and intensities of support.

The best source of information about the costs and prices of facility-based services is the large-scale study that collects information about the characteristics of the facilities, services provided and clients or residents. This, together with information about prices, expenditure and activities of such establishments, allows analysis about variation at the facility-level of the effects of different client and facility characteristics on costs and prices. In this volume we have drawn upon surveys of care homes for older people (Netten et al., 2001), facilities for people with learning disabilities (Emerson et al., 1999), domiciliary providers (Forder et al., 2001), and sheltered housing (Ernst and Young, 1993; McCafferty, 1994). The survey of sheltered housing also yielded valuable information about the costs of adaptations to property¹. However, in the absence of repeat surveys, such information has to be updated using price indices and, as mentioned above, it must be assessed each year to ensure each schema continues to reflect current service provision. Reviewing the material in this volume suggests that new studies are needed to reflect national current practice in sheltered housing, care homes for older people and people with mental health problems, and respite and day services for all client groups.

¹ Results of a study by the Building Cost Information Service suggested that the updated estimates of the costs of adaptations (reported in schema 7.4) are still valid.
4. Conclusion

This editorial began by outlining the new sets of costs data included in this, our tenth volume of *The Unit Costs of Health and Social Care*. The developments are considerable. We have responded to forthcoming policy requirements through the inclusion of information on services for disabled people and developments in international health expenditure comparisons. Unit costs for service developments, such as the use of nurse practitioners in care homes and some rehabilitative services are provided, and we begin to address demands linked to economic evaluations by including an estimation of patient-borne costs. We also report and use data from new central government sponsored data collections such as the *Children in Need Survey* and the *Mental Health Service Mapping*.

Adjustments are regularly made to existing schemata to compensate for the absence of an ideal; up-to-date, accurate and comprehensive information on inputs to all services, their financial value, and data on each service’s activities (outputs). However, even if such an ideal existed there would still be a need for this series of volumes, for unit cost estimates crucially depend on the purpose to which they will be put. The role of these volumes is to pull together data from a variety of sources to report nationally applicable cost data for a range of existing services, which are comprehensively estimated using a standardised methodology based in economic theory. While every effort is made to update the cost information to reflect current practice, it takes time to establish good quality cost information that can be related to characteristics of services and clients. There are pressing needs for contemporary time use data (activity measures) for peripatetic staff and large-scale surveys for many types of accommodation and day care services.

We end this editorial with our usual plea. If any users of these volumes are aware of any sources of more up-to-date or accurate information that will help us improve our unit cost estimations, please contact Lesley Curtis (L.A.Curtis@ukc.ac.uk).

References


Ernst & Young (1993) *The Cost of Specialised Housing and The Cost of Maintaining an Elderly Person at Home*, reports to the Department of the Environment, Ernst & Young, London.


