Editorial[1]

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Introduction

This series of volumes draws together information about the unit costs of health and social care services. The components and calculations are presented in a detailed and transparent format so that users can adapt the costs to suit local or specific circumstances, or draw on particular pieces of information when more appropriate data are not easily available.

This editorial starts by describing how the publication has evolved over the years, outlining its boundaries and providing examples of the kind of cost information we include. It then briefly describes the contents of this volume, introduces the short articles that commonly start each of these volumes, and outlines the improvements in our estimations for this year.

The background

The *Unit Costs* volumes have their origins in an initiative to improve information about the unit costs of community care services. In 1994, the Department of Health commissioned the Personal Social Services Research Unit (PSSRU) and Centre for Health Economics (CHE) to draw together the best available evidence about unit costs. A working group, which included members of the Department of Health, PSSRU, CHE and the Centre for the Economics of Mental Health (CEMH), was set up to advise and steer the work. This working group continues to meet each year to discuss relevant issues and identify new material for the publication.

The overarching aim is to collate information from routinely-collected data, literature and ongoing research so that the most up-to-date information on nationally applicable unit costs can be calculated for health and social care services. The findings are published annually in the *Unit Costs of Health and Social Care*. In each successive year we improve the quality and expand the range of cost information provided, building on previous estimates and drawing on new sources that reflect developing services and increasing demand.

1 Very special thanks are due to Jennifer Beecham and Ann Netten for their invaluable help and advice regarding this Editorial.

Approaches to estimating costs

The number of people needing to use or construct costs information has grown enormously in recent years, as have the purposes for which unit costs are required. These include estimating service prices, costing the effect of demographic changes or new policies, examining the technical efficiency of services over time, and evaluating the cost-effectiveness of interventions.

There are a number of different ways to approach estimation of unit costs. In these volumes, our starting point is the concept of opportunity costs. This recognises that the cost of using resources in a particular service or mode of care is not necessarily equal to the money spent or price paid, but is the benefit forgone (the opportunity lost) by losing its best alternative use.

Almost all of the costs in the *Unit Costs* volumes have been estimated using financial information to reflect the closest approximation of the long-run marginal opportunity costs of the service. For most purposes, long-term marginal opportunity costs are regarded as the optimum value to obtain. Marginal costs are the resource implications of small changes in levels of service provision. Long-run estimates allow for resources that are fixed in the short term, such as capital (buildings and equipment).

We aim to estimate the average cost of a service which will include these longer-term elements. The total cost is the sum of all expenditures (the sum of all opportunity costs) during a specified period, usually a year. The average unit cost is simply this total cost divided by the number of units produced or delivered over the same period. The 'top-down' approach divides the total expenditure, often taken from routinely available expenditure data, by the number of units delivered. The 'bottom-up' approach is used as far as possible in these volumes. This means that each of the elements making up a 'service' is considered separately – staffing, use of buildings etc. – and then their costs are added together to more closely approximate the long-run marginal cost. This approach requires a good understanding of the service as well as careful consideration of working patterns and of what is actually delivered.

Any unit cost estimate will depend fundamentally on the purpose of the costing exercise. Even within a particular purpose there will be reasons why the actual cost may vary from the estimated cost. Thus the unit costs presented in these volumes needs to be used with some caution; the schemata include details of the assumptions made and information about ranges to help readers understand our calculations.

What is included?

As far as possible a detailed breakdown of each service's costs is provided in the *Unit Costs* volumes enabling others to create their own costs. We also direct readers to other sources where these are available. Each schema is presented in a format which allows users to manipulate the data to suit their own cost needs, or perhaps to use just one or two pieces of data to complete their own calculations.

Given the range of services available to people and the increasing demand for cost and cost-effectiveness information, we need to keep the publication to a manageable length. It is essential, therefore, to be selective and to have clear boundaries of what is appropriate to include. The publication is already limited in terms of location (national boundaries) so the

costs data relate to England. While we cannot show variations between all local areas within England, or even for the regions, at the bottom of each schema we have noted a 'multiplier' so that the average cost can be easily converted to identify London or non-London prices.

As the title implies this publication is also limited in terms of scope (the boundaries of health and social care). However, within health and social care we also need to be clear about what we include and what is more sensibly provided elsewhere.

Health care provision includes services provided both in primary and secondary care. Primary care plays a central role in supporting the local community through family doctors (GPs), district nurses and midwives and other clinical, therapeutic and technical professions such as physiotherapists, pharmacists and psychologists. Secondary care includes acute and specialist services, treating conditions which normally cannot be dealt within primary care services or which are brought in as an emergency. Over the years, the *Unit Costs* volumes have included costs for a wide variety of professionals working both in the community and in hospitals and more professionals have been added as new information has become available. Costs are also updated as a result of new policies, such as the recent *Agenda for Change* (NHS Employers, 2005). For each of these professionals we aim to provide various unit costs (for example, the cost per working hour) but we do not attempt to identify the costs associated with the specific treatments given.

Health and social care are closely linked and policy has long emphasised the importance of these organisations working in partnership. The term 'social care' covers a wide range of services, which can be provided by local authorities or independent sector organisations. There are *Unit Costs* schemata for most of these services, covering support provided within the user's home, in day centres or by way of residential or nursing care. We also include supports such as meals on wheels, personal carers and fostering services. Criminal and youth justice services (such as secure accommodation) are not included.

Health and social care provision is experiencing a period of rapid modernisation that aims to improve the experience of people using the services. National policies such as the *NHS Plan* (Department of Health, 2000), the *NHS Improvement Plan* (Department of Health, 2004) and *Our Health, Our Care, Our Say* (Department of Health, 2006) emphasise the importance of patient choice. They have provided the impetus for the introduction of self-directed care such as Direct Payments and Individual Budgets. These allow people needing care services to have control over the content and delivery of the services they receive.

These policies mean there is increasing interest in the *cost of care packages*. For most of this publication we treat unit costs as the cost of providing a particular service or professional. For self-directed care the unit of analysis should be the individual and the combination of services they use, rather than a single service. We include cost information for community care packages for older people, for technology dependent children and for children in care. Each care package schema reports service inputs identified in specific research studies and combines these with unit costs drawn from this publication or estimated as part of the research. Information on accommodation and living costs is included so a comprehensive picture is provided of the costs of supporting individuals with specific characteristics.

Structure of the Volumes

The *Unit Cost* volumes are generally organised into five broad sections. The first section presents the costs of services used by specific client groups. Then come sections on the

various health and social care professionals, divided into community-based and hospital-based staff. The final section includes useful sources of information such as inflation indices and references.

Section I

This section is divided into seven sub-sections, six of which cover services used by a particular client group; older people, people with mental health problems, people who misuse drugs or alcohol, people with learning disabilities, disabled people, and children and their families. Commonly, the schemata cover various residential or day support services, although some client group specific professionals and care packages are included. The increasing mixed economy of care has made cross-sectoral comparisons particularly interesting, so where possible there is cost information on private (for-profit) and voluntary sector provision as well as local authority services.

In each schema, a cost per week or per day is calculated. Where data are available information on the average length of stay is included allowing, for example, calculation of the cost of typical episodes. For some services we can distinguish costs for the different *types of stay*: long-stay, temporary (often respite) and acute episodes. For some services we include information on the typical level and costs for use of 'external services', that is those provided outside the facility of interest. Thus the 'bottom up' approach employed here gives considerable flexibility and allows readers to build up the cost picture required for their purposes. For all client groups, we also aim to provide costs for new and innovative services and interventions. Of course, where services are in the early stages of implementation, the costs - or indeed the services – may not be typical and they may be replaced in later *Unit Costs* volumes.

The final chapter in this first section presents costs for a range of hospital-based services. There are numerous procedures and treatments undertaken in hospital either as inpatients of outpatients. Costs for some of these are included in this chapter (schema 7.1) and more information can be found in the *National Schedule of Reference Costs* (NSRC, NHS Employers, 2007), which has been compiled annually since 1998. The Reference Costs itemise unit costs for healthcare resource groups that absorb nearly 90 per cent of hospital and community health service expenditure under broad categories such as accident and emergency services, critical care, radiotherapy and chemotherapy etc. This chapter of *Unit Costs* also includes information on the costs of wheelchairs and other equipment, rehabilitation and intermediate care.

Historically the Department of Health, which funds the work underpinning these volumes, was responsible for the social care needs of children and families. This responsibility shifted to the DFES (Department for Education and Skills) and now resides with the DCSF (Department for Children, Schools and Families). The sub-section on children's services is currently under review and may not be included in future volumes.

Sections II, III & IV

These sections present costs for professionals who can provide support for all client groups. The schemata are divided according to whether staff are health or social care professionals and whether they are hospital- or community-based. As in Section I, each schema shows the costs associated with salaries, direct and indirect overheads and capital. The final row shows the unit costs. We aim to provide a cost per working hour for each professional, the cost of face-to-face contacts, and the cost per hour for patient-related time. For community- and

hospital-based health care staff, we base the salary on the mid-point of the ranges shown in the *Agenda for Change, NHS Terms and Conditions of Service Handbook* (NHS Employers, 2005). For community-based social care staff, average salaries for each professional are taken from the a survey carried out by the Local Authority Workforce Intelligence Group (Local Authority Workforce Intelligence Group, 2007).

We also identify the costs of the various health and social care teams working with adults and children with mental health problems. These teams are commonly multidisciplinary, consisting of both health and social care professionals. An average weighted 'team salary' is calculated using the proportion of whole time equivalent staff from each professional group working in that type of team. The data on team composition are taken from the mapping exercises for *Child and Adolescent Mental Health Services* (www.childhealthmapping.org.uk) and *Adult Mental Health Services* (www.dur.ac.uk/service.mapping/amh/index.php). Any additional information available from research is included in the notes. The mapping data usually allows us to calculate three unit costs; the annual cost of the team, the cost per working hour, and the cost per case per year.

Direct and indirect time

Our basic unit cost for health and social care professionals is the cost per working hour. However, for many purposes, in both research and commissioning, other 'units' are more useful, perhaps for an hour of patient contact or for all patient-related activity. For these calculations we need to allocate time spent on other activities to patient contact (or patient-related) time. We have developed 'multipliers' that can be applied to the basic hourly cost and these are presented in many of the schema. The aim is to ensure that we reflect an appropriate allocation of time so, for example, travel time is allocated only to home visits and not to clinic contacts. Of course, some professional time is spent generating outputs that are not related to patient care (teaching, for example) and the costs of this time should not be allocated to patient care. However, we rarely have a complete breakdown of how professionals spend their time so an assumption is made that unless we have clear evidence to the contrary, all working time relates directly or indirectly to patient care. Thus, for example, time spent on study days, at conferences or on general administrative tasks are all assumed to be directed towards ensuring good quality patient care. The editorial in *Unit Costs of Health and Social Care 2005* describes our approach to direct and indirect time allocation in more detail (Curtis & Netten, 2005).

Section V

In Section V we have placed several items of information used in our calculations or which supplement them. This section contains information on a number of inflation indices, including the Personal Social Services and Hospital and Community Health Services inflation indices which can be used to adjust unit costs for other years. We have also included a full list of the *Agenda for Change Pay Scales* which are used to estimate salaries in the schemata for health professionals. An index of references, a list of other sources of cost related information and a glossary can also be found in this section.

This volume: articles and improvements

Articles

Almost all the *Unit Costs* volumes have included three or four short articles that are closely linked to estimation of unit costs. In past years, for example, these articles have covered the cost of intermediate care and social work processes for children, the development of health accounts, and the PSS pay and prices index. This year we have included three articles.

Developments in information and communication technology are changing the way support for some people is provided in their own homes. The article by James Barlow, Stefen Bayer, Richard Curry and Jane Hendy of the Tanaka Business School at Imperial College London, discusses the costs which will need to be identified and addressed by those implementing telecare schemes (pages 9-13).

As the editorial in the 2006 *Unit Costs* volume described, cross-national cost comparisons are becoming increasingly common, generating demand for information on the costs of care and treatment in different countries. The HealthBASKET Project was funded under the European Commission's 6th Framework programme. Anne Mason describes and discusses the methodology used to identify and cost health treatments in several European countries (pages 15-18).

Accurate data on the level of support provided for clients are central to the estimation of care packages. Sarah Byford and Matthew Fiander describe a systematic and prospective method of collecting detailed information on professional input into the care of people with severe mental health problems (pages 19-24).

Improvements

This year, work has been undertaken to improve the accuracy of the investment cost of training health service professionals. The work has included new analyses to update the information on working lives and the costs of pre-registration courses, incorporating data from the new NHS consultants' contract, and a closer look at the implications of new arrangements for medical training.

Expected working lives

To improve the accuracy of our cost estimates for qualifying in certain professions, we first need to annuitise the investment in a way that reflects the expected return over time. But over what period should this expected return be measured? An important element is the number and distribution of years that health service professionals would use their training – their 'expected working life'. To estimate the expected annual cost of training in previous volumes, data on working lives were taken from the 1991 Census, the 1998 Labour Force Survey and the 2002 Pharmaceutical Census. We have been able to incorporate new data sources in the analyses for this year's *Unit Costs* volume from the 2001 Census and the 2005 Pharmaceutical Census. Details of the approach have been described in the 1999 volume of *Unit Costs* (Netten & Knight, 1999).

These new analyses showed that the overall expected working lives of doctors and pharmacists have remained unchanged at 26 and 28 years respectively. The working life of a nurse, however, has reduced slightly from 19 to 18.5 years. This has resulted in a slight

increase in the annual cost of nurse training (2.5 per cent) as the training cost has been annuitised over fewer years.

Pre-registration training

In estimating the costs of pre-registration courses for health and social care professionals, we need to consider the costs of tuition, the net cost or value of any clinical placement, and living expenses over the duration of the course. In previous *Unit Costs* volumes, we have based the living expenses for all professional groups on a study of student finances undertaken in the mid-1990s (Callender & Kempson, 1996). This year, the information has been taken from a more recent study (Canterbury College, 2005) which calculated that in 2003/04, students spent £7,635 per year on living expenses. The Retail Price Index has been used to adjust these figures to current prices.

Post-graduate medical training

With the implementation of *Modernising Medical Careers* a new training system is being developed (NHS, 2007). This was discussed briefly in the editorial last year. The move to this new system is in its final stages, so we have been able to clarify what the transition will involve and identify the implications for our cost estimates. This is described in detail on page 175 in sub-section 14.

Consultant contract

In the schema relating to consultants we have also included details from the new contract for NHS consultants in England (National Audit Office, 2007). Evidence suggests that despite the new arrangements, many consultants continue to work longer than the 45 hours per week for which, on average, they are contracted and paid. This extra unpaid work relies on the goodwill of consultants and also depends on the attitude of their employers. According to the Royal College of Physicians, 42 per cent of consultants report working more than 60 hours a week and a further 23 per cent more than 50 hours per week (British Medical Association, 2002) The average working week for those with an NHS component to their contract (including part-time doctors) was 59 hours.

Keeping the information up-to date

An important component of the calculation of salary-related costs for health and social care professionals is the amount employers contribute to national insurance and superannuation. Last year we carried out a survey of 20 local authorities in order to see what percentage of salaries these employers pay towards superannuation. For that year, 2005/06, it was 14.9 per cent. This year, we contacted the same local authorities and found that the rate has increased to 15.9 per cent, resulting in a small overall increase in the costs reported in this volume.

In previous volumes information about the prices of independent home care was based on a study carried out in 1999 and up-rated for each subsequent year. The home care market has changed a lot in the last 5 years so these data may no longer be representative of today's providers. In this year's volume, the cost of independently provided homecare is included in the schema for a home care worker. The data are taken from the Personal Social Services expenditure data (PSS EX1; Department of Health, 2007).

Clearly services change and develop over time. Likewise the roles and titles of staff may change, perhaps to meet national or local policy requirements. To ensure the information in the *Unit Costs* volumes remains as up-to-date as possible, we review the volume's contents regularly. If a service or professional role is still available but the costs are out-of-date, current salary information and inflators are employed to adjust the costs to the present year. However, if a schema is ten or more years old, no recent data have been found, and the service is no longer relevant, we delete the schema from the publication until new research or other data are available. The schema describing community care packages for people with mental health problems fall into this category. These schemata were previously found in chapter 2 and were first published in 1998 and showed the costs of a number of care packages for people who had left long-stay psychiatric hospitals. Given the enormous changes to mental health care in over the last 10 years, these packages are now less likely to represent current scenarios. We hope to be able to replace these with more recent data in future volumes.

The main purpose of this editorial has been to describe the content of these volumes. Over the years our aim has been to draw together data from a wide variety of sources and to update them as far as possible to reflect current unit costs. The presentation is designed to allow users to adapt the information to reflect the circumstances in which they are using the data. We would be very interested to hear about other sources and approaches made to adapting our cost estimates so we can pass these on to other users.

References

British Medical Association (2002) *Caring for the NHS, Consultant Contract: Framework*, British Medical Assocation, London, http://www.bma.org.uk/ap.nsf/content/new+consultant+contract.

Callender, C. & Kempson, E. (1996) *Student Finances. Income, Expenditure and Take-up of Student Loans*, Policy Studies Institute, London.

Canterbury College (2005) *National Union of Students*, Canterbury College, Canterbury, http://www.cant-col.ac.uk/studying-with-us/student-information/student-information-centre/finance/aimhigher.pdf.

Curtis, L. & Netten, A. (2005) Editorial, in L.Curtis and A. Netten (eds) *Unit Costs of Health and Social Care 2005*, Personal Social Services Research Unit, University of Kent, Canterbury.

Department of Health (2000) *The NHS Plan: A Plan for Investment, A Plan for Reform*, The Stationery Office, London.

Department of Health (2004) T*he NHS Improvement Plan, Putting People at the Heart of Public Services*, The Stationery Office, London.

Department of Health (2006) *Our Health, Our Care, Our Say: A New Direction for Community Services, CM6737*, January 2006, Department of Health, London.

Department of Health (2007) *PSS EX1 Return on Expenditure and Unit Costs*, Department of Heath, London, http://www.dh.gov.uk/en/PublicationsAndStatistics/Statistics/StatisticsCollection/DH_4082008.

Local Authority Workforce Intelligence Group (2007) *Adults' Social Care Workforce Survey*, 2006, Local Authority Workforce Intelligence Group, London.

Local Authority Workforce Intelligence Group (2007) *Children, Young People and Families Social Care Workforce Survey 2006*, Local Authority Workforce Intelligence Group, London.

National Audit Office (2007) *Pay Modernisation: A New Contract for NHS Consultants In England, Report by the Comptroller and Auditor General (HC 335 Session 2006-2007) 19 April 2007*, National Audit Office, London.

Netten, A. & Curtis, L. (2005) Editorial: Adapting and adjusting unit cost information, in L. Curtis & A. Netten (eds) *Unit Costs of Health and Social Care 2005*, Personal Social Services Research Unit, University of Kent, Canterbury.

Netten, A. & Knight, J. (1999) Annuitising the human capital investment costs of health service professionals, *Health Economics*, 8, 245-255.

NHS (2007) *Modernising Medical Careers*, Department of Health, London, www.mmc.nhs.UK.

NHS Employers (2005) *Agenda for Change, NHS Terms and Conditions of Service Handbook*, NHS Employers, London.

NHS Employers (2007) *National Schedule of Reference Costs*, NHS Employers, London, http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_062884.