Preface

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To meet the challenges laid out in the *Five Year Forward View (5YFV)*, NHS England has been working with Monitor (now part of NHS Improvement) to develop payment systems which can measure and record activity, costs and quality data at the level of individual patients (Monitor, 2014). With accurate information on where money is being targeted, efficiencies can be more easily identified when changes to services or care plans are made, thereby providing the basis for a 'best practice tariff', a national price that is designed to 'incentivise quality and cost-effective care' (Monitor, 2016a, p.19). Some changes to NHS information systems are already in place, and there are changes to the social care systems too. I would like to take the opportunity to discuss how these changes are reflected in this year's *Unit Costs of Health and Social Care* volume.

As well as taking information from published cost studies, we draw information from two principal data collections: first, NHS reference costs which are one of the building blocks for setting prices for NHS-funded services in England; and second, the PSS EX1 returns on social care expenditure. This year, the PSS EX1 returns have been replaced with the Adult Social Care-Financial Return (ASC-FR). Improvements made to these information systems are reflected in our unit cost calculations, thus keeping our estimates current and in line with policy developments. Sometimes changes made to these databases feed seamlessly into our volumes, but this year more substantial modifications may catch your eye.

NHS data collection

A recurrent theme of the NHS England Business Plan is the need to improve patient outcomes (NHS England, 2015). Of course, outcomes can be considered without reference to the cost of services, but, by putting a monetary value on them, it would be possible to see whether money is being spent wisely. Although NHS information systems are currently unable to reflect this directly, in the last few years the majority of NHS organisations have improved their information systems to enable costs to be linked more easily with outcomes (NHS Improvement, 2016, p.16).

With Patient Level Costing systems (PLICS) in place, costs incurred by patients in diagnosis and treatment can be linked more meaningfully to patient-level clinical data. The approach taken in PLICS is closer to a bottom-up approach, rather than the traditional top-down approach and can provide a better understanding of cost drivers. The approach informs new methods of pricing NHS services (Monitor, 2016b, p.44). Patients who have clinically similar treatments which use common levels of health care resource are then aggregated for presentation in NHS reference costs by Health Care Resource Groups (HRG). Similarly, mental health care clusters, mandated for use from April 2012 for working age adults and older people, were introduced to facilitate a better understanding of the relationship between needs, price and outcomes (Department of Health, 2013a, p.10). By allocating patients with similar levels of needs to the same cluster using the Mental Health Clustering booklet (Department of Health, 2012), the most resource efficient packages of care can be developed. Both HRGs and clusters enable individual actions of medical professionals to be linked with patient outcomes, thereby providing a mechanism for rewarding positive outcomes (Blunt & Bardsley, 2012, p.31; Monitor, 2014, p.6).

For this volume we have provided readers with selected reference costs for mental health services (2.1), children's services (6.1) and adult services (7.1). These are derived from the full file https://www.gov.uk/government/collections/nhs-reference-costs. We provide examples of both approaches to costing: the traditional top-down by service and bottom-up by HRG/clusters of patient-level data. As usual, most of our estimates are average costs weighted appropriately to reflect use of each service or 'currency'.

Social care data collection

The new ASC-FR also aims to link costs to user needs. The information collected in the new Short and Long Term Return (SALT) is designed to track customer journeys through the social care system and opens up the possibility of linking the data to patient outcomes, as reported in the ASCOF Handbook of Definitions (Department of Health, 2013b). This change is intended to improve the information available locally and nationally on the needs, health condition or cognitive disability of individuals. Thus, instead of reporting by primary client groups, as was the case with the PSS EX1, the SALT data allows the new national ASC-FR collection to provide costs that are attributed to 'primary support reasons' (PSRs). One PSR, determined through assessment, is captured for each client and their most recent PSR is used for reporting. This year, we

have modified some of our tables to reflect these changes (listed below). This means that for these services, direct comparisons should not be made between the unit costs in the 2015 and 2016 volumes.

1) Local authority and private sector care homes 'for people with mental health problems' have become local authority and private sector homes 'for people requiring mental health support'; similarly, residential care for people 'with learning disabilities' or 'with a physical disability' has become residential care 'for people requiring learning disability support' or 'physical support'. We have also added separately the costs for those aged 65 and over.
2) The ASC-FR collection does not provide unit costs for residential care for older people. We have calculated this by aggregating expenditure for all PSRs for people aged 65+ and dividing the total by the total number of weeks.
3) Expenditure on day care services is still included in the ASC-FR collection but is combined with expenditure on supported employment and meals. This combined figure and the absence of activity data (probably reflecting the decline in provision; Ismail et al., 2014) makes it impossible to estimate unit costs from the new ASC-FR data. For this year, estimates for the day care schema (1.4, 2.4, 2.5, 4.1 & 5.3) have been drawn from the 'old' PSS EX1 collection for 2013/14 and uprated to current prices.
4) The method of calculating home care unit costs has also changed. This year, we have drawn average standard hourly rates directly from the ASC-FR, rather than totalling costs and dividing these by the number of hours delivered.

Other work

Articles

Guest Editorial: Agency nurses

The announcement, in November 2015, that spending on agency staff increased by 31 per cent between 2013/14 and 2014/15 led Monitor and the NHS Trust Development Authority (TDA) to cap hourly rates paid for all agency staff. Katja Grasic provides this year's guest editorial outlining the full costs of providing agency nurses. Other work on agency nursing can be found in two PSSRU's blogs: http://www.pssru.ac.uk/blogs/blog/the-clampdown-on-nhs-agency-staff-spending-addressing-symptoms-instead-of-causes/ and http://www.pssru.ac.uk/blogs/blog/the-nhs-agency-staff-spending-cap-cutting-the-branch-on-which-it-sits/.

Our first article discusses the importance of investing in prevention initiatives as emphasised throughout the 5YFV (NHS England, 2015). In this article, Raphael Wittenberg and colleagues provide the costs of implementing a Well London programme.

Over the 25 years that the *Unit Costs of Health and Social Care* has been produced we have often been asked whether there was a programme that allows users to more easily develop unit costs to suit their local conditions. Perhaps based on the salary actually paid to a member of staff? Or more appropriately reflecting the local 'overheads' accruing for back-office functions? In this short article by Eva-Maria Bonin and Jennifer Beecham, we introduce a downloadable tool which allows users to do just that. It also includes a facility for estimating the costs of multi-person interventions. The model was developed as part of the Preventonomics research, funded to support the Big Lottery Fund's *Fulfilling Lives: A Better Start* (ABS) initiative.

New services

Geriatric Care Management Model (GRACE)

Despite recent policy focus on integrated health and social care services, it has been reported that some individuals are still being treated as a collection of conditions or symptoms, rather than as a whole person (Department of Health, 2013a, p.9). This led the Department of Health to ask NICE to develop an evidence-based guideline to help address the issue. NICE evidence found information to support use of the geriatric care management model (GRACE) (https://www.nice.org.uk/guidance/ng22/evidence/appendix-c2-economic-plan-552742673). This intervention integrates health and social care professional input into the assessment, care planning and service delivery process to meet the health

and social care needs of community-dwelling older people aged 65 and over. This model has been costed at current prices, drawing on findings from Counsell et al. (2009) (schema 1.8).

Adoption

As part of the Department for Education's Innovation programme (Department for Education, 2014), the Centre for Child and Family Research (CCFR) was commissioned by Coram Family to extend the Cost Calculator for Children's Services to include adoption services in England. Using these data, we have added information to schema 6.8 on the costs of the sub-processes that are associated with adoption.

Diabetes out-patient appointment

A study carried out by Paul Grant (2015) explores the difference in the unit costs of a diabetes out-patient appointment when patient-level costing (PLICS) or service level reporting (SLR) is used. If you want to understand the benefits of using PLICS and how this links into payment by results (PBR) and tariffs, this article is a must. Grant concludes that using the activity-based costing that is part of PLICS demonstrates the true cost of the service and is a fairer reflection of the costs generated by each patient.

Intervention for excessive alcohol consumption among people attending sexual health clinics

Although a detailed costing is not available for this service, it is worth mentioning that a paper by Crawford & colleagues (2014) provides a cost for brief advice and input provided by an Alcohol Health Worker.

General practitioner

Thanks to Hobbs and colleagues' (2016) retrospective analysis of GP and nurse consultations through the Clinical Practice Research Datalink, we have been able to update our information on the length of an average GP consultation. The authors provide duration of contact figures for surgery, telephone and home consultations with GPs and nurses at the mean and by age group. These estimates have now replaced those drawn from the 2006/07 UK general practice workload survey and have been used in schema 10.3. Using data from the Hobbs et al. (2016) study, we have also been able to calculate an average annual cost per patient. Care should be taken when comparing these unit costs to data shown in earlier volumes.

Routine information

NHS overheads

Last year we undertook some work to see whether it would be appropriate to use the *Foundation Trusts: Consolidated Accounts* for calculating expenditure on overheads for all NHS professionals. On comparing these consolidated accounts with those of community-based services, we found that the higher spend on drugs in hospitals meant that this would not be appropriate. We therefore used an overhead percentage calculated from the *NHS Foundation Trusts: Consolidated Accounts* for hospital-based services, and collated data from the financial accounts of individual community trusts to estimate overheads of NHS community-based services.

This year we have continued with this work to improve NHS overheads drawing on the *Foundation Trust Consolidated* pivot tables provided by Monitor to separate the accounts of the acute trusts from other trusts. We have found that staff overheads for acute trusts were 24.2 per cent of total care staff costs and non-staff overheads were 43.1 per cent of total care staff. This means that this year overheads for hospital-based staff have reduced from 69.8 per cent to 67.3 per cent. The figures for community-based professionals remain the same as those reported in last year's volume.

Discount rate

PSSRU's standard approach to costing is grounded in economic theory. We provide a close approximation of the long-run marginal opportunity cost of services: the cost of supporting one extra client, or providing one additional unit of output whilst recognising the financial implications of necessary expansion to the service. To include the cost implications of buildings and other large, one-off investments alongside revenue costs, we assume that the resources are invested over the lifespan of the building/equipment, and that these generate a stream of income. The rate of interest used should be that which is applicable in the market in which the resources would be invested; in public services the Treasury currently estimates this to be 3.5 per cent (HM Treasury, 2015).

Also referred to as the 'discount rate', this flat rate has been used in previous volumes of the *Unit Costs of Health and Social Care* to convert all investments regardless of their expected life span to current values. This year, in keeping with Treasury guidelines on long-term discount rates (HM Treasury, 2015, p.98), a declining discount rate has been used beyond 30 years (HM Treasury, 2015, table 6.1). To provide an idea of the effect this has had on estimates, this change has meant that capital costs (building and land) for a clinical psychologist have fallen from £4,861 to £4,583. However, as building and land costs form only a small proportion of the annual total cost of providing a clinical psychologist, the final impact on the unit cost per working hour is negligible (<£1.00).

Local authority overheads

This year, alongside the improvements we have made to NHS overheads, we have discussed with the Chartered Institute of Public Finance and Accountancy (CIPFA) how their social care benchmarking activities, carried out in 2014/15, might assist us in improving the information we hold on local authority overheads. This work will continue next year when we hope to be able to reflect our findings in the appropriate schema for local authority services.

Environmental costs

Following the inclusion of environmental costs alongside the unit costs for inpatient and outpatient days, and for GP and dentist appointments in last year's volume, this year we have extended these costs to mental health hospital services (see 2.1).

Personal Social Services Inflator

To uprate values for adult social care for which an actual cost has not been found, we use the PSS Pay and Prices inflator. To calculate this inflator, the Department of Health draw on the Annual Survey of Hours and Earnings (ASHE) to uprate pay costs, Her Majesty's Treasury (HMT) GDP inflator to uprate prices, and the Public Sector non-housing Tender Price Index to uprate capital costs. In previous years, the annual percentage increases for these three components have been combined together using a weighting derived from the PSS EX1 expenditure return. This year, the inflator has been recalculated using data from the ASC-FR return, which has replaced the PSS EX1 return as discussed above.

Alongside this work, we are also working with the Department for Education to create a new inflator for children's social care services. This will be finalised next year and incorporated into the relevant schema in next year's edition.

Consultation with readers

The Department of Health has consulted analytical colleagues on how well these volumes meet their needs, whether they could make suggestions to enhance our calculations or their presentation, and whether there were other unit costs likely to be required to support new policy initiatives. This consultation has included users within the Department of Health and its arm's length bodies, and will guide our work for the duration of the current contract.

In this volume, we have been able to respond to some of the smaller points put forward. For example, residential care costs are now expressed as a cost-per-day as well as a cost-per-week, and examples of roles by band are at the beginning of many chapters. Last year we concentrated the information for some health professionals onto one page and so could provide unit costs for more grades of that professional whilst keeping our methods visible. Given the success of this format, this year we have used the same format for nurses and hospital-based scientific and professional staff (see chapters 10 and 13). As last year, these tables will be available on the website in Excel.

Cost estimation work is underway in several new areas, and is likely to continue over the next two or three years. Some of the topics listed below have been suggested as part of the Department of Health consultation. As usual, we encourage readers to let us know about any studies which can support this research or supplement our work in other ways. We would also welcome contact from provider organisations who are willing to work with us on these unit costs calculations.

- Sexual health services
- Abortion services
- Video consultations
- Services for people with physical disabilities
- Services for people with learning disabilities

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Blogs published this year:

Unit costs across Europe (Jennifer Beecham) : http://www.pssru.ac.uk/blogs/blog/category/unit-costs/

Finally, the CSRI website has arrived! (Jennifer Beecham): http://www.pssru.ac.uk/blogs/blog/finally-the-csri-website-has-arrived/

Unit Costs of Health and Social Care 2015 – reflections and Christmas time (Lesley Curtis)
http://www.pssru.ac.uk/blogs/blog/category/unit-costs/

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