

## Preventonomics Unit Cost Calculator v1.5 *Guidance Document*

Jennifer Beecham  
and  
Eva-Maria Bonin

Personal Social Services Research Unit  
PSSRU Guidance Document  
November 2016  
[www.pssru.ac.uk](http://www.pssru.ac.uk)

London School of Economics

---

London School of Economics  
LSE Health & Social Care  
Houghton Street  
London  
WC2A 2AE  
Tel: 020 7955 6238  
[pssru@lse.ac.uk](mailto:pssru@lse.ac.uk)

## Table of Contents

1) Introduction .....	1
2) The PSSRU approach to unit costing.....	3
Why should we think about long-run marginal opportunity costs? .....	4
Bottoms up! .....	5
Overcoming overheads .....	6
Capital overheads .....	6
Non-capital overheads .....	6
Why bother estimating bottom up costs? .....	7
3) Getting started with the PUCC.....	9
Calculating unit costs for single professionals .....	9
Understanding schemas from the PSSRU unit cost volume .....	9
Using the calculator .....	13
Enter new unit cost .....	14
Opening and reading the unit cost report .....	21
Calculating unit costs for multi-professional interventions.....	21
Start-up form .....	21
Enter new intervention cost .....	21
Opening and reading the intervention cost report.....	26
4) Technical appendix .....	28
Annual user updates .....	28
Updating default values for overheads.....	28
Updating default pay scales .....	28
Adding default values .....	30
Additional default overhead values .....	30
Additional default pay scales .....	30
Suggested periodic exports.....	31
Tables storing unit cost data .....	31
Tables related to default overheads .....	31
Tables related to default pay scales.....	31
Overview of Access database elements.....	32
Changes from previous versions .....	36
Bibliography .....	37

## Tables

Table 1: Health visitor unit cost schema.....	10
Table 2: Social worker in children’s services unit cost schema .....	12
Table 3: Entering data on a health visitor.....	20
Table 4: Default values for overheads from 2014 and 2015 PSSRU unit cost volumes.....	29
Table 5: Elements of the Access database .....	33

## Figures

Figure 1: Four ‘rules’ for estimating unit costs .....	5
Figure 2: PUCC Welcome Page.....	13
Figure 3: PUCC unit cost entry, part 1.....	15
Figure 5: PUCC unit cost entry, part 2.....	17
Figure 6: PUCC unit cost entry, part 3.....	18
Figure 7: PUCC unit cost entry, part 4.....	18
Figure 8: PUCC Intervention costing, part 1.....	22
Figure 9: PUCC Intervention costing, part 2.....	22
Figure 10: PUCC Intervention costing, part 3.....	25

## Acknowledgements

We would like to thank everyone who has supported the development of the PUCC and this guidance.

‘Preventonomics’ is funded by The Big Lottery Fund as part of their ‘A Better Start’ initiative and we would like to thank the ‘A Better Start’ team for their support.

We would also like to thank the ‘A Better Start’ site personnel, who have contributed their expertise in developing the PUCC, as well as their time in testing and piloting the database and guidance.

Our thanks go to our colleagues at the PSSRU, who have helped by providing feedback, testing and administrative support: Cate Henderson, Valentina Lemmi, Amritpal Rehill, Lesley Curtis, Anji Mehta, Ed Ludlow and the members of the Cost-effectiveness Cluster.

*This document was researched and written for the Big Lottery Fund by PSSRU at LSE. The authors of the report are Jennifer Beecham and Eva-Maria Bonin. Use of material in this report must be appropriately acknowledged. The authors take no responsibility for user-derived results.*

## 1) Introduction

This guidance report supports the *Preventonomics Unit Cost Calculator* (PUCC), a tool for estimating unit costs and costs of interventions. The original tool was created to support economic evaluation in the five local areas participating in the Big Lottery Fund's [A Better Start](#) initiative.

This version of the PUCC is provided to the public alongside the latest volume of the long-running series '[Unit Costs of Health and Social Care](#)', published by the Personal Social Services Research Unit (PSSRU) with funding from the Department of Health. The calculator is informed by economic theory and more than 20 years of research at the PSSRU, so the underlying principles can be used for many other areas of health and social care activity beyond the *A Better Start* context.

The PUCC's approach reflects the unit cost schemas that readers of the 'Unit Costs of Health and Social Care' volume will be familiar with. Our hope is that providing this calculator will facilitate calculation of locally relevant unit costs to a high standard.

It is, of course, impossible to have a single framework or approach that can reflect the complexity and detail of every single intervention, or even every organisation. It is possible, however, to provide some 'rules' and some generic templates that will cover most situations: this is what the *Preventonomics Unit Cost Calculator* aims to achieve.

The fact that the PUCC originates from a project primarily concerned with providing services for children and families means that the focus of this guidance is on examples from children's services. However, the same principles apply to unit costs for other agencies.

*The aim is to identify a coherent method for calculating unit costs that is convincing in its relationship with – for example – the work of children's services and the realities of children's needs.*

*However, estimating costs always likely to be an imperfect science, but the more accurately all the expenditure categories that contribute to a service are acknowledged, the closer we will get to understanding real costs. (Beecham 2000)*

The next section of the guidance outlines this background information, and is designed to help users of the PUCC understand the 'whys and wherefores' of our approach. We then give practical guidance on using the Access-based database. This assumes a general familiarity with Access, but not expert knowledge of unit costing. We have included step-by-step instructions to support the PUCC.

***Note that the PUCC is optimised for Access 2013, and there may be compatibility issues with other versions of the software.***

It is advisable to leave pre-loaded table structures, forms and queries as they are. Users may choose to add custom queries instead of changing existing ones. Please also note that the authors of the PUCC accept no responsibility for user-derived results which do not use our in-built calculations and assumptions.

## 2) The PSSRU approach to unit costing

From a practical point of view, the way that unit costs are estimated is important.<sup>1</sup> Often, the aim is to expand service provision. This means that all the resources used to provide a service should be included in the cost estimation so that sufficient funds can be put aside to fund that expansion. Thus, unit costs should include not only salaries and their on-costs, but also costs associated with managing and supporting a professional or intervention, administrative and office costs, as well as organisational overheads to cover, for example, the costs of buildings or finance and human resources departments.

This type of approach, based in economic theory, also underpins the ‘full cost recovery’ accounting procedures used by many voluntary sector organisations.<sup>2</sup> HM Treasury first endorsed the principle of full cost recovery in its 2002 review (HM Treasury). All organisations have overhead costs associated with

- Management and leadership
- Infrastructure and accommodation
- Finance, governance and controls
- Strategic development

The full cost recovery approach emphasises that these overhead costs are necessary ‘for the organisation to survive, grow and develop’.

They are therefore essential to all its outputs. Under full cost recovery, organisations analyse their overhead costs and allocate them across the outputs, projects and services they deliver. Under this system, the cost of each output includes an appropriate element of funding for overhead costs.

One of the reasons that unit cost guidelines cannot be prescriptive or finely detailed is because it is still rare to find two children’s service providers that are organised in quite the same way; local authorities are rarely organised in the same way as the local health trust, or even just one of the local voluntary organisations. Similar complexities can be found in their cost and accounting arrangements. For example, even if every local authority in the land used the CIPFA accounting guidelines, there would still be 152 interpretations of the guidelines and 152 slight variations in the way different elements are counted and included!

This diversity means that while we can provide templates and guidance we cannot account for every detail or nuance in every service or organisation. What is important is that there is some consistency in the way costs are estimated within a local area or research project. Unit costs should:

---

<sup>1</sup> A unit cost is the value of all resources (input) used to produce a service, divided by the level of activity (output) it generates.

<sup>2</sup> [www.thinknpc.org/publications/full-cost-recovery-2/](http://www.thinknpc.org/publications/full-cost-recovery-2/) See also: [www.fundingcentral.org.uk/Page.aspx?SP=6245](http://www.fundingcentral.org.uk/Page.aspx?SP=6245)

- Be inclusive. They should reflect the financial implications of all service components; staff costs as well as management and organisational overheads.
- Match the service actually received – perhaps an hour of social work as opposed to a weekly cost for a children’s home – but you should be able to aggregate them.
- Be guided by the principle of long-run marginal opportunity costs.
- Be as up-to-date as possible.

### Why should we think about long-run marginal opportunity costs?

The ‘marginal cost’ is the cost of supporting one extra person or child. We can think about this in the short-run, or the long run.

Take the example of a children’s nursery. The short-run marginal cost would cover the cost of one extra child: another beanbag, coat hook, proportionately more orange juice and so on. But there is a limit to how many extra children can be squeezed in: one child may be OK, but an extra five or six children might seriously compromise the quality of care - and not least the health and safety regulations! So, a policy based on short-run costs would give the impression that however many extra children need nursery care, the current set of services had the capacity to support them. In reality, there comes a point where so many new children need a place that the day nursery service must expand; another building, more staff and managers, as well as beanbags and coat hooks, etc.

In the light of increasing demand – for example, more children aged 0-3 years receiving preventative services – a short run marginal cost would seriously underestimate the resources needed.

Why complicate things further with the concept of ‘opportunity costs’? Resources are always scarce, not just in difficult economic times. There is never enough money to meet every need and want. We have to choose between the different ways of spending resources: should we provide a new children’s nursery or more support staff to help young people with intellectual disabilities become more independent? Either way, we will have forgone the benefits (lost the opportunity) of the ‘next best alternative’. Choosing a new children’s nursery will mean that younger children are better served, but it also means that there will be no improvement in disabled young peoples’ abilities. Thus, the opportunity cost will recognise the resource implications of opportunities forgone rather than just the amounts spent.

And here is another example. Many of the interventions that will be put in place under the *Better Start* initiative involve volunteers. The costs to the *Better Start* budget of involving volunteers in improving outcomes in 0-3 year olds might include recruitment and training, some management, and reimbursement of travel expenses. However, the volunteers might also have given up other activities such as paid employment or leisure – these are the



benefits foregone by using their time as a volunteer. So the amount of money volunteers receive in expenses does not indicate the full value of their input.

## Bottoms up!

There are two broad approaches to estimating unit costs: one known as top-down, the other as bottom-up.

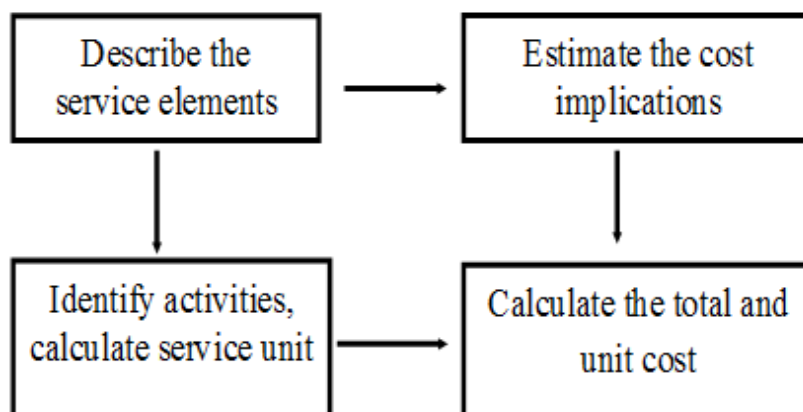
- The top-down approach assembles all relevant expenditure and divides it by the unit(s) of activity.

The top-down approach has the virtue of being relatively simple to apply. An example commonly used in children's services is the total amount spent on a service, divided by the number of children/families that use it. This can be very helpful where an average cost is required, perhaps to compare across different organisations, or as a management tool to help monitor changes in performance or output.

- The bottom-up approach identifies the different resources tied up in the delivery of the service and links the value of those resources to the unit of activity.

The advantage of the bottom-up approach is that its use encourages a good understanding of services, and careful consideration of the way services are delivered and to whom. A clear picture of the 'true' costs emerges, rather than just the information provided by the finance department. A 'bottom-up' unit cost estimation tends to be more accurate and more versatile as it can be applied to individual users of interventions. Although bottom-up estimates are less straightforward to produce than top-down costs, they help replication of the service or intervention.

Figure 1: Four 'rules' for estimating unit costs



Four basic ‘rules’ of cost estimation (see Figure 1) have been tried and tested in a range of services for children, adults and older people across all public and independent service providers. These underpin the nationally-applicable unit costs in each annual volume of *The Unit Costs of Health and Social Care* and have been used in countless assessments of local services. We will see these rules in action in the next section but broadly speaking Figure 1 speaks for itself.

## Overcoming overheads

One of the most challenging tasks in any unit cost estimation process is working out the allocation or apportionment of overhead costs. In the next section, you will see more about how we have provided support for local area personnel to input their own information, and default values derived from *The Unit Costs of Health and Social Care* volumes. Here we describe ‘overheads’ and some of the mechanisms used to calculate them.

### Capital overheads

There may be a range of ways in which the annual cost implications of capital are presented. Think of it like this: although you spend the money on buying or building, say, a new children’s centre all in one year; the building is going to last for much longer than a year. So the organisation will go on gaining some ‘benefit’ from that building for as long as it owns it. In line with our opportunity cost principles, the money could be used for something else – the ‘next best alternative’ might be to invest that money and spend the interest in providing another service. Information on capital costs are presented in different ways by different organisations: for example, (asset) rental charges, capital charges, loan charges, depreciation figures. All these figures use the same basic set of data items multiplied together to estimate an annual ‘return’.

- An estimate of how much the building is worth - perhaps how much it would cost to re-build it, or a market valuation
- An estimate of how long the piece of capital will last. Traditionally, we assume buildings are going to last 60 years (of course, many last far longer), but it might be lower for other items. A wheel chair might last ten years and computers might need replacing after only a couple of years.
- An estimate of the ‘return on the investment’ - HM Treasury currently recommends 3.5% for public sector capital, and until recently a long-term investment in the financial market would give you a return of about 5%.

### Non-capital overheads

Staff need to be recruited and paid, legal issues must be addressed, finance must be tracked, the organisation and its departments must be managed, etc. Overheads, therefore, comprise all the ‘back room’ tasks – finance, payroll, human resources, etc. – that enable a service to be provided and the overarching organisation to exist. Some organisations use

*service level agreements* as the basis for providing (and costing) these ‘back room functions’, others *allocate or apportion*<sup>3</sup> costs using, for example, *recharges*.<sup>4</sup> On the whole, the systems for ‘trickling down’ these costs are already set by the organisation. With some variation around the edges

- Some public sector organisations allocate the overheads using a lump sum – perhaps the cost of IT services divided by the number of departments supported by those IT services – or by calculating a proportionate value from each section’s staff expenditure. The method used can depend on which part of the overheads is being considered.
- For voluntary sector organisations, the Charity Commission provides a set of headings for the formal reporting of their expenditure data and this structures some organisations’ accounting systems. Some larger voluntary sector organisations, whose services are commissioned from a number of public sector agencies, have complex systems so they can meet the contracting needs of each agency.

In estimating unit costs to support the *Better Start* initiative, we do not suggest that you re-invent the wheel. However, we do suggest that you understand how the costs of overheads are calculated and how they are allocated to services or interventions. You may want to ask:

- What guidelines do you follow?
- Are there different types/categories of overheads?
- What is included in each of the categories of overheads?
- Does this include the costs of buildings?
- Which of these costs are allocated/apportioned to ‘my’ services/interventions?
- How do you allocate or apportion them? (Percent of revenue costs? A flat rate? By some activity measure?)

### Why bother estimating bottom up costs?

By asking these types of questions of all the organisations involved it becomes possible to identify what has been included in the service-level costs. This way we can ensure the ‘scope’ of the costs is the same, otherwise, cost differences may simply be the result of a mistake in the calculation.

---

<sup>3</sup> Where the expenditure debited to a budget heading is based on a factual consideration, such as workload measurement, it is usually described as an allocation. Where the expenditure is debited to a number of budget heads, but there is no similar factual basis for deciding how the expenditure should be shared, it is usual to speak of apportionment, for example, in proportion to expenditure on staff.

<sup>4</sup> A service level agreement is a formal agreement that one part of an authority will supply certain services to another (or with another agency), usually underpinned by a transfer of resources. A recharge is a mechanism by which payments or transfers are made between different parts of a local authority to cover for activities undertaken under contract or service level agreements.

For example, for many years there has been discussion about whether public sector services are more expensive (or cheaper) than for-profit or non-profit sector services. We can look at comparison between in-house and contracted services as an example of why this idea of 'scope' is important.

Where services are commissioned from an outside organisation, the fee or contract price will include items for the provision of the service, its support and management, and a contribution towards the provider's overheads. The fee might also include a component to cover the costs of activities relating to purchasing, perhaps devising and negotiating contracts. It may also include costs for recruiting staff, and their on-going support and training. Moreover, the service may care for children who are particularly challenging or for whom staff members need special skills not available elsewhere.

It is important to scrutinise the contract carefully and, if cost comparisons are to be made with an in-house service, are the in-house cost estimates similarly all-embracing? A bottom-up costing can give you this more detailed view. A top-down costing may just compare, for example, the fee (contract price) paid to an independent foster care agency with the fee (foster carer allowance) paid to in-house foster carers, and then – with less than perfect information! – come to the conclusion that the former is 'too' expensive.

### 3) Getting started with the PUCC

The unit cost calculator has four basic functions:

- 1) Calculating unit costs for single professionals;
- 2) Calculating unit costs for multi-professional interventions;
- 3) Storing databases containing unit costs;
- 4) Exporting data to Excel for further analysis and visualisation.

It is advisable to periodically export databases to ensure work is not lost should the database be corrupted. A list of suggested exports is provided in the technical appendix.

#### Calculating unit costs for single professionals

##### Understanding schemas from the PSSRU unit cost volume

People are the key resource in almost any service that supports the health, care or education of its users; and most interventions and supports that the Better Start areas are putting in place are no exception. Once unit costs for all the care staff – regardless of their employing organisation or funding source – have been estimated, then the process of estimating the cost of interventions delivered by several different staff becomes easier.

The next two pages show slightly amended tables taken from the 2014 volume of the *Unit Costs of Health and Social Care*.<sup>5</sup> Since 1992, these volumes set out tables that identify the nationally applicable costs of health and social care services. This volume forms the basis of the unit cost calculator, and provides default values for overhead figures that can be used in the absence of local information.

We have selected cost schema for two professionals that commonly work with children. Table 1 shows the costs of a health visitor. The first column lists the components included in the cost of a health visitor; salary and on-costs, the various categories of overheads, and travel. The second column shows the national value estimated for each component and the final column gives a short description of where the data come from. About halfway down the table, the total cost per annum for a health visitor is shown. At around £68,000 per annum, excluding the qualification costs, it is just over twice as high as the annual salary. On their own, the salary on-costs paid by the employer, add around 25% to salary costs.

The various formats for cost-centre budgets – provided by the organisation to service managers – often exclude overhead costs.<sup>6</sup> A business case based on such a cost-centre account will underestimate the full costs by about a half. The net result would be that the

---

<sup>5</sup> The full volume can be found at <http://www.pssru.ac.uk/project-pages/unit-costs/>

<sup>6</sup> Overhead costs include all the 'back office' activities as well as the costs of buildings; see previous section.

**Table 1: Health visitor unit cost schema**

Costs and unit estimation	2014/2015 value	Notes
A. Wages/salary	£31,914 per year	Based on the mean full-time equivalent basic salary for Agenda for Change Band 6 of the July 2014-June 2015 NHS staff earnings estimates for qualified nurses. <sup>7</sup> An additional 2.8% can be added to reflect payments for activity such as overtime, shift work and geographic allowances. The Electronic Staff Records system shows that the mean basic salary for all health visitors is £33,620. <sup>8</sup>
B. Salary on-costs	£7,774 per year	Employer's national insurance is included plus 14 % of salary for the employer's contribution to superannuation.
C. Overheads		Taken from the 2013/14 financial accounts for 10 community trusts. See Preface for more information.
Management, administration and estates staff	£9,723 per year	Management and other non-care staff costs were 24.5% of direct care salary costs and included administration and estates staff.
Non-staff	£15,161 per year	Non-staff costs were 38.2 % of direct care salary costs. They include costs to the provider for office, travel/transport and telephone, education and training, supplies and services (clinical and general), as well as utilities such as water, gas and electricity.
D. Capital overheads	£3,717 per year	Based on the new-build and land requirements of community health facilities, but adjusted to reflect shared use of both treatment and non-treatment space (Building Cost Information Service 2015). <sup>9</sup> Capital costs have been annuitised over 60 years at a discount rate of 3.5%.
Total cost per annum	£68,289	Total cost per annum
Working time	41.7 weeks per year 37.5 hours per week	Unit costs are based on 1,575 hours per year: 225 working days minus sickness absence and training/study days as reported for all NHS staff groups. <sup>10</sup>
Ratio of direct to indirect time on:		No time use information is currently available for health visitors. However, assuming that a health visitor carries out the same number of home visits as a district nurse, a study by Ball & Philippou (2014) reported that band 6 district nurses spent 34% of their time on direct care and a further 21% of their time on care planning, assessment and coordination. Nineteen% of time was spent on admin, 14% on management, 11% travelling, with a further 1% on other duties. Based on the McKinsey report (2010), the median number of visits per day carried out by district nurses was 5.6 in 2008. No information is available on the duration of a visit.
Patient-related work	1:0.52	
Unit costs available 2014/2015		

<sup>7</sup> Health & Social Care Information Centre (2014) Information prepared for PSSRU from the Electronic Staff Records (ESR).

<sup>8</sup> Ibid

<sup>9</sup> Land costs researched for PSSRU by the Valuation Office Agency in 2013.

<sup>10</sup> Contracted hours are taken from working days and sickness absence rates as reported in (Ball)

organisation could employ only half as many health visitors as envisaged, or the skill mix would have to change, perhaps using less qualified staff. Either way, this would affect the planned service quality.

Using data from the NHS reference costs (Department of Health), the mean average cost for a face-to-face contact in health visiting services for 2014/2015 was estimated to be £54, with an interquartile range of £47 to £62. Costs have been uprated using the HCHS pay and prices inflator.

The second half of Table 1 shows the 'denominators'; the figures that the total cost is divided by to arrive at a unit cost, here based around a cost per working hour. These are nationally applicable unit costs so we use contracted working hours, rather than hours actually worked by any individual, and an 'average' breakdown of the their time might be spent (Department for Communities and Local Government 2013). Local working conditions may be very different, and this will then lead to a different unit cost. Note however, that despite the central role a health visitor plays in supporting young children, we have had to approximate their use of time.

Table 2 takes the same approach to estimate the cost of a child social worker, and is formatted is exactly the same way. Note, however, that the salary on-costs are a slightly higher proportion of salaries (30%) than for the health visitor. And the make-up of the overhead costs is slightly different, reflecting accounting procedures in the local authority, but overall they are a smaller proportion of salary costs than for health services; 45% and 61% respectively.

These tables show the type of information required to estimate unit costs using the PUCC. The information can be used to practice entering unit cost information, and checking results by comparing the PUCC calculation to the unit costs given here.

**Table 2: Social worker in children's services unit cost schema**

Costs and unit estimation	2014/2015 value	Notes
<b>A. Salary</b>	£30,645 per year	Information taken from the Local Government Earnings Survey 2013 showed that the mean basic salary for a social worker was £30,831. (Information provided does not distinguish between the salary of an adult and children’s social worker.)
<b>B. Salary on-costs</b>	£9,620 per year	Employer’s national insurance is included plus 20 per cent of salary for employer’s contribution to superannuation.(Thurley 2012)
<b>C. Overheads</b>		
<b>Direct overheads</b>	£11,572 per year	Direct overheads are estimated at 29 per cent of direct care salary costs. They include costs to the provider for administration and management, as well as for office, training and utilities such as water, gas and electricity.
<b>Indirect overheads</b>	£6,385 per year	Indirect overheads were 16 per cent of direct care salary costs. They include general management and support services such as finance and human resource departments.(Selwyn 2009; Glendinning 2010)
<b>D. Capital overheads</b>	£2,566 per year	Based on the new-build and land requirements for a local authority office and shared facilities for waiting, interviews and clerical support. (Building Cost Information Service 2015) <sup>11</sup> Capital costs have been annuitised over 60 years at a discount rate of 3.5 per cent.
<b>Total cost per annum</b>	£60, 788	Total cost per annum
<b>Working time</b>	41 weeks per year 37 hours per week	This includes 29 days annual leave and 8 statutory leave days and ten days for study/training. We have assumed 8.2 days sickness leave based on the median sickness absence level in England for all authorities.(Local Government Association) Unit costs are based on 1,516 hours per year.
<b>Ratios of direct to indirect time on:</b>		Ratios are estimated on the basis that 72 per cent of time is spent on client-related activities including direct contact and travel (26%), case-related recording (22%), case-related work in own agency (12%) and case-related inter-agency work (12%). A further 28 per cent of time is spent on other inter agency and sundry work (non-client-related.. See also Holmes et al.(2009) .
<b>Client-related work</b>	1:0.39	
<b>Unit costs available 2014/2015</b>		
<b>£40 per working hour; £55 per hour of client-related work</b>		

<sup>11</sup> Land costs researched for PSSRU by the Valuation Office Agency in 2013.



### Using the calculator

The PSSRU Unit Cost Calculator is delivered as a Microsoft Access database, including pre-loaded data entry forms, relevant queries and reports. This allows for data entry and retrieval, and unit cost calculation following the standardised PSSRU approach. We are greeted by the PUCC welcome page (Figure 2).



Figure 2: PUCC Welcome Page


Version 1.5, 20/01/2016

**PREVENTONOMICS**  
A Better Start - How will it pay?

**Preventonomics Unit Cost Calculator  
(PUCC)**

Enter new unit cost	Enter new intervention cost
Open unit cost report	Open intervention cost report
Export unit cost data to Excel	Export intervention cost data to Excel

   
LOTTERY FUNDED

 **PSSRU**  
Personal Social Services Research Unit

From here, six options are available:

- **Enter new unit cost:** This opens a data entry form. The unit cost calculator entry form for estimating the unit cost of a single professional closely follows the PSSRU unit cost volume schema.
- **Enter new intervention cost:** This opens a data entry form that allows users to enter information on participants, staff time involved and other resources used to provide an intervention to a cohort over several years.
- **Open unit cost report:** This opens an Access report showing sub-totals of the various cost categories, cost per hour and cost per hour of defined activity (i.e. incorporating the ratio of direct to indirect time) for all available entries and sorted by service category.
- **Open intervention cost report:** This opens an Access report showing standard outputs for intervention costs.
- **Export unit cost data to Excel:** Exports unit cost results to the Excel file “UnitCostExport.xlsx” in the sub-folder “exports”. A link to this file is provided in the main PUCC directory. Note that these data are not formatted for analysis using pivot tables.
- **Export intervention cost data to Excel:** Exports intervention cost data to the Excel file “InterventionCostExport.xlsx” in the sub-folder “exports”. These data are in a format amenable to pivot analysis, and linked to the file “PUCC pivot.xlsx” in the main PUCC directory. “PUCC pivot.xlsx” is set up for pivot analysis in a table and graph format in the tabs “Intervention cost table” and “Intervention cost graph”, respectively.

The Access-based options are described in more detail below. For an accessible introduction to working with Pivot tables, we recommend this tutorial: <http://www.excel-easy.com/data-analysis/pivot-tables.html>.

### Enter new unit cost

The entry form closely follows the PSSRU Unit Cost Volume schemas, but simplifies the data entry to allow for greater flexibility.

Each element of the form provides additional information on the information required when the mouse hovers over the element in question.

The first part of the form (Figure 3) collects information on the **Unit cost year** (financial year used for estimation; defaults to current year), and then categorises the professional / practitioner to be entered by **Service category**. The service category can be picked from a list or typed in. New categories are added to the existing list of service categories.

A job title for the member of staff should be entered into the **Professional** field. Examples are 'health visitor' or 'nurse'. It is also possible to note different full-time equivalent descriptors here (e.g. 'health visitor 80% FTE') to allow the relevant unit cost to be retrieved more easily.

Figure 3: PUCC unit cost entry, part 1

Calculate a unit cost for a single professional

Unit cost year

---

**1) Information on pay**

Service category

Professional

Grade of professional

Annual pay

FTE %

The selected service category also populates the **Grade of professional** field, if standard grading has been pre-entered into the calculator. Currently, this is the case for some NHS and Police grades (for illustration purposes only). Other grading schemes can be pre-entered into the calculator. This will be detailed in a technical appendix.

Where pre-entered grading is available, annual pay will be automatically selected once **Grade** is populated. Where no grading is available, **Annual pay** has to be entered manually. Only the pay relevant for superannuation and National Insurance payments should be entered here.

**Full time equivalent** (FTE) percentage can be indicated where staff do not work full time. Note that this is only necessary where the percentage of overheads and on-costs is different depending on FTE percentage. For example, if overheads are allocated on a per-person basis, rather than per full-time member of staff, it may be necessary to enter part-time staff separately. It is helpful to note the applied FTE percentage in the **Professional** field.

**Superannuation** and **National Insurance** are entered as GBP amounts or as a percentage of annual pay (see Figure 4). Note that whatever figure is typed in last is the one that is retained. Additional amounts relevant to the unit cost calculation (e.g. bonuses and other one-offs) can be logged in **Other staff costs**.



Figure 4: PUCC unit cost entry, part 2

2) Oncosts			
	<i>Annual amount</i>	<u>OR</u>	<i>Percent of pay</i>
Superannuation	<input type="text"/>		<input type="text"/>
National insurance	<input type="text"/>		<input type="text"/>
Other staff costs	<input type="text"/> £0		<input type="text"/> 0.00%

Next, the form deals with overheads (Figure 5). These are currently divided into

- Capital overheads and
- Non-capital overheads.

A further distinction is possible for non-capital overheads. The PUCC is pre-loaded with two distinctions that can be selected from the drop-down menu labelled “If not using defaults, pick distinction.” These reflect common distinctions found in the PSSRU unit cost volume:

- Direct vs indirect overheads and
- Staff vs non-staff overheads.

The PUCC is also pre-loaded with a few default overhead values for certain service categories. The drop-down menu labelled “Choose schema for default overheads” is populated automatically when a service category is selected above, and default values are available. Additional default values and overhead distinctions can be added by following the [description below](#).

There is also an option to enter total non-capital overheads instead. Further guidance on the costs that can usefully be included in each category can be found in the [section on overheads above](#).

Figure 5: PUCC unit cost entry, part 3

3) *Overheads*

Choose schema for default overheads.

If not using defaults, pick distinction.

	Annual amount	OR	Percent of pay
Capital overheads	<input type="text"/>		<input type="text"/>
Total non-capital overheads	<input type="text"/>		<input type="text"/>
Direct overheads	<input type="text"/>		<input type="text"/>
Indirect overheads	<input type="text"/>		<input type="text"/>

Note that all on-costs, other staff costs and overheads can be entered either as an annual amount or as a percentage of annual pay. The last figure entered by the user will be retained.

The final part of the form (see Figure 6) is concerned with working time, the divisor of the unit cost equation. Here, we enter **total annual working hours** (net of sick days, training etc. – these are actual hours worked). In addition, up to three **multipliers** can be defined. This is to denote the time that is spent on activities related to a task, *in addition* to each hour spent on that task. For example, for each hour spent with a client, a health visitor typically spends an additional 0.52 hours on administrative tasks (see Table 1). The multiplier to be entered in this case is 0.52.

Figure 6: PUCC unit cost entry, part 4

4) *Working hours*

Annual working hours

---

5) *Multipilers for specific activities*

Multiplier 1 

What is the unit of multiplier 1?

Multiplier 2 

What is the unit of multiplier 2?

Multiplier 3 

What is the unit of multiplier 3?

Submit entry

Clear form, start over

Finally, clicking the ***'Submit entry'*** button and confirming the action enters the data into the unit cost table, where it feeds into the unit cost report. Note that if the button is clicked but no data have been changed, this will result in an error message.

Below the submit button, we find the ***'Clear form, start over'*** button. This should be used before a new entry is started. However, where several very similar unit costs are to be entered, the information can be left in the form and only those parts that need to be amended can be changed before the form is submitted again. In this case, it is not advisable to clear the form.

### Example: Health visitor

The following table (Table 3) outlines the information to be entered to estimate the unit cost for a health visitor, based on schema 10.3 in the 2015 PSSRU unit cost volume. Make sure to clear the form before commencing.

**Table 3: Entering data on a health visitor**

Field	Value to be entered	Notes
<b>Unit cost year</b>	2015	The unit cost volume covers the financial year 2014-15.
<b>Service category</b>	NHS	
<b>Professional</b>	Health visitor	
<b>Grade of professional</b>	6	Note that the information presented in the Unit Cost volume is based on an average banding rather than an actual pay point, which had to be added to the grading scale (table: NHS_AfC).
<b>Annual pay</b>	£31,914	Mean full-time equivalent basic salary for AfC band 6.
<b>FTE %</b>	100%	In the unit cost volume, unit costs are calculated based on 100% FTE.
<b>Superannuation</b>	£4,468	14% of salary
<b>National insurance</b>	£3,306	£7,774-£4,468 (total salary oncost from unit cost volume section B minus superannuation above)
<b>Other staff costs</b>	£0	Not that this field cannot be left empty. The default value is therefore set to £0.
<b>Capital overheads</b>	£3,717	From unit cost volume, section E.
<b>Non-capital overheads</b>	£24,884	£9,723+£15,161; sum of items in section D.
<b>Annual working hours</b>	1,564	41.7 weeks per year * 37.5 hours per week
<b>Multiplier 1</b>	0.52	For each hour of client-related time, there is approximately half an hour of indirect time to be added.
<b>What is the unit of multiplier 1?</b>	Client-related time	In the unit cost volume, this is referred to as "Patient related work", but we have generalised this to "Client-related time".



## Opening and reading the unit cost report

The unit cost report is opened by clicking the 'Open unit cost report' button on the navigation page.

The report includes one page per professional / practitioner entered into the database. The first five fields (following the unique 'ID' field) identify the year for the unit cost, and the professional (service category, professional name, grade and FTE percentage).

The report then sums total salary costs (annual pay, superannuation, National Insurance and other staff costs), total overheads (capital and non-capital overheads), and total annual costs (salary costs plus overheads).

The next report field shows the cost per 'plain vanilla' professional time ("per hour"), as well as time per hour of activity that is subject to a multiplier. In our example of the health visitor, we have the cost of an hour of client-related activity, which includes one hour of working time plus about a half hour of time spent on additional activities. While the cost per working hour is £44, the cost per client-related hour is therefore  $£44 * 1.52 = £66$ .

## Calculating unit costs for multi-professional interventions

This facility allows for calculation of unit costs for interventions and services provided by multiple professionals, and with additional resources. Note that - for example - an intervention that is delivered by a single health visitor, but that includes external room rentals or additional materials would be costed using this facility.

***Please also note that all staff involved in the intervention need to be entered individually through the 'Enter new unit cost' form first!***

The costs calculated here emphasise a 'cohort' idea. Intervention ***costs for a cohort starting the intervention in year one*** are incurred over one or several years. Participants starting the intervention in year two (or, if applicable, a second cohort starting in year one) would form a separate cohort, and a new intervention cost would be calculated for them. This is to ensure measures of effectiveness match up with resources used to provide the intervention.

### Start-up form

Again we find ourselves facing the PUCC welcome page (Figure 1). This time, we click on 'Enter new intervention cost' and are taken to the form headed 'Costing multi-professional interventions'.

### Enter new intervention cost

The top section of this form (Figure 7) collects information on the ***Year*** of the unit cost (defaults to the current year), the ***Intervention name*** and a ***Description*** of the intervention. Record any details you consider important here. This may include your definition of take-up,

or what you consider to be delivery as intended by your model or service design. Note that this information will be also useful for those looking at the database or your reports without necessarily knowing much about your interventions.

**Figure 7: PUCC Intervention costing, part 1**

**Costing multi-professional interventions**

ID (auto)

Intervention name

Unit cost year

Intervention description

The next section collects information on participant numbers and details on the sessions provided as part of the intervention (Figure 8). ***These data need to be collected as part of your local evaluation efforts.***

**Figure 8: PUCC Intervention costing, part 2**

**Participant numbers**

Eligible population

Recruited to intervention

Successfully enrolled

Take-up

Retention

Completers

Completers as per model

**Session information**

	All participants	Participants completing 'per model'
Average # sessions attended	<input type="text"/>	<input type="text"/>
Average duration of sessions	<input type="text"/>	<input type="text"/>
Average number of attendees per session	<input type="text"/>	

The terms used to identify the different participant numbers is based on a consensus discussion with the areas receiving 'A Better Start' funding. As a result, these terms may not necessarily apply to interventions in other contexts. Note that all numbers should be based

on the same 'index', i.e. if the eligible population is identified in terms of families, all following figures should also be in terms of families. In this document, they are understood as follows:

- **Eligible population:** The number of families, children, parents eligible to receive the intervention being costed, within a specified area (e.g. ward).
- **Recruited to intervention:** Those referred or recruited to the intervention. This is a sub-set of the eligible population. Note that this is a key number that is used to calculate unit costs.
- **Successfully enrolled:** Those successfully enrolled to the intervention, having previously been referred or recruited. A difference between these two figures (recruited vs enrolled) may arise if a potential participant has been referred in error, i.e. turns out not to be eligible.
- **Take-up:** This is the number of those who were enrolled who actually take up the intervention. ***Note that it is necessary to define what constitutes 'take-up' for each intervention!*** This is a key number that is used to calculate unit costs.
- **Retention:** This is the number of participants who not just take up the intervention, but continue to attend. Again, ***the precise meaning of 'retention' has to be defined for each intervention.*** This field may not be applicable for interventions or services with only one contact.
- **Completers:** Those who take up the intervention and are still participating when the intervention comes to an end. As before, this category may not apply to all interventions or services, and ***the meaning needs to be defined for each intervention.*** Again, this is a key number that is used to calculate unit costs.
- **Completers as per model:** This slightly laborious term means that participants completed the intervention as intended by the intervention model or protocol, or by the service design. Once more, ***this will vary by intervention and needs to be explicitly defined.***

Next to this, we find a section inviting us to enter some details on the intervention. The average number of sessions attended can be entered for

- a) All participants
- b) Only those participants who completed the intervention 'per model'

Similarly, the average duration of sessions can be entered for these two groups. ***Note that these numbers may or may not differ!*** If they do not differ, please enter the same figures for both groups.

Finally, please enter the average number of attendees for each session. This needs to be entered in the same unit used in the '**Participant numbers**' section.

Once these sections are completed, we turn our attention to resources used to provide the intervention. In terms of the Access database, this means that we are now leaving the main form, and entering a sub-form. Upon exiting the main form, the form will be automatically saved and a unique ID for our intervention is created.

The next section of the form (Figure 9) allows us to enter information on

- Staff resources and
- Other resources.

***There resources are linked to the year they are incurred. Note that the base year is year 1. Resources used in future years are discounted using the rate recommended by HM Treasury (3.5% per year).***

This is done for each 'phase' of the intervention:

- **Design:** The process of designing or modifying the intervention. This also includes work with the community in this phase, and is likely to be particularly interesting for 'science based' and innovative interventions. Please note that the costs of the design phase will be reported separately.
- **Recruitment:** Any activity or resources needed to engage participants with the intervention or service.
- **Training and preparation:** Activities that are related to making sure the intervention can be delivered. This may include planning and other preparations.
- **Delivery:** The main intervention activities are recorded here.
- **Feedback:** A mirror of the 'training and preparation' phase. This may include discussions about how the intervention went, or any other activities that are necessary following the intervention or an intervention session.
- **Volunteer involvement:** While not technically an intervention phase, volunteer contribution are an important part of many initiatives. Any resources associated with recruiting, training and managing volunteer contributions should be recorded here.

Let's look at each section in more detail. First, the personnel involved in providing the intervention will be entered.

The intervention phase corresponds to the active tab above and will auto-populate. Occasionally, it may be necessary to click into the text box to achieve this. This is indicated by the text "Click me.". Please do.

Next, the unit cost for the staff member in question will be pulled from the unit cost database. Each staff member is uniquely identified by **service category**, **staff title** (from the field 'Professional' on the unit cost form), **Grade** and **FTE percentage**. 'Staff ID' will auto populate. If you are unsure whether you have selected the correct staff member, this ID can

be used to check in the unit cost database. Finally, the number of hours the staff member contributed to the intervention phase in question is entered.

Once this information is complete, another staff member can be entered (for this phase) by clicking on the 'Enter next staff member' button.

If all staff members for the phase have been entered, the next section on other resources can be completed.

**Figure 9: PUCC Intervention costing, part 3**

The screenshot displays the 'Enter staff resources for the relevant intervention phase' section. It features a table with the following columns: Intervention Phase, Select agency, Select staff, Select grade, Staff ID, Year incurred, and Hours this phase. The first row is highlighted in blue and contains the text '\* Click me.' in the first column and '1' in the last column. Below this table is a section titled 'Enter other resources for the relevant intervention phase', which contains a similar table with columns: Intervention Phase, Select agency paying, Type of cost, Year incurre, and Amount. The first row of this table is also highlighted in blue and contains the text '\* Click me.' in the first column and '1' in the last column.

'Intervention phase' is again automatically populated upon click. The **Agency paying** the cost for the resource is selected. Note that this is linked to the list of service categories / agencies from the unit cost database. Then, the type of cost or cost category is selected from

- **Training:** Training fees or similar.
- **Travel:** Travel associated with the intervention. This does not include the time spent by staff members travelling.
- **Materials:** Any materials used in the intervention phase.

- **Rooms:** Room charges or similar that are additional to the agencies 'normal' room use. For example, this might include a rental fee for a community centre space, but exclude use of a room the agency owns or rents on an ongoing basis – this is already captured by overheads.
- **Other:** Any other costs or expenses associated with the intervention phase.

Once data entry for a phase is complete, clicking on the next tab at the top of the form section will take the user to the data entry form for that phase.

When data entry is completed for all intervention phases, clicking '**Submit intervention entry**' to the right of the form will submit the intervention information. As with the unit cost entry form, clicking the '**Clear form, start over**' button re-sets the form. ***Note that this needs to be clicked, otherwise a previous entry may be overridden.***

## Opening and reading the intervention cost report

The intervention cost report is accessed through the start-up form. It shows the intervention ID, name and description as well as the base year for costs.

The next section displays the number of eligible participants or families, and the percentage of the eligible population recruited to the intervention, the percentage successfully enrolled, and the percentage who actually take up the intervention.

Next to this, we see the number of participants or families who take up the intervention. Note that this number corresponds to take-up as a percentage of the eligible population. The following percentages are based on the number of participants who take up the intervention:

- **Percentage retained:** Defined as not dropping out (as per definition of drop-out for this intervention or service). Note that this population does not necessarily complete the intervention – but this depends on your specific definition of retention and completion.
- **Percentage completed:** This includes anyone completing the intervention, as per your definition of completion.
- **Percentage per model (of all completers):** This is the percentage of completers (above) who completed the intervention as intended by the service model or service design. Note that depending on your definitions, this may or may not be 100% of completers.

The intervention cost report also shows the following costs (as present value, unless stated otherwise):

- **Cost per recruit:** This is a cost per participant recruited. The figure is particularly informative for interventions with low take-up.
- **Take-up:** The cost of the intervention (excluding recruitment) divided by the number of participants who successfully take up the intervention. This is equivalent to an 'intention to treat' basis in a clinical trial.
- **Participant completing intervention:** The cost of the intervention (excluding recruitment) divided by the number of participants completing the intervention, according to the applicable definition of completion.
- **Participant completing intervention as per model / service design:** The cost of the intervention (excluding recruitment) divided by the number of participants completing the intervention as prescribed by the intervention model or the service design specifications, and according to the applicable definition of completion.
- **Cost of the design process:** This is a total cost and not attributed to participants.
- **Total cost of the intervention:** This is shown as present value and total amount without discounting.

**Note:** The cost of recruitment should be added to the cost per participant taking up and completing the intervention to arrive at a full cost.

The next PUCC section shows the intervention cost by agency, phase, cost category and year incurred. Note that these figures are given as total amount and present value.

## 4) Technical appendix

### Annual user updates

#### Updating default values for overheads

We encourage users of the PUCC to record and enter overhead figures specific to their agencies. However, where this is not possible, users may wish to draw on default values or percentages from the PSSRU *Unit Costs of Health and Social Care* volumes. Here we provide a selection of default values and their sources for the NHS and Social Services (see Table 4). These are currently integrated into the PUCC. Note that these values need to be updated annually. This is achieved by adding new information to the table *tblDefaultOH* and requires information on the overhead classification / distinction (for non-capital overheads), the value of overheads (expressed as annual amount or percentage of annual pay), and the year to alongside the agency and type of service or staff member to which they apply.

#### Updating default pay scales

Default pay scales (e.g. Agenda for Change pay bands) need to be updated annually. It is also possible to enter historical data. The relevant tables can be found in the section '**02 Tables for user update**' in the Access database. This currently contains

- *tblNHS\_AfC*: Agenda for Change pay bands up to grade 7 inclusive. Note that the 'Current\_year' field refers to the year the scales came into effect. For example, 2014 refers to scales covering April 2014 to March 2015. Figures are basic pay and do not include any uplifts.
- *tblPolice\_grades*: National police pay. **Note that this should be amended to reflect local pay, and does not currently include any uplifts or local agreements.**

Using Agenda for Change as an example, the table includes:

- ID: A unique ID for each entry. This should not be amended by users.
- Current\_year: The year of the relevant unit cost.
- NHS\_grade: The AfC grade. This is a text field to allow customisation.
- NHS\_pay: The annual salary amount associated with each pay grade.

Currently, entries are available for 2014 and 2015, i.e. the 'Current\_year' variable is set to either '2014' or '2015'. To enter data for 2016, the user should simply go to the first empty data field and proceed to enter the new data. For 2016, this would mean setting current year to 2016, inserting the AfC grades (note that this means these would be two identical entries for each grade, e.g. 1.1 would appear twice in the 'NHS-grade' field). Then, the user should enter the annual salary associated with each grade in 2016. Once this is done, the table should be saved. The information on AfC grades and pay will now be available to users when entering unit costs using the unit cost form.



**Table 4: Default values for overheads from 2014 and 2015 PSSRU unit cost volumes**

Agency	Type of service / staff member	Overhead classification	Amount or percent of salary 2014	Amount or percent of salary 2015	Unit cost schema
<b>NHS</b>	Community-based health care	Management, administration and estates staff ("Staff overheads")	19.31% of direct care salary costs	24.5% of direct care salary costs	2014: e.g. 9.1 Community physiotherapist
		Non-staff overheads	41.97% of direct care salary costs	38.2% of direct care salary costs	2015: Chapter 9
		Capital overheads	£4,338 (fixed amount)	£4,370 (fixed amount)	
<b>NHS</b>	Community nurses; CAMHS	Staff overheads	19.31% of direct care salary costs	24.5% of direct care salary costs	e.g. 10.1 Community nurse
		Non-staff overheads	41.97% of direct care salary costs	38.2% of direct care salary costs	or 10.3 Health visitor
		Capital overheads	£3,687 (fixed amount)	£3,718 (fixed amount)	or 12.6 Generic single-disciplinary CAMHS team
<b>Social services</b>	Community-based social care	Direct overheads	29% of direct care salary costs	29% of direct care salary costs	e.g. 11.1 Social work team leader
		Indirect overheads	16% of direct care salary costs	16% of direct care salary costs	
		Capital overheads	£2,452 (fixed amount)	£2,566 (fixed amount)	
<b>NHS</b>	Hospital-based health care	Staff overheads	19.31% of direct care salary costs	20.9% of direct care salary costs	e.g. 13.1 Hospital physiotherapist
		Non-staff overheads	41.97% of direct care salary costs	48.9% of direct care salary costs	
		Capital overheads	£5,767 (fixed amount)	£6,179 (fixed amount)	

## Adding default values

Default values for unit cost calculation can be added in the code for the unit cost form (frmUnit\_costs) using the code builder.

### Additional default overhead values

Default overhead values can be implemented by adding code to the cboOHcategories *AfterUpdate* event. Follow these steps:

- Add the desired distinction to the table *tblOHtypes* under 'Tables for user update'. This distinction should have two categories.
- Add the information on default overheads to the table *tblDefaultOH* to create a new set of default values that can be selected from the unit cost form.
- Add the following code:

```
Elseif Me.cboOHcategories = "Distinction" Then
```

```
Me.lbNonCapOH1.Caption = "Category 1"
```

```
Me.lbNonCapOH2.Caption = "Category 2"
```

### Additional default pay scales

Additional default pay scales need to be added to the cboServCat *AfterUpdate* event and the cboYear *AfterUpdate* event. The format is as follows:

```
Elseif Me.cboServCat = "ServiceCategoryName" Then
```

```
Me.cboGrade = ""
```

```
Me.txtPay = ""
```

```
Me.cboGrade.RowSourceType = "Table/Query"
```

```
Me.cboGrade.RowSource = "qryServiceCategoryPay"
```

ServiceCategoryName: Replace with service category that corresponds to a selectable value in the Service category combo box (cboServCat) on the unit cost form.

qryServiceCategoryPay: Replace with a newly generated query of the following format:

```
SELECT [tblCategory_grades].Category_grade, [tblCategory_grades].Category_pay  
FROM tblCategory_grades  
WHERE [tblCategory_grades].Current_year=Forms!frmUnit_costs!cboYear  
ORDER BY [ID];
```

Note that this means a table has to be created (under 'Tables for user update') that includes the following variables:

- ID
- Current\_year
- Category\_grade
- Category\_pay

See tblNHS\_AfC and tblPolice\_grades for examples.

### **Suggested periodic exports**

The following data tables should be saved externally to ensure data are not lost should the Access database be corrupted.

#### **Tables storing unit cost data**

tblUnit\_costs

tblInterventions

tblOtherCosts

tblStaffCosts

#### **Tables related to default overheads**

tblDefaultOH

tblOHcount

tblOHtypes

#### **Tables related to default pay scales**

These are currently:

tblNHS\_AfC

tblPolice\_grades

Note that if additional pay scales are added, these should also be saved externally.

## Overview of Access database elements

The structure of the database can be found in the navigation pane to the left of the screen:

- **Navigation:** Easy access to the navigation form.
- **Reports:** Pre-loaded reports to enable easy extraction of relevant data.
- **Data entry forms:** These enable guided user input. As the start-up form welcomes users on opening the database and guides them through the interaction, these forms do not need to be opened by users directly.
- **Tables for user update:** These contain data that can / should be updated and amended by users on approximately an annual basis, using local data. In v0.2, this includes NHS Agenda for Change grades and associated pay, and police grades and pay.
- **Data tables:** Receive data through forms, but can also be manipulated directly by users if batch entry is preferred.
- **Queries (unit costs OR intervention costs):** These are the basic queries used to generate the data outputs for the PUCC. Users can add additional queries. Care should be taken not to change the existing queries, as this may affect the PUCC output.
- **Sub-forms:** Forms within forms.
- **Sub-reports:** Reports within reports. Usually linked to a specific query.
- **Hidden treasure:** This contains underlying lists etc. that do not need to be amended by the user.

***It is advisable to leave pre-loaded table structures, forms and queries as they are. Users may choose to add custom queries instead of changing existing ones. Please note that the authors of the PUCC accept no responsibility for user-derived results which do not use our in-built calculations and assumptions.***

The following table lists all elements of the Access Database, the category where they can be found, their type and a brief description of their function. User-generated elements should be added to the documentation.

**Table 5: Elements of the Access database**

Name	Category	Type	Function
<b>frmNavigation</b>	Navigation	Form	User selection.
<b>Intervention cost report</b>	Reports	Report	Intervention cost report for print-out (entire database).
<b>Unit cost report</b>	Reports	Report	Unit cost report for print-out (entire database).
<b>sbrprtCostYear</b>	Sub-reports	Report	Part of intervention cost report: Costs by year incurred.
<b>sbrprtAgencyCosts</b>	Sub-reports	Report	Part of intervention cost report: Costs by agency funding.
<b>sbrprtCostCategories</b>	Sub-reports	Report	Part of intervention cost report: Costs by cost category.
<b>sbrprtDesignCost</b>	Sub-reports	Report	Part of intervention cost report: Cost of design phase only.
<b>sbrprtParticipants1</b>	Sub-reports	Report	Part of intervention cost report: Participant percentages based on number recruited.
<b>sbrprtParticipants2</b>	Sub-reports	Report	Part of intervention cost report: Participant percentages based on number retained.
<b>sbrprtPhaseCosts</b>	Sub-reports	Report	Part of intervention cost report: Costs by intervention phase.
<b>sbrprtTotalCosts</b>	Sub-reports	Report	Part of intervention cost report: Total intervention costs (amounts and PV).
<b>sbrprtCostPerPerson</b>	Sub-reports	Report	Part of intervention cost report: Intervention cost by recruited, take-up, completed (PV).
<b>frmIntervention_costs</b>	Data entry forms	Form	User entry: Multi-professional interventions.
<b>frmUnit_costs</b>	Data entry forms	Form	User entry: Unit costs of single professionals.
<b>tblDefaultOH</b>	Tables for user update	Table	Default overhead values. User can add.

<b>tblNHS_AfC</b>	Tables for user update	Table	NHS Agenda for Change pay scales. User can add.
<b>tblOHcount</b>	Tables for user update	Table	Overhead currency: amount vs percent of pay. User can add.
<b>tblOHtypes</b>	Tables for user update	Table	Overhead distinctions. User can add.
<b>tblPolice_grades</b>	Tables for user update	Table	Police pay scales. User can add.
<b>tblInterventions</b>	Data tables	Table	Intervention information (participants etc.), entered through frmIntervention_costs.
<b>tblOtherCosts</b>	Data tables	Table	Intervention information (non-staff costs), entered through frmIntervention_costs.
<b>tblStaffCosts</b>	Data tables	Table	Intervention information (staff costs), entered through frmIntervention_costs.
<b>tblUnit_costs</b>	Data tables	Table	Unit cost information, entered through frmUnit_costs
<b>qryNHSpay</b>	Queries (unit costs)	Query	Auto-populates relevant field in frmUnit_costs with NHS pay information.
<b>qryOH_defaults</b>	Queries (unit costs)	Query	Auto-populates relevant field in frmUnit_costs with default overhead information.
<b>qryPolicePay</b>	Queries (unit costs)	Query	Auto-populates relevant field in frmUnit_costs with police pay information.
<b>qryUCreport</b>	Queries (unit costs)	Query	Generates unit cost report for print.
<b>qryAgencyCosts</b>	Queries (intervention costs)	Query	Costs by agency, for intervention cost report.
<b>qryCostcatCosts</b>	Queries (intervention costs)	Query	Costs by cost category, for intervention cost report.
<b>qryCostYear</b>	Queries (intervention costs)	Query	Costs by year incurred, for intervention cost report.
<b>qryDesignCost</b>	Queries (intervention costs)	Query	Cost of the design process, for intervention cost report.
<b>qryIntCoTotals</b>	Queries (intervention costs)	Query	Total cost of intervention (amount & PV), for intervention cost report.
<b>qryPerIntCosts</b>	Queries (intervention costs)	Query	Cost per participant recruited, taken up, completed in PV, for intervention cost report.

<b>qryNonRecruitCosts</b>	Queries (intervention costs)	Query	Cost other than recruitment (to calculate cost per participant taken up and completed).
<b>qryOtherCosts</b>	Queries (intervention costs)	Query	Non-salary costs of interventions
<b>qryParticipants</b>	Queries (intervention costs)	Query	Participants and percentages retained, for intervention cost report.
<b>qryPerRecruitCost</b>	Queries (intervention costs)	Query	Costs per participant recruited, for intervention cost report.
<b>qryPhaseCosts</b>	Queries (intervention costs)	Query	Costs by intervention phase, for intervention cost report.
<b>qryRecruitCost</b>	Queries (intervention costs)	Query	Cost of recruitment (to calculate cost per participant recruited).
<b>qrySalaryCosts</b>	Queries (intervention costs)	Query	Salary costs, for intervention cost report.
<b>qrySelectProf</b>	Queries (intervention costs)	Query	Select professional from unit cost database.
<b>qryAllCosts</b>	Queries (intervention costs)	Union query	Union query: Combines staff and other intervention costs.

## Changes from previous versions

**Version 1.0:** First release version.

**Version 1.1:** Updated with feedback from version 1.0. Changes to format of intervention costing data entry form, changes to reports. Addition of default values for overheads to the unit cost data entry form.

**Version 1.2:** Updated with 2015 default overhead values and pay scales.

**Version 1.5:** Various additions and fixes: Addition of “Volunteer involvement” category for intervention costs. Addition of exports of unit cost reports and intervention data for pivot tables. Fixed error in bound column for “Year incurred” value of intervention costs that was causing an issue with discounting. Minor design changes.



## Bibliography

- Ball, Jane; Philippou, Julia; Pike, Geoff; Sethi, Jacqueline. 2014. "Survey of district and community nurses in 2013: Report to the Royal College of Nursing." In. London: NNRU.
- Beecham, Jennifer. 2000. *Unit costs: not exactly child's play. A guide to estimating unit costs for children's social care* (PSSRU, the Department of Health and Dartington Social Research Unit).
- Building Cost Information Service. 2015. "Surveys of Tender Prices." In. London: Royal Institute of Chartered Surveyors.
- Department for Communities and Local Government. 2013. "Local government earnings survey 2013/2014." In, edited by Department for Communities and Local Government. London: The Stationery Office.
- Department of Health. 2015. "NHS Reference Costs 2013 to 2014." In.: Department of Health.
- Glendinning, Caroline; Jones, Karen; Baxter, Kate; Rabiee, Parvaneh; Curtis, Lesley A.; Wilde, Alison; Arksey, Hilary; Forder, Julian E. 2010. "Home Care Re-ablement Services: Investigating the longer-term impacts (prospective longitudinal study) " In. York: Social Policy Research Unit, University of York.
- HM Treasury. 2002. "The Role of the Voluntary and Community Sector in Service Delivery: A Cross Cutting Review." In. London: HM Treasury.
- Holmes, Lisa; McDermid, Samantha; Jones, Anna; Ward, Harriet. 2009. "How Social Workers Spend Their Time: An Analysis of the Key Issues that Impact on Practice pre- and post Implementation of the Integrated Children's System." In.: Centre for Child and Family Research, Loughborough University.
- Local Government Association. 2014. "Local Government Workforce Survey 2012/13." In. London.
- McKinsey and Co. 2010. "Achieving world-class productivity in the NHS, 2009/10-2013/14: The McKinsey report." In, edited by Department of Health. London: Department of Health.
- Selwyn, Julie; Sempik, Joe; Thurston, Peter; Wijedasa, Dinithi. 2009. "Adoption and the Inter-agency Fee." In. Bristol: University of Bristol.
- Thurley, Djuna. 2012. "Local Government Pension Scheme, 2010 Onwards." In, edited by Business and Transport Section. London.

# PSSRU

Personal Social Services Research Unit



LOTTERY FUNDED