



CLG Supporting People financial benefits model documentation and user guide



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Tom Ashton and Claire Hempenstall

Capgemini UK plc

July 2009

Department for Communities and Local Government: London

Department for Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 020 7944 4400
Website: www.communities.gov.uk

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July 2009

Product Code: 09HCS06000/1

ISBN: 9 781 4098 1605 8

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1. Summary

1.1 Purpose of this document

The purpose of this document is to explain the logic behind, and form a user guide for, the SP financial benefits model built by Capgemini for the Department for Communities and Local Government (CLG).

The document's target audience is users from local authorities who wish to become familiar with the model so that, on an ongoing basis they can

- update the data it contains and
- easily read and interpret its output.

There is a separate user guide for users from CLG, as users at this level have different editing rights than users at local authorities.

1.2 Structure of the document

The document splits into three principal sections.

Section 2, "Model purpose and logical structure", explains the purpose of the model, and its logical structure. It describes the concepts and ideas in use in the model, and the logic on which it is based. It explains terms used throughout this document and the spreadsheet model.

Section 3, the "Quick start guide", explains how to update the model with local data and interpret the output it produces.

Section 4, "The spreadsheet" explains the way in which the model has been implemented in the spreadsheet.

NOTE: Section 3 ("Quick Start guide") is intended to provide guidance on how to enter your data and interpret the results without needing to know the detail about the workings of the model outlined in Section 4 ("The spreadsheet"). However, it is recommended that you read Section 2 ("Model purpose and logical structure") before using the model, as it gives a high level overview of how the benefit is calculated that is vital in understanding the output.

2. Model purpose & logical structure

2.1 Model purpose

The model is designed to calculate an approximate estimate, for each client group, of the financial benefits of Supporting People (SP) funded services. It does this by considering two alternative scenarios; a baseline scenario where clients in the group are supported with packages that involve Supporting People funding – and a counterfactual scenario, where clients are supported with packages that do not involve Supporting People funding.

Because, typically, not using Supporting People services results either in the use of more expensive support packages or support packages that expose clients to risks (such as the risk of prolonged hospitalisation) that carry costs, the cost of support under the baseline scenario is typically lower than that under the counterfactual scenario. The difference is the “net benefit” of the Supporting People services; and this is the benefit that the model calculates.

2.2 Description of logical structure

The model is based on some straightforward principles.

1. All client groups are modelled in a similar way to each other. The modelled groups are a subset of those presently receiving SP funding, and account for a majority of the overall SP funding.

There are a number of client groups that have not been modelled, as they represent a small portion of overall SP spend. These are Rough Sleepers, Refugees, People with HIV/AIDS, Travellers and the ‘Generic’ client group. There is a facility within the model which allows CLG to model these remaining client groups in the future, should they wish to do so.

2. The primary data driving the model, for each client group, are

Support package basic cost and event cost data

- **Set of packages:** A set of alternative support packages that could be used for the client group.
- **Basic cost (for each support package):** The household unit cost associated with the basic support package. This should be the complete cost of supplying that package to a client household, but should not include the cost of chance events that will happen to a client household receiving that package.

- **Event cost (for each support package):** The average (or expected) household unit cost associated with events that will happen to a client household receiving the package. These events are usually random events (such as being taken to Accident & Emergency); their probability will depend on the particular package.

Scenario data

- Details of two scenarios, a baseline and a counterfactual. In each scenario, proportions of people in the base client group are allocated to the different service packages.
3. The intention is that the model be used with
- a baseline scenario where 100% of clients receive the arrangement that they currently receive, i.e. a service package that includes a SP component.
 - a counterfactual scenario where clients are allocated to different support packages in a set of proportions that add to 100%. None of these packages involves a SP component. So for example, a counterfactual scenario for a group of older people currently receiving SP services might involve 80% of them receiving a similar arrangement to that which they currently receive but without the SP component, and 20% of them receiving nursing care.
4. The model output consists of

Scenario total costs

These are:

- The baseline scenario total cost; which is the sum of the basic package and event costs for every client household in the client group, under the baseline scenario, and
- The counterfactual scenario total cost; which is the sum of the basic package and event costs for every client household in the client group, under the counterfactual scenario.

Benefits

- The benefit provided to the client group by SP services is equal to
 - The cost of supporting the client group without SP services available *minus* the cost of supporting the client group with SP services available

Or equivalently

- The counterfactual scenario total cost *minus* the baseline scenario total cost.

It should be noted that there may be cases where a financial benefit is negative. This does not mean that service provision for that client group is without overall benefit; there are benefits provided by SP services that do not appear as differences in costs between support scenarios. An example of this is the long term benefit of reduced social exclusion for Teenage Parents.

5. To get to the scenario total cost, the model must do the following for each client group:
 - Calculate the package event cost, using information about the probabilities of events to calculate the cost of each event.
 - Calculate the basic package costs
 - Add the package event and basic package costs to get the total cost
 - Calculate the total scenario cost for each scenario, by using the percentages allocated to each package in both scenarios

This is described diagrammatically in the next section.

For reference, some of the terms introduced in the above are defined in the glossary at the end of this document.

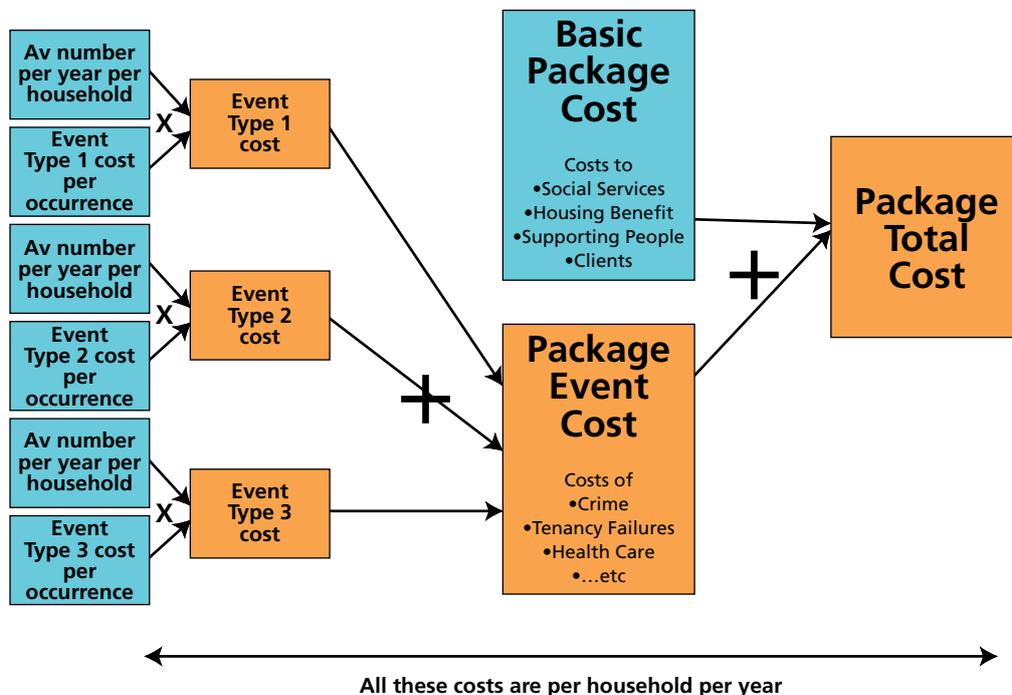
2.3 Diagrammatic representation

2.3.1 Scope of this section

This section contains no information additional to that already covered in section 2. However, for a model user who prefers to work with visual aids, it may help with understanding

2.3.2 Calculation of package event cost and total package cost for a client group.

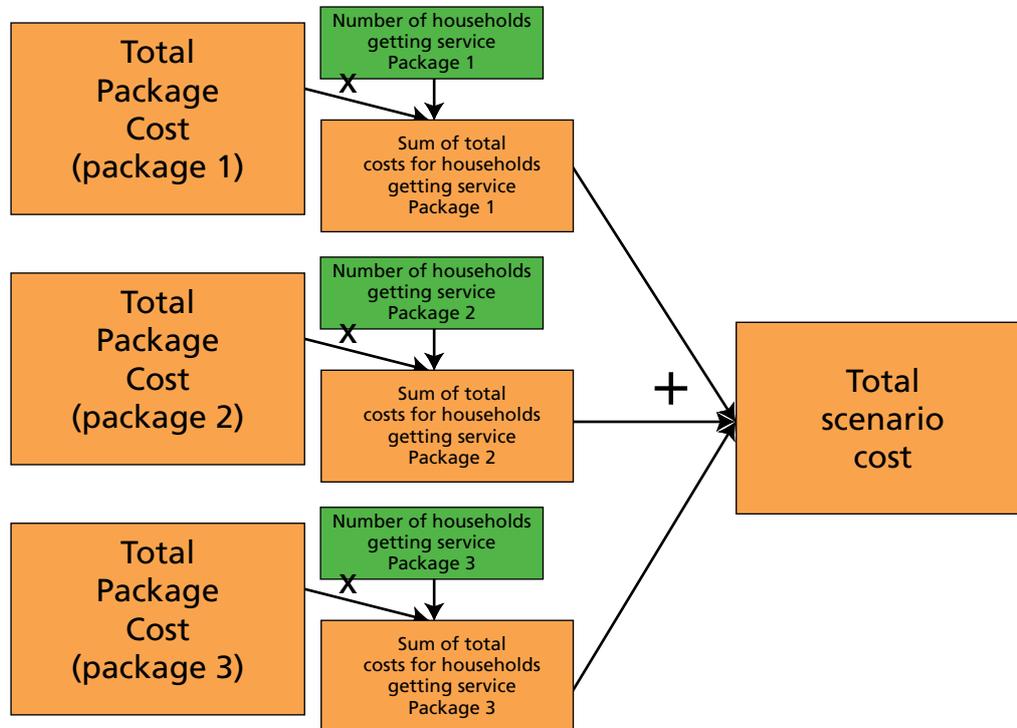
For a support package received by a client group, the total package cost is made up of the *basic package cost* and the *package event cost* as shown below.



To see what the above might mean in practice, consider the example of a package involving residential care for an older person. The basic package cost is the cost of the residential care and other directly related costs such as any nursing or day care they require. The event cost is the expected cost of random events such as admission to A&E (which might be event type 1), staying in hospital (which might be event type 2), etc.

2.3.3 Calculation of scenario total cost for a particular client group

The *Total scenario cost* is calculated using the total cost of all the packages of support provided to the whole client group:



As an example, in the above diagram, the packages for a group such as older people in very sheltered accommodation might be:

Package 1: The existing SP arrangement of very sheltered accommodation with SP services.

Package 2: The existing arrangement but with the SP service element removed. (So very sheltered accommodation, but no SP services alongside it).

Package 3: A package comprising of residential care.

Both the baseline and counterfactual scenarios are based on this diagram. In the baseline scenario, the number of households getting service packages 2 & 3 are both zero, and all households get package 1. In the counterfactual scenario, on the other hand, the number of households getting service package 1 is zero, and the number of households getting service packages 2 & 3 are computed using percentages of the total number of households as discussed later in this document.

2.4 Difference between the national and local versions of the model

All the data in the model has been researched either by CLG, or by contractors on their behalf, and entered using published data and assumptions from relevant stakeholders.

At a national level, all the inputs into the model are editable.

At a local level, these inputs are all visible in the model, but only *some* are editable, namely the local client numbers, local SP spend figures and residential, housing and some social services and nursing care costs (if local data is available). If the user attempts to edit any other data, a message will appear to alert them that that cell is protected and therefore read-only.¹

¹ Note that the local user is only able to edit *some* of the model data that can be edited at a national level. The locally enterable data has been chosen after extensive consultation to define which information is best decided at a national level (e.g. assumptions about SP reduction of occurrences of various events) and which can be edited at a local level to give a clearer picture of the benefits in your particular area

3. Quick Start guide

3.1 Creating a safe version

When the model is opened for the first time, you will be prompted to save two versions of it. This is to ensure that you have a 'safe copy', which allows you to refer back to the national version of the model at any time, and another copy, which you can use as the basis for your local model.

NOTE: Each time you open the model, you may get a security warning saying that the spreadsheet contains macros, depending on your Excel macro security settings. If this message appears, select 'Enable Macros' each time.

NOTE: The model hides some Excel toolbars each time it is opened in order to protect the model from inappropriate use. It hides the Pivot Table, Drawing, Reviewing and Control Toolbox toolbars. This will affect Excel when you open other Excel files. To get these toolbars back when you are working on other Excel documents, go to View > Toolbars and select the ones you want.

3.2 Model navigation

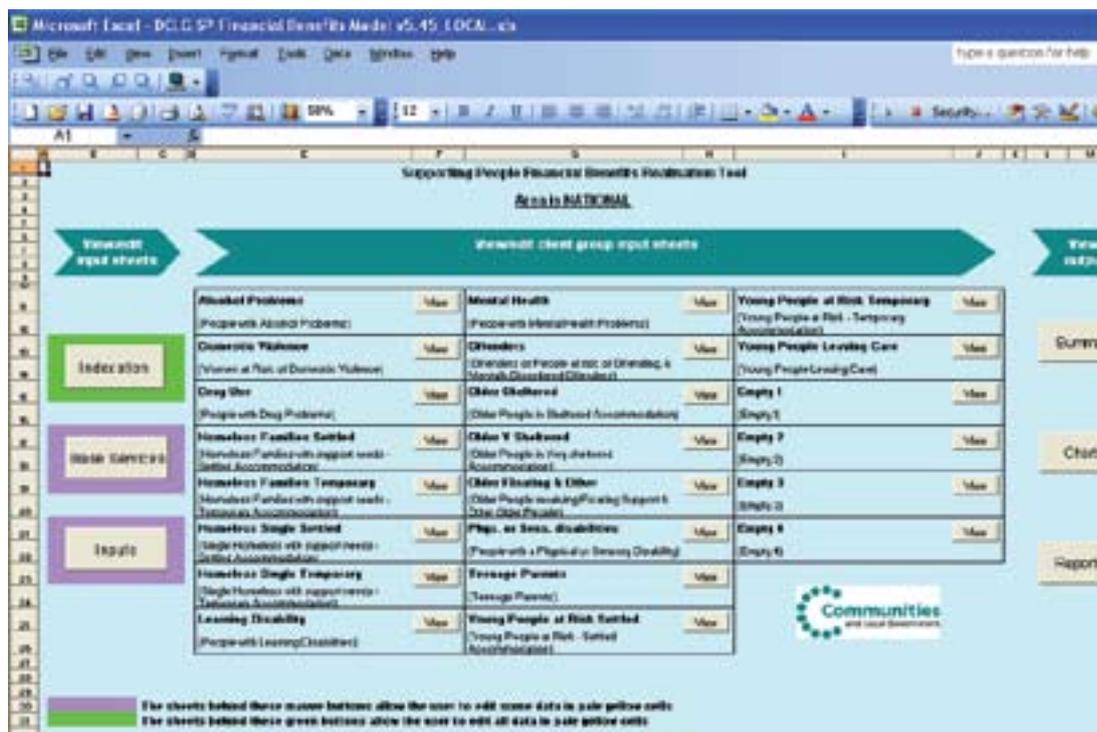
Model navigation is primarily via the "Model control" worksheet described in section 3.3. In addition to this, it is possible to move between editable cells in each worksheet of the model by pressing the tab key. The first press of the tab key will highlight an editable cell on the worksheet. Repeated pressing of the tab key will move you around the editable cells on the worksheet. You may find it helpful, when working on any worksheet where you are editing data, to navigate in this way.

3.3 Model control sheet

The model control sheet allows you to move to any input or output sheet that you will need to edit or view in the model by clicking on the relevant button. **NOTE:** It is also still possible to navigate around the model using the coloured sheet tabs at the bottom of the screen.

The Model Control is divided into three sections from left to right; input sheets, client group² input sheets and output sheets.

² There are four empty client group sheets in the model. These are to facilitate the addition of extra client groups in the future by CLG.

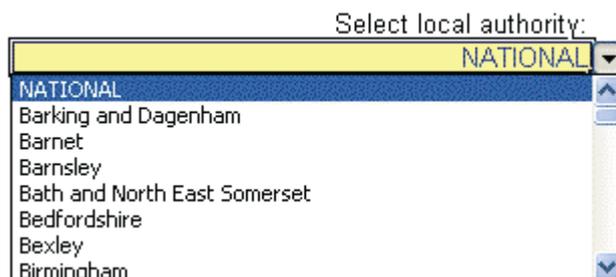


Buttons highlighted in mauve link to sheets where you can edit some of the pale yellow cells and buttons highlighted in green link to sheets where you can edit all of the pale yellow cells. NOTE: the local version of the model will always show the same colours as in the example above. The national version of the model, maintained by CLG, allows the user to select different editing modes, and therefore this colour coding changes at a national level only.

Once you move to another sheet, there is a button at the top left corner of that sheet, labelled 'Back to Model Control', which allows you to move back to the Model Control sheet.

3.4 Inputs sheet

In the Inputs sheet, select your local authority from the drop-down menu in Cell B6 (there is also an option to select a national option here, if you want to view national client numbers and costs). The name of your local authority will now appear at the top of the Model Control sheet.



The Inputs sheet can also be used to view the number of household units and supported client numbers for the client groups, scenario definitions (which define client percentage splits between the packages for the baseline and counterfactual scenarios), and simple cost sensitivity parameters.

3.5 Base Services sheet

3.5.1 Overview

In the Base Services sheet, there are a number of fields you can edit at a local level. Cells with blue text denote editable cells; cells with black or grey text are not editable at a local level and are read-only.

All costs entered in the reference tables, as outlined in Sections 3.5.2 to 3.5.4 are then calculated in the package cost tables to the left (Columns D:M).

The screenshot shows two parts of the spreadsheet. The top part is a summary table with columns for 'Serv. w/o SP', 'Serv. with SP', and 'Res. Alt. #1', #2, #3. Each of these has sub-columns for 'Cost' and 'Year'. The bottom part is a detailed table with columns for 'Category', 'Serv. w/o SP', 'Serv. with SP', 'Res. cost (total)', 'Res. cost (SP)', and 'Res. cost (non-SP)'. A red arrow points from the bottom row of the summary table to the bottom row of the detailed table.

Category	Serv. w/o SP	Serv. with SP	Res. cost (total)	Res. cost (SP)	Res. cost (non-SP)
Household Services	£ 3,040	£ 3,540	£ 41,000	£ 79,330	£ 3,000
Mobile Costs	£ 2,120	£ 2,120	£ 2,120	£ 2,120	£ 2,120
IT Package	£ -	£ -	£ -	£ -	£ -
Group Services (SP)	£ -	£ -	£ -	£ -	£ -
Group Services (non-SP)	£ -	£ -	£ -	£ -	£ -
Other Services	£ 543	£ 543	£ 543	£ 543	£ 543
Facilities & Material Services	£ -	£ -	£ -	£ -	£ -
Total	£ 5,603	£ 6,183	£ 43,643	£ 81,993	£ 5,643

3.5.2 Local units of provision and local spend data

As you will already have selected your local authority in the Inputs sheet, your local authority's SPLS number of units of support and spend data for 2007/8 will be visible in Column Y for each modelled client group³. Check these numbers for accuracy, and enter them into the Value column (Column V) where the cost type in the Type column (Columns O:P) is "SP package". Do this for each client group in the sheet. The data that pre-populates these

³ The modelled client groups are not exactly the same as the standard SPLS client groups. However, the local data used by the model in populating Column Y is based on SPLS data and some careful calculations to give the correct figure. The modelled client groups are described in Section 5.2 and specified in technical terms at the foot of the same section.

tables is national data. By entering your local data, you are overwriting the national data to give a clearer picture of the benefits in your local area.

The data in Column Y comes from the number of units and annual costs per unit that your local authority submitted to CLG in your SPLS data submission. If the data in column Y appears to be incorrect then this is most likely to have arisen from submitting incorrect SPLS data. The data in Column Y is a guide only; if it is incorrect, you should enter correct data in the Value column (column V) based on the client group definitions in section 5.2.

If the housing related support spend for your local authority is in fact higher than your SP spend, then you can enter the figures for your housing related support units and spend per unit instead of your SP data.

Move to List	References / constants					
Type	Description/Details	Year	Ref #	Value	Frequency	
SP Package	No. of units (social based)	2007	92	418,352		
SP Package	Annual cost / unit (social based)	2007	92	459	per year	
SP Package	No. of units (non-social based)	2007	93	30,029		
SP Package	Annual cost / unit (non-social based)	2007	93	119	per year	
Accommodation Package	Accommodation cost	2007	1	1462	per week	
Accommodation Costs	Weekly or accommodation costs for older person in sheltered accommodation	2007	1	1119	per week	
Social services fees	Cost of statutory domiciliary care	2007	96	21,547	per year	
Social services care	Cost of day care	2007	96	1208	per year	
Other Services	Cost of nursing associated with accommodation	2007	96	2022	per year	
Benefits & Pensions	OWP annual report cost of pensioners administration 2007-8	2008	8	124,000,000	per year	
Benefits & Pensions	Number of pensioners	2008	8	12,142,229		
Benefits & Pensions	Cost of living for older people (approx level of state benefit)	2008	8	21,129	per year	
Benefits & Pensions	per week living expenses for those in residential care	2007	1	63	per week	

You can change the year of this data if necessary by adjusting the year in Column T. However, as the data in column Y is based on 2007/08 SPLS data, it is anticipated that you will directly re-use this data and leave the year unaltered as 2007 (2007 corresponds to the majority of the period 2007/08).

3.5.3 Residential Care Costs

You may edit the residential care costs for each client group to which they apply, if the data is available for your area. (If no local data is available, then leave the national figure unadjusted).

Note that residential care costs relate to the model’s counterfactual scenario (section 2.2) and are defined as all costs associated with the care of a client in a residential establishment. They should include any care home fees and any additional costs for social care, nursing care (other than district or community nursing) and day care that are associated with the residential package.

To change a residential cost, enter the cost in the Value column (Column V) where the cost type in the Type column (Columns O:P) is “Residential Package”, then select the cost frequency from the drop-down menu adjacent cell in the Frequency column (Column W). You can change the year of this data if necessary by adjusting the year in the Year column (Column T).

Move to Left	References / constants				
Type	Description/units	Year	Ref #	Value	Frequency
SP Package	No. of units (accoun based)	2007	90	418,863	
SP Package	Annual cost / unit (accoun based)	2007	92	1,454	per year
SP Package	No. of units (non-accoun based)	2007	93	30,606	
SP Package	Annual cost / unit (non-accoun based)	2007	95	119	per year
Residential Package	Residential cost	2007	1	1,460	per week
Residential Package	Residential cost	2007	1	1,119	per week
Social services care	Cost of statutory directors care	2007	96	11,547	per year
Social services care	Cost of day care	2007	98	1,200	per year
Other Services	Cost of laundry associated with accommodation	2007	98	262	per year
Benefits & Pensions Serv	SNP annual report cost of pensioners administration 2007-8	2008	0	294,000,000	per year
Benefits & Pensions Serv	Number of pensioners	2008	0	12,141,228	
Benefits & Pensions Serv	Cost of living for older people (approx level of state benefit)	2008	0	43,128	per year
Benefits & Pensions Serv	Person being assessed for those in residential care	2007	1	67	per week

Be careful to select the correct cost frequency in the Frequency column if you are changing the frequency of the cost, as it affects the calculation in the package cost table on the left (e.g. if the national cost is a weekly cost and the data you have for your local area is a daily cost, you must change the frequency from “per week” to “per day”). **WARNING: mismatching the value (Column V) and frequency (Column W) will introduce errors into the work.**

If the source of the data changes for the residential care costs, you should add a new source at the bottom of the Source table (O445:V473) and adjust the reference number beside the data to correspond with this new source.

3.5.4 Housing Costs

You may also edit the housing cost for each client group, if the data is available for your area. (If no local data is available, then leave the national figure unadjusted. The national data for these figures is based on estimates validated by groups of SP leads. It is anticipated that definitive local sources of data that improve on these estimates may be difficult to find, resulting in a need to leave the national figures in the model.)

Housing costs should be thought of as costs of renting the accommodation that the SP client lives in. This should include any ground rent or ordinary service management charge, but not the cost of any specific services relating to meeting either support or care needs. In some cases, SP clients may own rather than rent their property – in these cases, housing costs are in the form of the costs of the capital tied up in the property, although we could recommend that market rent levels be considered a proxy.

To change the housing cost, enter the cost in the Value column (Column V) and select the cost frequency from the drop-down menu in the Frequency column (Column W). You can change the year of this data if necessary by adjusting the year in the Year column (Column T).

Move to LUT		References / constants				
Type	Description/notes	Year	Ref #	Value	Frequency	
SP Package	No. of units (account based)	2007	90	418,800		
SP Package	Annual cost / unit (account based)	2007	92	4,604	per year	
SP Package	No. of units (non-account based)	2007	93	30,000		
SP Package	Annual cost / unit (non-account based)	2007	95	7151	per year	
Residential Package	Residential care	2007	1	4,800	per week	
Event costs	Event or accommodation costs for older people in sheltered care	2007	1	111	per week	
Social services	Cost of day care services	2007	98	41,447	per year	
Social services care	Cost of day care	2007	98	42,000	per year	
Other Services	Cost of nursing associated with accommodation	2007	99	2,800	per year	
Benefits & Pensions	SNP annual report cost of pension's administration 2007-8	2008	0	241,000,000	per year	
Benefits & Pensions	Number of pensioners	2008	0	12,141,200	per year	
Benefits & Pensions	Cost of living for older people (approx level of state benefit)	2008	0	43,120	per year	
Benefits & Pensions	Persons living in persons for those in residential care	2007	1	13	per week	

Be careful to select the correct cost frequency in the Frequency column if you are changing the frequency of the cost, as it affects the calculation in the package cost table on the left (e.g. if the national cost is a weekly cost and the data you have for your local area is a daily cost, you must change the frequency from "per week" to "per day"). **WARNING: mismatching the value (Column V) and frequency (Column W) of a cost will introduce errors into the work.**

If the source of the data changes for the housing costs, you should add a new source at the bottom of the Source table (O445:V473) and adjust the reference number beside the data to correspond with this new source.

3.5.5 Social services and nursing care costs

You may edit the social services and nursing care costs for each client group to which they apply, if the data is available for your area. (If no local data is available, then leave the national figure unadjusted).

The costs in this category are those associated with domiciliary care, day care and nursing associated with accommodation, for people with care needs that are not in residential care. These costs, therefore, only apply to the "Service with SP" and "Service without SP" scenarios because when a person is in residential care, these costs will be included in the residential care costs. Note that costs of district and community nursing should not be included, as these are covered by the event costs (Section 4.8.4)

To change the social services and nursing care costs, there are three rows for the client groups they apply to that you can change:

- Cost of domiciliary care
- Cost of day care
- Cost of nursing associated with accommodation

Enter the cost in the Value column (Column V) in the appropriate row and select the cost frequency from the drop-down menu in the Frequency column (Column W). You can change the year of this data if necessary by adjusting the year in the Year column (Column T).

Move to List	References / constants					
Type	Description/Detail	Year	Ref #	Value	Frequency	
GP Package	No. of units (account based)	2007	93	412,852		
GP Package	Annual cost Fund (account based)	2007	93	4,636		per year
GP Package	No. of units (non-account based)	2007	93	30,028		
GP Package	Annual cost Fund (non-account based)	2007	93	1151		per year
Residential Package	Residential care	2007	1	480		per week
Residential Care	Residential care	2007	1	1118		per week
Residential Care	Cost of statutory/domiciliary care	2007	96	11,741		per year
Residential Care	Cost of day care	2007	96	1,200		per year
Residential Care	Cost of housing associated with accommodation	2007	96	1,000		per year
Benefits & Pensions	ANP annual report cost of pensioners administration 2007-8	2008	0	124,000,000		per year
Benefits & Pensions	Number of pensioners	2008	0	12,141,239		
Benefits & Pensions	Cost of living for older people (average level of state benefit)	2008	0	17,129		per year
Benefits & Pensions	Personal living expenses for those in residential care	2007	1	69		per week

Be careful to select the correct cost frequency in the Frequency column if you are changing the frequency of the cost, as it affects the calculation in the package cost table on the left (e.g. if the national cost is a weekly cost and the data you have for your local area is a daily cost, you must change the frequency from “per week” to “per day”). **WARNING: mismatching the value (Column V) and frequency (Column W) of a cost will introduce errors into the work.**

3.6 Indexation sheet

3.6.1 Purpose

The *Indexation* sheet is designed to allow the model to deal with inflation. Cost data contained in the Base Services and client group worksheets all contains a year in which it was sourced (this is explained in the discussion of those worksheets), and when that is before the present year, the indexation table is used to correct for the effects of inflation.

3.6.2 Updating the indexation table

In the Indexation sheet, the current year must be selected in the Current Year field. A default of 2.5% incremental indexation has been entered for future years; so for each new year, you will need to look up the incremental indexation online for the year just ended and enter it into the relevant cell.

The percentage yearly increases in the Retail Price Index are published each January for the previous year, and can be found on www.statistics.gov.uk by searching for ‘RPI percentage change’.

Back to Model Control

Current Year	Year	Indexation (Incremental)	Cumulative Indexation
2000	1996	3.3%	100.0%
	1996	2.4%	102.4%
	1997	3.1%	105.6%
	1998	3.4%	109.3%
	1999	1.0%	110.9%
	2000	3.0%	114.2%
	2001	1.0%	116.2%
	2002	1.3%	118.2%
	2003	2.0%	121.6%
	2004	3.0%	126.2%
	2005	2.0%	128.6%
	2006	3.2%	132.9%
	2007	4.2%	138.6%
	2008	4.0%	144.1%
	2009	2.0%	147.7%
	2010	2.0%	151.4%
	2011	2.0%	155.1%
	2012	2.0%	159.0%
	2013	2.0%	163.0%
	2014	2.0%	167.1%
	2015	2.0%	171.2%

At the time of writing, these figures include correct values for years up to and including 2009, and so you are not required to carry out any editing.

For more detail on how indexation is calculated and used throughout the model, refer to section 6.3.3.

3.7 Output sheets

3.7.1 Summary sheet

The *Summary* sheet provides a financial summary of all the client group sheets, together with a total for the whole of SP. Each client group, and the set of all client groups together, is summarised by scenario and cost category in the format shown below:

SCENARIO FINANCIAL SUMMARY		Cost Category Totals (£M)		
		Baseline	Counterfactual	Net Benefit
All client groups	SP Package	Baseline	Counterfactual	Net Benefit
				£1,612.4
	Residential Package	-	£5,408.7	£5,408.7
	Housing Costs	£5,837.0	£5,241.0	-£596.1
	Homelessness	£44.8	£139.8	£95.0
	Tenancy failure costs	£38.1	£88.8	£50.7
	Health service costs	£1,559.7	£1,875.0	£315.2
	Social services care	£2,461.5	£2,053.8	-£407.7
	Crime costs	£2,034.2	£2,447.8	£413.6
	Benefits & Related Services	£3,884.6	£3,670.8	-£213.8
	Charitable Services	-	-	-
	Other Services	£334.7	£290.9	-£43.8
	-	-	-	-
	TOTAL	£17,807.1	£21,216.5	£3,409.4

The *Net Benefit* column calculates the difference between the Baseline and Counterfactual columns, which is the net financial benefit of SP. **WARNING: It should be noted that there may be cases where a financial benefit is negative. This does not mean that service provision for that client group is without overall benefit; there are benefits provided by SP services that do not appear as differences in costs between support scenarios.**

There are also four customisable groups in Rows 20 – 77 of the worksheet, which can be used to combine costs for a number of client groups to view the benefit for them as a group. You can set the custom groups by checking or unchecking the boxes on the right of the group tables. You also have the option of naming your custom group by editing the blue cells that contain the words 'Custom Group 1', 'Custom Group 2', 'Custom Group 3' and 'Custom Group 4'.

The example shown below illustrates a case where a user has defined a custom group of 'Young People' based on the four clients groups, Teenage Parents, Young People at Risk Settled, Young People at Risk Temporary and Young People Leaving Care.

		Baseline	Counterfactual	Net Benefit	
Young People	SP Package	£170.5	-	£170.5	Alcohol Problems
	Residential Package	-	£76.9	£76.9	Domestic Violence
	Housing Costs	£175.4	£183.5	£18.0	Drug Use
	Homelessness	£9.3	£25.9	£16.6	Homeless Families Settled
	Tenancy failure costs	£3.1	£12.2	£9.1	Homeless Families Temporary
	Health service costs	£59.5	£70.6	£11.1	Homeless Single Settled
	Social services care	£1.1	£1.7	£0.6	Homeless Single Temporary
	Crime costs	£438.3	£507.4	£69.0	Learning Disability
	Benefits & Related Services	£107.8	£110.5	£2.7	Mental Health
	Charitable Services	-	-	-	Offenders
	Other Services	£1.4	£2.0	£0.7	Older Sheltered
TOTAL	£966.4	£1,869.7	£343.3		

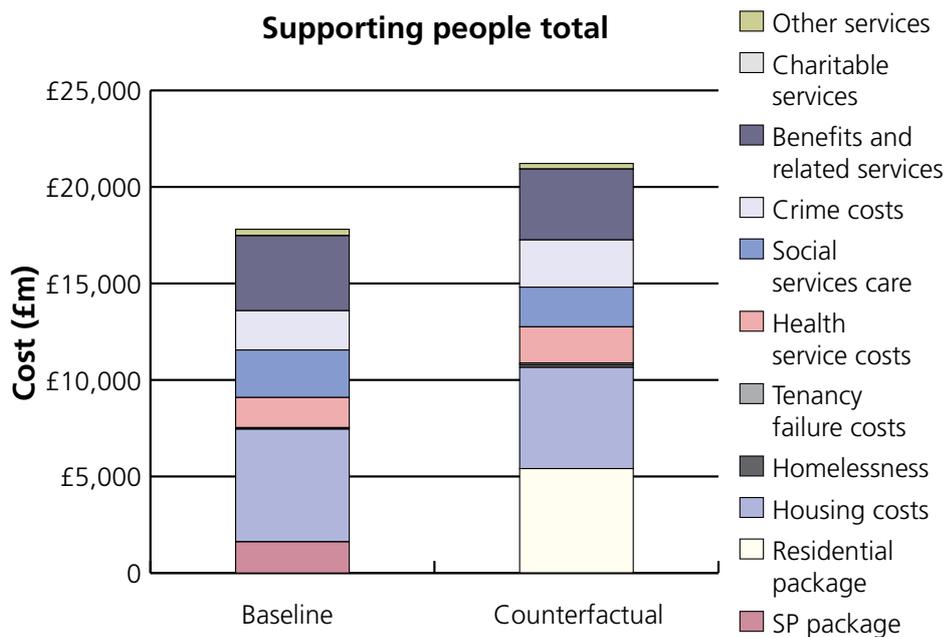
NOTE: Correctness of the estimates on the Summary sheet depends on the user having correctly followed the instructions in Sections 3.5.1 to 3.5.3 in entering data, and having entered the right data. The data that the user is responsible for, together with its current values is shown in bold in column 1 of the worksheet 'Reporting'. See section 3.7.3 of the documentation for information on the Reporting sheet.

3.7.2 Charts sheet

The *Charts* sheet contains charts that accompany the *Summary* sheet. Two charts are provided for each client group, the four customisable groups (if used) and the total of SP; the *Scenario Total* chart and the *Net Financial Benefit* chart. A colour key for the different cost categories – which all the charts follow – is displayed at the top of the sheet.

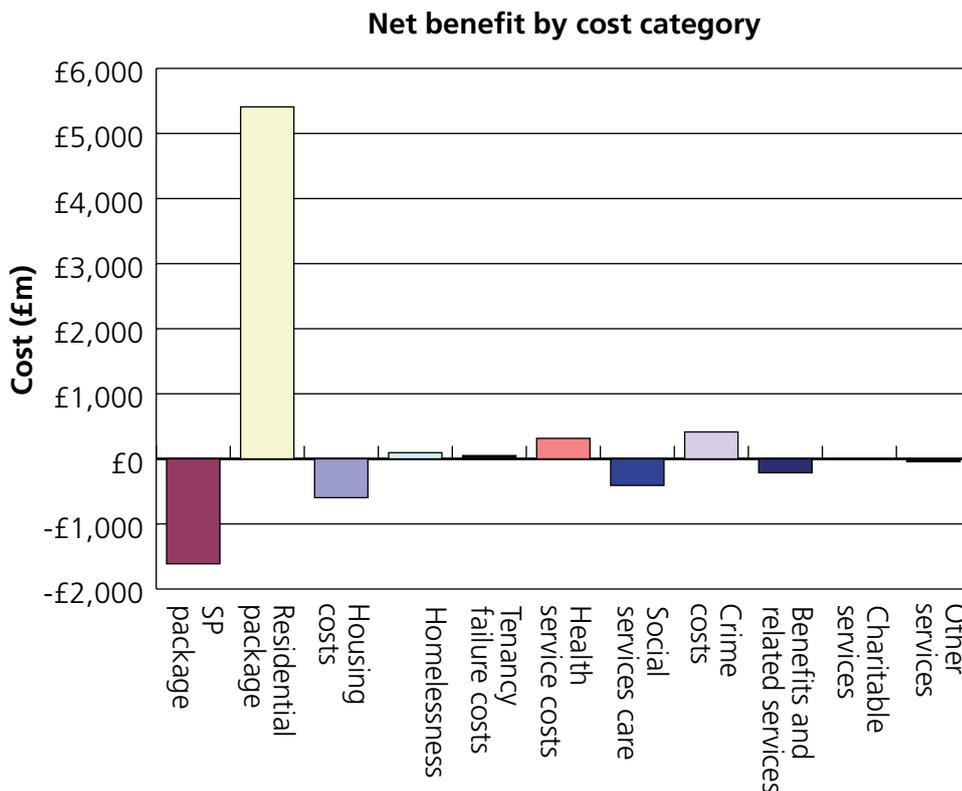
3.7.2.1 Scenario Total

The *Scenario Total* chart displays two stacked column charts, showing the costs for the *Baseline* and *Counterfactual* scenarios. Each column is split into the different cost categories, as per the colour key at the top of the sheet:



3.7.2.2 Net Financial Benefit

The Net Financial Benefit chart displays the difference between the two scenarios as the net benefit of SP (*Baseline* scenario) by cost category. A saving is shown as a positive amount, and extra expenditure is shown as negative amounts. The same colour key as the *Scenario Total* chart is used, as shown below:



3.7.3 Reporting sheet

The reporting sheet provides a summary of the data that has been entered in the Inputs, Base Services and each of the client group sheets. Data fields shown in bold font indicate data that is editable in the respective sheets, and therefore may have been changed at local authority level. Data fields shown in normal font are those that are not editable at local authority level, and are therefore national numbers.

If you have any doubt about the current values of data you are able to edit in the model, then you should check through the bold text values in column I of the Reporting worksheet. If any of these values look incorrect, they can be edited on the base services sheet (see section 3.5).

The reporting sheet has been formatted for easy printing. It could be printed along with the Summary sheet and saved as a record of a particular scenario.

4. The spreadsheet

4.1 Design principles

The spreadsheet is designed to make use of, for each client group, information about:

- Basic costs of support packages (in the 'Base services' worksheet)
- Event costs of support packages (in the worksheet for the particular client group)
- Scenario details (on the 'Inputs' sheet)

The user can then read off the level of benefits from

- The 'Summary', 'Charts' and 'Reporting' worksheets.

The spreadsheet is also designed to allow costs to be categorised into type (these include "Social services costs", "SP costs" etc). These types are used in both model input and model output.

There is also scope to enter some other data at a national level (concerning sensitivity analysis), and that is described in later on in section 4.5.4.

4.2 Modelling conventions

The cells in the model are coloured to allow the model operator to know whether the values can be changed at a national level. The colours are:

- Yellow (with blue text) – these are enterable at both the national and local levels, and affect the model result.
- Yellow (with grey text) – these are only enterable at a national level, and affect the model result⁴.
- White with blue text – these are enterable at both the national and local levels, allowing descriptions to be added.
- White with black text – these are non-enterable, and contain model descriptions or entered values that should not be changed.
- White with grey text – these are only enterable at a national level, and contain model descriptions or entered values that should not be changed.

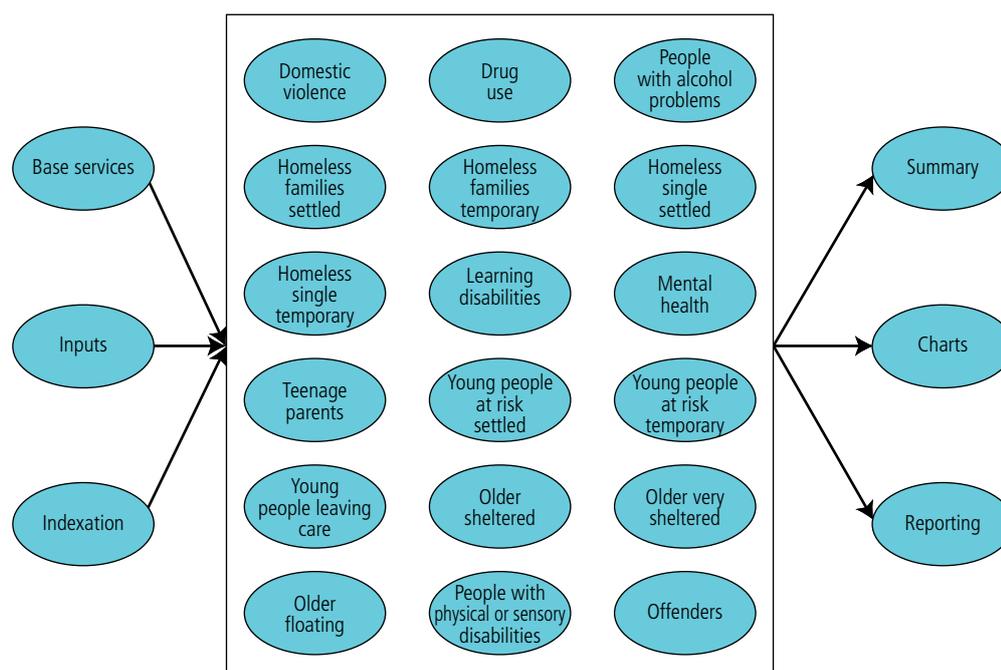
⁴ Note that the local user is only able to edit *some* of the model data that can be edited at a national level. The locally enterable data has been chosen after extensive consultation to define which information is best decided at a national level (e.g. assumptions about SP reduction of occurrences of various events) and which can be edited at a local level to give a clearer picture of the benefits in your particular area.

- Coloured with white text – these are non-enterable and contain headings.
- Green with black text – these are non-enterable, and contain model calculations.
- Light turquoise with black text – these are non-enterable, and contain values looked up from other sheets.
- Black dotted shading – these cells are not active.

If a group of cells has a coloured border, this is to link it with the coloured headings at the top of the sheet.

4.3 Worksheets in the spreadsheet and the relationship between them

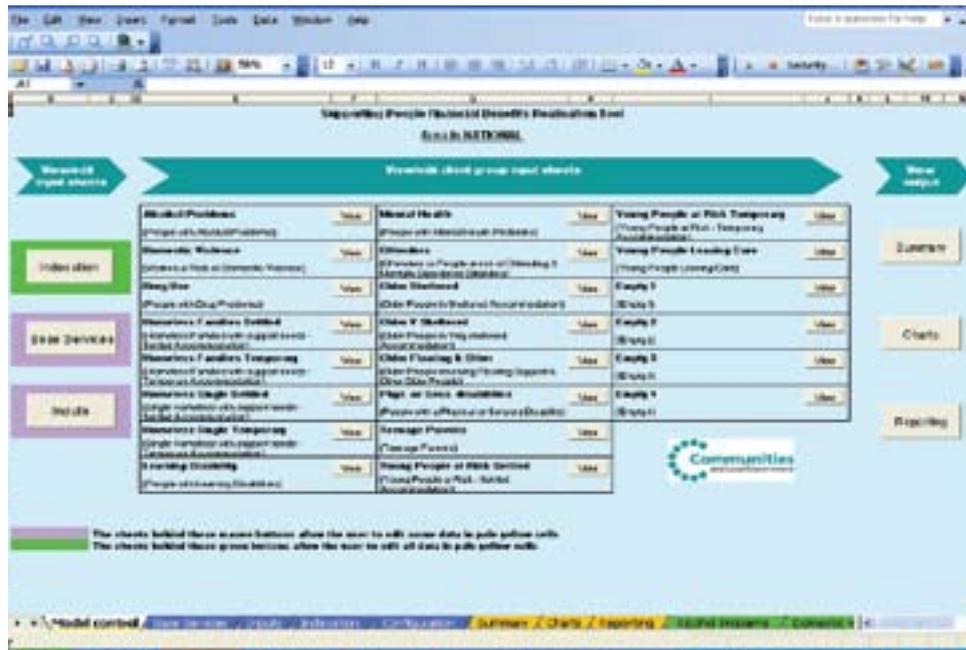
The relationships between the worksheets in the spreadsheet are as shown in the following diagram.



4.4 Worksheet detail – ‘Model Control’ sheet

The model control sheet allows the user to move to any input or output sheet that they will need to edit or view in the model by clicking on the relevant button. **NOTE:** It is also still possible to navigate around the model using the coloured sheet tabs at the bottom of the screen.

The Model Control is divided into three sections from left to right; input sheets, client group input sheets and output sheets.



Once the user moves to another sheet, there is a button at the top left corner of that sheet, labelled 'Back to Model Control', which allows them to move back to the Model Control sheet.

4.5 Worksheet detail – 'Inputs' sheet

4.5.1 Overview

The *Inputs* sheet is used to view the scenario definitions (which the national user percentage splits between the packages for the counterfactual scenario – the baseline will always be 100% 'service with SP.'), the total household units and simple cost sensitivity parameters. These are not editable at local level, but the example below shows how these have been entered at a national level. **Note that the package descriptions are entered on the Base Services sheet, and not the Inputs sheet.**

SCENARIO INPUTS		Units	Supp'd Population	Package population percentage				Total
		Serv. with SP	Serv. with SP	Res. Ab. #1	Res. Ab. #2	Res. Ab. #3		
Select local authority:		NATIONAL						
All Other Groups								1,226,687
Counterfactual units								1,775,497
At Risk of Poverty								
Package Description		Serv. with SP	Serv. with SP	Res. case (abul)	Res. case (abul)	-		
Baseline units		3,406	3,406	40.0%	40.0%	20.0%	3,406	
Counterfactual units							3,406	
Cost sensitivity				+0.0%	+0.0%	+0.0%		

There is an option (at national level only) to enter a utilisation multiplier, which calculates the actual supported population based on the household units. This has been set to 100%.

Units		Units SP	Units SP			
Package Description		0	0	100.0%	100.0%	0
Baseline units	0	0	100.0%	100.0%		0
Counterfactual units						
Cost sensitivity			+10.0%	+10.0%	+1.0%	+1.0%
Utilisation multiplier					100%	

Base Services / Inputs / Indexation / Configuration / Summary / Charts / Reporting / Actual Problems / Domestic

4.5.2 Client numbers

The total number of household units of provision for each client group can be seen in the *Units* column (Column D). The same number is used for both scenarios in the client group. Note that the actual household units are entered in the Base Services sheet.

The total at the top right of the worksheet (cells K9:K10) allows the model operator to see the total number of household units supported by SP and belonging to client groups represented in the model.

4.5.3 Definition of baseline and counterfactual scenarios

The supported population for each client group are allocated to the different service packages according to the percentage splits entered for both scenarios (*Baseline* and *Counterfactual*) in the package columns. These percentages must add to 100% in both cases. The description field for each client group is looked up from the top of the package column in the respective client group sheet.

4.5.4 Cost sensitivity

Simple cost sensitivity parameters can be entered at a national level to vary the cost of the basic service provision by package for each client group. The percentage entered is the incremental change in cost, i.e. +10% results in the base service charge being multiplied by 110%. For example, if you wanted to see the effect that a 10% increase in residential care costs had on the overall net benefit, you would enter 10% under the relevant residential alternative.

4.6 Worksheet detail – ‘Indexation’ Sheet

4.6.1 Overview

The *Indexation* sheet is designed to allow the model to deal with inflation. Every item of cost data contained in the Base Services and client group worksheets contains a year in which it was sourced (this is explained in the discussion of those worksheets), and, when that is before the present year, the indexation table is used to correct for the effects of inflation.

Back to Model Control		Year	Indexation (incremental)	Cumulative Indexation
Current Year	2009	1995	3.5%	100.0%
		1996	2.4%	102.4%
		1997	3.1%	105.8%
		1998	3.4%	109.3%
		1999	1.5%	110.9%
		2000	3.0%	114.2%
		2001	1.8%	116.2%
		2002	1.7%	118.2%
		2003	2.9%	121.5%
		2004	3.0%	125.2%
		2005	2.8%	128.8%
		2006	3.3%	132.9%
		2007	4.3%	138.6%
		2008	4.0%	144.1%
		2009	2.5%	147.7%
		2010	2.5%	151.4%
		2011	2.5%	155.1%
		2012	2.5%	159.0%
		2013	2.5%	163.0%
		2014	2.5%	167.1%
		2015	2.5%	171.2%

The current year is specified, and the incremental indexation rates are entered for each year. The indexation numbers used come from the Retail Prices Index, which can be found on the Government's statistics website (www.statistics.gov.uk) by searching for 'RPI percentage change'.

4.6.2 Current Year

The current year is entered in the *Current Year* cell so the model can calculate how many years indexation needs to be applied to each event cost.

4.6.3 Indexation (incremental)

The level of indexation for each year is entered the *Indexation (incremental)* column.

4.6.4 Cumulative indexation

The cumulative indexation is calculated in this column; this is then used for the indexation applied in the client group and Base Services sheets.

4.7 Worksheet detail – 'Base Services' sheet

4.7.1 Overview

The *Base Services* sheet is used to enter the annual costs of supplying a unit of support to a user, both with and without SP, and on the different *Residential alternatives* that are specified.

<input type="button" value="Back to Model Control"/>		<input type="button" value="Move to Right"/>		<table border="1"> <tr> <th colspan="2">Serv. w/o SP</th> <th colspan="2">Serv. with SP</th> <th colspan="2">Res. Alt. #1</th> <th colspan="2">Res. Alt. #2</th> <th colspan="2">Res. Alt. #3</th> </tr> <tr> <td>Cost</td><td>Year</td> <td>Cost</td><td>Year</td> <td>Cost</td><td>Year</td> <td>Cost</td><td>Year</td> <td>Cost</td><td>Year</td> </tr> </table>		Serv. w/o SP		Serv. with SP		Res. Alt. #1		Res. Alt. #2		Res. Alt. #3		Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	Year																																																																																																														
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Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	Year																																																																																																																														
Alcohol Problems Package Description Cost Type		Category		<table border="1"> <tr> <th>Serv. w/o SP</th> <th>Serv. with SP</th> <th>Res. cost (total)</th> <th>Input Date</th> <th>-</th> </tr> </table>		Serv. w/o SP	Serv. with SP	Res. cost (total)	Input Date	-	<table border="1"> <tr> <td>Residential care fees</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Housing cost (rent etc)</td> <td>£ 3,640</td> <td>2006</td> <td>£ 3,640</td> <td>2006</td> <td>£ 41,360</td> <td>2007</td> <td>£ 79,925</td> <td>2007</td> <td>2000</td> </tr> <tr> <td>Personal living costs</td> <td>£ 3,120</td> <td>2006</td> <td>£ 3,120</td> <td>2006</td> <td>£ 3,120</td> <td>2006</td> <td>£ 3,120</td> <td>2006</td> <td>2000</td> </tr> <tr> <td>Supporting People costs</td> <td></td> <td>2000</td> <td>£ 5,576</td> <td>2007</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td>2000</td> </tr> <tr> <td>Statutory Detentionary Care</td> <td>£ -</td> <td>2007</td> <td>£ -</td> <td>2007</td> <td></td> <td>2000</td> <td></td> <td>2007</td> <td>2000</td> </tr> <tr> <td>Day Care</td> <td>£ -</td> <td>2007</td> <td>£ -</td> <td>2007</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td>2000</td> </tr> <tr> <td>The long across'ed with accommodation</td> <td>£ -</td> <td>2007</td> <td>£ -</td> <td>2007</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td>2000</td> </tr> <tr> <td>Administration of benefits</td> <td>£ 643</td> <td>2007</td> <td>£ 643</td> <td>2007</td> <td>£ 643</td> <td>2007</td> <td>£ 643</td> <td>2007</td> <td>2000</td> </tr> <tr> <td></td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td>2000</td> </tr> <tr> <td></td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td></td> <td>2000</td> <td>2000</td> </tr> <tr> <td>Total after indexation</td> <td></td> <td></td> <td></td> <td></td> <td>£ 8,198</td> <td></td> <td>£14,140</td> <td></td> <td>£ 47,331</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>£ 89,338</td> <td></td> <td>£ -</td> </tr> </table>					Residential care fees										Housing cost (rent etc)	£ 3,640	2006	£ 3,640	2006	£ 41,360	2007	£ 79,925	2007	2000	Personal living costs	£ 3,120	2006	£ 3,120	2006	£ 3,120	2006	£ 3,120	2006	2000	Supporting People costs		2000	£ 5,576	2007		2000		2000	2000	Statutory Detentionary Care	£ -	2007	£ -	2007		2000		2007	2000	Day Care	£ -	2007	£ -	2007		2000		2000	2000	The long across'ed with accommodation	£ -	2007	£ -	2007		2000		2000	2000	Administration of benefits	£ 643	2007	£ 643	2007	£ 643	2007	£ 643	2007	2000			2000		2000		2000		2000	2000			2000		2000		2000		2000	2000	Total after indexation					£ 8,198		£14,140		£ 47,331								£ 89,338		£ -
Serv. w/o SP	Serv. with SP	Res. cost (total)	Input Date	-																																																																																																																																			
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Housing cost (rent etc)	£ 3,640	2006	£ 3,640	2006	£ 41,360	2007	£ 79,925	2007	2000																																																																																																																														
Personal living costs	£ 3,120	2006	£ 3,120	2006	£ 3,120	2006	£ 3,120	2006	2000																																																																																																																														
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							£ 89,338		£ -																																																																																																																														

4.7.2 General Layout

4.7.2.1 Package description

At the top of each *Client group* block, the descriptions for the Residential alternative packages can be entered at a national level (cells H7:M8 etc). These descriptions are then read through to the *Inputs* and *Client group* sheets.

Cost category

All costs are given a cost category from the following:

- SP Package
- Residential Package
- Housing Costs
- Homelessness
- Tenancy failure costs
- Health service costs
- Social services care
- Crime costs
- Benefits & Related Services
- Charitable Services
- Other Services

The cost category has been assigned using the drop down box in Column C as shown below:



4.7.2.2 Package costs

The package costs are entered in the main block of cells for each group (cells D10:L19 etc), next to the indexation year that the cost was measured in. At a national level, these costs are all editable. At a local level, only SP client numbers, SP spend figures, residential care costs, housing costs and some social services costs are editable.

4.7.2.3 Indexation

To allow costs to be inflated from when they were measured to current values, the year (cells E10:M19 etc) is read from the Year column (Column T) for calculating the inflation needed. Any year from 1995 to 2015 can be entered. The cells must contain values even if there are no associated costs. For more information on indexation calculations see the Technical Appendix (section 6.3.3).

4.7.2.4 Total after indexation

The *Total after indexation* (cells D21:M21 etc) calculate for each *Client Group* the total of each package after each cost has been uplifted for inflation.

4.7.2.5 References

In the *Base Services* sheet, to the right of the sheet, there are reference tables (columns O:W). At the bottom of the sheet a separate table (cells O445:V473) allows sources to be catalogued, with the number assigned in the source matching the respective reference numbers in the reference tables. The reference tables allow the following information about the references to be recorded:

- Type – which event cell the reference is used for.
- Description/details – what the data is.
- Year – the year in which the value was measured.
- Ref # – the reference number for the source, given in the reference table at the bottom of the sheet.
- Value – the number used in the calculation. This is generally read directly by cells in Columns D-M.
- Frequency – the frequency of the cost entered in the value column (i.e. one of per day, per week, per month and per year)

Move to Left		References / constants					NATIONAL SPLS numbers
Type	Description/details	Year	Ref #	Value	Frequency		
SP Package	No. of units (accom-based)	2007	10	1,894		1,894	
SP Package	Annual cost / unit (accom-based)	2007	10	£7,500	per year	£7,500	
SP Package	No. of units (non-accom-based)	2007	10	1,792		1,792	
SP Package	Annual cost / unit (non-accom-based)	2007	10	£3,574	per year	£3,574	
Residential Package	Level of residential care (yrs/ab)	2007	1	£700	per week		
Residential Package	Cost of in-patient treatment for people who misuse drugs	2007	1	£270	per day		
Housing Costs	Estimate of accommodation cost for people with alcohol problems	2006	2	£70	per week		
Social services care	Cost of statutory domiciliary care	2007	76	£0	per year		
Social services care	Cost of day care	2007	16	£0	per year		
Other Services	Cost of nursing associated with accommodation	2007	16	£0	per year		
Benefits & Related Serv	Annual cost of retraining job centres 2007MS	2007	4	£3,983,041,000	per year		
Benefits & Related Serv	Number of adult benefit claimants	2009	9	5,222,300			
Benefits & Related Serv	Cost of living for people with alcohol problems (approx level of state be	2006	2	£3,120	per year		

4.8 Worksheet detail – Client Group sheets

4.8.1 Overview

The client group sheet for any client group is used to specify and calculate the *basic package cost* and *event cost* for each service package being considered for that group.

Costs are calculated per household unit, and then multiplied by the number of household units which feed in to the top of the sheet from the *Inputs* sheet; these are then summarised in totals, both by package and cost category.

The basic package cost and event costs each use a similar layout, which is repeated down the sheet (once for the basic cost and then multiple times for each event). Extra detail required for the event cost calculations is included in a series of cells in the central columns, which can be hidden for the summary view.

At a local level, all the data in the client group sheets is read-only.

4.8.2 General layout

4.8.2.1 Client group description

There is a client group description field at the top of each *Client group* sheet.

4.8.2.2 Client group summary

The client group summary at the top of the sheet displays the number of household units by service package, and the costs incurred under both scenarios for each package. These are calculated from the *Inputs* sheet. The total columns give the totals for the client group under both scenarios.

CLIENT GROUP SHEET		Package cost					Total annual cost	
Back to Model Control		Serv. w/o SF	Serv. with SF	Res. care (rehab)	Inpatient Care	-	Baseline	Counterfactual
Units								
Baseline		0	3,896	0	0	0	3,896	
Counterfactual		1,394	0	1,394	697	0		3,896
Scenario Totals								
Baseline annual total		£ -	£ 57,425,429	£ -	£ -	£ -	£ 57,425,429	
Counterfactual annual total		£ 17,800,549	£ -	£ 68,500,372	£ 63,119,211	£ -		£ 149,420,132

The package title description in blue with white text are read through from the 'Base Services' sheet.

4.8.2.3 Cost category

The blue cost category cell values (A19:A28) are read from the cost categories selected for the client group's costs in the Base Services sheet (C10:C19 etc).

The yellow cost category cell values for each event (A39:A44 etc) have been selected by using the drop down lists in those cells, as described in section 4.7.2.1 .

4.8.2.4 Event details

At the top of each *Base Service* or *Event*, a description and reference (in the row below it) has been entered:

Event 1	
Description	Appearing in court
Control Group	People with alcohol problems

4.8.2.5 Total rows

The rows at the bottom of each *Base Service* or *Event* cost sum the total costs by service package for a single event, cost per household unit, and both scenarios. (Cost per event and cost per unit are interchangeable for the basic service section.)

Total cost per event	£ 900	£ 900	£ 900	£ 900	£ 900	
Annual cost per unit	£ 596	£ 362	£ -	£ -	£ -	
Baseline annual total	£ -	£ 1,260,368	£ -	£ -	£ -	£ 1,260,368
Counterfactual annual total	£ 775,623	£ -	£ -	£ -	£ -	£ 775,623

4.8.2.6 Total columns

The total columns at the far right sum the costs for each *Basic Service* or *Event* by cost category, and the total value.

		Total annual cost	
		Baseline	Counterfactual
Units			
Baseline		3,486	
Counterfactual			3,486
Scenario Totals			
Baseline annual total		€ 57,425,428	
Counterfactual annual total			€ 149,429,132
Basic Service Cost			
Description			
Comment			
Per unit per annum			
Residential Package		€ -	€ 1,014,564
Housing Costs	€ 14,102,705	€	5,641,062
Benefits & Related Services	€ 12,000,000	€	12,000,000
SP Package	€ 20,713,038	€	-
Social services care	€ -	€	-
Social services care	€ -	€	-
Other Services	€ -	€	-
Benefits & Related Services	€ 2,387,521	€	2,387,521
	€ -	€	-
	€ -	€	-
Cost sensitivity			
Annual cost per unit			
Baseline annual total		€ 40,291,297	
Counterfactual annual total			€ 140,652,220

4.8.3 Basic service costs

4.8.3.1 Package costs

The package costs are shown as below:

		Package cost				Total annual cost	
		Self with SP	Self with EP	Res. care (extra)	Injured Care	Baseline	Counterfactual
Units							
Baseline		3	3,483	3	0	3	3,486
Counterfactual		1,224	0	1,224	627	3	3,486
Scenario Totals							
Baseline annual total		€ -	€ 57,425,428	€ -	€ -	€ 57,425,428	
Counterfactual annual total		€ 17,800,149	€ -	€ 68,400,332	€ 63,119,211	€ -	€ 149,429,692
Basic Service Cost							
Description							
Comment							
Per unit per annum							
Residential Package		€ -	€ -	€ 45,776	€ 65,165	€ -	€ 120,435,004
Housing Costs	€ 4,646	€ 4,646	€ -	€ -	€ -	€ 14,102,735	€ 5,641,062
Benefits & Related Services	€ 3,486	€ 3,486	€ 3,486	€ 3,486	€ -	€ 12,000,000	€ 12,000,000
SP Package	€ -	€ 5,642	€ -	€ -	€ -	€ 20,713,038	€ -
Social services care	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Social services care	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Other Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Benefits & Related Services	€ 665	€ 665	€ 665	€ 665	€ -	€ 2,387,521	€ 2,387,521
	€ -	€ -	€ -	€ -	€ -	€ -	€ -
	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Cost sensitivity							
		100.0%	100.0%	100.0%	100.0%	100.0%	
Annual cost per unit		€ 0,196	€ 14,140	€ 47,321	€ 65,326	€ -	
Baseline annual total		€ -	€ 49,251,297	€ -	€ -	€ 49,291,297	
Counterfactual annual total		€ 11,421,304	€ -	€ 66,924,664	€ 62,266,322	€ -	€ 140,652,220

The costs (cells R19:V28) are read across from the *Base Services* sheet, with indexation applied at the same point. The cost categories (cells A19:A28) are also read from the *Base Services* sheet.

4.8.3.2 Sensitivities

The sensitivities are looked up from the *Inputs* sheet. These are then applied to the Total event cost calculations and all subsequent totals.

4.8.4 Event costs

4.8.4.1 Event details

Each event uses the basic layout as described in sections 4.8.2.3 to 4.8.2.6.

Each event cost is broken up into individual cost factors. These have been entered (nationally) by answering questions in the headers of the detail columns as shown below:

How many events per service using person year?				What is the package impact?	
Events per person for control group	Uplift for client group	Other multiplier (add comment)	TOTAL	SP reduction of occurrences (%)	Residential alternative reduction

How much does an event happening to a person cost?						Package reduction of event costs?	People per household unit?
Cost per action / unit	Cost indexation year	Number of actions / units	What is the action or unit type?	Other multiplier (add comment)	TOTAL	(%)	

The key questions are:

- How many events per person using the service for a year?
- What is the package impact; so how far does the SP service reduce the number of incidences of the event?
- How much does an event happening to a person cost?
- What is the reduction of event costs caused by the SP package, or a residential package, when compared with a similar package without the SP component?
- How many people per household unit?

Some of these questions are broken into smaller factors as explained in the next sections.

4.8.4.2 How many events per service using person year?

This is split into 3 factors, as shown in the image below:

Back to Model Control	How many events per service using person year?			
	Events per person for control group	Uplift for client group	Other multiplier (add comment)	TOTAL
Units				
Baseline				
Counterfactual				
Scenario Totals				
Baseline annual total				
Counterfactual annual total				
Event 1				
Description	Appearing in court			
Control Group	People with alcohol problems			
Per unit per annum	0.70	1.00	1.00	0.69

Events per person per control group

A control group is selected (nationally) for the number of events per person in a year. This control group can be anything from the general population to the client group itself. This number will normally be obtained from published statistics. The number is read from the reference table to the right. A description of the control group used can be entered in the *Control Group* row.

Uplift for client group

This is the uplift to the *Control group* to account for the perceived increase/decrease in likelihood of an event happening to the *Client group* and is generally an estimate, based on an expert's experience of dealing with the client group. So if the client group is 5 times more likely to experience the event than the control group then the number will be 5.

NOTE (relating to national editing): It is preferable to use the client group as the control group, as this results in an uplift of 1 and therefore makes the events per person purely data-based. Data is however not always available for the client group and may refer to a more general group (e.g. the general population) and the uplift is therefore necessary to derive a figure from the available data

Other multiplier

This is to allow any other factors that might affect the likelihood of an event happening to be captured, for example, to represent turnover of services in a year. An accompanying cell comment is required to describe the factor.

4.8.4.3 What is the package impact?

The impact of the service package is specified here in the two cells shown below:

What is the package impact?	
SP reduction of occurrences (%)	Residential alternative reduction
25%	100%

The SP impact can be set at any level from 0% (none) to 100% (all incidences of the event prevented) at a national level. The *Residential alternative impact* can be set (nationally) at any of three options:

- S – same impact on reduction of occurrences of the event as Supporting People has
- 0% - no impact on event (i.e. the residential package does not change the occurrence of the event at all)

- 100% - the event no longer occurs, so the residential package has completely reduced the likelihood of its occurrence (e.g. homelessness is completely reduced for people in residential care)

4.8.4.4 How much does an event happening to a person cost?

The factors for the cost of an event are entered in four cells as shown in the image below:

How much does an event happening to a person cost?					
Cost per action / unit	Cost indexation year	Number of actions / units	What is the action or unit type?	Other multiplier (add comment)	TOTAL
£ 898	2003	1.00	Event	1.00	£ 898
	2003				£ 898
	2003				£ 898
	2003				£ 898

A description of the event has been entered in the white section to the left of the costs:

Per unit per annum	0.00	1.00	1.00	0.00	100%	100%	0.00
Costs							
Cost of a court appearance							£ 898

Cost per action/unit

This is the benchmark cost of an action/unit. The action/unit type is described in the cell *What is the action or unit type?*

Cost indexation year

This is the year in which the cost is benchmarked. (So if the cost is what the true cost was in 2004, this will be 2004.) The cells must contain values even if there are no associated costs. For more information on indexation calculations see the Technical Appendix (section 6.3.3).

Number of actions/units

This is the typical number of actions/units for a single occurrence of the event.

Other multiplier

This is to allow any other factors that might affect the cost of an event to be captured. An accompanying comment is required to describe the factor. An example is a probability of an associated cost which does not always occur

for that event. [An example of this occurs in the case of the client group “Women escaping domestic violence.” The event “Being a victim of a severe incidence of domestic violence” sometimes results in serious wounding, and in associated hospital and ambulance costs. This happens in 5% of cases. The costs, labelled in the model as “Hospital and ambulance costs of serious wounding for a woman” and “Hospital and ambulance costs of serious wounding for a child” accordingly contain the number 0.05 in the “other multiplier” column.]

4.8.4.5 Package reduction of event costs?

This is to allow a reduction in costs of the event caused by the service packages provided, for example, a reduced stay in hospital. A value between 0% and 100% can be applied. This figure applies both to packages involving the existing SP packages and residential packages, and is the reduction when compared with a package that is similar to the existing provision but without the SP component.

Package reduction of event costs? (%)

0%

4.8.4.6 People per household unit?

This is where the number of people that the cost applies to is entered. This allows a number of adults/children to have the costs of an event applied. The constant cells described in section 4.8.4.8 are ideal for this use.

People per household unit?

1.00

4.8.4.7 Totals

Totals are given for the *Per unit per annum* and *total cost per event* areas in the section shown below:

	Package cost					Total annual cost	
	Base, w/o GP	Base, with GP	Basic care (school)	Important Care		Baseline	Counterfactual
Event 1							
Description							
Central Group							
Per unit per annum	0.63	0.29	0.00	0.00	0.00		
Crime costs	€ 930	€ 930	€ 930	€ 930	€ 930	€ 1,260,369	€ 775,623
Total cost per event	€ 930	€ 930	€ 930	€ 930	€ 930		
Annual cost per unit	€ 596	€ 362	€ -	€ -	€ -		
Baseline annual total	€ -	€ 1,260,369	€ -	€ -	€ -	€ 1,260,369	€ 775,623
Counterfactual annual total	€ 775,623	€ -	€ -	€ -	€ -		€ 775,623

Per unit per annum

This is the total likelihood of an event happening to a household in a given year.

Total cost per event

These are the total per household costs of an event happening (note that they are different for each service package, and are broken down by cost category).

Annual cost per event

This is the average annual household cost for an event, obtained by multiplying its cost by the number per annum.

4.8.4.8 References

On each *Client Group* sheet, to the right of the sheet, there are reference tables (columns Z:AG). At the bottom of each sheet a separate table allows sources to be catalogued, with the number assigned in the source matching the respective reference numbers in the reference tables. The reference tables capture the same information as those for the *Base Service* (see section 4.7.2.5).

The small reference table at the top of the sheet is used to enter details of common factors or constants that can be applicable to more than one event. The events can then link directly to the relevant constant:

References / constants				
Type	Description/details	Date	Ref #	Value
People per household unit	Children per unit	2005	20	1.16
People per household unit	Children/unit at risk of violence	2001	22	0.41

4.9 Summary Sheet

4.9.1 Overview

The *Summary* sheet provides a financial summary of all the client group sheets, together with a total for the whole of SP. Each client group is summarised by scenario and cost category in the format shown below:

SCENARIO FINANCIAL SUMMARY		Cost Category Totals (£M)		
		Baseline	Counterfactual	Net Benefit
		<i>Baseline</i>	<i>Counterfactual</i>	<i>Net Benefit</i>
All client groups	SP Package	£1,512.4	-	-£1,512.4
	Residential Package	-	£5,408.7	£5,408.7
	Housing Costs	£5,037.0	£5,241.0	-£204.0
	Homelessness	£44.8	£139.8	£95.0
	Tenancy failure costs	£38.1	£88.8	£50.7
	Health service costs	£1,559.7	£1,875.0	£315.2
	Social services care	£2,461.5	£2,053.8	-£407.7
	Crime costs	£2,034.2	£2,447.8	£413.6
	Benefits & Related Services	£3,684.6	£3,670.8	-£13.8
	Charitable Services	-	-	-
	Other Services	£334.7	£290.9	-£43.8
		-	-	-
TOTAL		£17,807.1	£21,216.5	£3,409.4

The *Net Benefit* column calculates the estimated net financial benefit of SP, by showing the difference between the *Baseline* and *Counterfactual* columns. Negative numbers are shown in red.

WARNING: It should be noted that there may be cases where a financial benefit is negative. This does not mean that service provision for that client group is without overall benefit; there are benefits provided by SP services that do not appear as differences in costs between support scenarios. An example of this is the long term benefit of reduced social exclusion for Teenage Parents.

There are also four customisable groups, which can be used to combine costs for a number of client groups in order to view their combined benefit. You can set the custom groups by checking or unchecking the boxes on the right of the group tables. You also have the option of naming your custom group by editing the blue cells that contain the words 'Custom Group 1', 'Custom Group 2', 'Custom Group 3' and 'Custom Group 4' (cells B20:B32 etc).

The example shown below illustrates a case where a user has defined a custom group of 'Young People' based on the four clients groups; Teenage Parents, Young People at Risk Settled, Young People at Risk Temporary and Young People Leaving Care.

Young People	SP Package	£170.5	-	£170.5	Alcohol Problems	<input type="checkbox"/>
	Residential Package	-	£26.9	£26.9	Domestic Violence	<input type="checkbox"/>
	Housing Costs	£175.4	£195.5	£320.9	Drug Use	<input type="checkbox"/>
	Homelessness	£9.3	£25.9	£35.2	Homeless Families Settled	<input type="checkbox"/>
	Tenancy failure costs	£3.1	£12.2	£15.3	Homeless Families Temporary	<input type="checkbox"/>
	Health service costs	£59.5	£70.6	£130.1	Homeless Single Settled	<input type="checkbox"/>
	Social services care	£1.1	£1.7	£2.8	Homeless Single Temporary	<input type="checkbox"/>
	Crime costs	£48.3	£67.4	£115.7	Learning Disability	<input type="checkbox"/>
	Benefits & Related Services	£87.9	£105.6	£193.5	Mental Health	<input type="checkbox"/>
	Charitable Services	-	-	-	Offenders	<input type="checkbox"/>
	Other Services	£1.4	£2.0	£3.4	Older Sheltered	<input type="checkbox"/>
	TOTAL	£641.8	£846.7	£1,488.5	Older V Sheltered	<input type="checkbox"/>
					Older Flt/ing & Other	<input type="checkbox"/>
					Phys. or Sens. disabilities	<input type="checkbox"/>
					Teenage Parents	<input type="checkbox"/>
					Young People at Risk Settled	<input type="checkbox"/>
					Young People at Risk Temporary	<input type="checkbox"/>
					Young People Leaving Care	<input type="checkbox"/>
					Empty 1	<input type="checkbox"/>
					Empty 2	<input type="checkbox"/>
					Empty 3	<input type="checkbox"/>
					Empty 4	<input type="checkbox"/>

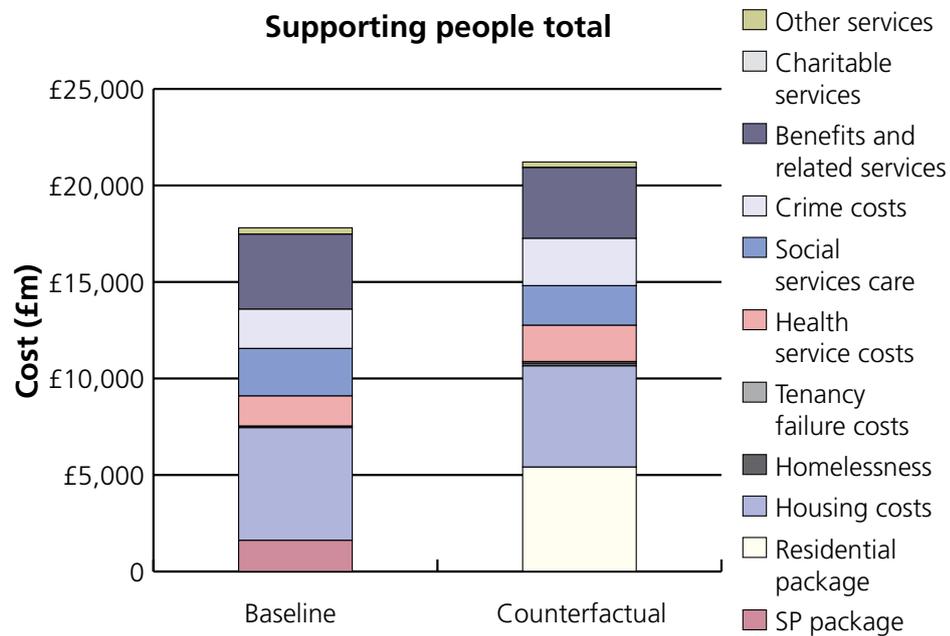
4.10 Charts Sheet

4.10.1 Overview

The *Charts* sheet contains charts that accompany the *Summary* sheet. Two charts are provided for each client group, the four customisable groups (if used) and the total of SP; the *Scenario Total* chart and the *Net Financial Benefit* chart. A colour key for the different cost categories – which all the charts follow – is displayed at the top of the sheet.

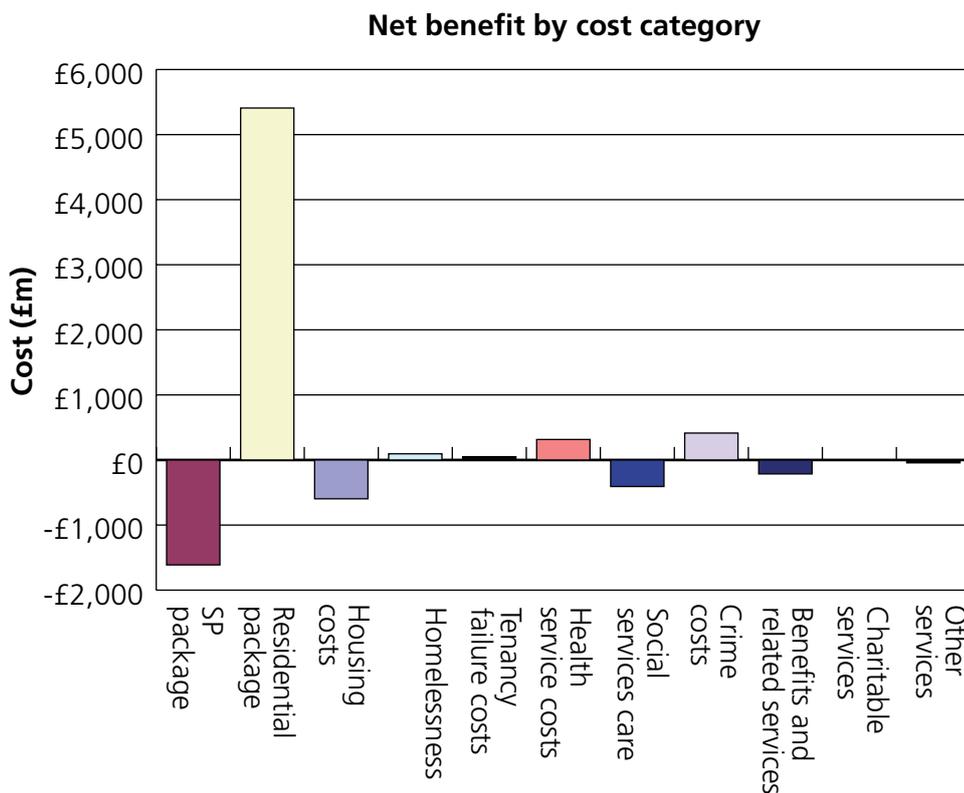
4.10.2 Scenario Total

The *Scenario Total* chart displays two stacked column charts, showing the costs for the *Baseline* and *Counterfactual* scenarios. Each column is split into the different cost categories, as per the colour key at the top of the sheet:



4.10.3 Net Financial Benefit

The *Net Financial Benefit* chart displays the estimated difference between the two scenarios as the net benefit of SP (*Baseline* scenario) by cost category. A saving is shown as a positive amount, and extra expenditure is shown as negative amounts. The same colour key as the *Scenario Total* chart is used, as shown below:



4.10.4 Reporting sheet

The reporting sheet provides a summary of the data that has been entered in the Inputs, Base Services and each of the client group sheets. Data fields shown in bold font indicate data that is editable in the respective sheets, and therefore may have been changed at local authority level. Data fields shown in normal font are those that are not editable at local authority level, and are therefore national numbers.

The reporting sheet has been formatted for easy printing. It could be printed along with the Summary sheet and saved as a record of a particular scenario.

5. Glossary

5.1 Glossary of terms used

Baseline scenario: A scenario for a client group which involves allocating all SP clients to the services that they currently receive.

Basic package cost: The household unit cost of providing a particular support package to a member of a particular client group.

Counterfactual scenario: A scenario for a client group which considers the cost of replacing SP services with the most appropriate positive alternatives for meeting the client group's needs (i.e. the approach which would, in the absence of SP, provide the highest degree of independent living). It involves allocating all SP clients to services other than those involving SP funding. Thus, the difference between the counterfactual scenario total cost and the baseline scenario total cost is the benefit from the SP funding.

Package event cost: The average (or expected) household unit financial cost of events which may happen to a member of a particular client group receiving a particular support package.

Package total cost: The sum of the package basic cost and the package event cost for a household in a particular client group receiving a particular support package.

Scenario: A modelled situation where the clients in a particular client group are allocated to a range of different support packages. In all scenarios modelled by Capgemini, the client group (e.g. "People with learning disabilities" consists of those people meeting the client group definition who are currently provided with SP Funded services and recorded on the SP Local System.)

Scenario total cost: The sum, under a scenario where members of a particular client group are allocated to a range of different scenarios, of package total costs for all members of that client group.

Service package: A package that can be provided to an individual within a particular client group. This may be a service package that involves an element of input funded by SP, or one that does not.

5.2 Client group definitions

5.2.1 Non-technical definitions

Homeless families with Support Needs in settled accommodation:

Families who have been accepted as statutorily homeless and are placed in

accommodation of one of the following types: supported lodgings, supported housing, floating support, accommodation based-service or teenage parent accommodation.

Homeless families with Support Needs in temporary accommodation:

Families who have been accepted as statutorily homeless and are placed in accommodation of one of the following types: homeless refuge, homeless hostel, B&B or other temporary accommodation.

Offenders, People At Risk of Offending or Mentally Disordered

Offenders: Offenders, or people at risk of offending, who are homeless or who are having difficulties in relation to sustaining their accommodation or managing to live independently as a result of their offending behaviour. Also included in this client group are accused or convicted persons with mild to acute mental health needs or with learning difficulties or people with mental health needs whose behaviour has its roots in a personality disorder or people with mental health needs exacerbated by alcohol or substance misuse.

Older People receiving Floating Support / other older people: Older people who either have low to medium support needs, are physically disabled or frail, or have mental health problems including dementia and are receiving floating support services. This group also contains other older people who don't fall into the floating support, sheltered or very sheltered categories: these are principally those who receive community or social alarm services.

Older People in Sheltered Accommodation: Older people who either have low to medium support needs, are physically disabled or frail, or have mental health problems including dementia and are living in sheltered housing for older people, supporting lodgings or supported housing.

Older People in Very Sheltered Accommodation: Older people who either have low to medium support needs, are physically disabled or frail, or have mental health problems including dementia and are living in very sheltered housing for older people.

People with Alcohol Problems: People with alcohol problems who are homeless or who are having difficulties in relation to sustaining their accommodation or managing to live independently as a result of their alcohol problems.

People with a Physical or Sensory Disability: People with mobility difficulties, sensory impairments and debilitating or long term illness.

People with Drug Problems: People with drug problems who are homeless or who are having difficulties in relation to sustaining their accommodation or managing to live independently as a result of their drug problems.

People with Learning Disabilities: People with mild to moderate learning disabilities, as well as those with more severe learning disabilities and/or challenging behaviour.

People with Mental Health Problems: People with enduring but relatively low level mental illness or disability, as well as those who have been diagnosed as mentally ill and who have had, or are having specialist treatment.

Single Homeless with Support Needs in settled accommodation: People who have been accepted as homeless and in priority need, and also those who have been turned down for re-housing or have not approached the local authority, and who have a range of support needs. Their accommodation type is one of the following: supported lodgings, supported housing, floating support, accommodation based-service or teenage parent accommodation.

Single Homeless with Support Needs in temporary accommodation: People who have been accepted as homeless and in priority need, and also those who have been turned down for re-housing or have not approached the local authority, and who have a range of support needs. Their accommodation type is one of the following: homeless refuge, homeless hostel, B&B or other temporary accommodation.

Teenage parents: Young single parents needing support and vulnerable young women in this age group who are pregnant.

Women at Risk of Domestic Violence: Women at risk of domestic violence who have left their home or who are having difficulties in keeping their home and establishing their personal safety and security.

Young People At Risk in settled accommodation: Homeless young people and those in insecure accommodation. Their accommodation type is one of the following: supported lodgings, supported housing, floating support, accommodation based-service or teenage parent accommodation.

Young People At Risk in temporary accommodation: Homeless young people and those in insecure accommodation. Their accommodation type is one of the following: homeless refuge, homeless hostel, B&B or other temporary accommodation.

Young People Leaving Care: Young people leaving Administering Authority care who need support. (ref. Care Leavers Act and its definition of relevant children)

5.2.2 Technical SPLS definitions

The definitions in this subsection give the information that is required to extract information about the client groups from SPLS data.

Homeless families with Support Needs in settled temporary

accommodation: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Homeless Families with Support Needs' which are not classified as temporary accommodation (see paragraph below).

Homeless families with Support Needs in temporary accommodation:

Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Homeless Families with Support Needs' AND {[ACCOMMODATION_TYPE_NAME] = 'Foyer for Young People' AND [ACCOMMODATION_TYPE_NAME] = 'Homeless hostel, B&B or other temporary accommodation' OR [ACCOMMODATION_TYPE_NAME] = 'Women's refuge'}.

Offenders, People At Risk of Offending or Mentally Disordered

Offenders: Those SPLS data entries where: {[CLIENT_GROUP_NAME_PRIMARY]='Offenders or People at Risk of Offending' OR [CLIENT_GROUP_NAME_PRIMARY] = 'Mentally Disordered Offenders'}.

Older People Receiving Floating Support & Other older people: Those SPLS data entries where: {[CLIENT_GROUP_NAME_PRIMARY]='Frail Elderly' OR [CLIENT_GROUP_NAME_PRIMARY]='Older people with Support Needs' OR [CLIENT_GROUP_NAME_PRIMARY] = 'Older people with mental health problems/dementia'} AND [SERVICE_TYPE_NAME]='Floating Support'.

and

those SPLS data entries which are classified as 'Frail Elderly' OR 'Older people with Support Needs' OR 'Older people with mental health problems/dementia', but which do not fall into the sheltered or very sheltered categories below.

Older People in Sheltered Accommodation: Those SPLS data entries where {[CLIENT_GROUP_NAME_PRIMARY]='Frail Elderly' OR [CLIENT_GROUP_NAME_PRIMARY]='Older people with Support Needs' OR [CLIENT_GROUP_NAME_PRIMARY] = 'Older people with mental health problems/dementia'} AND {[ACCOMMODATION_TYPE_NAME]='Sheltered Housing for older people' OR [ACCOMMODATION_TYPE_NAME]='Supported Housing (shared or self contained)' OR [ACCOMMODATION_TYPE_NAME]='Supported Lodgings' OR [ACCOMMODATION_TYPE_NAME]='Alms Houses' OR [ACCOMMODATION_TYPE_NAME]='Leasehold Schemes'} AND [SERVICE_TYPE_NAME]<>'Floating Support'.

Older People in Very Sheltered Accommodation: Those SPLS data entries where {[CLIENT_GROUP_NAME_PRIMARY]='Frail Elderly' OR [CLIENT_GROUP_NAME_PRIMARY]='Older people with Support Needs' OR [CLIENT_GROUP_NAME_PRIMARY] = 'Older people with mental health problems/dementia'} AND [ACCOMMODATION_TYPE_NAME]='Very sheltered housing for older people' AND [SERVICE_TYPE_NAME]<>'Floating Support'.

People with Alcohol Problems: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY]= 'People with Alcohol Problems'.

People with a Physical or Sensory Disability: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY] = 'People with a Physical or Sensory Disability'.

People with Drug Problems: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY] = 'People with Drug Problems'.

People with Learning Disabilities: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY] = 'People with Learning Disabilities'.

People with Mental Health Problems: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY] = 'People with Mental Health Problems'.

Single Homeless with Support Needs in settled accommodation: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Single Homeless with Support Needs' which are not classified as temporary accommodation (see paragraph below).

Single Homeless with Support Needs in temporary accommodation: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Single Homeless with Support Needs' AND {[ACCOMMODATION_TYPE_NAME] = 'Foyer for Young People' AND [ACCOMMODATION_TYPE_NAME] = 'Homeless hostel, B&B or other temporary accommodation' OR [ACCOMMODATION_TYPE_NAME] = 'Women's refuge'}.

Teenage parents: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY] = 'Teenage parents'.

Women at Risk of Domestic Violence: Those SPLS data entries where [CLIENT_GROUP_NAME_PRIMARY] = 'Women at Risk of Domestic Violence'.

Young People At Risk in settled accommodation: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Young People At Risk' which are not classified as temporary accommodation (see paragraph below).

Young People At Risk in temporary accommodation: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Young People At Risk' AND {[ACCOMMODATION_TYPE_NAME] = 'Foyer for Young People' AND [ACCOMMODATION_TYPE_NAME] = 'Homeless hostel, B&B or other temporary accommodation' OR [ACCOMMODATION_TYPE_NAME] = 'Women's refuge'}.

Young People Leaving Care: Those SPLS data entries where: [CLIENT_GROUP_NAME_PRIMARY]='Young People Leaving Care'.

6. Technical Appendix

6.1 Worksheet protection

Worksheet protection has been applied to all worksheets in the model, in order to protect against accidental changes to the model's calculation cells and to input cells that are not editable at a local level. Only the cells that are intended for user entry (with blue text) are unlocked.

6.2 Configuration worksheet

6.2.1 Client Groups (worksheet names)

The *Client Groups* (worksheet names) table serves as a record of the short client group names used in the model and is used to define the client group names in the Inputs, Base Services and Summary sheets. It should not be amended at local level.

6.2.2 Client Groups (display names)

The *Client Groups* (display names) table serves as a record of the full client group names in the model and is used to define the client group names in the Model Control sheet. It should not be amended at local level.

6.2.3 Basic Service Category Lookup & Event Cost Category Lookup

The *Basic Service Category Lookup & Event Cost Category Lookup* are used to configure the category lists that are used in the model. The descriptions entered flow through to the Summary worksheet and the category cell dropdown lists on the *Base Services* worksheet and *Client Group* worksheets.

The category cell dropdown lists on the Base Services and Client Group sheets are validated using copies of the lookups which are in the grey formatted hidden columns (*Base Services* worksheet column AD and *Client Group* worksheets AJ:AL). These update automatically and need no modification unless the structure of the lookups on the *Configuration* worksheet changes.

6.3 Calculations

Most of the calculations use simple arithmetic, the ones that do not use the functions or techniques listed below. It may be helpful to know how these work to understand various model calculations.

6.3.1 SUMIF

SUMIF is a standard Excel function. It is used to sum values in a range, dependant on cells in an associated range meeting the specified criteria. Within the model it is used in the *Client Group* worksheets (cells R12:X13) and *Summary* worksheet (columns E & F) to sum the total value within each cost category.

6.3.2 SUMPRODUCT on the Client Sheets

SUMPRODUCT is a standard Excel function. It is used to sum the products of corresponding components in arrays. Within the model it is used in the *Client Group* worksheets (columns W & X) to multiply together for each package the Scenario units, Units per annum, Event costs, and for *Base Services* the Cost sensitivities, and then add the package values together.

6.3.3 VLOOKUP and inflation

VLOOKUP is a standard Excel function. It is used to lookup a value in a table and then return another value from a specified column in the same row. It is used to lookup the inflation values for a particular year in the *Base Services* worksheet (cells D21:L21 etc), and in the *Client Group* worksheets (cells R19:V28 and in column O).

Inflation is applied by taking the cumulative inflation value in the current year (see section 4.6), and dividing by the inflation value for the year in which the cost was measured, which gives the total inflation between the two years.

This following example illustrates how the Indexation sheet is used to inflate data throughout the model. For the purposes of the example, assume that it is currently 2009.

BASE SERVICES		Serv. w/o SP		Serv. with SP	
Back to Model Control		Cost	Year	Cost	Year
Package Description	Category	serv. w/o SP		serv. with SP	
Cost Type					
Residential care fees	Residential Package		2009		2009
Residential care fees (incl. vat)	Residential Costs	£ 3,640	2008	£ 3,640	2008
Personal Welfare costs	Healthcare & Welfare Services	£ 3,120	2008	£ 3,120	2008
Supporting People Costs	SP Packages		2009	£ 5,576	2009
Marriage Break-Up Care	social services care	£ -	2007	£ -	2007
Day Care	social services care	£ -	2007	£ -	2007
Marriage break-up care (incl. vat)	State Services	£ -	2007	£ -	2007
Administration of benefits	Benefits & Related Services	£ 643	2007	£ 643	2007
			2009		2009
			2009		2009
Total after indexation		£ 8,796		£ 14,140	

The Housing Cost shown for the client group, People with alcohol problems, in the Service w/o SP package was £3,640 in 2006 (circled in red). The Total after indexation figure of £10,759 (circled in blue) contains the following calculation, which uses the Indexation sheet to inflate this cost to a 2009 figure:

$$\text{Cost} \times \frac{\text{Cumulative indexation in cost year}}{\text{Cumulative indexation in current year}}$$

$$= \text{Cost} \times \frac{\text{Cumulative indexation in 2006}}{\text{Cumulative indexation in 2009}}$$

$$= £3,640 \times \frac{147.7}{132.9}$$

$$= £3,640 \times 1.111362$$

$$= £4,045.36.$$

Current Year	Year	Indexation (incremental)	Cumulative Indexation
2009	1996	3.6%	100.0%
	1996	2.4%	102.4%
	1997	3.1%	105.6%
	1998	3.4%	109.3%
	1998	1.5%	110.9%
	2000	3.0%	114.2%
	2001	1.8%	116.2%
	2002	1.7%	118.2%
	2003	2.9%	121.6%
	2004	3.0%	125.2%
	2005	2.0%	128.0%
	2006	3.2%	132.9%
	2007	4.3%	138.6%
	2008	4.0%	144.1%
	2009	2.5%	147.7%
	2010	2.5%	151.4%
	2011	2.5%	155.1%
	2012	2.5%	159.0%
	2013	2.5%	163.0%
	2014	2.5%	167.1%
	2015	2.5%	171.2%

ISBN: 978 1 4098 1605 8



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