

Homecare Cost of Care Toolkit

Guidance and support
December 2021

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Disclaimer:

This publication has been prepared only as a guide. The example figures provided in this document are for illustrative purposes and should not be used in place of locally determined figures or relied upon to make decisions concerning local costs.

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Glossary:

Term	Definition used for the purposes of this document
Tool / Toolkit	This refers to the Excel spreadsheet, which this Guidance document accompanies. The Toolkit has two parts and if a specific reference is being made to either part then the name of that part will be used. (Part A – Standard (Cost+) Model and Part B – Sensitivity Analysis)
User	This refers to the person using this toolkit. When this term is used in relation to inputting information into the toolkit.
Fixed costs	These are costs incurred by the provider regardless of the volume of care they provide. They include; operational overheads such as rent / premises cost, insurance etc.
Variable costs	These include care workers direct contact pay and travel, and carer non-contact related costs i.e. training, sick pay, maternity/paternity, holiday).
Period	Much of the information that needs to be populated will relate to a specific time-period, typically a financial year; the important factor is that period chosen is agreed upon by commissioner and providers.
Cost	The figure that includes all costs incurred in delivering a unit of care plus a figure for profit / surplus.
Price/fee/rate	The figure that the council pays a care provider for the delivery of a unit of care.
Travel	The journey (and associated time, distance and related costs) from two fixed points that will typically be the homes of two people in receipt of care and support.

Part A: Overview



1.1 Context

Each year, councils consider the fee rate for home care in their respective provider markets, taking into account changes in the market, the needs of local residents, as well as local policies and procedures to ensure fair access to care under the Care Act. The Care Act (2014) clearly states when considering prices paid, councils should “*assure themselves and have evidence that ... fee levels for care and support services are appropriate to provide the delivery of the agreed care packages with agreed quality of care*” and “*should understand that reasonable fee levels allow for a reasonable rate of return by independent providers that is sufficient to allow the overall pool of efficient providers to remain sustainable in the long term...*”¹

1.2 Why has this tool been developed?

The Care and Health Improvement Programme (jointly delivered through ADASS and LGA) commissioned ARCC-HR Ltd in April 2021, to deliver this Cost of Care Toolkit. It is recognised that setting a fair price for care is made challenging without a standardised model and guidance being offered in a way that does not mandate certain criteria or provide budgetary or quality constraints on both authorities and providers.

The intended purpose of the toolkit is to support improvements in the level and quality of information about the costs of delivering home based care and support. In short², the expected benefits are:

- Support commissioners and providers to obtain a shared understanding of actual costs of delivering home care in the local area.
- Support commissioners understanding of the complexities inherent in the home care market in relation to the way care providers operate, their structure and costs associated with providing care. This is expected to inform and support fee-setting exercises, market viability and market shaping.
- Create a tool that councils (and providers) can access free of charge and that accurately deals with all factors that influence providers costs, including volume.
- Recognise existing and potential future legislative requirements

The main purpose of this document is to guide commissioners and providers on how to practically use the home care cost of care toolkit.

1.3 Structure and functionality of the cost model

The toolkit accompanying this guidance has been constructed in two parts; these are:

¹ Department of Health (2016), Care and Support Statutory Guidance, paragraph 4.31. www.gov.uk/government/publications/care-act-statutory-guidance/care-and-support-statutory-guidance#chapter-4

² Further detail on the expected benefits and reasons why CHIP commissioned this tool can be found on the CHIP website.

Part A – Standard (Cost+) Model:

Part A (traditional unit costing) utilises a traditional unit costing approach and provides a foundation understanding of the individual operating costs and variances that make up the cost of home care, whilst enhancing existing models by adding additional flexibility and costs that may not be considered. It considers as far as possible all expected cost lines that home care providers incur in delivering services. Whilst additional cost lines may exist within individual home care providers, feedback from extensive engagement with stakeholders, including care providers, has arrived at those that are included in the toolkit. This part of the tool includes additional blank lines to allow the user to add cost lines that are not already included but should be factored into any cost of care exercise.

Information utilised to complete this element of the cost model should be sourced from the local provider market, utilising actual costs of delivery.



Figure 1: overview of Part A Standard (Cost+) Model

Part B – Sensitivity Analysis

This part of the tool can be used to generate “what-if” scenarios to see at-a-glance the impact of changing costs, volumes and price points on the profitability of the provider/branch/market as a whole. It utilises the cost of care data gathered to populate Part A, alongside an easy-to-use slider interface. A council can scenario-test various changes to their current commissioning arrangements, to see the impact on provider sustainability. There are many uses for this, for instance, a council could easily establish the rate they would have to pay a provider, for them to pay their staff £10 per hour.

II. Sensitivity Analysis

This worksheet can be used to model different scenarios based on changes to cost and income measures against the baseline model in worksheet 'I. Standard (Cost+) Model'. Adjust the figures using the sliders below to model different cost bases. All figures are presented weekly. The figures in the right hand column will adjust dynamically to represent the hourly unit cost based on the adjusted inputs. Figures presented below after sensitivity analysis below are illustrative and should be checked against the base model for accuracy.

A. Volume & Income Levers	Baseline		% Change	+/- Baseline	New Figure
Hourly Unit Rate	£19.58	< [slider] >	0.0%	£0.00	£19.58
Commissioned Contact Hours	1,488	< [slider] >	0.0%	1	1,488
Average Visit Length (mins)	37.2	< [slider] >	0.0%	0.0	37.2
Total Unique Visits	2,400		0.0%	0	2,400

B. Contact Direct Pay Levers	Baseline		% Change	+/- Baseline	New #
Weighted Contact + Travel Pay Rate	£9.77	< [slider] >	0.0%	£0.00	£9.77
Average Travel Time per Visit	5.0	< [slider] >	0.0%	0.0	5.0
Average Miles Per Visit	1.0	< [slider] >	0.0%	0.0	1.0
Travel Expenses (per mile)	£0.35	< [slider] >	0.0%	£0.00	£0.35
Travel % of Contact + Travel	11.9%		0.0%	0.0%	11.8%
Total Contact Pay Cost	£14,538		0.0%	£5	£14,543
Total Travel Pay Cost	£1,955		0.0%	£0	£1,955
Total Mileage Expenses	£840		0.0%	0	£840

Figure 2: example of Part B Sensitivity Analysis

1.4 How information is used within the tool

An overview of the information requirements in order for the use to complete Part A of the toolkit is provided below.

Information	Further detail
Volume of hours and the mix of visits	For each visit type, information is required on the number of these visits and the duration (in mins) of these visits
Number of staff	All staff, including those involved in direct care provision and back-office staff
Number of service users	The average over the period that this tool relates to (likely to be last 12 months)
Care staff pay rates	For all staff involved in directly providing care, the proportion of their time spent providing care and any enhancements (e.g. for bank holidays)
Average travel times, distance and mileage	This applies to all care visits included in this tool
Employee Terms and conditions	Information that reflects specific terms and conditions relating to training & supervision time, holiday, sickness, maternity/paternity and sickness etc.
Average PPE details	Cost per item, PPE use per visit and % of visits where PPE is required
All non-pay overhead costs	To include <ul style="list-style-type: none"> • Branch office staff (including schedulers, management and governance) • Infrastructure – Property related costs, ICT, telephony (including use of ECM), stationary etc • Corporate recharges (for larger businesses)
Expected profit or re-investment contribution	This may be a figure submitted by the provider, or one agreed with the commissioner

The list of information above illustrates why, with only a few exceptions, all the information needed to populate Part A is required from providers. Similarly, the more accurate and up-to-date the information that is used to populate the tool the better. Where possible, information should avoid being aggregated in a way that does not illustrate exactly what the cost relates to.

To calculate a **unit rate per care hour**, the toolkit takes user input values to calculate both fixed and variable costs. Figure 3 (below) provides an overview of the high-level workflow and calculations in the toolkit, and the below summarises the key elements contained within.

- **Variable** costs (such as carer's direct contact pay and travel, and carer non-contact related costs i.e. training, sick pay, maternity/paternity, holiday) are **multiplied** by the volume of care time (hours) commissioned per annum, and are made up of the following:
 - The **weighted average visit length** is taken into account in the hourly unit rate
 - Carers are paid for both contact time and travel time
 - Travel time and mileage expenses are accrued on all visits
 - PPE costs are calculated using the proportion of visits requiring PPE and the number of uses of each PPE item

- Hourly pay rates for contact time and travel can vary depending on both (a) the *type of staff* delivering care and (b) care delivered at *enhanced rates*
- Carers are paid the same rate as the above for **all non-contact related time** (i.e. sick pay, holiday, training etc.) excluding where enhancements are paid for contact & travel time
- Training is accrued at 7.5 hr days for each staff member, regardless of avg. FTE of staff
- Holiday pay is accrued on **all working time** (contact, travel, training, sick, additional non-contact pay costs)
- Employer's NI cost is accrued on **all working time** at the statutory rates, and varies according to the statutory pay thresholds based on average weekly hours per worker
- Pension contributions are accrued on **all working time**
- **Fixed** costs (*such as back office staff costs, overheads & profit contribution*) are **divided** by the total care time (hours) commissioned; and are annualised for the purposes of cost calculation
- All calculations where annualised amounts are required assumes a 52 week-year
- Profit/surplus contribution is a mark-up % of the total costs

Variable costs for the purposes of the model refer to those costs aligned to the volume of business a provider is delivering, such as carer’s direct contact pay and travel, and carer non-contact related costs i.e., training, sick pay, maternity/paternity, holiday.

Fixed costs for the purposes of the model remain relatively constant costs which are incurred irrespective of the volume of care delivered (unit of time/visit length). These include back-office staff and operational overheads such as premises, insurance, consumables etc.

It is important to note that homecare branches will have a ceiling number of hours before additional back-office costs increase.

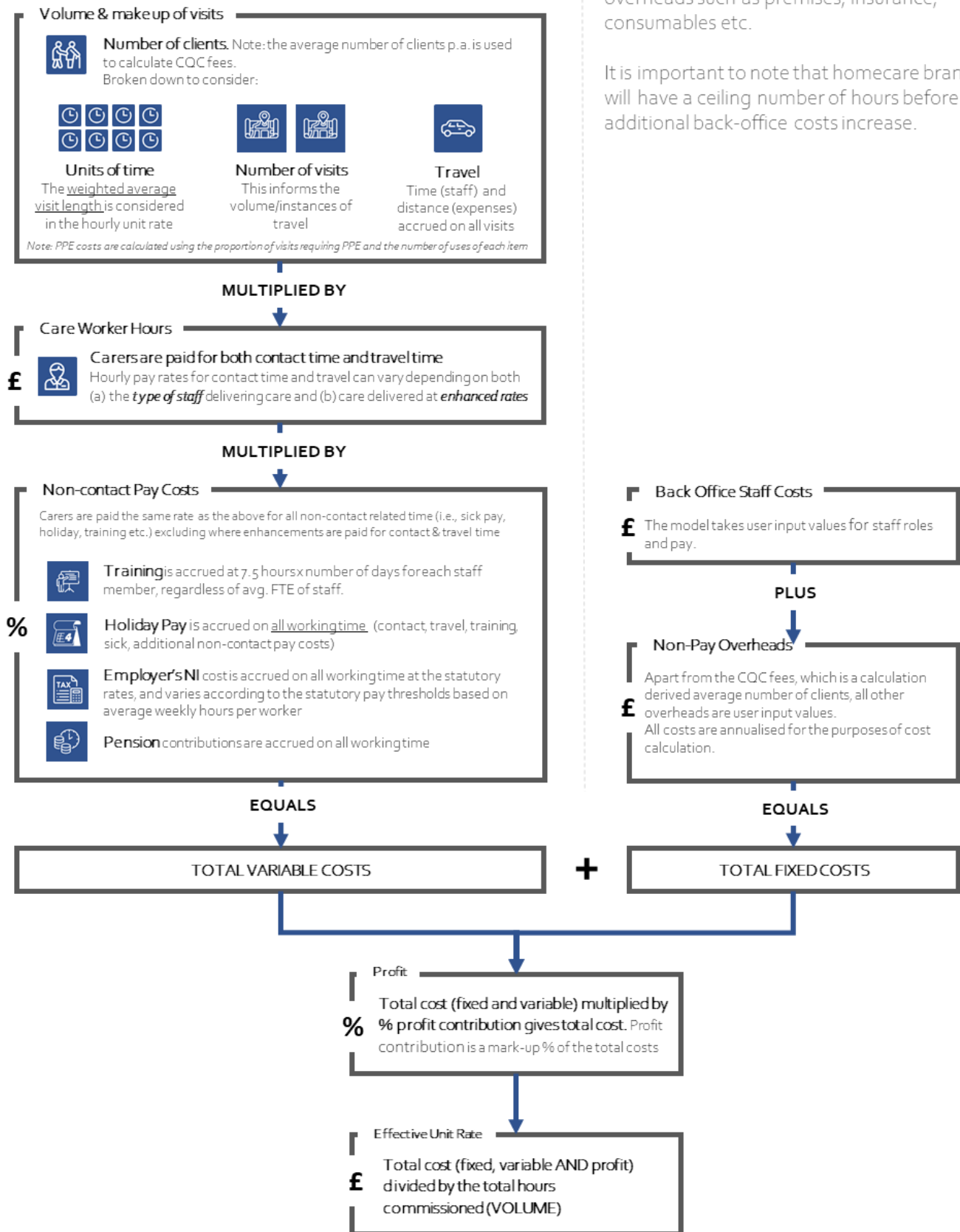


Figure 3: calculation and model logic flow

1.5 Things to be aware of when using the toolkit?

When considering how the tool can be used most effectively in a local area, there are a few factors to consider both in relation to the tool and the overall cost of care process:

1.5.1 How should the tool be populated?

There is no simple answer to the question of exactly who should provide the information and who should actually populate the toolkit (i.e. the user), as this will depend on how it is being used. However, this section seeks to explain the main scenarios in which this tool is likely to be used and support commissioners and providers agree an approach that works best for them. It was clear from discussions with commissioners and providers during the testing phase that there will be a wide range of uses and applications of this tool and this will influence how the tool is populated and the role of the commissioner and providers in this process. The table below provides some suggestions about how the tool may be populated in different circumstances. These suggestions are intended to inform local practice, not be directive.

Example Use Scenario	Considerations
<p>Scenario 1: A council is using the tool to inform their plans for a new service or set of commissioning arrangements and wants to understand likely costs, to inform their approach and expected fee rates.</p>	<p>Who provides the information? The commissioner may be able to predict what the expected volumes, types of visits, number of people to be supported and expected travel distance and time (especially if a geographical zone-based model) are. They may also have expectations about staff pay rates and shift structures etc and could use this information to give them an indication of the costs a provider is likely to incur in delivering such a service. However, it should be recognised that this will map a hypothetical scenario and so would not give any precise figures. It is also likely to be a much more accurate and useful exercise if providers are involved in this, partly because some of the information would not be known to a commissioner (e.g. back office costs) and partly so the planning reflects the reality of organisational structures and service delivery.</p> <p>Who populates the tool? Under this scenario it is likely that as the commissioner is using this tool for their own planning, so they would be the ones that populate this tool with supporting data provided from the market.</p>
<p>Scenario 2: Commissioners and providers agree to use the tool to establish the actual costs incurred by local care providers. This may be done to create a baseline of current actual costs for any future and potential changes to commissioning or fee arrangements, or there may be specific next steps in mind (e.g. part of a fee review process).</p>	<p>Who provides the information? The provider will know all of the information required to populate the tool and whilst the commissioner may have access to some data (e.g. number of commissioned visits), they will not have the full picture of rates of staff pay, overheads etc. Therefore, it is expected the information will come from the provider/s.</p> <p>Who populates the tool? It is dependent upon the agreed approach locally; commissioners may request the data is provided in a data collection template (representing all of the data fields, see section 1.4), alternatively, providers may be asked to complete the tool. Consideration should be given as to whether the commissioners are seeking to identify a 'market rate' or individual provider rates.</p>

1.5.2 How should the tool be used as part of a wider cost of care processes?

When considering how the tool can be used most effectively in a local area, commissioners and providers are encouraged to consider the following:

- **Importance of transparency, joint-working and a shared understanding.** Commissioners and providers are strongly encouraged to work together to agree how the cost of care process should operate and the specific use of this tool. The considerations should include, but not be limited to:

- Deciding which providers are involved in this process to ensure this is representative of the local sector.
 - Agreeing realistic timescales for the collection of the data/completion of the tool, providers checking and verifying the information, commissioners analysing the results, and making and implementing any subsequent decisions.
 - How information obtained during this exercise is used. Providers should have regular opportunities throughout this process to check their information is being used and interpreted correctly.
 - How providers can see an aggregated analysis of the information they shared, in a way that is informative and transparent but safeguards the confidentiality of this sensitive information.
 - Agreeing how information from this exercise will inform future planning and decision-making. All parties involved should be reasonable and clear about what commitments can and can't be made for how the results of the exercise will be used. For instance, a commissioner may commit to using this information to focus on a particular topic (e.g. to consider the case for differential fee rates for rural provision), but should not be expected to commit to specific decisions or actions (e.g. to increase the fee rate it pays by x%) before the exercise is completed and analysed and certainly not before it has begun.
- **Accuracy and completeness of information.** The more accurate, up-to-date and complete the information used to populate the toolkit is, the more accurate the cost figures will be. The toolkit has been developed in a way that allows flexibility in the way some data is populated but it is important to recognise there will be variances in the level and quality of information available and that means in some cases elements of the toolkit cannot be completed. Commissioners and providers should work together to arrive at a position that they all understand and agree upon and it may be possible to use an accurate estimate based on other known factors, but if not, the cost figure should be left out to avoid skewing the results.

1.5.3 Exclusions

This tool will not / should not:

- **Be expected to give a precise cost, especially where information is inaccurate or missing.** This tool will deal accurately and appropriately with the information used to populate it and will provide a robust basis for understanding and considering costs. However, there are a few factors to be considered:
 - If a provider completes the tool with full and accurate information there are likely to be some figures that have a margin for error, though the testing of the tool indicates this won't have a major impact on the overall costs or use of this tool. For instance, providers are not expected to record or check actual PPE usage for every single visit but are likely to use figures that reflect typical use of PPE. It is expected that PPE costs will equate to around 2-3% of the overall unit cost. These situations should be understood.
 - If various providers are involved in this exercise, they are likely to populate the tool slightly differently (e.g. include different information in each cost line). This should not affect the overall accuracy of the tool, but caution should be applied when comparing certain cost lines, especially where information from different providers is aggregated.
- **Be used to aggregate costs of providers that fundamentally differ in what they are commissioned to provide.** This tool has been designed to accommodate provider differences and a variety of cost information.

However, where the cost bases and approaches of providers are fundamentally different this should be considered when deciding how to use the tool. As an example, assume a council commissions two different services. One where they commission and pay for the delivery of individual visits of 30 mins, 45 mins and 60 mins and the second where they commission and pay for staff to be on shifts and not the individual care they deliver (e.g. a rapid response type service). These services will have such different cost bases that it would not be appropriate to aggregate all results to try and understand a single cost figure. It would be much more appropriate to treat the two services and sets of information separately and use this exercise to understand the cost base for each service.

- **Be used to judge or assess how a care provider operates.** Within any sector, especially home care, different organisations will operate differently from each other and their cost base and structures will reflect this. Home care providers differ in their size, structure, volume of support provided and in many other respects. All parties should recognise this is a reasonable position and not focus on these differences, but on what this tool can help everyone understand about costs. The key purpose is to **ensure that the cost envelope in its entirety is reflective of current market costs**, and commissioner's expectations.
- **Tell anyone what fee rates should be or what decisions should be made.** It is recognised that the commissioning and provision of care and support for people living in their own home is complex. Therefore, any decision made about the commissioning, payment, or delivery of such provision will need to consider various factors. It is important to recognise this is an intelligence tool, not a decision-making tool. Where commissioners and providers use this tool effectively it should provide useful intelligence to inform future decision making. As a specific example of this, it should not be assumed that a council will or must pay providers at a rate that is solely based on the outcome of this exercise.

Part B: Toolkit User Guide

2.1 Workbook Structure

End User License Agreement (EULA):

The tool can only be used once it has been downloaded. Before downloading, each user is required to review and accept the EULA when downloading the toolkit. Once downloaded, two worksheets are displayed in the tabs at the bottom – these are Part A and Part B of the toolkit. The information from Part B is taken directly from Part A and so can only be used once Part A has been completed. Therefore, you should complete Part A to start with.

Part A – Standard (Cost+) Model: This is used to input volumes, standard business costs and generate a unit price per hour of home care. The information added to Part A will automatically pull through into Part B.

Part B – Sensitivity Analysis: This can be used to vary individual cost lines using a 'slider' interface.

BY USING THE TOOL YOU ARE AGREEING TO THE TERMS AND CONDITIONS WITHIN THE EULA.

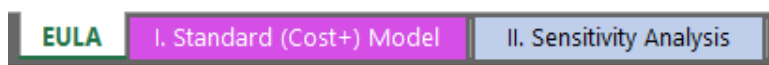


Figure 4: screenshot of worksheet tabs within the toolkit

The following section describes the functions and inputs required for each worksheet to produce accurate results and should be read alongside the toolkit.

NOTE: All volume and cost values shown in screenshots and examples during this document are for ILLUSTRATIVE PURPOSES ONLY to demonstrate the calculations in the toolkit. The toolkit will be blank when opened to allow users to enter the values that relate to their organisation.

2.2 Part A: Standard (Cost+) Model

2.2.1 User key and Sections

A key is provided in the **I. Standard (Cost+) Model** to direct users to different types of input and cells with commentary, as shown below.

I. Cost-Plus Homecare Model	
KEY / LEGEND	
FREE TEXT / CHOICE	Denotes input for free text or option to choose via drop-down box
###	Denotes any value required for calculation in the model. Input as directed via floating comment boxes
Calculation	Cells with red bold border include a comment 'flag' which appears when hovering over

Each section is made up of tables, containing cells which require user entry as well as calculated values and summary totals. Sections are headed with the type of information required, alongside commentary in grey text to describe the inputs and calculations performed in the section.

A. Care Hours & Visits Breakdown

Enter the number of visits per week at each visit length conducted. Enter the visit type name as required in the column in green. The below table calculates the weekly hours delivered and weighted average visit length for cost calculation.

User input cells (red text with an orange background) will display a comment box next to them when clicked, others bordered in red open a comment when a user hovers over these cells, as pictured below.

No. Visits p/week	Contact Hrs p/week	Travel Hrs p/week	Travel % of Total
0	0	0	-
1,500	750	125	14%
650	488	54	10%
250	250	21	8%
0	0	0	-
0	0	0	-
0	0	0	-
2,400	2,400	200	12%

Visits and Care Hours
Please enter the visit type (for instance, "LA 30-min visit"), the visit length, and average number of visits per week. The total hours per week of each visit type will be calculated.

Travel time proportions:
The proportion of travel time is dependent on the travel elements (box below) and the average length of visit. A shorter visit length will attract a higher proportion of travel time than a longer visit length, meaning an increasing proportions of non-contact time per hour contact time. Travel time costs are calculated based on the same hourly pay as contact time elements for each staff type.

NOTE: The *Standard (Cost+) Model* worksheet should be completed in its entirety based on the branch, provider or market being modelled for best accuracy. If the user wishes to establish varying unit costs for different types of services (for example depending on geography/rurality or different specialisms such as continuing healthcare), complete a separate worksheet for each. Ensure that the allocation of volume and costs in each worksheet is representative of the service being modelled.

2.2.2 A. Care Hours and Visits Breakdown

This section seeks to establish the different types of visits undertaken and specifically, the amount of face-to-face contact time involved in each different type of visit and the overall visits and contact hours per week.

What needs to be input: The table allows input for up to 8 visit types to determine the total volume of contact (face-to-face) hours for the branch, provider or market being modelled. Visit types can represent different visit lengths and can be categorised manually by entering free text in the 'Visit Type' cells in green (to specify visit types such as local authority, self-funded, continuing healthcare (CHC), short breaks, sit-in services or awake nights). If you wish to establish different unit costs for different visit types then you may complete a separate worksheet for each volume of activity (see note in 2.2.1).

Total Visits Breakdown		Visit Length (mins)	No. Visits p/week	Contact Hrs p/week	Travel Hrs p/week	Travel % of Total
Visit Type Breakdown	Visit Type 1			0	0	-
	Visit Type 2	30	1,500	750	125	14%
	Visit Type 3	45	650	488	54	10%
	Visit Type 4	60	250	250	21	8%
	Visit Type 5			0	0	-
	Visit Type 6			0	0	-
	Visit Type 7			0	0	-
	Visit Type 8			0	0	-
	Average Visit Length		37.2	2,400	1,488	200

The values in column **contact hours p/week** are calculated by the visit length multiplied by the no. visits p/week. Users should check the output in the 'contact hours' to ensure this reflects the expected figure.

NOTE: The "Travel % of Total" column shows the total travel hours as a proportion of contact hours + travel hours for *each visit type*. Travel costs in the model are calculated *per visit* and not *per hour*, i.e. with an average travel time of 8 minutes, this represents **21% of the total visit length** where contact time is scheduled as 30 minutes, **compared to 12%** where contact time is scheduled as 60 minutes.

Travel % of total = travel time / (contact time + travel time).

Example:

(a) $38 \text{ mins} = 8 \text{ [travel]} / 30 \text{ [contact]} + 8 \text{ [travel]} = 21\%$.

(b) $68 \text{ mins} = 8 \text{ [travel]} / 60 \text{ [contact]} + 8 \text{ [travel]} = 12\%$.

2.2.3 B. Travel Time & Mileage Expenses

What needs to be input: Enter the **average travel time (in minutes) per visit**, based on the annualised number of visits delivered above in Section A. Enter the **average travel distance (in miles)** and the **per-mile expense cost** attached to each visit.

The table calculates the total hours of travel time accrued based on the annualised visits and the total annual mileage cost. These figures are also expressed as travel hours per week in the table in Section A.

	Travel	p/visit	p/annum	Cost (£)
Travel	Average travel distance (miles)	1	124,800 miles	£43,680
	Average travel time per visit (mins)	5	10,400 hrs	£101,642
	Mileage pay (p/mile)	£0.35	£43,680	£0.35
	Average travel speed (mph)	12 mph		£145,322

Travel costs are calculated using the **total number of visits** and mileage associated with each visit. Please enter the **travel time in minutes** and the **average distance in miles per visit**, as well as the **mileage pay rate**. Total travel costs are then calculated as follows:

- (1) Worker pay travel costs for all visits = (minutes per visit x total visits / 60) x weighted hourly pay rate
- (2) Total mileage costs = (avg. miles per visit x total visits) x mileage pay p/mile
- (3) Total travel costs = worker pay travel costs (1) + total mileage costs (2)

Please note that the model requires an **average travel distance and time for all visits**, and therefore the user's input must represent weighted average figures for the breakdown of visits entered in 2.2.2 above. If the user wishes to apply different travel distances and times to proportions of visits, then use separate worksheets to calculate the unit costs for these. This may be desirable if the user wishes to produce an output showing varying travel times and visits between geographies (e.g. rural vs. urban).

NOTE: The **average travel speed (mph)** is a helpful measure to ensure travel times and distances entered are reasonable and accurate. For instance, in an urban area, it is unlikely that an average speed of 30mph is achievable (due to speed limits and traffic congestion), however may be more representative in a rural area (i.e. distance between visits may be larger; lower traffic and higher speed limits may indicate travel time to be the same or less).

2.2.4 C. Branch and Volume Summary

The below table calculates the total annual hours of direct care (contact) and travel accrued based on Sections A and B above.

What needs to be input: users must enter the average number of service users they support in a 7-day period, based on the information populated in the 'total visits breakdown' section.

Total Volume	Key Volume Indicators (Service users, Visits, Contact & Travel Time)	p/week	p/month	p/annum
	Average number of service users	100		
Visits	2,400	10,400	124,800	
Average service user hours (F2F)	14.9	64.5	774	
Direct Care (F2F) hours	1,488	6,446	77,350	
Travel hours	200	867	10,400	
Total (contact + travel) hours	1,688	7,313	87,750	

The number of service users in this table is also used to calculate CQC fees in the model (described as an Overhead cost in section J below), as fees are based on number of branches and service users. Therefore, the number of service users should be accurate to those expected to be charged for within the annual period.

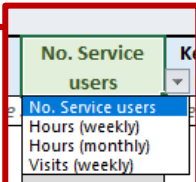
For more information on how the number of service users is arrived at for the purposes of CQC fee calculation, please see the CQC guidance document [here](#)³ (sections 40-44 on pages 16 & 17).

BRANCH CALCULATOR

Where the user is utilising the tool to assess the entire market, i.e. the totality of services commissioned; to calculate the number of branches required, users must select the variable you wish to use for the maximum branch capacity. The values in here are used as the divisor (or multiplier) for the care volumes entered in Section A and will scale up any fixed costs (see overheads sections H-J below) accordingly. The table shows the total branches required, based on the division of the volumes entered in the rest of the worksheet.

The variable used to set the size of the branch can be changed by using the drop-down box (cell highlighted with green text), as shown below.

Branch Capacity <i>Choose variable to calculate >></i>	No. Service users	Key Volume Indicator
<i>Input the value for the selected variable below</i>		
Service users p/branch	100	100
Weekly contact hours		1,488
Monthly contact hours		6,446
Weekly visits		2,400
Total branches required		1.0



NOTE: If the user is using the worksheet to model for a single branch only, then ensure the variable used here matches the value entered in Section A. For example: if the user is modelling volumes in the cost toolkit based on 100 service users in totality, and the branch size is also 100 service users, then '100' should be entered the field 'service users p/branch'. The table will then output total branches required as 1 (illustrated above).

³ CQC fee guidance for providers (2020-21 version), [checked November 2021]; please check CQC website for latest version, https://www.cqc.org.uk/sites/default/files/20200402_fees_guidance_for_providers201920_updated_Mar20.pdf

2.2.5 D. Personal Protective Equipment (PPE)

This section calculates the actual costs of PPE based on the unit cost at which PPE is purchased, the usage and frequency of PPE against the annual number of visits calculated in Section A.

What needs to be input: for each type of PPE, the provider should state the **cost per unit**, **average number required per visit** (i.e. how many PPE items may be used per visit) and **the proportion of all visits (annually) that PPE is required**. If 1x instance of PPE is required for every visit, the number of uses = 1. If more than 1x PPE is required, then number of uses = 2.

	Personal Protective Equipment (PPE)	Cost p/unit	Items req'd p/visit	% PPE Calls	Annual Units	Cost (£)
PPE	Face Mask	£0.05	1	100.0%	124,800	£6,240
	Gloves	£0.05	1	100.0%	124,800	£6,240
	Visor				0	£0
	Apron	£0.12	1	100.0%	124,800	£14,976
Total Unit Costs £					374,400	£27,456

Users should consider the *average PPE items across all visits* when entering PPE figures. For example, there may be instances where several activities or tasks for a single visit require gloves to be replaced within the visit. Equally, PPE may not be required for all visits (such as shopping visits where gloves may not be required). Therefore, a level of judgment is required as to the proportion of PPE items across all visits for the purposes of establishing total costs in the table below **and**, and should be checked against actual PPE spend for accuracy.

Where cost information for PPE or other consumables cannot be calculated per visit, such as hand sanitiser, these may be included in Overheads (section J) instead of in the above table. It is recommended that where available, PPE costs are covered as above.

2.2.6 E. Direct Pay Rate Card & Costs

This section contains the pay rates for workforce involved in direct care delivery.

What needs to be input: pay should be input as an *hourly rate*. By default, the table allows the user to input varying pay rates based on the following worker types: **carer, senior carer, registered nurse, enhanced/short notice/unsociable hours** and **salaried (team leader/supervisory)** staff. Enter a basic (weekday) rate for each worker type that you wish to represent in the model. There are two variables that ensure accurate costing of all hours to be delivered in the model.

The volume of hours used for calculation in this section include **contact and travel hours**, not just face-to-face hours. This ensures that workers are calculated as being paid at the same rate for any travel hours, and to comply with HMRC National Minimum Wage pay requirements.⁴

⁴ National Minimum Wage rates for 2021/22 onwards can be found at <https://www.gov.uk/national-minimum-wage-rates>

Direct Staff Hourly Rate Breakdown ⁽¹⁾	Basic £	Enhanced 1	Enhanced 2	% Call	Total Hours
	(Weekday)	(Weekend)	(Bank Holiday)	Allocation	
Enhancement Uplift %		0.0%	25.0%		
Carer	£9.50	£9.50	£11.88	85.0%	74,588
Senior Carer		-	-	0.0%	0
Registered Nurse		-	-	0.0%	0
Enhancement (Short Notice/Unsociable)	£11.50	£11.50	£14.38	5.0%	4,388
Salaried Staff (Supervisor/Team Leader)	£10.70	£10.70	£13.38	10.0%	8,775
Annual % of Hours	69.3%	28.5%	2.2%	100%	87,750
Apportioned Hours p/annum	60,824	25,003	1,923	87,750	

(1) Enhancements: There are two additional types of enhancements (supplementary to the *short notice/unsociable hours* row under worker types) that can be added to represent **weekend** and **bank holiday** hours. The proportion of hours delivered that fall into either of the enhanced pay categories will attract that rate instead of the basic rate. The user may enter the **%age uplift on the "Basic (Weekday)" rate** they wish to apply for each enhancement type. In the example below, for a basic carer working on a bank holiday, they are paid at an enhanced rate of **£11.14** instead of **£8.91** (due to the 25% uplift being applied to the pay rate).

NOTE: By default, the Standard (Cost+) model distributes all hourly evenly across the year, depending on the proportion of days within the year that are weekend or bank holiday. For example, 104 weekend days in a calendar year represents 28.5% of 365 days, and therefore **28.5% of all contact & travel hours attract the "weekend" rate**. Similarly, 8 bank holidays represent 2.2% of 365 days, and so 2.2% of hours attract the "bank holiday" rate. If different %age enhancements are paid for different Bank Holidays then a weighted average figure should be populated. For example, if New Year's Day and Boxing Day are paid at 50% enhancement and Christmas Day at 100% enhancement and the other 5 Bank Holidays are paid at the basic rate, the figure entered should be 25% (5 x 0% enhancement + 2 x 50% enhancement + 1 x 100% enhancement) divided by 8 = 25% enhancement. This assumes levels of care provision are equal on each Bank Holiday

(1) % Call Allocation: In order for the model to calculate the correct rates & enhancements for contact & travel hours, the user may input the proportion of all hours that are delivered by each level of staff member. This is entered as a **% of total hours** delivered. In the example above, 5% of all hours are delivered at an enhanced (short notice) worker rate, and 10% are delivered by a Team Leader. The remaining volume (85%) is delivered at the Carer's rate.

NOTE: By default, the toolkit allocates 100% of hours to be delivered at the **carer hourly basic rate**. Users must enter a % (below 100%) for each additional staff type they wish to include in the model. If the total % in this column adds up to more than 100%, the model will not calculate costs correctly.

The **total direct pay costs** are multiplied by the number of care & travel hours per annum (Section C) delivered by each type of staff member at the relevant proportion of enhanced hours. The **weighted basic hourly rate** (against the allocation of direct hours delivered by each staff type) **excluding any enhanced rates** are used for non-contact related pay costs in section F.

The table below multiplies the rate card by the proportion of hours delivered by the relevant worker at each rate, to give a total pay cost for contact & travel costs (see illustrative example costs in the table below).

Total Direct Pay	Total Direct Pay Costs (incl. travel)	Basic	Enhanced 1	Enhanced 2	Total Call	Weighted
		(Weekday)	(Weekend)	(Bank Holiday)	Allocation £	Contact £/hr
	Carer	£491,154	£201,898	£19,413	£712,465	£9.55
	Senior Carer	£0	-	-	£0	-
	Registered Nurse	£0	-	-	£0	-
	Enhancement (Short Notice/Unsociable)	£34,974	£14,377	£1,382	£50,733	£11.56
	Salaried Staff (Supervisor/Team Leader)	£65,082	£26,753	£2,572	£94,407	£10.76
	Total Direct Pay Cost p/annum	£591,209	£243,027	£23,368	£857,605	£9.77

In the example above, total travel & contact pay costs of £857,605 has been calculated using the values entered in the 'direct staff hourly rate breakdown' and is calculated as follows (rates rounded to nearest whole number):

- (a) Carer: 97.8% of 74,588 hrs at basic (weekday/weekend) rate of £9.50 = 72,948 hours x 9.50 = £693,006
2.2% of 74,588 hrs at enhanced (bank holiday) rate of £11.88 = 1,640 hours x 11.88 = £19,413
- (b) Short Notice: 97.8% of 4,388 hrs at basic (weekday/weekend) rate of £11.50 = 4,291 hours x 11.50 = £49,351
2.2% of 4,388 hrs at enhanced (bank holiday) rate of £14.38 = 96.5 hours x 14.38 = £1,382
- (c) Team Leader: 97.8% of 8,775 hrs at basic (weekday/weekend) rate of £10.70 = 8,582 hours x 10.70 = £91,835
2.2% of 8,775 hrs at enhanced (bank holiday) rate of £13.38 = 193 hours x 13.38 = £2,583

The 'weighted contact £/hr' is then represented as the **total weighted average rate**, calculated as follows:

$$\text{Total weighted average rate} = \frac{\text{Annual contact \& travel pay (a + b + c)}}{\text{Total contact \& travel hours}} = \frac{£857,605}{87,750} = £9.77 \text{ per hour}$$

2.2.7 F. Non-Contact Related Pay Costs

What needs to be input: users must enter the % of total hours expected for each non-contact activity to be costed in the model. Non-contact related pay costs include costs that are incurred and paid to workers that **do not relate to direct care delivery**, this includes holiday pay, sick pay, suspension pay, maternity/paternity and additional non-contact pay costs.

Non-Contact Pay	Total Non-Contact Pay Costs	% Total	Total Hours p/annum	Cost £ p/annum
		Holiday Pay	12.07%	11,249
Sick Pay	1.50%	1,316	£12,671	
Suspension Pay	0.00%	0	£0	
Maternity / Paternity Pay	1.50%	1,316	£12,671	
Shift apportionment (paid breaks)	0.0%	0	£0	
Additional Non-Contact Pay	0.0%	0	£0	
Training & Supervision Days (FTE days per sta	5	2,813	£27,074	
Total Contact + Non-Contact Pay Cost p/annum			16,694	£160,698

The total number of hours for each non-contact activity is calculated as a % on top of the hours calculated in section E above. Users must enter the **proportion (%) of contact & travel hours** you wish to calculate for each non-contact pay line (see worked example below). The model then multiplies the non-contact pay hours per annum by the *weighted basic hourly rate* to calculate total direct workforce hours.

- a. For suspension, maternity/paternity, and additional non-contact pay, this is calculated as a *% of annualised contact & travel hours*
- b. Holiday pay is calculated as a % of all contact & travel time PLUS non-contact related pay costs.
- c. Enter the number of FTE training & supervision days per worker/direct care staff per annum.

Additional non-contact costs could include uplifts for paying shifts (i.e. 30 mins break for every 7.5 hours of working time may be expressed as 6.7% = 0.5/7.5); or any additional costs attributed to hourly agency costs.

The below table calculates all on-costs based on the total hours required, the blended hourly rate in Section E and the total staff in Section G (below).

NOTE: For a branch/provider workforce delivering 10,000 hours of contact & travel pay, with a *weighted basic hourly rate of £9.50*, at the below proportions, additional hours to pay are calculated as follows:

Sick Pay = 1.5% of 10,000 hrs = 150
 Suspension Pay = 0.4% of 10,000 hrs = 40
 Maternity/Paternity Pay = 1.5% of 10,000 hrs = 150
 Holiday Pay = 12.07% of 10,000 + 150 + 40 + 150 hrs = 1,248
 Total hours non-contact pay hours = 1,588
 Total cost for non-contact pay hours = 1,588 x weighted basic hourly rate (£9.50) = £15,086

Training & Supervision Costs are calculated as the number of FTE days (at 7.5 hours per day) per year required for each staff member. For this calculation to function, the total number of care staff is required. For a cohort of 20 staff member to receive 6 days training and supervision per year, the total number of hours to pay is expressed as 6 days x 7.5 hours x 20 staff = 900 hours per annum.

Users should consider how many training sessions are required per year, and the mandatory vs. non-mandatory training requirements for each member of staff (depending on the types of customers and care provision delivered).

Please note that Non-Contact Pay costs in this section of the model relate to those staff delivering direct care. Non-Contact Pay costs for back-office staff are included within Section H below, under salaried FTE costs.

NOTE: Minimum holiday requirements in England can be expressed as 12.07% hours accrued for every working hour. This is calculated as a **minimum of 28 days (20 days holiday + 8 bank holidays)** to be paid per FTE year. As a working year can be defined as 5 FTE days per week x 52 weeks; total available days is expressed as **260 FTE days**. Of these, a minimum of 28 days must be accrued as holiday, leaving 232 available working days. The proportion of holiday days to working days is therefore 28 ÷ 232 = 12.07%. The minimum holiday requirement scales proportionally to the amount of working time accrued, and therefore is accurate regardless of the contract type a worker is on (i.e. zero hours, guaranteed hours, FTE, salaried employee etc.)

2.2.8 G. Direct Staffing Costs, Employer’s NI & Pension on-costs

What needs to be input: users must enter the **total care staff** required to deliver all working hours related to contact and non-contact pay delivery in order to calculate Employer’s NI and Pension costs.

Staff Hours, ENI	Employer's NI	Variable	Total Hours	Hrs p/staff p/annum	Hrs p/staff p/week	Total Direct Pay Cost £	Avg. Staff Cost (£ p/annum)
	Total Care Staff ⁽²⁾	75	104,444	1,393	26.8	£1,018,303	£13,577
Employer's NI threshold (p/annum) ⁽³⁾	£8,844	68,032	907	17.4	£663,300	ENI £/annum	
ENI liability (volume above threshold)	15.05%	36,411	485	9.3	£355,003	£53,428	

(1) **Employer’s NI:** Employer’s NI is accrued on working hours per staff member over and above the legislated ENI threshold per annum. To calculate this, in addition to the **total care staff**, the user must input the **ENI threshold £** (annual pay cap) above which ENI is accrued, and the **ENI liability %** (the % at which ENI is accrued above the

threshold). Both figures are available via the gov.uk website, which for 2021/22 equates to earnings of £8,844 per person per annum and a 13.8% of income above this rate.

- (2) The example above shows, for a staff base of **75 people** working an average 26.8 hours p/week (at the equivalent **annualised pay cost of £13,577**), 9.3 hours of work per staff member per week accrues ENI at 15.05%. The total pay cost shown below (to which ENI is applied) is **£355,003**, resulting in ENI costs of **£53,428**.

NOTE: Ensure the "hours per staff per week" figure is reflective of average paid working time per week for all staff in the branch/area. Where it is not expected that every staff member works a full-time equivalent week (**37.5 hours**), the value here must reflect the average across the staff base. If the user inputs **40** staff members, it would show that each staff member was required to work **50.25 hours per week**, which would suggest working hours over and above the EU Working Time Directive (WTD).

- (3) **Pension contributions:** users must enter the **Pension %**. Employer's Pension contributions are accrued on all working hours unless a **% staff opt out** is applied. The user-input **Pension %** is applied as a proportion of all working hours multiplied by the **average pay cost** as shown in the example below.

Pensions	Employer's Pension Contributions	Variable	Total Hrs for Pension	Avg. Pay Cost £ / Hr	Pension Contribution
	Staff opt-out % <i>(direct care delivery)</i>	0%	104,444	£9.75	£30,549
Pension %	3.0%	<i>Use for back office pension % ?</i>		Yes	

There is a drop-down box in the table above next to "Use for back-office pension %?" (highlighted in green text). Selecting 'Yes' will apply the **Pension %** entered here to all back-office staff in section H below. Selecting 'No' will allow the user to manually enter pension % for each staff role/function in section H.

2.2.9 H. Back Office Pay Costs (Overheads)

The table calculates the total pay costs (including Employer's NI and pension on-costs) for the back office, using the on-costs information in Section G above.

What needs to be input: users must enter the staff required at each grade/job function for back office functions. Where salaried staff have been identified in Section E, enter only the apportionment of staff for back office FTE/functions below. This is expressed as the number of FTE staff and the gross pay per/hr (calculated as FTE at 37.5 hrs/week).

The annualised FTE salary cost is calculated in the column next to the **Gross Pay (£/hr)** column. Refer to this column if you are entering gross hourly pay costs and need to check the total FTE salary cost paid to the staff member.

If you selected 'No' to using the **Pension %** in section G, you can enter the % for pension manually for each staff role in the table below. Use the additional rows (in green) to enter extra staff roles as needed.

Indirect (Back Office) Staff Pay	Staff Grade / Title	FTE Staff (37.5 hrs/week)	Gross Pay (£ / hr)	FTE Salary Cost	Net FTE Cost	Employer's NI	Manual Pension %	Pension Cont.	Gross Cost
	Registered Manager	1	£18.00	£35,100	£35,100	£3,952		£1,053	£40,105
Team Leader / Supervisor / Deputy Mana	2	£10.70	£20,865	£41,730	£3,618		£1,252	£46,600	
Care Co-ordinators / Scheduling	2	£10.00	£19,500	£39,000	£3,207		£1,170	£43,377	
Administration (Finance / Operations)	1.5	£8.91	£17,375	£26,062	£1,926		£782	£28,769	
Back Office Staff			£0	£0	£0		£0	£0	
Back Office Staff			£0	£0	£0		£0	£0	
Back Office Staff			£0	£0	£0		£0	£0	
Back Office Staff			£0	£0	£0		£0	£0	
Total Back Office Staff Costs	6.5			£141,892	£12,703		£4,257	£158,852	

2.2.10 I. Additional Back Office Pay Costs

What needs to be input: users must enter any additional pay-related costs. These are any costs that relate to staff pay that do not fit into the above categories. For instance, central staff apportionment (for multi-branch, regional or national providers) may be expressed as a fixed cost applied to the provider or branch for the area being costed.

Enter the **£ / period** and select the period cost this relates to using the drop down in the green highlighted boxes. The periods to choose from are *weekly, 4-weekly, monthly, quarterly and annually*. The total costs are annualised in the right-hand column.

Apprenticeship Levy can also be calculated automatically based on the pay bill threshold and % levy amount in the 'Setup' boxes (described in section 2.2.13 below). If Apprenticeship Levy is charged centrally, include any branch apportionments in 'Central Staff Apportionment' below.

Add'l Staffing Costs	Additional Staffing Element	£ / period	Period	Cost p/annum (£)
	On-Call	£350	Quarterly	£1,400
	Central Staff Apportionment	£0	Monthly	£0
	Apprenticeship Levy	-	Annually	-
	Total Back Office Staff Costs			£1,400

2.2.11 J. Non-Pay Costs (Overheads)

What needs to be input: users must enter the cost of non-pay overheads and select the period [weekly, 4-weekly, monthly, quarterly, or annually] from the drop-down boxes. Ensure the costs are entered excl. VAT (if a VAT-registered business). Use the "Additional Overhead" rows as required. The table calculates the total annualised non-pay overhead cost per branch. Costs should be input utilising reported actual costs for the selected period.

NOTE: Users must use existing known costs as well as their own judgement when entering overhead costs. These must be entered at the branch level (and not aggregated costs across the market). Where data is not available, take advantage of existing publicly available sources of information. For example, Lambert, Smith, Hampton have produced a useful Total Office Cost Survey (TOCS) which provides analysis of average office cost across the country. The 2021 analysis is available at: <https://www.lsh.co.uk/total-office-cost-survey/metrics>

Add'l Travel Costs	Additional Travel-related Costs	£ / period	Period	Cost p/annum (£)
	Congestion Charge		Quarterly	£0
	ULES		Monthly	£0
	Parking permits		Annually	£0
	Vehicle Lease		Monthly	£0
Total Add'l Travel Costs			£0	

Additional travel-related costs can be captured in the table above. This may include ad-hoc travel costs such as congestion charges, parking permits and schemes such as low emissions (ULES), or vehicle lease costs.

Other overheads are illustrated in the table below. COC registration fees at the bottom of this table are calculated using the number of service users entered in section C above. There is a COC fee calculator in the 'Setup' section (described in section 2.2.13).

	Overheads / Fixed / Back Office Costs	£ / period	Period	Cost p/annum (£)
Indirect Costs (Fixed / Back Office & Overheads)	Rent / Rates / Utilities	£9,000	Quarterly	£36,000
	Recruitment / DBS	£750	Monthly	£9,000
	Training (3 rd party)	£9,000	Annually	£9,000
	IT (Hardware, Software CRM, ECM)	£2,000	Monthly	£24,000
	Telephony	£2,000	Monthly	£24,000
	Stationery / Postage		Annually	£0
	Insurance	£5,000	Annually	£5,000
	Legal / Finance / Professional Fees	£5,000	Annually	£5,000
	Marketing	£2,000	Annually	£2,000
	Audit & Compliance		Annually	£0
	Uniforms & Other Consumables		Annually	£0
	Assistive Technology		Annually	£0
	Central / Head Office Recharges	£3,000	Annually	£3,000
	Overhead #1 Example		Annually	£0
	Additional Overhead		Annually	£0
	Additional Overhead		Annually	£0
	Additional Overhead		Annually	£0
Additional Overhead		Annually	£0	
Additional Overhead		Annually	£0	
Additional Overhead		Annually	£0	
Additional Overhead		Annually	£0	
CQC Registration Fees ⁽⁴⁾	£5,670	Annually	£5,670	
Total Back Office Costs				£122,670

Whilst the model cannot specify every overhead cost that may be incurred for all businesses, the below table has been developed to illustrate the cost areas and what may be considered when completing this section.

Cost area	What should be considered?
Rents/Rates/Utilities	<ul style="list-style-type: none"> Office rents Any office maintenance, cleaning etc. Business rates Utilities – gas, electric, water, waste management
Recruitment/DBS	<ul style="list-style-type: none"> Advertising Costs Pre-onboarding induction (where not included in training costs)
Training (third party costs)	<ul style="list-style-type: none"> Costs for courses, materials, certification External trainers, venue hire
IT	<ul style="list-style-type: none"> Hardware Software and licenses Applications such as Electronic Care Management (ECM) Technical support
Telephony	<ul style="list-style-type: none"> Line rental and call charges
Stationery/Postage	<ul style="list-style-type: none"> Office consumables
Insurance	<ul style="list-style-type: none"> Employees insurance Public liability Professional indemnity Cyber security (if applicable)

Cost area	What should be considered?
Legal/Finance/Professional Fees	<ul style="list-style-type: none"> Accountancy fees Legal fees Other professional services
Marketing	<ul style="list-style-type: none"> Advertising & conferences Marketing flyers, banners and other materials
Audit & Compliance	<ul style="list-style-type: none"> External compliance costs i.e. mock inspections Document storage costs
Central/Head Office Recharges	<ul style="list-style-type: none"> Franchisee fees Return on capital / loan / interest costs not included in EBITDA Annualised capital costs
Uniform/other consumables	<ul style="list-style-type: none"> Other PPE related costs not included in the above section Storage costs

2.2.12 K. Operating Surplus & Unit Cost

What needs to be input: users must enter the mark-up % (margin) to represent the business operating surplus (profit). The profit/surplus contribution is expressed as EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation) and before any operating dividends or shareholder returns.

Total Cost of Care	Total Annual Costs before Profit £	£1,456,337
	Operating Profit/Surplus %	4.0%
	Profit/Surplus Contribution (£ / EBITDA)	£58,253
	Total of all Provider Costs	£1,514,591
	Effective Unit Cost p/care hour	£19.58

This excludes any capital costs, depreciation, contribution to central overheads or shareholder returns already costed in Section I above. The profit contribution may include an element of retained profit, return on capital to shareholders or central profit margins.

The effective unit costs per care hour (in the table above) takes all annualised provider costs & operating profit (surplus), and divides this by the total number of face-to-face care hours specified in Section A.

2.2.13 Setup boxes

The boxes in the 'setup' section (located next to the Overheads table in Section J) provides extra functionality in adjusting the rates applied for CQC fees and the Apprenticeship Levy based on any future price or legislative changes. The setup box is shown on the right. For CQC fees, the 'branch fee' and 'per SU fee' can be amended to reflect any changes in fee rates across years.

The Apprenticeship Levy calculates any costs above the pay threshold and applies the levy % rate as a total cost (annualised £) in Section I. These rates can be adjusted as required.

SETUP	
CQC Fee Calculator	
Branch Fee	Per SU Fee
£239.00	£54.305
Apprenticeship Levy	
Pay Threshold	Levy %
£3,000,000	0.5%

3. Part B: Sensitivity Analysis

The **Sensitivity Analysis** worksheet provides an extra level of functionality on the base model by allowing users to adjust several key cost and volume indicators, without affecting the values in the **Standard (Cost+) Model** worksheet. There are many use cases where adjusting costs in this manner may be beneficial. The below are just some examples of where a simple analysis may help in identifying cost impacts for certain changes:

- Consider in-year changes to costs (i.e. such as changes in hours delivered, Real Living Wage rates, number of staff, PPE, Insurance or other costs)
- Model unit costs based on different geographies/ruralities (i.e. such as changing travel time & mileage for different areas)
- Identify cost pressures from changes in visit lengths and different hourly unit costs based on, for example, 15-min, 30-min, 45-min or 60-min visits

Model different volumes based on size of provider/branch (based on number of hours/visits delivered).

The Sensitivity Analysis has 6 sections:

- | | |
|--|---|
| A. Volume and Income Levers: | hourly unit rate (£), contact hours, visit lengths and total visits |
| B. Contact / Direct Pay Levers: | contact pay rate, average travel time, mileage distance and expenses |
| C. Non-Contact / Direct Pay Levers: | non-contact pay rate, training, holiday/sickness/suspension and additional non-contact pay hours and total care staff |
| D. Direct Care Staff On-Costs: | weekly staff hours, staff earnings, employer's NI and pension costs |
| E. Consumables and Overhead Levers: | PPE costs, back office (staff) costs and overhead (non-pay) costs |
| F. Profit & Surplus Contribution: | weekly income and surplus contribution |

Each section contains elements which can be adjusted (using a slider interface from a minimum to a maximum value), as well as **calculated elements** (which return summary values based on the adjustment made in the sliders). Any cost or volume element which can be adjusted is shown with the *description of the cost element in blue*. Any cost or volume element which is calculated automatically is shown in **grey**.

The below figure illustrates the sensitivity analysis worksheet when a baseline model has been completed (as shown in the 'baseline' column coloured in **yellow**):

II. Sensitivity Analysis

This worksheet can be used to model different scenarios based on changes to cost and income measures against the baseline model in worksheet 'I. Standard (Cost+) Model'. Adjust the figures using the sliders below to model different cost bases. All figures are presented weekly. The figures in the right hand column will adjust dynamically to represent the hourly unit cost based on the adjusted inputs. Figures presented below after sensitivity analysis below are illustrative and should be checked against the base model for accuracy.

A. Volume & Income Levers	1 Baseline	2	3 % Change	4 +/- Baseline	5 New Figure
Hourly Unit Rate	£19.58	< >	0.0%	£0.00	£19.58
Commissioned Contact Hours	1,488	< >	0.0%	1	1,488
Average Visit Length (mins)	37.2	< >	0.0%	0.0	37.2
Total Unique Visits	2,400		0.0%	0	2,400
B. Contact Direct Pay Levers					
	Baseline		% Change	+/- Baseline	New #
Weighted Contact + Travel Pay Rate	£9.77	< >	0.0%	£0.00	£9.77
Average Travel Time per Visit	5.0	< >	0.0%	0.0	5.0
Average Miles Per Visit	1.0	< >	0.0%	0.0	1.0
Travel Expenses (per mile)	£0.35	< >	0.0%	£0.00	£0.35
Travel % of Contact + Travel	11.9%		0.0%	0.0%	11.8%
Total Contact Pay Cost	£14,538		0.0%	£5	£14,543
Total Travel Pay Cost	£1,955		0.0%	£0	£1,955
Total Mileage Expenses	£840		0.0%	0	£840

The numbered boxes bordered red in the screenshot above are described below:

1. The baseline figure is automatically populated from the values returned in the Standard (Cost+) Model.
2. Each cost or volume element which can be adjusted (i.e. a cost 'lever') has an individual slider. The slider's 'zero' (0) value will change depending on the figures in the baseline model. Each slider moves cost or volume up or down in increments. The minimum and maximums are individually set for each lever depending on the nature of the indicator being adjusted. For instance, the 'Commissioned Contact Hours' slider adjusts the baseline hours per week up or down in 1-hour increments.
3. The % change column will show the % above or below the baseline figure, based on the user adjusting the slider. For instance, if the user adjusts 'Commissioned Contact Hours' upwards 10 points from the zero value, based on the example, this column would show 0.7% (as the hours would move from 1,488 to 1,498 hours, which represents a 0.7% increase).
4. The +/- Baseline column in orange shows the actual number of units increase or decrease to the new value against the baseline model. Again, using the example of 'Commissioned Contact Hours', a 10 point move in the slider would give this cell the value '10', denoting an increase of 10 hours per week.
5. The New Figure column in green shows the new value for each variable, once the adjustment has been made by the user. For 'Commissioned Contact Hours', this will show the new total value to be used in the sensitivity analysis. Based on a 10-hour increase, the new figure would be 1,498 hours.

3.1 Worked example for Sensitivity Analysis

Assume our illustrated example (in the figure on the previous page) above represents the baseline model from the Standard (Cost+) Model worksheet, we can look at the impact on profitability/sustainability on a business

model, based on the adjustments in the sliders. The below sections describe an illustrative cost and volume change to show the impact, and what may be considered when modelling the cost impact.

a) Baseline Model – Unit Rate and Operating Surplus

In this example, the user has established a Baseline model which draws £29,127 of weekly income, with a profit contribution of £1,120 a week (or 3.8% when expressed as a percentage).

Our column 'New #' needs to be adjusted, based on some cost and volume changes in the market.

F. Profit & Surplus Contribution	Baseline	% Change	+/- Baseline	New #	
Total Weekly Income	£29,127	0.0%	£10	£29,137	
Total Provider Costs	£28,006	0.0%	£6	£28,012	
Weekly Profit/Surplus Contribution £	£1,120	0.4%	£4	£1,124	
Weekly Profit/Surplus Contribution %	3.8%	0.3%	0.0%	3.9%	
Hourly Unit Rate (at Baseline)	£19.58	< >	0.0%	£0.00	£19.58

b) Modelling Volume Change

Let's assume demand for hours in the market has grown by 10%. This is represented by the number of commissioned contact hours increasing by 10% (or 149 weekly hours); to give a new total of 1,636 hours per week.

In addition, we have also determined that the average length of visits has reduced to 35 minutes (compared to the baseline of 37.2 minutes). This means our new level of demand has also adjusted to having a higher proportion of shorter visits than previously.

The net impact of this is that the total number of unique visits has grown by 16.9% to a new total of 2,805 visits per week (as shown below).

A. Volume & Income Levers	Baseline	% Change	+/- Baseline	New Figure	
Hourly Unit Rate	£19.58	< >	0.0%	£0.00	£19.58
Commissioned Contact Hours	1,488	< >	10.0%	149	1,636
Average Visit Length (mins)	37.2	< >	-5.9%	-2.2	35.0
Total Unique Visits	2,400		16.9%	405	2,805

When we look back at our operating surplus/profitability line, taking into account the increased variable costs (as we have to account for worker direct pay and non-contact pay which will increase in proportion with the increase in hours), we can see this has increased slightly due to the increased volume being delivered.

We can see our profitability has increased to 5.3% (an additional £575 per week, assuming the unit cost is equal to the income rate obtained for the hours delivered).

F. Profit & Surplus Contribution	Baseline	% Change	+/- Baseline	New #	
Total Weekly Income	£29,127	10.0%	£2,908	£32,035	
Total Provider Costs	£28,006	8.3%	£2,333	£30,339	
Weekly Profit/Surplus Contribution £	£1,120	51.3%	£575	£1,695	
Weekly Profit/Surplus Contribution %	3.8%	37.6%	1.4%	5.3%	
Hourly Unit Rate (at Baseline)	£19.58	< >	0.0%	£0.00	£19.58

c) Additional Costs

Let's consider that this new volume has come with additional costs. In the below example, the average travel time per visit has increased to 6.5 minutes (from the previous baseline value of 5 minutes), as the visits are now being delivered in a more rural area. In addition, the average mileage distance has increased to 2 miles.

B. Contact Direct Pay Levers	Baseline		% Change	+/- Baseline	New #
Weighted Contact + Travel Pay Rate	£9.77	< >	0.0%	£0.00	£9.77
Average Travel Time per Visit	5.0	< >	30.0%	1.5	6.5
Average Miles Per Visit	1.0	< >	100.0%	1.0	2.0
Travel Expenses (per mile)	£0.35	< >	0.0%	£0.00	£0.35
Travel % of Contact + Travel	11.9%		32.2%	3.8%	15.7%
Total Contact Pay Cost	£14,538		10.0%	£1,451	£15,989
Total Travel Pay Cost	£1,955		51.9%	£1,015	£2,969
Total Mileage Expenses	£840		133.7%	£1,123	£1,963

We can see in the table above the impact on pay costs all of these changes have had to our model:

- Contact and travel pay costs have increased by £2,466 per week in total – due to the increased number of visits and travel costs
- Mileage expenses have more than doubled – as not only are we delivering more visits, but the mileage distance has increased.

Let’s also assume the increase in scheduling activity has added an extra cost to our back office staff, to the tune of approximately £3,000 per year. In the model, we can show this as a 1.9% increase, or £58 a week.

E. Consumables & Overhead Levers	Baseline		% Change	+/- Baseline	New #
PPE Cost per Visit	£0.22	< >	0.0%	£0.00	£0.22
Weekly Back Office Pay Costs	£3,082	< >	1.9%	£58	£3,140
Weekly Overheads/non-Pay Costs	£2,359	< >	0.0%	£1	£2,360
Total Weekly PPE Costs	£528		0.0%		£617
Total Weekly Overheads	£5,441		0.0%		£5,500

If we look at what these additional changes have done to our operating profitability, this has now caused a sustainability problem in the model. We can see below that, despite the fact that income has grown by £2,908 per week, the additional costs now represent a loss of £155 per week, based on the existing unit rate of £19.58.

F. Profit & Surplus Contribution	Baseline		% Change	+/- Baseline	New #
Total Weekly Income	£29,127		10.0%	£2,908	£32,035
Total Provider Costs	£28,006		14.9%	£4,183	£32,190
Weekly Profit/Surplus Contribution £	£1,120		-113.9%	-£1,275	-£155
Weekly Profit/Surplus Contribution %	3.8%		-112.6%	-4.3%	-0.5%
Hourly Unit Rate (at Baseline)	£19.58	< >	0.0%	£0.00	£19.58

d) Adjusting for Cost Impacts

We should now determine what the rate would be to keep our business sustainable – that is, to reach the same level of surplus contribution as we had in our original ‘baseline’ model, based on the new cost and volume levers.

To do this, the user can adjust the unit rate at the bottom until the figures match the desired weekly profit/surplus contribution.

We can see in the final example below, that a unit rate increase of 4% (or £0.78 on the baseline unit rate) will allow our new model to obtain the same weekly profit/surplus contribution as before (£1,121 per week).

F. Profit & Surplus Contribution	Baseline		% Change	+/- Baseline	New #
Total Weekly Income	£29,127		14.4%	£4,184	£33,311
Total Provider Costs	£28,006		14.9%	£4,183	£32,190
Weekly Profit/Surplus Contribution £	£1,120		0.1%	£1	£1,121
Weekly Profit/Surplus Contribution %	3.8%		-12.5%	-0.5%	3.4%
Hourly Unit Rate (at Baseline)	£19.58	< <input type="text"/> >	4.0%	£0.78	£20.36

e) Real life Use Cases

Whilst the above represents just one example of how the sensitivity analysis can be used, there are a number of levers that can be adjusted to model different scenarios. Whilst this may be a helpful tool in the mix of considerations users of the toolkit will have to make when looking at unit costs and profitability in deliver traditional homecare models based on hours of care, however it should always only form part of an approach *and not be relied upon in its entirety to make decisions concerning profitability, overall costs or market fee rates.*

Instead, please ensure that any work:

- Is checked using professional financial expertise, internally or externally
- Does not replace other checks and balances in the normal operation of business/financial operational scrutiny
- Be updated regularly, and any new actual cost information obtained should always be reflected in the **Standard (Cost+) Model** worksheet in order to maintain accuracy of the overall toolkit.