HUDU Planning Contribution Model Guidance Notes

NHS London Healthy Urban Development Unit (HUDU)

Guidance Notes

October 2009

AECOM

NHS London Healthy Urban Development Unit

Contents

Introduction

INTRODUCTION

London's population is set to grow by 800,000 by 2016. This scale of growth is such that NHS organisations must position themselves to play an active role and engage fully in the development process. The case has been made clearly for this involvement but Primary Care Trusts and Local Authorities need practical models to assist this process. The projected growth in population across London will place new demands upon health services.

The *London Thames Gateway Health Services Assessment*[1] outlined future requirements for the provision of health services in North East and South East London. The report acknowledges that there are a number of risks associated with ensuring the provision of health services during a time of major growth. These relate to issues such as the demographic profile of the emerging communities and the levels of need within these communities; resourcing issues such as whether the infrastructure will be in place as the population grows; and service and organisational issues relating to models of care, staff capacity and availability of sites for development.

These are key issues for the growth identified across London. With the London Plan target of 30,000 new homes to be delivered across London every year, the challenge to deliver the level of housing in a way that promotes healthy and sustainable communities is immense.

High immigration rates combined with more single-person households and childless couples is requiring the health sector to respond in new and innovative ways to ensure that both the quantum and quality of service can continue to be delivered to London's residents despite increasing competition for space and limited resources.

Consequently, there is a real need now to ensure that both the provision and delivery of health care services and facilities are accurately planned and costed from the out-set and included as an integral part of permission for any new housing or commercial developments that will have an impact on the level of demand for health care provision.

The aim of current Government health policy is to achieve a significant shift of activity from the acute or hospital sector into the primary sector. This will not only give people better care closer to home but will reduce the overall cost of services. As a result PCTs within London are all involved to one degree or another in reconfiguring services to bring about this new model of care. It is thus very important that the HUDU model anticipates and facilitates these new arrangements as far as possible so that new and existing communities will gain the maximum benefits from new development.

[1] *Health Services Assessment 2003 – 2016* London Thames Gateway. 2003.

Legislation permits health services or infrastructure to be secured as part of a development proposal where unacceptable burdens are imposed on existing services. This is often referred to as 'section 106 agreements', planning obligations, planning contributions or planning gain, and is considered as part of the planning application process. The HUDU Health and Urban Planning Toolkit provides information and guidance on this process and s106.

Health and Urban Planning Toolkit

The Toolkit was prepared by HUDU to assist PCTs and Local Planning Authorities to improve joint working and enable health to be addressed through the planning system. In a series of steps it describes how they can build capacity and improve joint working. It is also a handbook on how Local Development Frameworks and the planning application process should address health and health services. The Toolkit and pages 56 to 59 in particular, are a good source of information and guidance on s106:

- The planning application and s106 processes
- Key facts on s106 for health services and infrastructure
- Revenue funding for health via s106
- Involving a PCT in the planning application process and s106 negotiations
- When to use the HUDU Model
- Applying the outputs
- Tests when applying s106
- A generic template for responding to a planning application

Download the Toolkit from www.healthyurbandevelopment.nhs.uk

THE ORIGINAL HUDU MODEL

HUDU commissioned the development of the original HUDU Model to Ben Cave Associates Ltd, Entec UK Ltd and Matrix Research and Consultancy Ltd. The Model used the numbers of proposed housing units in a development, and the likely resulting population and calculated the following information:

- Amount of hospital beds or floor space required for that population in terms of acute elective, acute non-elective, intermediate care, mental health and primary care;
- The capital cost of providing the required space;
- The revenue costs of running the necessary services before mainstream NHS funding takes account of the new population.

An initial version of the Model was piloted in April 2005 as a spreadsheet. Specific data for each of the 31 PCTs in London was input in August 2006.

The existing HUDU Model has had a considerable impact on Section 106 planning obligations and health with over £10 million being secured for health in Tower Hamlets alone. The Model is now used regularly in about a third of the London Primary Care Trusts.

THE HUDU MODEL UPDATE PROJECT

Updating the HUDU Model

The original Model functioned in a Microsoft Excel environment, based on robust and up-to-date data sources as defaults, also allowed the use of specific local data where available to increase the Model's flexibility. Following a year of operation HUDU commissioned EDAW to update and improve the original HUDU Model without suggesting fundamental changes to the way the existing HUDU Model operated. The Model has been updated and improved in a number of ways including:

- Converting the Model to function on a web-based platform that is accessed through the NHS HUDU website[2].
- Creating new default assumptions to aid users of the model who do not hold the necessary details of a planning application for assessment
- Updating demographic and health data for each London PCT;
- Looking in more detail at the types of household profiles associated with different types of new housing (tenure, size etc)
- Looking at the proportion of people moving into new housing that would be new to the area (population gain factor);
- Reflecting the enlarging role of primary care;
- Updating revenue allocation assumptions for each London PCT
- Incorporating Inflation to build costs
- Phasing requirements and costs over project timeline
- Improving the layout and functionality of the Model;

Social Care Scoping Study

Social Care costs are often shared between PCTs and Local Authority Social Services Departments, as services often closely overlap (such as mental health). Health services and social services can be seen to be at different points on the same continuum, often supporting each other in providing care to the same individual. Indeed it is arguable that the provision of social care services can avoid the need for more expensive and invasive health service interventions.

As part of the wider project commission, and in parallel with the HUDU Model update as described above, EDAW have also scoped out the feasibility of expanding the model to include social care requirements. This scoping exercise reviewed relevant social care policy, analysed the availability of relevant data sources, devised a methodology for calculating social care requirements and provided initial design thoughts on how the HUDU Model's layout and functionality would be affected. HUDU will consult on the results of the scoping study in the second half of 2007 with a view to deciding whether to extend the model to encompass social care requirements and consequent costs.

[2] http://www.healthyurbandevelopment.nhs.uk/

WHO DOES THIS GUIDANCE APPLY TO?

This guidance is an essential accompaniment to the HUDU Model Website and should be read by all users of the website to ensure all aspects and assumptions built into the model are fully understood and accounted for. The HUDU Model is intended for use by the 31 London Primary Care Trusts:

- Barking & Dagenham PCT;
- Barnet PCT
- Bexley PCT
- Brent Teaching PCT
- Bromley PCT
- Camden PCT
- City and Hackney Teaching PCT;
- Croydon PCT;
- Ealing PCT;
- Enfield PCT;
- Greenwich Teaching PCT;
- Hammersmith and Fulham PCT;
- Haringey Teaching PCT;
- Harrow PCT;
- Havering PCT;
- Hillingdon PCT;
- Hounslow PCT;
- Islington PCT;
- Kensington and Chelsea PCT;
- Kingston PCT;
- Lambeth PCT;
- Lewisham PCT;
- Newham PCT;
- Redbridge PCT;
- Richmond and Twickenham PCT;
- Southwark PCT;
- Sutton and Merton PCT;
- Tower Hamlets PCT;
- Waltham Forest PCT;
- Wandsworth PCT;
- Westminster PCT.

GUIDANCE STRUCTURE

With the exception of firstly looking at how to access the model and providing an overview of the concepts behind the model, the remainder of this guidance note follows the structure of the web based model itself.

HUDU Model Overview

- This provides an overview of the step by step use of the HUDU model and what can and can't be achieved using this tool and a quick guide to the functionality of the model and screen layout.

Step 1 – Preparation

- This section assists the user in how to access the online HUDU model and what is required (with regards to access rights and data requirements). This also explains how a user can start a new modelling session or alternatively retrieve previously saved sessions. The required information and the purpose of this requirement is also discussed.

Step 2 - Understanding the Population and Housing Screen

- These guidance notes look in detail at each step within the 'Population and housing' theme. This includes establishing the baseline year population, inputting the details of the planning application for assessment, applying a build and take-up projection, applying a population gain factor and applying household characteristics.

Step 3 - Understanding the Healthcare Assumptions Screen

- The guidance notes then look in detail at the 'healthcare' theme. This includes establishing the baseline year health activity rate, lengths of stay and occupancy levels, forecasting the likely changes in healthcare activity and establishing the shift of activity from Acute to Intermediate and Primary healthcare services.

Step 4 - Understanding the Spatial Screens

- The guidance notes then look in detail at the 'Spatial' theme. This involves defining the spatial standards (floorspace) associated with each type of healthcare provision and generating the required spatial outputs.

Step 5 - Understanding the Cost Screens

- The guidance notes then look in detail at the 'Cost' theme. This involves defining the capital and revenue costs associated with delivering new healthcare facilities and services, taking into account both inflation and the complex nature of healthcare funding allocations.

Summary Sheets

- The guidance notes conclude by explaining the provision of 2 additional sheets summarising the input / assumptions and the outputs for the assessment undertaken.

Appendix

- The appendices contain a comprehensive guide towards the default assumptions built into the model.

HUDU Model Overview

PURPOSE OF THE HUDU MODEL

The model is designed to forecast the additional health demand that will result from a new residential development and to quantify the impact in terms of revenue and physical costs.

The assessment process used by the model is illustrated in Figure 1. The model relies on both data and a set of assumptions in order to calculate the potential healthcare service planning contributions for developers.

The model is intended to ensure that representatives from health organisations are equipped to engage in an informed dialogue with developers and local planning authorities about the potential impact of proposed residential developments on local health demand and health provision. It comprises a standardised and fully transparent approach, whilst at the same time allowing for the inclusion of some local assumptions to reflect potential differences across PCTs in their plans for delivering health care to their local communities.

The outputs from the model in themselves will not provide all that is required to negotiate potential s106 contributions. A range of other information about health care provision will also be needed to support and strengthen the negotiations. This will include the long-term strategic plans for future health care provision within the community and detailed assessments that have been made about the condition and capacity of local health care facilities.

THE STEP BY STEP APPROACH

The HUDU model website is structured in a step-by-step fashion. Therefore each screen allows the user to either input another layer of information or select the default model assumptions, one after another in a logical pattern. The layers of information build upon one another to generate a set of key outputs. The assessment can be grouped into 5 steps:

1. Preparation
2. Population and Housing (impacts of planning application)
3. Healthcare (activity)
4. Spatial (health facility floorspace requirements)
5. Costs (revenue and capital)

INBUILT DEFAULT ASSUMPTIONS

The model has been designed to include default data for all inputs apart from those stated as ‘Essential’ under ‘Data Requirements’ (page 16). This default data has been sourced where possible for each London PCT and to the most recent year. Where this is not possible the data is relevant to London and is from the latest published date for that data source. The appendix explains in detail the default assumptions which have been included within each step of the model.

Due of the defaults contained within the model, the user can effectively run the complete model without inputting any data except for that highlighted as ‘Essential’. Figure 1 illustrates the step by step approach towards using the model and highlights those steps which require essential data to be manually input by the user. All other steps requiring inputs can effectively rely on the default assumptions built into the model.

The purpose of including an alternative option to manually input data is to increase the flexibility of the model and allow users in possession of locally relevant and up to date data to further improve the inputs and subsequent outputs of the model.

Key to Figure 1 – Steps, Inputs and Outputs

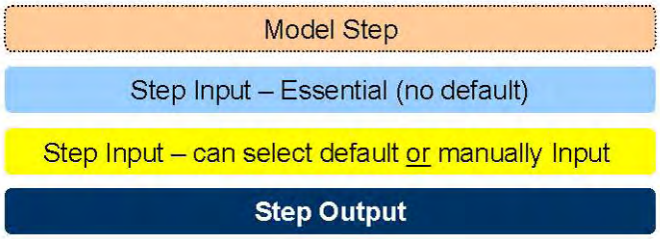
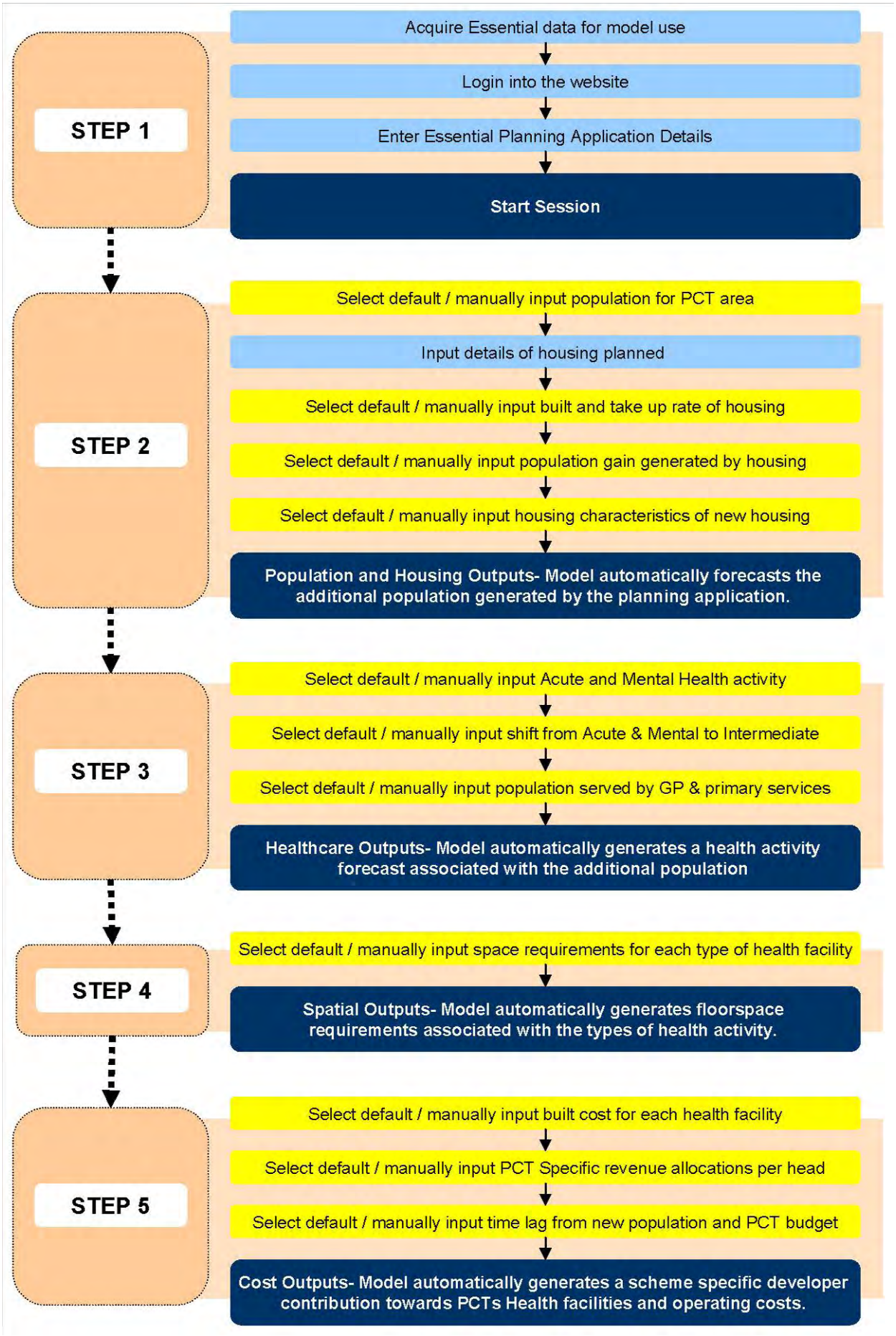


Figure 1 -The HUDU Model Assessment Process



GENERAL CONSIDERATIONS IN USING THE MODEL

Reflecting the Evolving Models of Care

New ways of delivering healthcare are now being developed and implemented, The model has attempted to provide an element of 'future proofing' by recognising that the current direction of change is to shift away from acute based services (that is specialist or general hospitals) to community based, primary care led provision. For instance, it allows for assumptions about the future development of intermediate care services. It is recognised, however, that this is limited and does not reflect a potentially much wider range of changes that are likely to characterise future health service delivery and which the PCT may wish to address in future discussions with developers.

Meeting demand through existing or new facilities.

The model implicitly assumes that the additional health requirements as a result of population growth attributable to new residential developments, will need to be met through capital development, and illustrative capital costs of meeting this through new build solutions are calculated. It is recognised, however, that additional demand for health care provision may be met in ways other than new build solutions and that will be dependent on a whole range of local factors including:

- The distribution and accessibility of existing facilities
- current usage of health care services and facilities, including spare capacity; and
- level of flexibility within current health facilities to accommodate change or reconfiguration of usage.

Under these circumstances, the PCT may wish to assess the cost of capital works required to extend or convert the usage of current facilities and use these costs to assess potential planning contributions.

Relationship to existing health service capacity and proposals

The HUDU Model does not include specific data on the existing or planned health service capacity of each London PCT.

Implementation of the results generated by the Model does however need to take into account the relationship between current and planned local health economy capacity, over the project timeline, appreciating the wider change in demand for health facilities in the locality. As explained elsewhere (See HUDU Toolkit) every PCT should endeavour to develop and maintain a forward strategy over a period of up to 10 years that sets out its proposals or expectations for health facilities and services. Government guidance makes it clear that lack of capacity in health or other infrastructure is a key consideration in determining whether a planning obligation is reasonable.

However, users of the model should also be aware of DCLG Circular 05/2005 'Planning Contributions' and particularly the guidance given towards 'pooled contributions' (B21-25), the fact that planning contributions may be pooled from a number of housing developments. This guidance states that even if there is a particular window of spare capacity that could service the needs of a specific housing development, the burden of contributions should fall evenly (i.e. not only on the developer who happens to be developing when there is no capacity).

Consideration of Private Healthcare

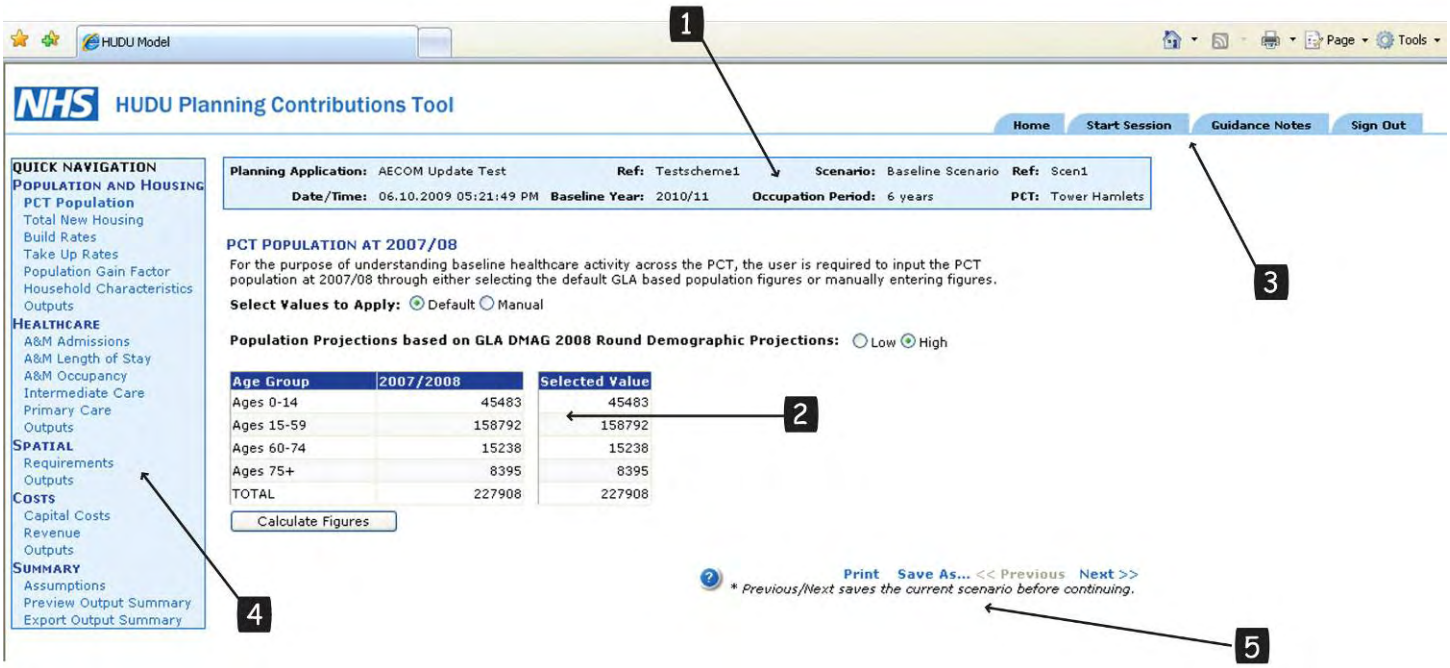
The majority of London residents will utilise NHS services before deciding to access private health care. Members of the public may well have the means to and desire to access private health care, but the local NHS needs to be in a position to provide the services that they are entitled to. For this reason the HUDU Model does not take into account a discounted requirement based on likely usage of private healthcare facilities.

The Department of Health Allocation Formulae

There is a time lag before the new population is reflected in the per capita based funding allocated to PCTs. The model has reflected this situation by allowing for this gap associated with a new incoming population as a consequence of a residential development.

DESCRIPTION OF THE HUDU MODEL WEB SCREEN

Screen Layout



Key:

1. Planning Application Reference Box
2. Screen specific Input / Option / Output boxes
3. Master Navigation
4. Quick Navigation
5. Screen Specific Actions

1. Planning Application Reference Box

With the exception of the websites home screen and start session screen, each screen includes a 'Planning Application reference box' at the top of the page to allow the user to view the information entered into the start screen. This ensures that the planning application reference number is retained when the page is printed

2. Screen specific Input / Option / Output boxes

In the centre of the screen the user is presented with instructions on the purpose of that screen and how to proceed through the tasks required. Depending on the screen, this area will contain input, assumption and output boxes.

All input / assumptions boxes are preceded with a 'select value to apply' option. Adjacent to this heading the user has the option to either apply the default assumptions built into the model or to manually enter inputs. When the user has selected manual, the input box below entitled 'selected values' will transform to remove the default assumptions and show empty input boxes. The user can now enter alternative data into those boxes shaded yellow.

Moving through the HUDU Model

With the exception of the websites home screen and start session screen, each HUDU Model webpage screen follows a generic layout to ease navigation. The website includes three ways of moving through the Model and these are as follows:

3. Master Navigation

This be seen at the top right extent of each screen and allow the user to either return to the home screen, return to the start session screen, visit the complete guidance notes (this document) or finish a session and log out of the website. Selecting either of these options will automatically save the data entered into the screen (into the websites database) allowing the user to return to that point.

4. Quick Navigation:

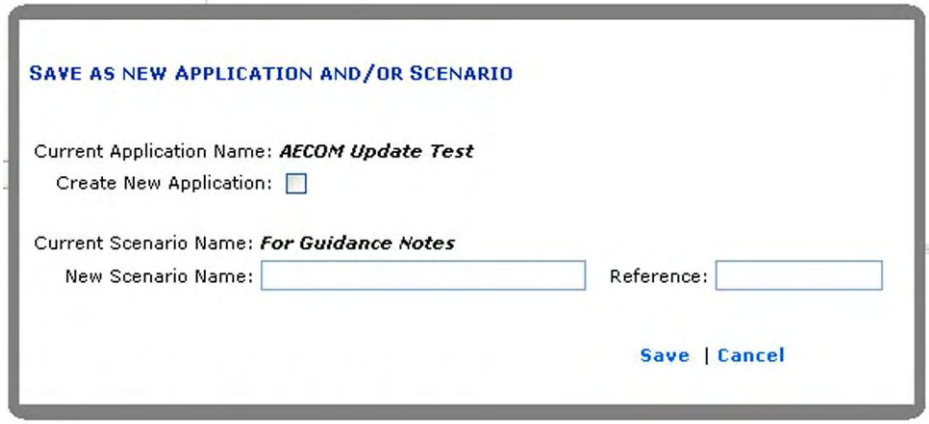
These can be seen on the left extent of each screen and allow the user to make quick movements around the HUDU Model without moving through each screen in order. This would be useful once all the screens have been completed to allow the user to return to previous screens and make adjustments to inputs or assumptions.

5. Screen Specific Actions

These can be seen at the bottom right extent of each screen and allow the user to make short navigation steps either back to the previous screen or to proceed onto the next screen. Selecting either of these options will automatically save the data entered (into the websites database) allowing the user to return to that point.

5. Save As.

The Screen Specific Actions in the bottom right of the screen includes the option to save the current application as a new application or alternatively a new scenario. Selecting this button will produce an independent internet window (as shown below) allowing the user to either select to create a new application or to create a new scenario. A new name and reference will be required. The model will then effectively be operating in that new saved file (the original file will remain as it was as the point this button was selected). These new saved versions will also be available in the start scenario page.



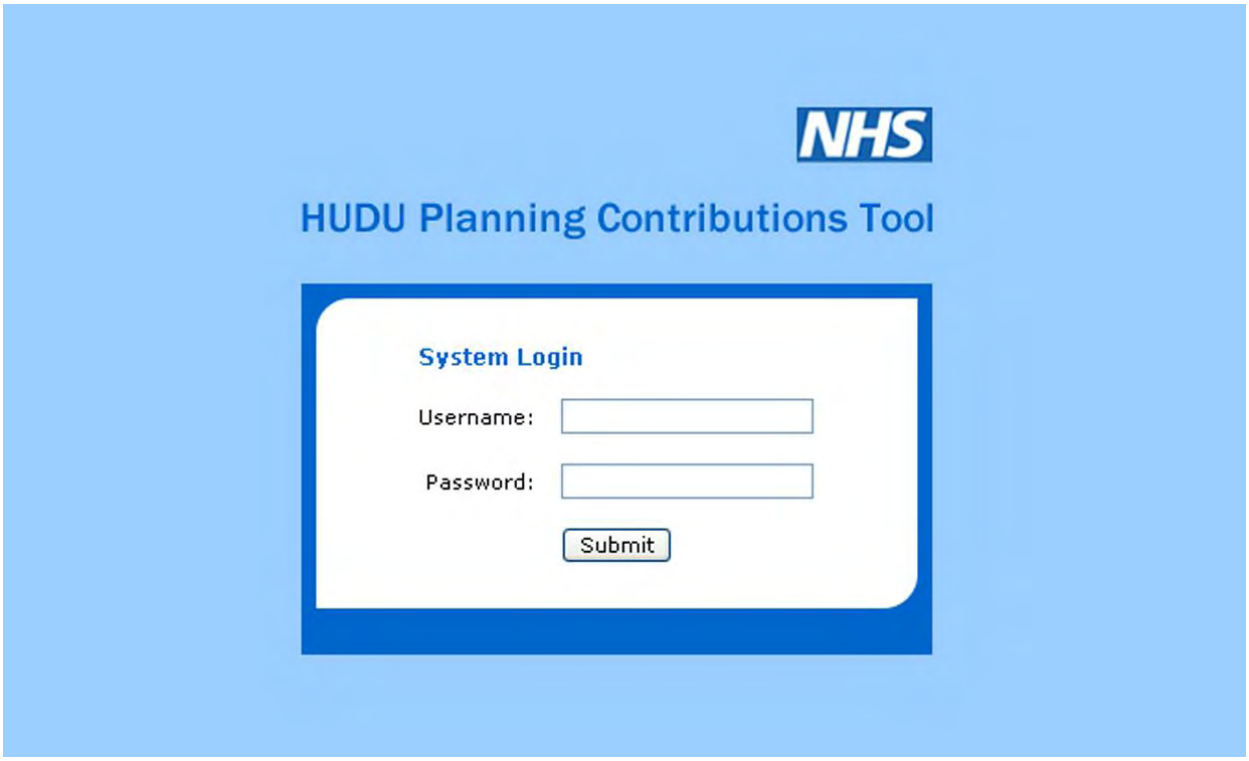
5. Screen Specific Actions

The Screen Specific Actions in the bottom right of the screen includes the option to print the screen displayed. Selecting this button will produce an independent internet window summarising the contents of that specific screen,

removing unnecessary information and including the Planning Application Reference Box.

The Screen specific Actions also allows the user to request specific guidance relevant to the screen displayed. By selecting the help icon (the question mark) the website will display specific guidance to aid the user through the screen viewed.

1.1 Accessing the HUDU Model



REGISTRATION AND ACCESS ADMINISTRATION

Access to the HUDU Model Website is available for use by members of the 31 London Primary Care Trusts, and any additional organisations specifically authorised by the website administrator. The purpose of access authorisation is to protect the Intellectual Property Rights (IPR) of the Model.

Please contact HUDU at the address below to request any alterations to your Login or password details or to add a user to the administrative database. If you have accessed the site without login details provided directly by HUDU please use the contact details below to request authorised access.

NHS London Healthy Urban Development Unit,
The King's Fund
11-13 Cavendish Square
London
W1G 0AN

Email: hudu@hudu.org.uk
Tel: 020 73072441

In addition, if any problems appear to be occurring within the website you are encouraged to contact HUDU at the details above to report these and allow any issues to be resolved as quickly as possible.

1.2 Data Requirements

DATA REQUIREMENTS

The model has been updated to include a default database of PCT specific information allowing the model to be operated with a minimal level of essential data and expert knowledge of the subject. These defaults can however be manually overridden with locally obtained or recently established information (optional and non essential).

In order to use the HUDU Model to calculate the health requirements for a planning application you will need the following 'Essential' data.

Table 1: Essential Data Requirements

<table>
<tr><th>Data</th><th>Details</th><th>Source</th></tr>
<tr><td colspan="3">Planning Application & Housing</td></tr>
<tr><td>Name</td><td>Planning application title (often the address of the application site), and the application reference number (as set by the Local Authority)</td><td rowspan="5">Local Authority Planning Department (Development Control)</td></tr>
<tr><td>Geography</td><td>Location of application (by PCT and Local Authority)</td></tr>
<tr><td>Timing</td><td>Likely date of onsite build commencement.</td></tr>
<tr><td>Housing types</td><td>
<table>
<tr><th>Market Tenure</th><th>Affordable Tenure</th></tr>
<tr><td>No. of 1 bed flats</td><td>No. of 1 bed flats</td></tr>
<tr><td>No. of 2 bed flats</td><td>No. of 2 bed flats</td></tr>
<tr><td>No. of 3 bed flats</td><td>No. of 3 bed flats</td></tr>
<tr><td>No. of 4 bed flats</td><td>No. of 4 bed flats</td></tr>
<tr><td>No. of 1 bed Houses</td><td>No. of 1 bed Houses</td></tr>
<tr><td>No. of 2 bed houses</td><td>No. of 2 bed houses</td></tr>
<tr><td>No. of 3 bed houses</td><td>No. of 3 bed houses</td></tr>
<tr><td>No. of 4 bed houses</td><td>No. of 4 bed houses</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Health Data</td></tr>
<tr><td>No Essential Data</td><td>n.a</td><td>n.a</td></tr>
</table>

As can be seen from the tables above and below, a large quantity of the data requirements would need to be sourced from the respective Local Authority. It may prove useful to copy and paste these tables into an email to that Local Authority at the outset of an assessment. In addition to the essential data the following 'Optional' data can also be manually input into the model.

Table 2: Optional Data Requirements

Data	Details	Source
Planning Application & Housing		
Phasing	Phasing Plan for construction. Number and type of units anticipated to be delivered per year along the project timeline.	Local Authority Planning Department (Development Control) or Applicant Planners, Architects etc.
Take-up rates	Likely take-up rates of both market housing (reflection of housing market) and affordable housing (related to demand for social housing) upon completion.	Local Estate Agents (market) and Local Authority Housing Department (Affordable)
Population Gain	Population Gain Factor for the local authority in question. This is the % of new occupants that are genuinely new to the area (and not existing residents relocating).	Local Authority Housing Department (Affordable)
Household Characteristics	If the defaults are not to be used then certain other local data will be needed, for example Post occupancy surveys for similar developments in the same area to acquire accurate average household sizes and age profiles for each unit type.	GLA DMAG demographic papers, Local Authority Housing Department, Planning Department
Health Data		
Health Activity	If the user is using the model and is aware of updated Health Episode Statistics (compared to the 2007/08 Hospital Episode Statistics (HES) model default dataset which were the most recent data available at the time of model development) this can be sourced from a number of providers. The following areas are required (these are explained in step 3 of guidance notes) • Acute Elective IP (admitted from a waiting list) • Acute Non-Elective IP (emergency admission) • Acute Day Case • Mental Health • Intermediate Care (rehabilitation care to ease the transition between hospital and home) • Primary Care (local healthcare facilities inc. GPs)	Acute and Mental HES data available from: 1. HES Online: www.hesonline.nhs.uk Intermediate and primary health activity from relevant Primary Care Trust records and plans.
Change in Health Activity	Quantified assumptions on likely annual change in healthcare activity. • Acute Elective IP admissions / lengths of stay / occupancy • Acute Non Elective IP admissions /lengths of stay / occupancy • Acute Day Cases / occupancy • Mental Health admissions / lengths of stay / occupancy • Proportion of reductions in lengths of stay reprovided in intermediate care setting (care bed and day places) • Change in target population served by Primary	Relevant Primary Care Trust forecasts

	Care Services.	
Space Standards	Local space standards associated with healthcare facilities	Relevant Primary Care Trust Estates Department
Build Costs	Local build costs associated with healthcare facilities.	Relevant Primary Care Trust Estates Department
Revenue Budget for PCT	Revenue Allocation per head per age band for relevant PCT. This is built into model as defaults based on 2009/10 DOH allocations. User can update this however if updated figures become available.	Financial Planning and Allocations, Department of Health DoH (Revenue and capital allocations for new PCTs)

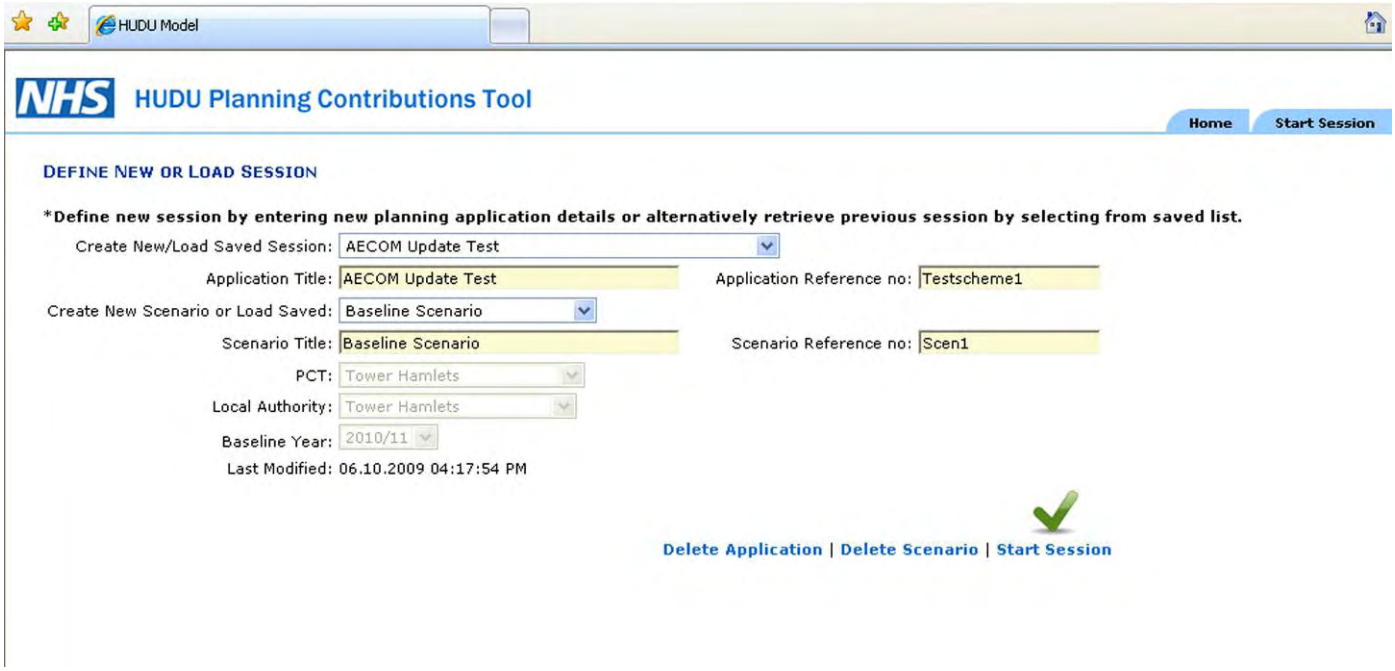
ENSURING THE POP-UPS WORK CORRECTLY

The HUDU Model website has been designed to operate within **Microsoft Internet Explorer**. Alternative internet browsers may not support the display and functionality of the website. The model produces a number of pop-up windows on instruction from the user (such as preview output screens, save as windows etc.). On some computer systems and internet browsers this may be blocked and therefore the user has two options to counter this:

- **Option 1 -** changing the security settings on the internet browser as follows: Select '*Tools',* and then *'internet options'*. Within these options is a 'security' tab. Then select *'Trusted Sites'* and under this heading select the box '*sites*'. In this box the user is able to add **www.hudumodel.com** to this zone. Having added the site to the list of trusted sites, the user now needs to ensure than the *'security level for this zone'* is set as at least '*Medium - Low'*. This should stop the models pop-up windows being blocked

- **Option 2 –** Alternatively to adjusting the security settings of the internet browser the user can override the browsers pop-up blocking by holding down the *'Ctrl'* key on the keyboard at the same time as selecting the option on the screen which produces the pop-up. It is best to keep this key held down until the pop-up has loaded or the excel file has been opened.

1.3 Getting Started – Start Session



Step Guide:
This is an input screen and requires only 'Essential' data to be Input

The purpose of this screen is to either;

- create a new session and scenario, or
- re-load a previously saved session and scenario.

The model has been designed to allow the user to test a planning application in a 'session'. Within this session however, a number of different scenarios can be created. It may be the case that a planning application is only going to be tested in one way and this would therefore only require one scenario. However the ability to create multiple sessions gives the model a greater level of flexibility and function as a sensitivity testing tool.

It should also be noted that all information entered into the start session screen input boxes will be continually displayed at the top of each subsequent screen in a 'Planning Application Reference Box'.

Delete Application

Delete Scenario

At the foot of the start session screen the user has a number of options relevant to this screen. In addition to starting the session, the user is also able to revise their saved sessions and related scenarios through either deleting complete sessions (by selecting 'delete application') or deleting specific scenarios within those sessions (by selecting 'delete scenario'.

INSTRUCTIONS TO START A NEW SESSION

Essential steps:

1. Create a new session
2. Create a new scenario
3. Select PCT the planning application is relevant to (your PCT)
4. Select Local Authority the planning application is within
5. Select Base line Year
6. Select 'Start Session' button

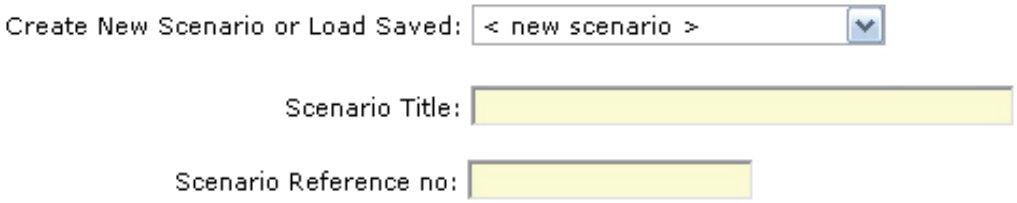
Create a new Session

To create a new session the user should select 'new planning application' from the Create New / Load Saved Session, this will clear the screens input boxes.

Following this, the user should enter the name or description of the planning application in the yellow box below entitled 'Application Title'. In addition the user should enter the planning application reference number in the box to the right entitled 'Application Reference number'. For consistency, this should match the reference number used by the planning authority to describe that application.

Create a new Scenario

Once a new session has been created the user must create a scenario. Each scenario created requires a title and associated reference number in a similar way to the sessions above.



Select Primary Care Trust

The user must then choose their Primary Care trust from the drop down menu.

Select Local Authority

The user must then choose the Local Authority in which the planning application is located from the drop down menu. The reason this function has been built into the model is because a small number of the PCTs responsibilities cross more than one Local Authority Area.

Selecting Baseline Year

The final element of this scenario definition is to establish the baseline year. This baseline year is expressed as a financial year (e.g. 2007/08) and is assumed to be the year in which building work will commence on site

Select Start Session

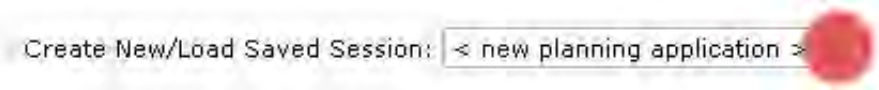
After completing all the input or selection boxes to start a new session or successfully load a previous session and scenario, the user must begin the assessment process by selecting the 'Start Session' button. Selecting this button will also automatically save the users inputs.

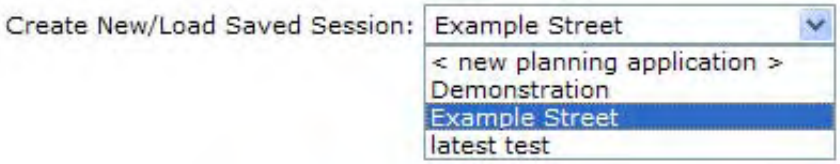
INSTRUCTIONS TO LOAD A SESSION & SCENARIO

The model allows the sessions and scenarios to be partially completed and continued at a later date. The 'create new / load saved session' and 'create new scenario or load saved' buttons have been designed to allow new sessions and scenarios to be both initiated but also to provide drop down lists of all saved sessions and scenarios.

Load Saved Session

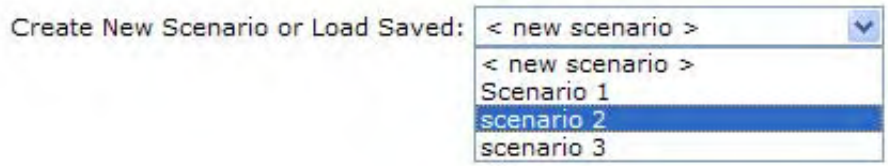
If the user wishes to retrieve a previously saved session they can find all saved sessions in the 'create new session or load saved' box, displaying each application title in a drop down list. The user must select the down arrow as illustrated by the red circle below. This will display the drop down list of saved applications.





Load Saved Scenario

In the same approach to loading previously saved sessions, the user can retrieve previously saved scenarios by selecting from the drop down list under 'create new session or load saved' box, again selecting the down arrow to display the list.



SAVED APPLICATIONS PRIOR TO 2009 MODEL UPDATE

The HUDU Model website has operated since 2007 and a number of PCTs have used the model to assess planning applications and various scenario testing exercises. The model has been updated with the latest available data from the summer of 2009. All applications created and saved prior to this data update have now been frozen. These applications can still be selected but the user cannot run through the model screens. Instead the user is able to review the outputs of that saved session and the assumptions used to create those outputs. This has been done to ensure previous applications are not now referencing the latest data and subsequently changing the outputs previously generated.

As shown from the screen shot below, when the user selects a saved application prior to the latest 2009 model update the option to start session is no longer available and the options below become available. If the user does wish to assess a previous application with the latest default data updates the scheme will need to be re-entered into the model as a new application.

The user is also able to delete application and scenarios which were saved in the model prior to the 2009 data updates.

RELEVANCE OF ESSENTIAL DATA INPUTS

As instructed above, the user is required to enter a number pieces of essential information. These influence the default assumptions through the model in the following way:

Selecting the Primary Care Trust

This selection will automate the following default assumptions throughout the model to refer specifically to the chosen PCT:

- The PCT Population at selected Baseline Year
- Acute and Mental Healthcare Admissions, lengths of stay and occupancy
- The Revenue Budget for selected PCT.

Selecting the Local Authority

This selection will automate the following default assumptions throughout the model to refer specifically to the chosen Local Authority:

- The household Characteristics (based on Census 2001) default assumptions used to generate new population projections

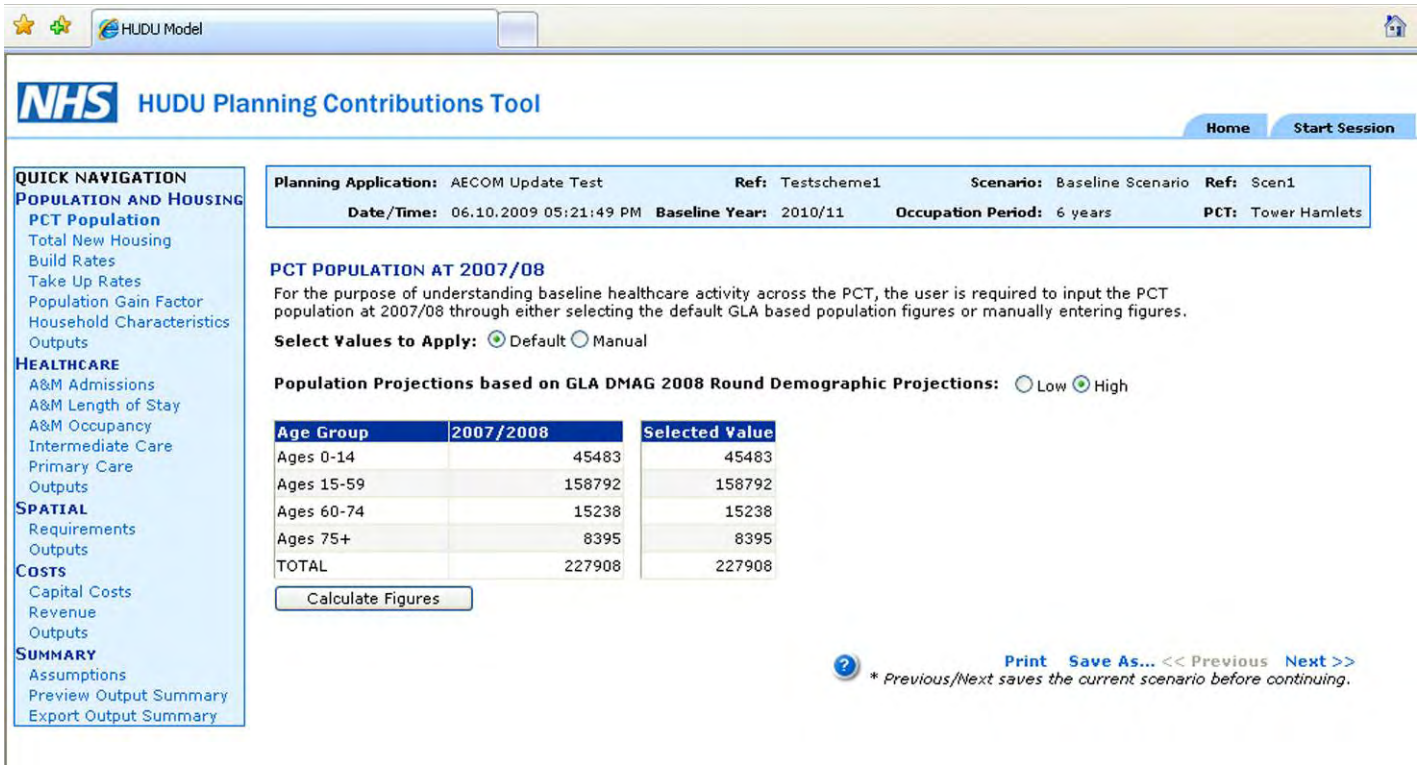
The reason this function has been built into the model is because a small number of the PCTs responsibilities cross more than one Local Authority Area.

Selecting the Baseline Year

This selection will automate the following default assumptions throughout the model:

- This sets the baseline PCT population.
- When combined with the default or manual build and take-up phasing this creates the output and requirement timeline associated with the planning application.
- Build costs are influenced by inflation set by the baseline year.
- The relationship between the output and requirement timeline and the DOH allocation formulae (and subsequent time lag between revenue funding) is strongly affected by the chosen baseline year.

2.1 PCT Population



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

This screen is required to establish the size and age profile of the population in the PCT at the same year as the health activity data being analysed (in the case of the model default this is 2007/08). This PCT population excludes the population generated by the new housing included within the planning application being assessed. The PCT population and its demographic profile are the main determinants of the health service demand component of the model. This age specific PCT population is compared against the Acute and Mental healthcare activity levels in the PCT later in the model to generate health activity rates.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select **Default** from 'Select Values to Apply'
2. Select either '**Low'** or '**High'** from 'Population Projections based on GLA DMAG forecasts. (see guidance below)
3. Select '**Next'** (in Screen Specific Actions Area)

Select either Low or High from Default Population Projections

The default data built into the model is taken from the GLA DMAG projections for all London Boroughs for 2007/08 published in 2009. These projections are made up of 2 scenarios, **High** and **Low.** The Low Scenario is effectively restrained by known housing capacity where as the High scenario is not**.** Refer to the appendix for further details on these default assumptions.

The user is required to select the most appropriate population projections for the application under assessment, either High or Low. It was felt important that the model contain figures for both the High and Low projections and allows the user to switch between the two depending on their specific requirements. For example, it may well be the case that the PCT has already adopted one of the two projections as a preferred choice in other planning projects.

However if the user is not clear on the most appropriate projection to select, it is suggested the user keeps the population baseline in line with the GLA's London Plan and **selects High** as this is the main population projection adopted for use in the review of the London Plan, and is based upon the latest national assumptions regarding international migration.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

It may be the case that the user decides that the GLA population projections for London are not the most effective population baseline for the assessment they are carrying out and can therefore manually override the default assumptions.

Steps when manually inputting optional data

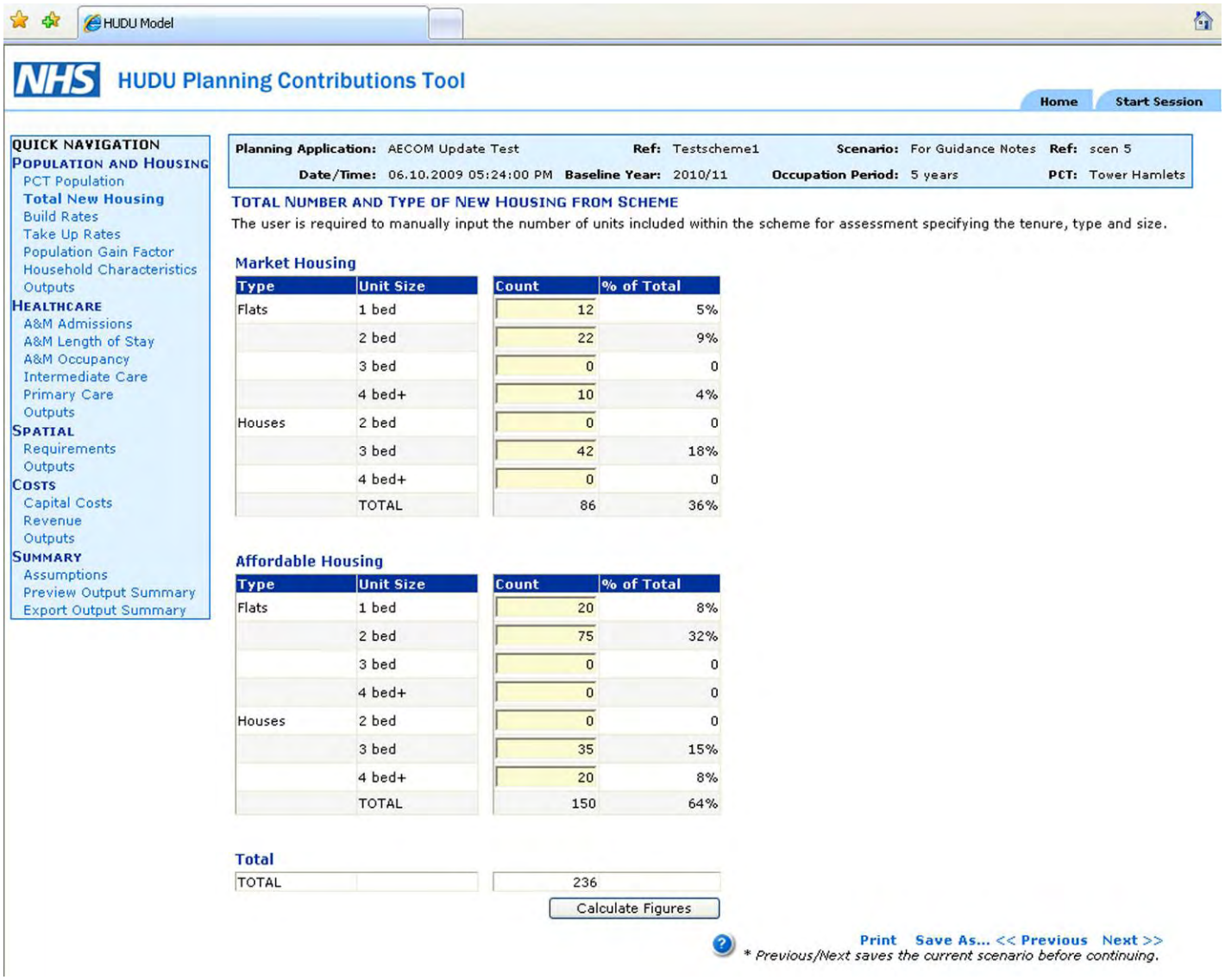
1. Select **Manual** from 'Select Values to Apply'
2. **Manually Input** PCT Population figures.
3. Select '**Next'** (in Screen Specific Actions Area)

Manually Input Population

The user can manually input the population of the PCT in which the planning application is proposed (excluding the future housing proposals under assessment). The population figures must be from the same year as the health activity data entered into the model (on 'Healthcare A&M Admissions' screen) and should be entered according to the following age cohorts:

- 0 – 14 years,
- 15 – 59 years,
- 60 – 74 years,
- 75 years and over

2.2 Total New Housing



Step Guide:
This is an input screen and requires only ‘Essential’ data to be Input

This quantification and description of the proposed new housing in the planning application is the first stage in determining the new population requiring additional healthcare provision. The purpose of defining the housing inputs by tenure, type and units size is to enable the model to more accurately calculate the likely new population by linking housing size and type to the most likely levels of occupation rate.

INSTRUCTIONS FOR ESSENTIAL INPUTS

Essential Steps:

1. Manually **Input the characteristics** of the housing proposals included in the planning application by; Tenure, Size and Type.
2. Select **'Calculate Figures**' button
3. Select '**Next'** (in Screen Specific Actions Area)

Input Characteristics of Housing Proposals,

The user must input the characteristics of the housing proposals included in the planning application by;

- Tenure
- Size
- Type

Tenure,

Splitting these into Market and Affordable.

Type

Splitting these into flats and houses

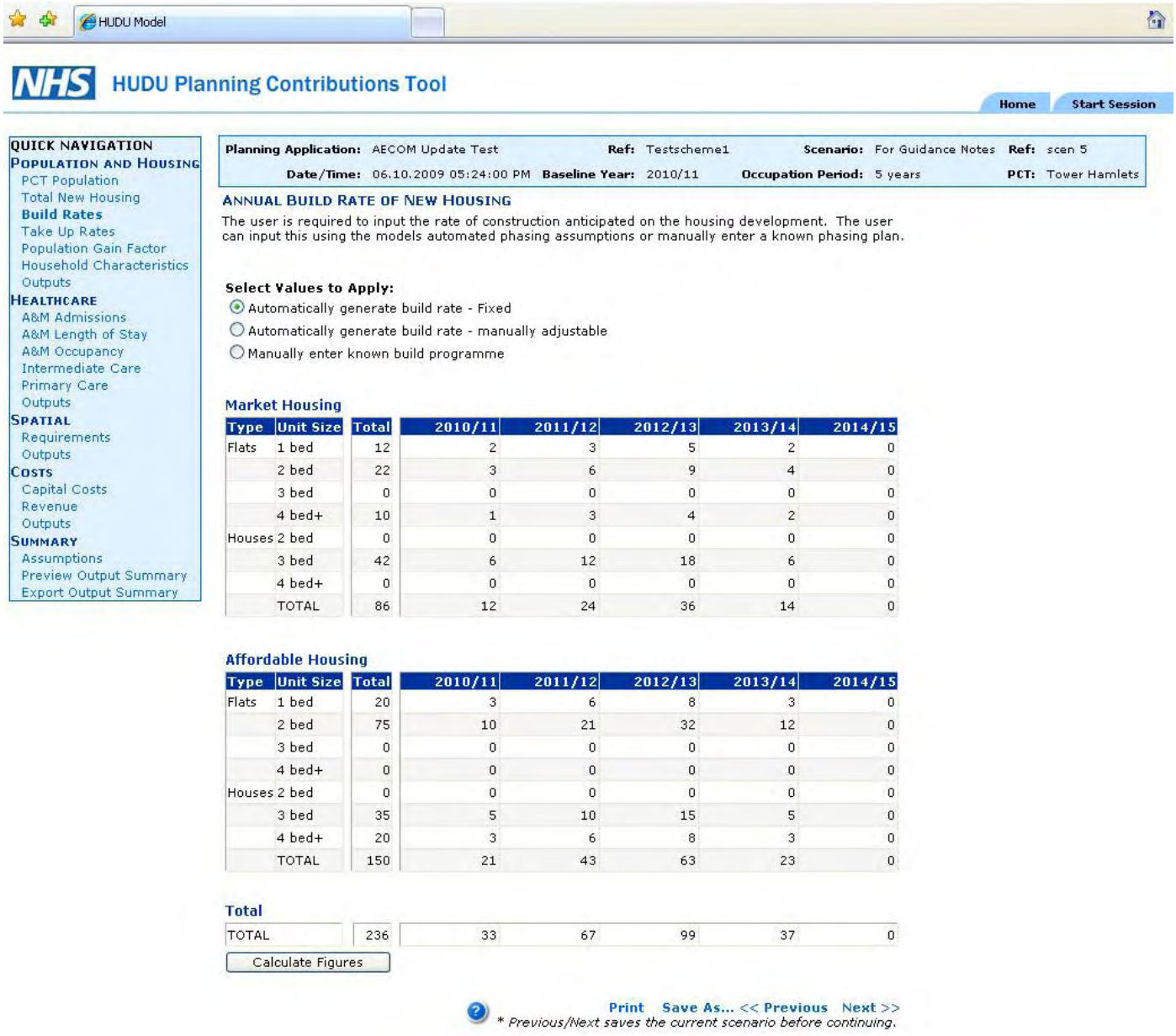
Unit Size

Splitting these into 1 bedroom, 2 bedrooms, 3 bedrooms and 4 bedrooms. For the purpose of the model any studio units should be considered 1 bedroom units and any units larger than 4 bedrooms should be included as 4 bedroom units.

Select 'Calculate Figures

To ensure the Essential inputs are correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next screen

2.3 Housing Build Rates



Type	Unit Size	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Flats	1 bed	12	2	3	5	2	0
	2 bed	22	3	6	9	4	0
	3 bed	0	0	0	0	0	0
	4 bed+	10	1	3	4	2	0
Houses	2 bed	0	0	0	0	0	0
	3 bed	42	6	12	18	6	0
	4 bed+	0	0	0	0	0	0
	TOTAL	86	12	24	36	14	0

Type	Unit Size	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Flats	1 bed	20	3	6	8	3	0
	2 bed	75	10	21	32	12	0
	3 bed	0	0	0	0	0	0
	4 bed+	0	0	0	0	0	0
Houses	2 bed	0	0	0	0	0	0
	3 bed	35	5	10	15	5	0
	4 bed+	20	3	6	8	3	0
	TOTAL	150	21	43	63	23	0

TOTAL	236	33	67	99	37	0

Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

The purpose of this screen is to enable the analysis of population change and associated healthcare requirements to be calculated on an annual basis and then cumulatively across the entire build and take-up period. This refined analysis of the planning application combined with the annual take-up rate (next screen) will feed into all subsequent steps of the model allowing a more accurate picture of when the costs of healthcare are expected and subsequently required.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select '**Automatically generate build rate – fixed**' from 'Select Values to Apply'
2. Select '**Next**' (in Screen Specific Actions Area)

Selecting 'Automatically generate build rate – fixed

The majority of planning applications submitted do not include phased build programmes. In this case, selecting 'Automatically generate a fixed build rate' will apply the models default assumptions to the total new housing numbers entered on the previous screen. The size of the application will directly affect the annual completion rate assumed for the development.

See '*Appendix: Housing Build Rates Default Assumptions*' for further guidance on how the size of an application affects the default build rate.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

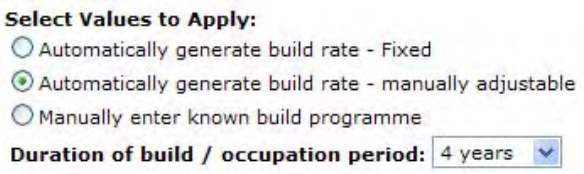
It may be the case that the planning application has been submitted with a phased build programme or the user of the model is able to acquire this information from the architects, developers or planners involved with the application. If this is the case the user may wish to manually enter a build program or adjust the automatically generated build rate.

Steps when manually inputting optional data

1. Select '**Automatically generate build rate – manually adjustable**' from 'Select Values to Apply'
2. or Select '**Manually enter known build programme**' from 'Select Values to Apply'
3. Select **'Calculate Figures'** Button
4. Select '**Next**' (in Screen Specific Actions Area)

The model has been designed to allow the user two levels of manual data input. The first allows the user to manually adjust the outputs generated by the models default assumptions, alternatively the second, to input the figures completely from scratch.

When manually entering the phasing of housing units or manually adjusting those generated by the defaults, the user will firstly be asked to input the duration of build period.



Selecting 'Automatically generate build rate – manually adjustable'

If the user wishes to manually adjust those outputs generated by the default assumptions, first select 'Automatically generate build rate – manually adjustable' (from the select values to apply heading). Secondly select the number of years the build programme is likely to take.

This will change the boxes to a number of yellow input boxes still containing those outputs generated by the defaults. The user can now adjust these as they see best. The total new housing figures as input on the previous screen will now be re-displayed to help the user to manually phase the build out programme and ensure the correct total figures are generated.

Selecting 'Manually enter known build programme'

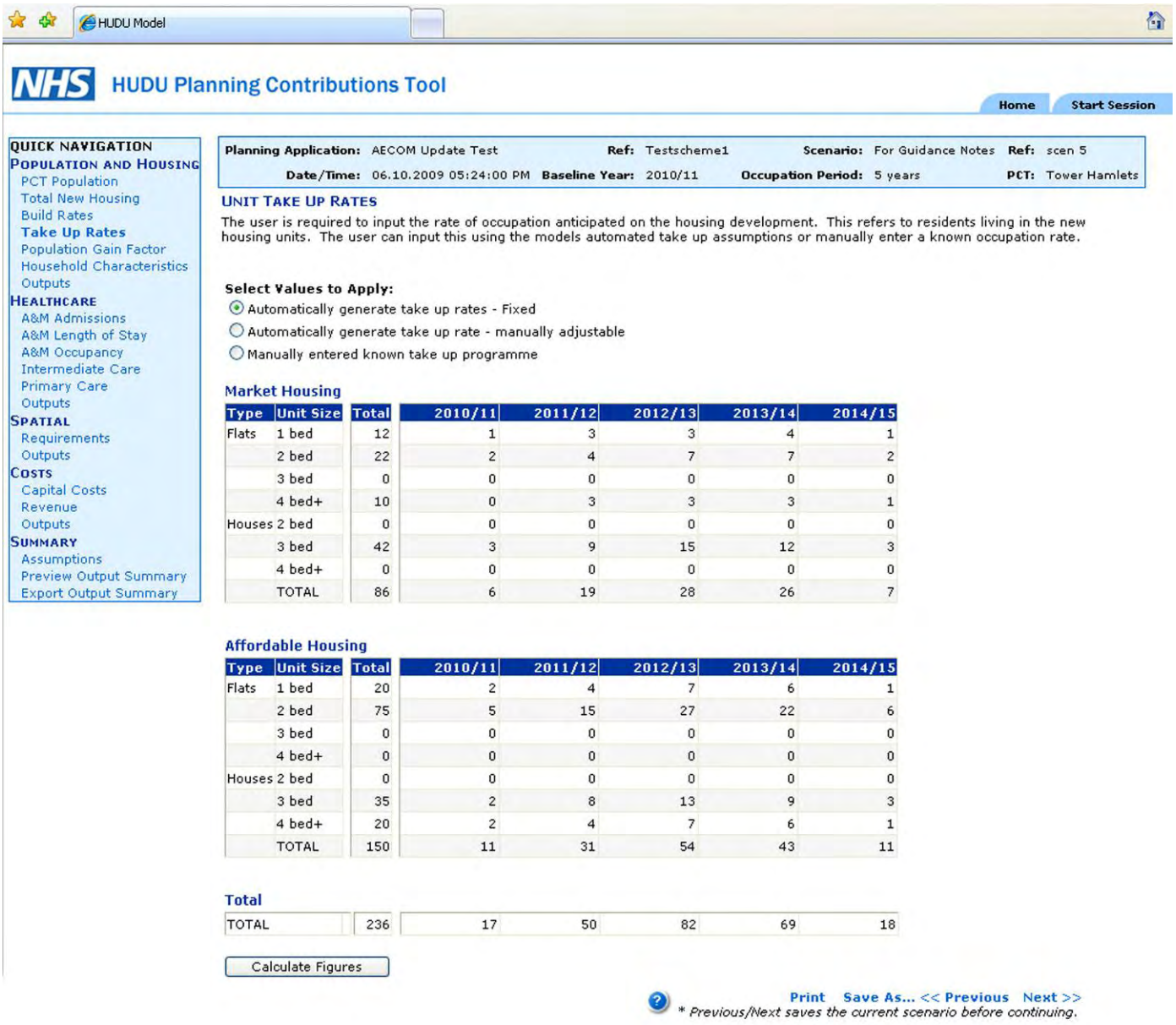
If the user wishes to manually input a phasing plan, first select 'Manually Enter known build programme' (from the select values to apply heading). Secondly select the number of years the build programme is likely to take.

This will change the boxes to a number of yellow input boxes containing no figures. The user can now input the likely number of homes built each year (according to tenure, type and size), the total new housing figures as input on the previous screen will be re-displayed to help the user to manually phase the build out programme and ensure the correct total figures are generated.

Selecting 'Calculate Figures' Button

To ensure the manual inputs are correctly fed into the website and subsequent screen the user must select the 'calculate figures' button before moving onto the next screen

2.4 Take-up Rates



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

This screen takes into account the likely delay between build completion and actual occupation that is, when residents are living in these properties and eligible to receive local healthcare services.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select '**Automatically generate take-up rates – fixed**' from 'Select Values to Apply'
2. Select '**Next**' (in Screen Specific Actions Area)

Selecting 'Automatically generate take-up rate – fixed

The majority of planning applications submitted do not include anticipated take-up programmes In this case, selecting 'Automatically generate a fixed take-up rate' will apply the models default assumptions to the build rate established on the previous screen.

See '*Appendix: Take-up Rates Default Assumptions*' for further guidance on how the default take up rate has been calculated.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

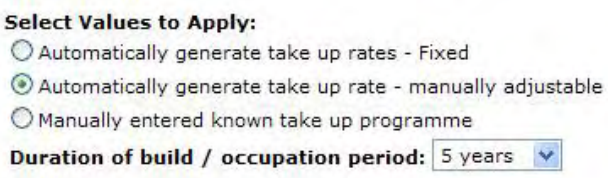
If the planning application has been submitted with a phased take-up programme or the user of the model is able to acquire this information from the architects, developers or planners involved with the application then the model allows this anticipated take-up rate to be entered manually.

Steps when manually inputting optional data

1. Select '**Automatically generate take up rate – manually adjustable**' from 'Select Values to Apply'
2. or Select '**manually enter known take up programme**' from 'Select Values to Apply'
3. Select **'Calculate Figures'** Button
4. Select '**Next**' (in Screen Specific Actions Area)

This screen is laid out and functions in exactly the same fashion as the previous 'Build Rate' screen. Again the model has been designed to allow the user two levels of manual data input. The first allows the user to manually adjust the outputs generated by the models default assumptions, alternatively the second, to input the figures completely from scratch.

When manually entering the take-up of housing units or manually adjusting those generated by the defaults, the user will again be asked to select the duration of occupation period.



Selecting 'Automatically generate take-up rate – manually adjustable'

If the user wishes to manually adjust those outputs generated by the default assumptions, first select 'Automatically generate take-up rate – manually adjustable' (from the select values to apply heading). Secondly select the number of years the occupation is likely to take.

This will change the boxes to a number of yellow input boxes still containing those outputs generated by the defaults. The user can now adjust these as they see best. The total new housing figures as previously input are again re-displayed to help the user to manually phase the take up rate and ensure the correct total figures are generated.

Selecting 'Manually enter known take-up programme'

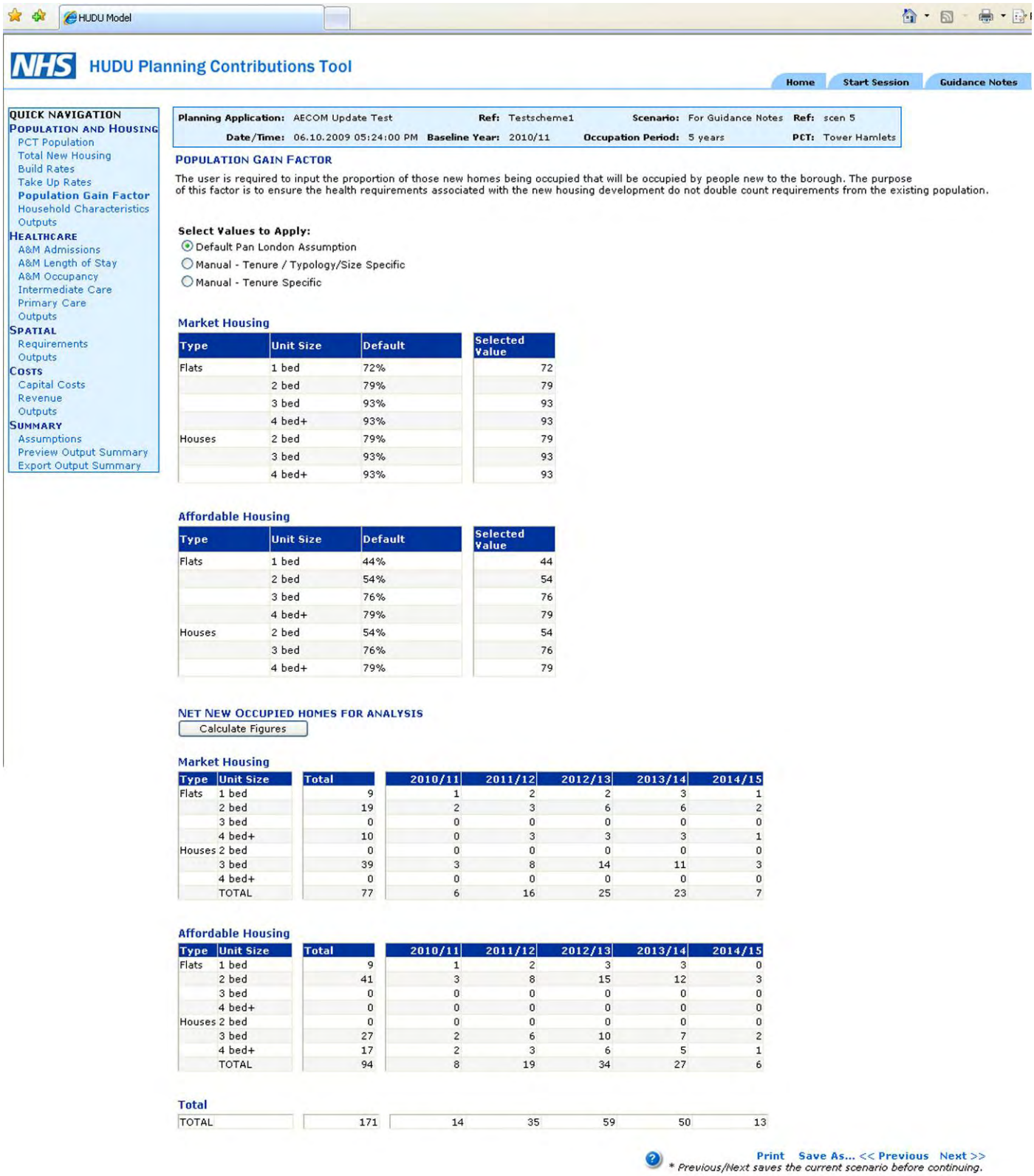
If the user wishes to manually input a phasing plan, first select 'Manually Enter known take-up rate programme' (from the select values to apply heading). Secondly select the number of years the occupation is likely to take.

This will change the boxes to a number of yellow input boxes containing no figures. The user can now input the likely number of homes occupied each year (according to tenure, type and size). The total new housing figures as previously input are again re-displayed to help the user to manually phase the take up rate and ensure the correct total figures are generated.

Selecting 'Calculate Figures' Button

To ensure the manual inputs are correctly fed into the website and subsequent screen the user must select the 'calculate figures' button before moving onto the next screen.

2.5 Population Gain Factor



HUDU Model

NHS HUDU Planning Contributions Tool

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QUICK NAVIGATION
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Build Rates
Take Up Rates
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A&M Length of Stay
A&M Occupancy
Intermediate Care
Primary Care
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SPATIAL
Requirements
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COSTS
Capital Costs
Revenue
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SUMMARY
Assumptions
Preview Output Summary
Export Output Summary

Planning Application: AECOM Update Test **Ref:** Testscheme1 **Scenario:** For Guidance Notes **Ref:** scen 5
Date/Time: 06.10.2009 05:24:00 PM **Baseline Year:** 2010/11 **Occupation Period:** 5 years **PCT:** Tower Hamlets

POPULATION GAIN FACTOR

The user is required to input the proportion of those new homes being occupied that will be occupied by people new to the borough. The purpose of this factor is to ensure the health requirements associated with the new housing development do not double count requirements from the existing population.

Select Values to Apply:
- (•) Default Pan London Assumption
- ( ) Manual - Tenure / Typology/Size Specific
- ( ) Manual - Tenure Specific

Market Housing

Type	Unit Size	Default	Selected Value
Flats	1 bed	72%	72
	2 bed	79%	79
	3 bed	93%	93
	4 bed+	93%	93
Houses	2 bed	79%	79
	3 bed	93%	93
	4 bed+	93%	93

Affordable Housing

Type	Unit Size	Default	Selected Value
Flats	1 bed	44%	44
	2 bed	54%	54
	3 bed	76%	76
	4 bed+	79%	79
Houses	2 bed	54%	54
	3 bed	76%	76
	4 bed+	79%	79

NET NEW OCCUPIED HOMES FOR ANALYSIS

Calculate Figures

Market Housing

Type	Unit Size	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Flats	1 bed	9	1	2	2	3	1
	2 bed	19	2	3	6	6	2
	3 bed	0	0	0	0	0	0
	4 bed+	10	0	3	3	3	1
Houses	2 bed	0	0	0	0	0	0
	3 bed	39	3	8	14	11	3
	4 bed+	0	0	0	0	0	0
	TOTAL	77	6	16	25	23	7

Affordable Housing

Type	Unit Size	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Flats	1 bed	9	1	2	3	3	0
	2 bed	41	3	8	15	12	3
	3 bed	0	0	0	0	0	0
	4 bed+	0	0	0	0	0	0
Houses	2 bed	0	0	0	0	0	0
	3 bed	27	2	6	10	7	2
	4 bed+	17	2	3	6	5	1
	TOTAL	94	8	19	34	27	6

Total

TOTAL	171	14	35	59	50	13

Print | Save As... | << Previous | Next >>
* Previous/Next saves the current scenario before continuing.

Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

The proportion of homes which are likely to be occupied by residents who do not already reside within the PCTs boundary, the 'Population Gain Factor' may affect the impact on health services. It is important to ensure that any health requirements associated with the planning application do not double count requirements from the existing population.

The PCT must satisfy itself that the results of applying the default population gain factor accurately reflect the impact on health services of the population movement caused by new housing.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select '**Default Pan London Assumptions'** from 'Select Values to Apply'
2. Select **'Next'** (in Screen Specific Actions Area)

Selecting 'Default Pan London Assumptions' Button

The default assumptions are generated through analysis of the demand tables from 10 London Borough Housing Needs Survey BHM assessments, analysed to generate tenure and unit size specific assumptions.

See '*Appendix: Population Gain Default Assumptions*' for further guidance on the default population Gain factor.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

The model contains default assumptions based on a London average. If however the user has a specific knowledge of this subject or is provided with clear evidence to select a local 'Population Gain Factor' the models flexibility allows manual figures to be included.

Steps when manually inputting optional data

1. Select **'Manual – Tenure/Type/Size Specific'** from 'Select Values to Apply'
2. or Select **'Manual – Tenure Specific'** from 'Select Values to Apply'
3. Select **'Calculate Figures'** Button
4. Select **'Next'** (in Screen Specific Actions Area)

The user is required to select the proportion of those new homes that are likely to be occupied by people new to the PCT (and subsequently generating additions to the PCTs existing population). The model allows the user to select this proportion against each housing type (across tenure, type and unit size). The user is required to select from one of 2 manual options.

- Manual – Tenure / Type / Size Specific
- Manual – Tenure Specific

See '*Appendix: Population Gain Default Assumptions*' for further guidance on calculating an appropriate Population Gain factor.

Selecting 'Manual – Tenure/Type/Size Specific' Button

The user must select 'Manual – Tenure/Type/Size Specific' from the 'Select Values to Apply heading. As this is selected the columns entitled 'selected values' will empty of their default assumptions and shift to empty yellow boxes. The user must then input a % figure for each housing type.

Selecting 'Manual – Tenure Specific' Button

The user must select 'Manual – Tenure Specific' from the 'Select Values to Apply heading. As this is selected the columns entitled 'selected values' will empty of their default assumptions and shift to empty yellow boxes.

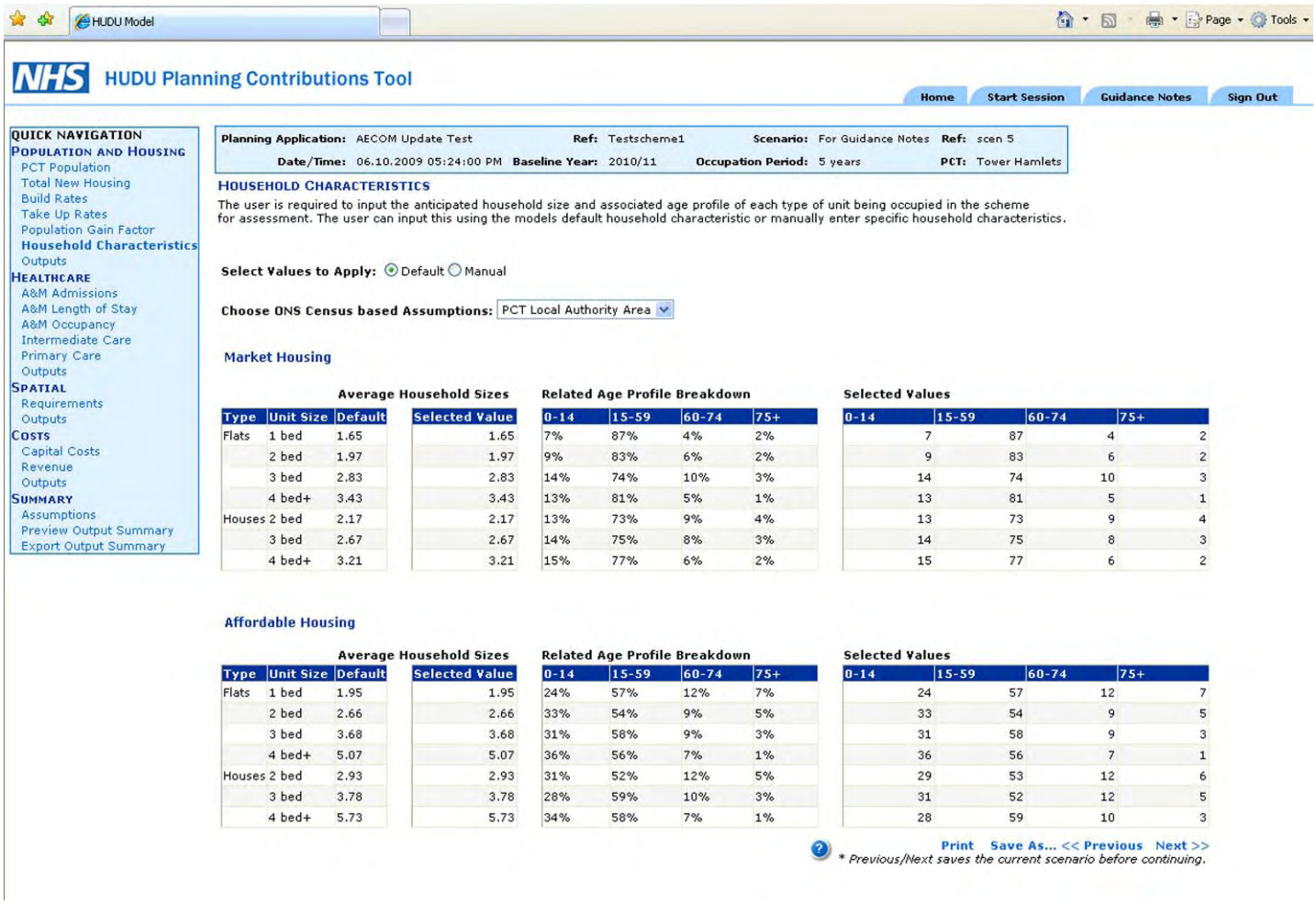
As a result, a new option will appear as demonstrated below, whereby the user is required to enter a generic population gain factor (%) to all housing of a given tenure. The user must then select the 'Apply Values' button to automatically fill the yellow boxes.

To ensure the manual inputs are correctly fed into the website and subsequent screen the user must select the 'calculate figures' button before moving onto the next screen.

CALCULATIONS

Number of homes occupied by population new to the borough
Annual unit take-up rate x Population Gain Factor = Number of homes occupied by population new to the borough

2.6 Household Characteristics



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

To enable the model to calculate the likely population generated by the planning application the characteristics of the households occupying the new homes, in terms of size and age profile, must be established.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select '**Default**' from 'Select Values to Apply' option
2. **Choose 'PCT Local Authority Area'** from 'choose ONS Census based assumption' drop down menu
3. Select '**Next**' (in Screen Specific Actions Area)

Selecting 'Default' from 'Select Values to Apply' Option

The default assumptions are generated through analysis of ONS Census 2001 data and provide average household sizes and associated age profiles according to housing type. When relying on the default assumptions this screen offers the user a further option to choose which census based assumptions to use.

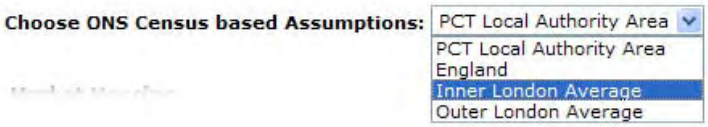
See '*Appendix: Household Characteristic Default Assumptions: ONS Census based default assumptions*' for further guidance on the default Average Household Size and Age Profiles.

Choose PCT Local Authority Area

After selecting 'default' from the 'Select Values to Apply' heading, the user is offered the further option to 'choose ONS Census based assumptions'. The first choice on the drop down menu which is already selected in the default setting is 'PCT local Authority Area'.

This bases the models ONS Census assumptions on the household characteristics of the Local Authority in which that planning application is being proposed (this is set to the local authority chosen when defining the scenario). If the user is running the model strictly on the default settings, **it is recommended that the user does not change this and retains 'PCT local Authority Area.**

The model also allows the user to select the average household size and age profiles based on the England Average, Inner London local authorities' average or Outer London local authorities' average.



The model contains these alternative assumptions to enable sensitivity testing exercises to be undertaken, looking at, for example the effect upon population numbers when different assumptions are made with regard to the size and age profile of households occupying new homes. The user may feel that the new housing proposed within the planning application is unlikely to reflect existing housing characteristics of the area (due to its location and type or to the conditions of local housing demand) and could therefore chose to reflect less specific assumptions such as an inner or outer London average.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

The model contains default assumptions based on analysis of the ONS Census 2001. If however, the user wishes to apply aspirational household characteristics or input figures derived from an alternative source such as a recent household survey, the models flexibility allows manual figures to be included.

Steps when manually inputting optional data

1. Select **'Manual**' from 'Select Values to Apply' option
2. **Manually Input** Average Household Size and related age profiles of each housing type
3. Select '**Next**' (in Screen Specific Actions Area)

Manually inputting average household size and related age profile

After selecting 'manual' from the 'Select Values to Apply' heading, the selected values boxes are emptied and all yellow boxes must be filled. The default figures remain adjacent to these boxes for reference purposes. An average household size and associated age profile breakdown is required for each housing type that has been entered into the model on previous screens.

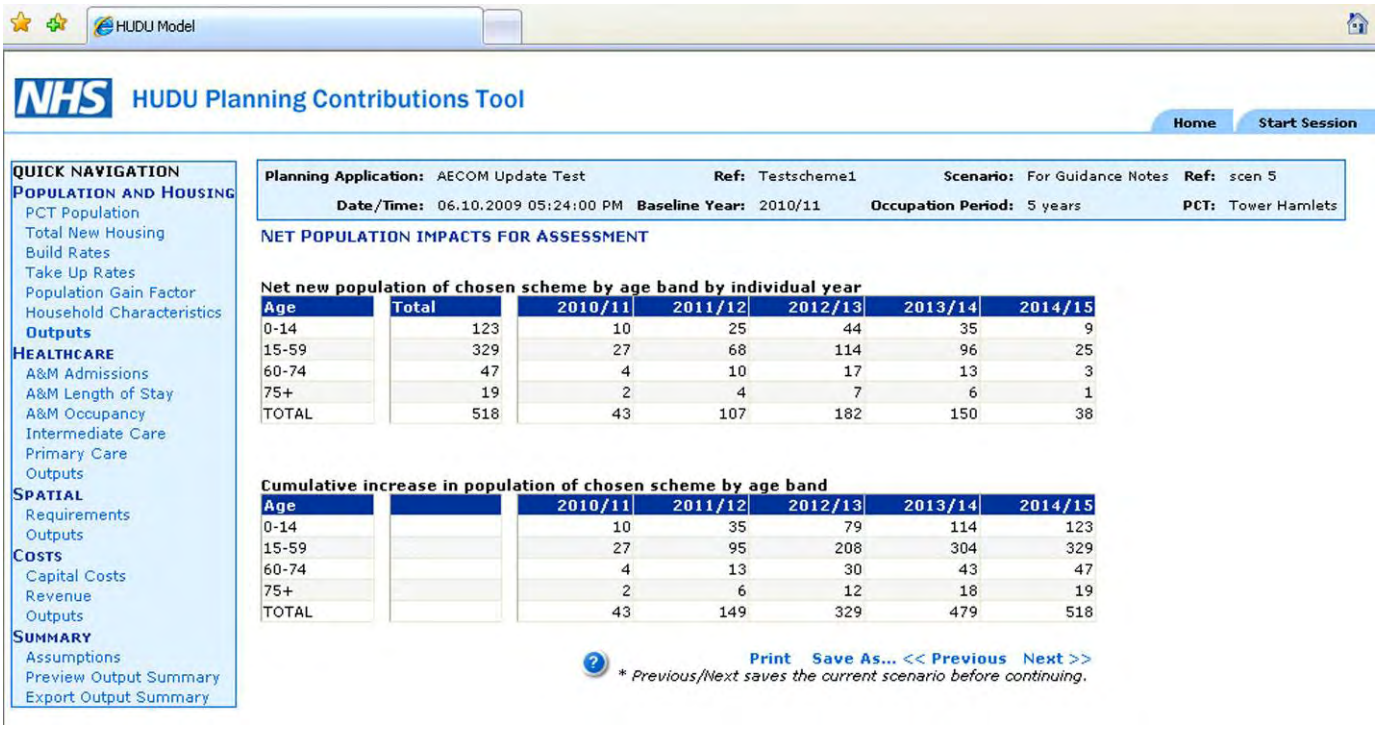
The average household size for a particular housing type would be calculated as the number of people resident in the households of a given area, divided by the respective number of household units.

The age profile breakdown would be calculated for example by dividing the total number of people living in a quantity of homes by the number of people in those homes from each of the following age cohorts:

- 0 – 14 years,
- 15 – 59 years,
- 60 – 74 years,
- 75 years and over

See '*Appendix: Household Characteristic Default Assumptions: Alternative sources of information to understand household characteristics*' for further guidance on potential sources from which to calculate manual household characteristic inputs.

2.7 Population Outputs



Step Guide:
This is an output screen and does not require any inputs/ actions

This screen presents the outputs of the second step of the HUDU model 'Population and Housing' , bringing together the inputs, assumptions and calculations of the previous screens, the HUDU model calculates the net new population generated by the planning application.

This population impact is presented annually across the project timeline in the 4 age cohorts used throughout the HUDU model. It is important to recognise that his population output has been influenced by the Population Gain Factor assumptions and represents the net population impact of the planning application to the PCT.

Below the table displaying annual population impacts is an additional table presenting the cumulative increase in population generated by the planning application, again by the different age cohorts. This table allows the user to see how the total population impacts build up over the project timeline,

CALCULATIONS

Net new population of planning application by age band by individual year
(Annual number of homes occupied by population new to the borough x Average Household Size) x Related Age Profile Breakdown = Net new population of planning application by age band by individual year

3.1 Acute & Mental Healthcare Admissions

HUDU Model

NHS HUDU Planning Contributions Tool

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- HEALTHCARE
  - A&M Admissions
  - A&M Length of Stay
  - A&M Occupancy
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  - Export Output Summary

Planning Application: AECOM Update Test **Ref:** Testscheme1 **Scenario:** For Guidance Notes **Ref:** scen 5
Date/Time: 06.10.2009 05:24:00 PM **Baseline Year:** 2010/11 **Occupation Period:** 5 years **PCT:** Tower Hamlets

ACCUTE AND MENTAL HEALTHCARE ASSUMPTIONS

The user is required to input the latest records of Acute and Mental Healthcare patient admissions which will then be compared against the PCT population to generate a Health Activity Rate. The user can input this using the websites in-built records of Health Episode Statistics or manually enter updated admission records.

Existing Admission Levels

Select Values to Apply: (•) Default ( ) Manual

PCT specific Health Episode Statistics 2007/08

	Elective IP	Non-Elective IP	Day Case	Mental Health
Ages 0-14	530	4142	1281	6
Ages 15-59	2299	15687	7583	561
Ages 60-74	1002	3036	2516	67
Ages 75+	555	3632	1613	84
TOTAL	4386	26497	12993	718

Manual/Locally Specific Inputs

	Elective IP	Non-Elective IP	Day Case	Mental Health
Ages 0-14	530	4142	1281	6
Ages 15-59	2299	15687	7583	561
Ages 60-74	1002	3036	2516	67
Ages 75+	555	3632	1613	84
TOTAL	4386	26497	12993	718

Calculate Figures

Health Activity Rates per 1000 People

	Elective IP	Non-Elective IP	Day Case	Mental Health
Ages 0-14	11.7	91.1	28.2	0.1
Ages 15-59	14.5	98.8	47.8	3.5
Ages 60-74	65.8	199.2	165.1	4.4
Ages 75+	66.1	432.6	192.1	10.0
TOTAL	19.2	116.3	57.0	3.2

Forecast annual change in Admission Levels

The user is now required to forecast the annual change in admissions. The user can input this using the websites in-built national forecasts or manually enter local forecasts

Select Values to Apply: (•) Default ( ) Manual

Default/Geography Specific

	Elective IP	Non-Elective IP	Day Case	Mental Health
All Ages	2.5%	1.8%	3.7%	-0.9%

Manual/Locally Specific Inputs

	Elective IP	Non-Elective IP	Day Case	Mental Health
All Ages	2.5	1.8	3.7	-0.9

Print Save As... << Previous Next >>
* Previous/Next saves the current scenario before continuing.

Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

The purpose of this screen is to establish the Acute and Mental Healthcare activity of the existing population in the PCT where the application is proposed. This is then used to estimate the likely Acute and Mental healthcare activity generated by those people generated through the planning application.

To enable this calculation, the model must first calculate a rate of service activity based on the level of activity and the baseline year PCT Population.

In addition to understanding the current rate of activity, the model also needs to understand how this activity is anticipated to change over time.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Under existing admissions levels heading, Select '**Default** ' from 'Select Values to Apply' option
2. Select **'Calculate Figures'** Button
3. Under forecast annual change in admissions levels heading, Select '**Default** ' from 'Select Values to Apply' option
4. Select **'Next'** (in Screen Specific Actions Area)

Existing Admissions Levels: Selecting 'Default'

The default assumptions for admission volume are provided by age band and for each admission type. The default data for each PCT has been derived from the 2007/08 Hospital Episode Statistics (HES) dataset which is the most recent year of data available at time of model update.

See '*Appendix: Acute and Mental Healthcare Admissions Default Assumptions*' for further guidance on the how the HES dataset was obtained and which variables were chosen in the dataset production.

Selecting 'Calculate Figures' Button

To ensure the default selection is correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next step

Forecast Annual change in Admissions Levels: Selecting 'Default'

The default assumption is based upon the average growth rate in admissions to 2019/20 for the UK, as forecast by the National Beds Inquiry.

See '*Appendix: Acute and Mental Healthcare Admissions Default Assumptions*' for further guidance on the National Beds Inquiry.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to apply updated health episode statistics or input recent and locally specific forecasts of changes to admission levels, the models flexibility allows manual figures to be input. It should be noted that the user can choose to do one of these 2 actions and use the default assumptions for the other or alternatively manually input data for both actions.

Steps when manually inputting optional data

1. Under existing admissions levels heading, select '**Manual**' from 'Select Values to Apply' option
2. **Input PCT specific Acute and Mental healthcare admissions** by both type (Acute Elective IP, Acute Non Elective IP, Acute Day case and Mental health) and by age band
3. Select **'Calculate Figures'** Button
4. Under forecast annual change in admissions levels heading, select '**Manual**' from 'Select Values to Apply' option
5. **Input forecast annual change in admissions** by type (Acute Elective IP, Acute Non Elective IP, Acute Day case and Mental health)
6. Select '**Next**' (in Screen Specific Actions Area)

Inputting PCT Specific Acute and Mental healthcare admissions

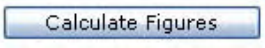
The user has the option to manually input records of Acute and Mental Healthcare patient admissions which will then be compared against the PCT population to generate a Health Activity Rate.

The existing admission levels are required by age band and categorised by the following 4 admission types:

- Acute elective inpatient (planned hospital stays)
- Acute non-elective inpatient (emergency stays)
- Acute day case (not involving an overnight stay)
- Mental health

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must be filled. The methodology for obtaining the necessary Health Episode datasets is explained in detail within the Appendix. The methodology and reasoning behind this methodology should be used to acquire the appropriate Health Episode Statistics to populate the HUDU model manually.

Selecting 'Calculate Figures' Button



To ensure the manual inputs are correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next step

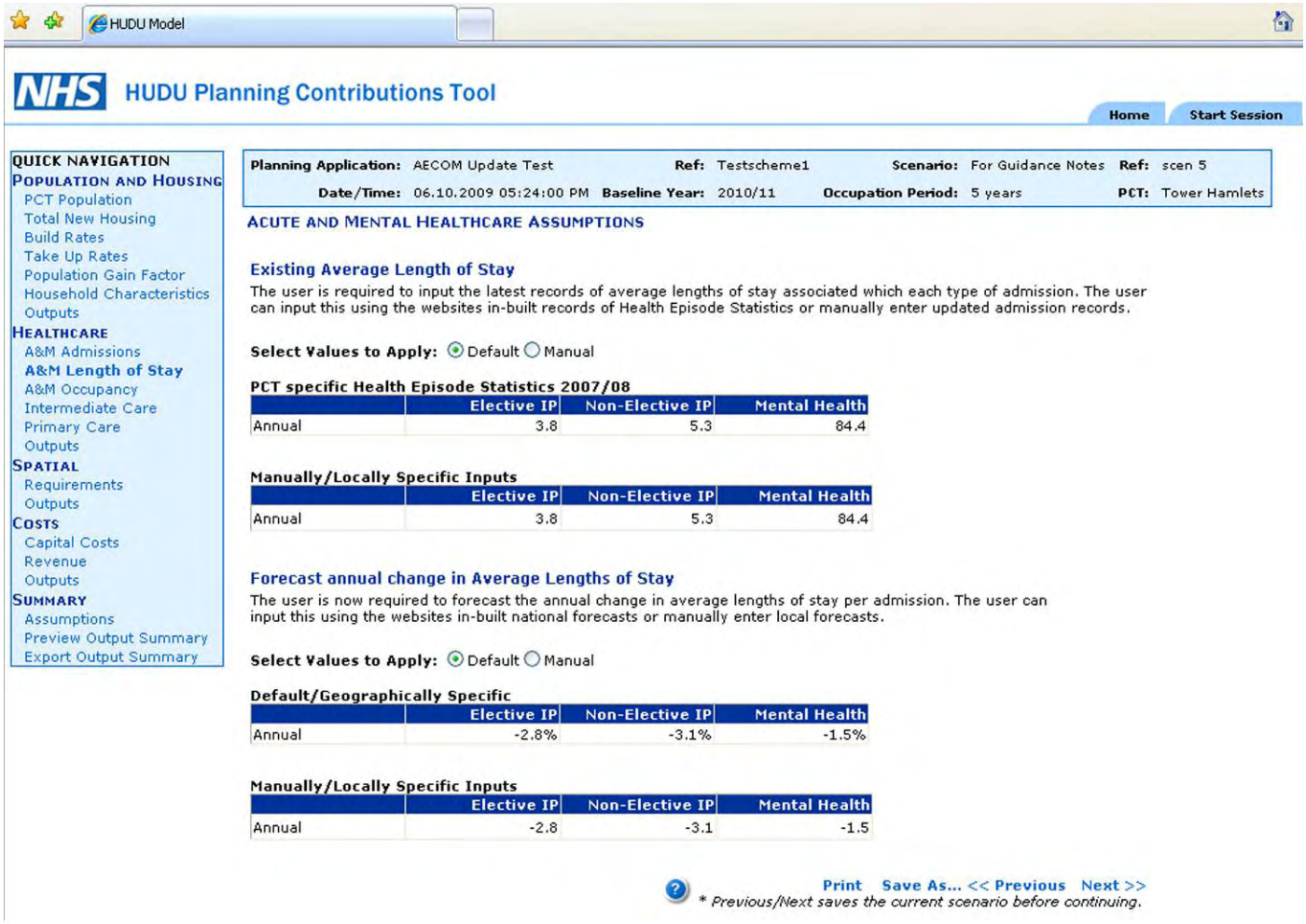
Inputting forecast annual change in admissions

After establishing the current rate of healthcare activity in the PCT, the user is then required to input the forecast annual change in admission levels for the duration of the project timeline, by admission type (for all ages).

CALCULATIONS

Health Activity Rates per 1000 people
(PCT Population 2007/08 / PCT specific Health Episode Statistics 2007/08) x 1000 = Health Activity Rates per 1000 people

3.2 Acute & Mental Healthcare Lengths of Stay



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

In order to calculate the additional number of Acute and Mental Healthcare beds required across the project timeline the model requires an estimate of how long admissions last as well as average occupancy levels to ascertain the actual number of new beds necessary.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Under Existing Average Lengths of Stay heading, Select '**Default**' from 'Select Values to Apply' option
2. Under forecast annual change in Average Lengths of Stay heading, Select '**Default** ' from 'Select Values to Apply' option
3. Select '**Next'** (in Screen Specific Actions Area)

Existing Average Length of Stay: Selecting 'Default'

The default assumptions for average lengths of stay are provided for all ages and for acute elective inpatients, acute non-elective inpatients and mental health patients. The default data for each PCT has been derived from the 2007/08 Hospital Episode Statistics (HES) dataset which is the most recent year of data available at time of model development.

See '*Appendix: Acute and Mental Healthcare Lengths of Stay Default Assumptions'* for further guidance on the how the HES dataset was obtained and which variables were chosen in the dataset production.

Forecast Change in Average Length of Stay: Selecting 'Default'

The default assumption for changes to the average lengths of stay is based upon assumptions contained with the 'care closer to home' scenario from the National Beds Inquiry.

See *'Appendix: Acute and Mental Healthcare Lengths of Stay Default Assumptions'* for further guidance on the National Beds Inquiry.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to apply updated health episode statistics or input recent and locally specific forecasts of changes to average lengths of stay, the models flexibility allows manual figures to be input. It should be noted that the user can choose to do one of these 2 actions and use the default assumptions for the other or alternatively manually input data for both actions.

Steps when manually inputting optional data

1. Under Existing Average Lengths of Stay heading, Select '**Manual**' from 'Select Values to Apply' option
2. **Manually Input PCT specific average length of stay** by type (Acute Elective IP, Acute Non Elective IP and Mental health),
3. Under forecast annual change in Average Lengths of Stay heading, Select '**Manual'** from 'Select Values to Apply' option
4. **Manually Input forecast annual change in average lengths of stay** by type (Acute Elective IP, Acute Non Elective IP and Mental health), either using model defaults or manually inputting assumptions,
5. Select '**Next'** (in Screen Specific Actions Area)

Manually inputting PCT Specific Acute and Mental healthcare lengths of stay

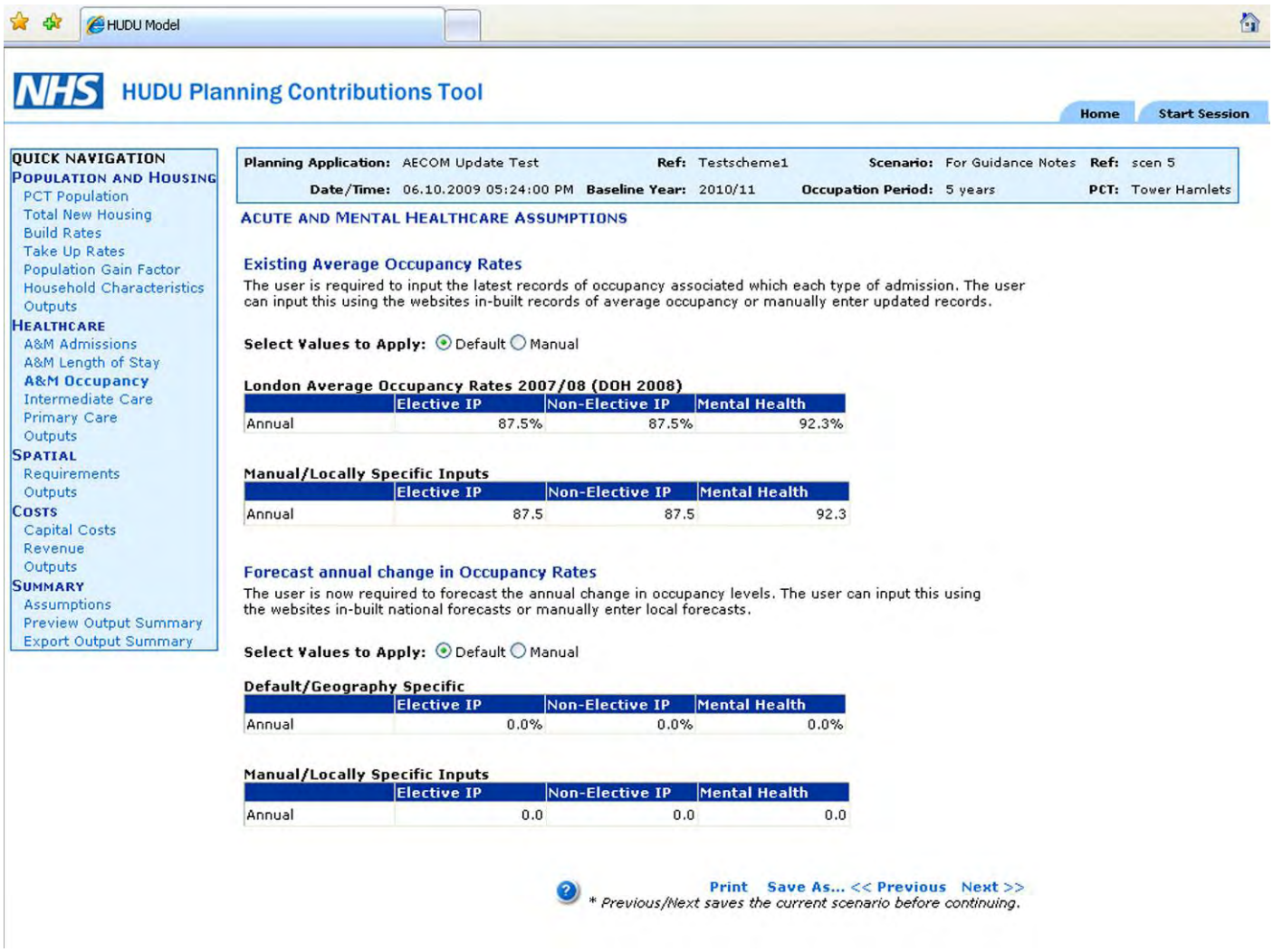
If the user selects the manual input option, the table entitled ‘Manual/Locally Specific Inputs’ will empty and all yellow boxes must then be filled. The user is required to manually input the average lengths of stay associated with acute elective inpatients, acute non-elective inpatients and mental health patients. Lengths of stay are defined as the length of time spent in care by number of days derived from difference in days between admission date and discharge date where both are given. Any stays of greater than 365 days should be treated as 365 days.

See ‘*Appendix: Acute and Mental Healthcare Lengths of Stay Default Assumptions’* for further guidance on the definition of Lengths of stay and how to obtain the appropriate data.

Manually inputting forecast annual change in average lengths of stay

If the user selects the manual input option, the table entitled ‘Manual/Locally Specific Inputs’ will empty and all yellow boxes must then be filled. The user is required to input forecasts for the annual change in average lengths of stay per admission.

3.3 Acute & Mental Healthcare Occupancy



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

In order to understand the additional number of Acute and Mental Healthcare beds required across the project timeline the model requires an understanding of the average and forecast average occupancy of beds in order to compare this alongside the average and forecast average lengths of stay to ascertain the actual number of new beds necessary.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Under Existing Average Occupancy Rates heading, Select '**Default**' from 'Select Values to Apply' option
2. Under forecast annual change in Occupancy Rates heading, Select '**Default** ' from 'Select Values to Apply' option
3. Select '**Next'** (in Screen Specific Actions Area)

Existing Average Occupancy Rates: Selecting 'Default'

The default assumptions for average lengths of stay are provided for all ages and for acute inpatients and mental health patients. The default data for each PCT has been derived from the Department of Health, KH03 (average daily number of available and occupied beds by sector, NHS organisations in England, 2007-08), which was produced in September 2008. The average across London PCTs has been used for all PCTs.

See '*Appendix: Acute and Mental Healthcare Occupancy Default Assumptions'* for further guidance on the how the default occupancy figures were obtained.

Forecast Change in Average Occupancy Rates: Selecting 'Default'

The default assumption for the average change in occupancy is set at a 0% change.

See 'Appendix*: Acute and Mental Healthcare Occupancy Default Assumptions*' for further guidance on the default assumptions on changes to occupancy levels.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to apply updated records for the existing occupancy rates or input recent and locally specific forecasts of changes to occupancy, the models flexibility allows manual figures to be input. It should be noted that the user can choose to do one of these 2 actions and use the default assumptions for the other or alternatively manually input data for both actions.

Steps when manually inputting optional data

1. Under Existing Average Occupancy Rates heading, Select '**Manual**' from 'Select Values to Apply' option
2. **Manually Input PCT specific Average Occupancy** by type (Acute Elective IP, Acute Non Elective IP and Mental health),
3. Under forecast annual change in occupancy Rates heading, Select '**Manual'** from 'Select Values to Apply' option
4. **Manually Input forecast annual change in Occupancy Rates** by type (Acute Elective IP, Acute Non Elective IP and Mental health), either using model defaults or manually inputting assumptions,
5. Select '**Next'** (in Screen Specific Actions Area)

Manually inputting PCT Specific Average Occupancy

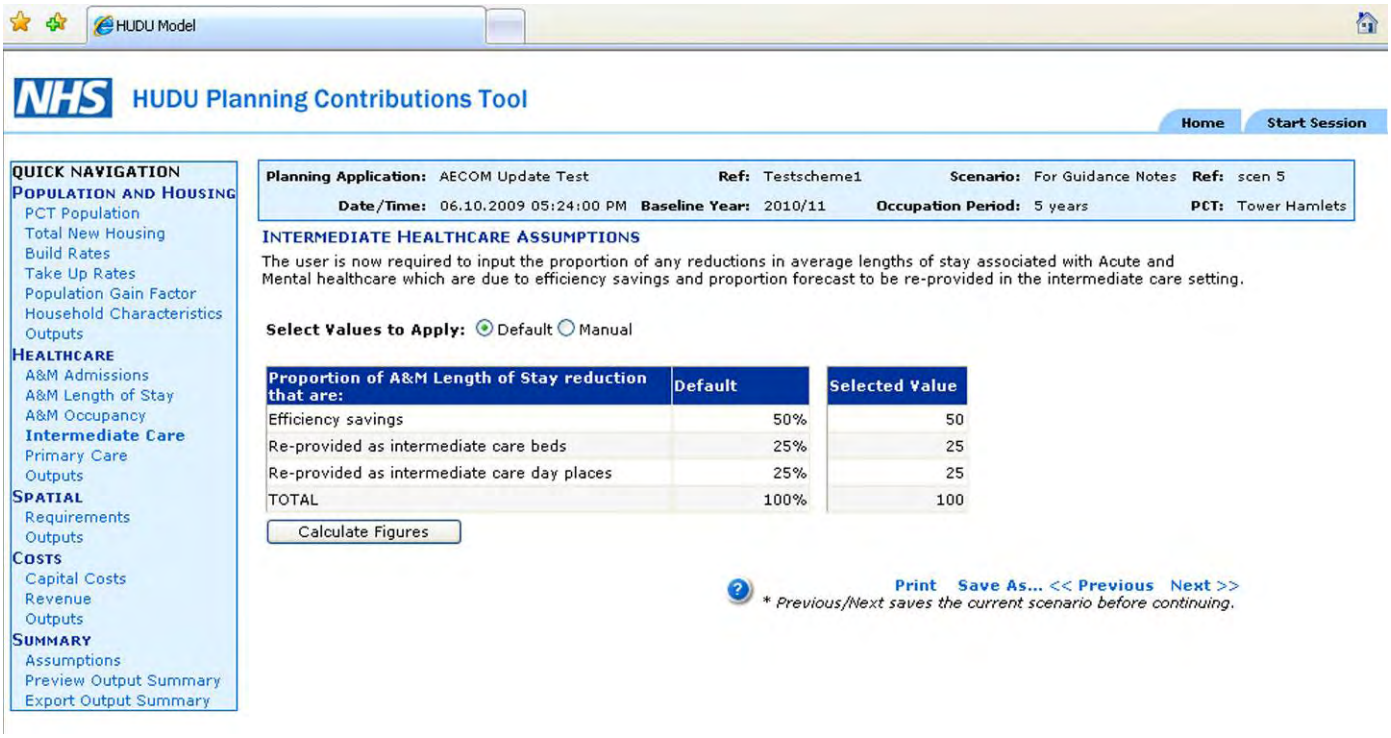
If the user selects the manual input option, the table entitled ‘Manual/Locally Specific Inputs’ will empty and all yellow boxes must then be filled. The user is required to manually input the occupancy rates associated with acute elective bed, acute non-elective beds and mental health beds. Occupancy is defined as the average daily number of available and occupied beds by each sector,

See ‘*Appendix: Acute and Mental Healthcare Occupancy Default Assumptions’* for further guidance on the definition of occupancy rates and how to obtain the appropriate data.

Manually inputting forecast annual change to Occupancy Rates

If the user selects the manual input option, the table entitled ‘Manual/Locally Specific Inputs’ will empty and all yellow boxes must then be filled. The user is required to input forecasts for the annual change in occupancy rates per admission.

3.4 Intermediate Healthcare



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

The model recognises that the current strategic direction for the provision of health care is for a shift of some aspects of care from a traditional acute setting to community based and primary care led services. In order to quantify this impact, the model calculates capacity requirements in intermediate care that are associated with reducing lengths of stay in acute care.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select **'Default'** from 'Select values to Apply' option
2. Select '**Next'** (in Screen Specific Actions Area)

Intermediate Healthcare: Selecting 'Default'

The default data for each PCT has been derived from an interpretation of the National Beds Inquiry.

See '*Appendix: Intermediate Healthcare Default Assumptions*' for further guidance on the how the intermediate assumptions were derived.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to enter PCT specific assumptions towards the proportion of reductions in Acute healthcare lengths of stay which are likely to be reprovided in the intermediate setting, the models flexibility allows manual figures to be input.

Steps when manually inputting optional data

1. Select **'Manual'** from 'Select values to Apply' option
2. **Manually Input proportion (%) of lengths of stay reductions to be reprovided in intermediate** healthcare environment, either using model defaults or manually inputting data,
3. Select '**Calculate Figures'** button
4. Select '**Next'** (in Screen Specific Actions Area)

Manually Inputting proportion of reductions to be re-provided in intermediate

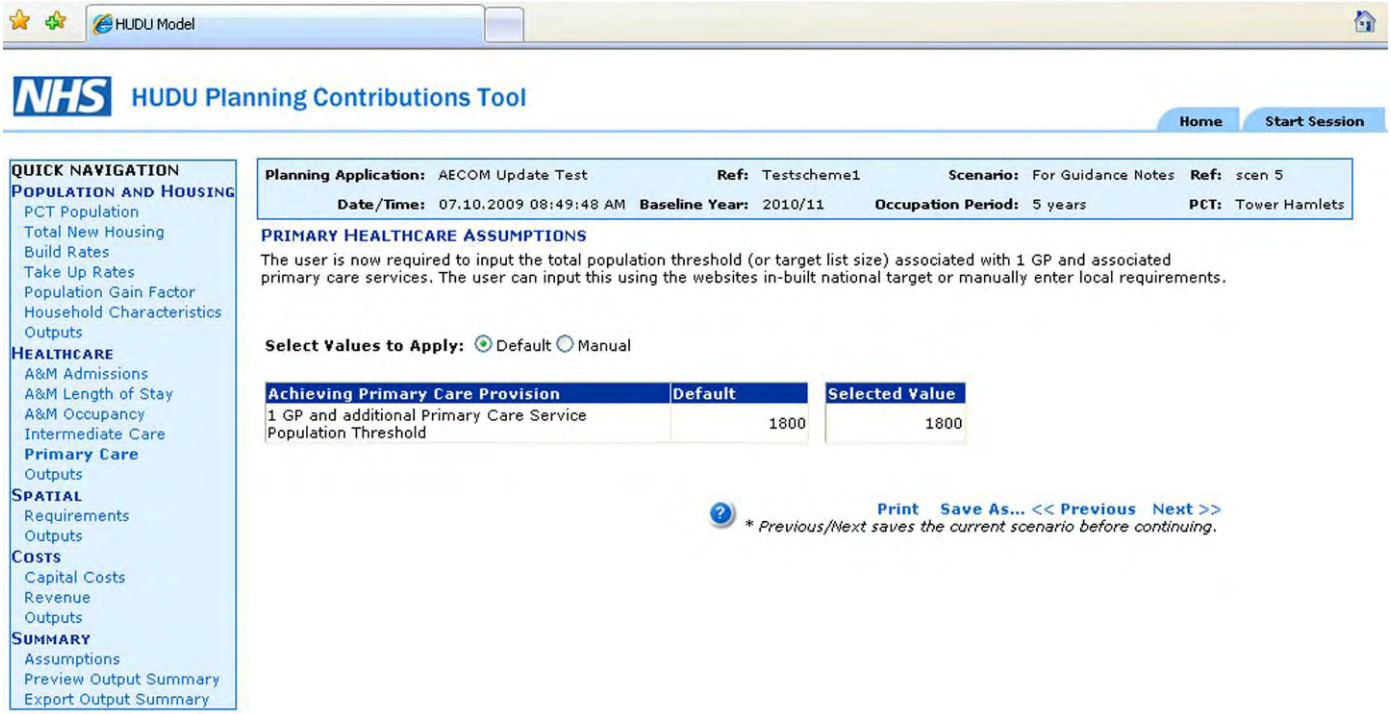
If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. The user is then required to select the proportion of any reductions in average lengths of stay associated with Acute and Mental healthcare which are due to efficiency savings and proportion forecast to be re-provided in the intermediate care setting.

This should be entered as a proportion of the total reductions (as a %) and should not equal more than 100%.

Selecting 'Calculate Figures' Button

To ensure the manual inputs are correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next screen.

3.5 Primary Healthcare



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

As stated under the purpose of Intermediate Healthcare screen, the model recognises that the current strategic direction for the provision of health care is for a shift of some aspects of care from a traditional acute setting to community based and primary care led services. Primary care settings have an increasing requirement to provide a wider range of services outside the traditional GP service. The purpose of this screen is to establish the target level of primary care provision in relation to population size.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Select **'Default'** from 'Select Values to Input' option.
2. Select '**Next**' (in Screen Specific Actions Area)

Primary Healthcare: Selecting 'Default'

The default data for each PCT has been set at requiring a population size of 1,800 people in order to justify one General Practitioner. This is based on guidance from the Royal College of GPs. It should be noted however that this population size also requires a number of additional primary care services which are included within this model.

See '*Appendix: Primary Healthcare Default Assumptions*' for further guidance on the how the Primary healthcare assumptions were derived.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to enter PCT specific assumptions towards the size of population required to justify one General Practitioner and additional primary care services, the models flexibility allows manual figures to be input.

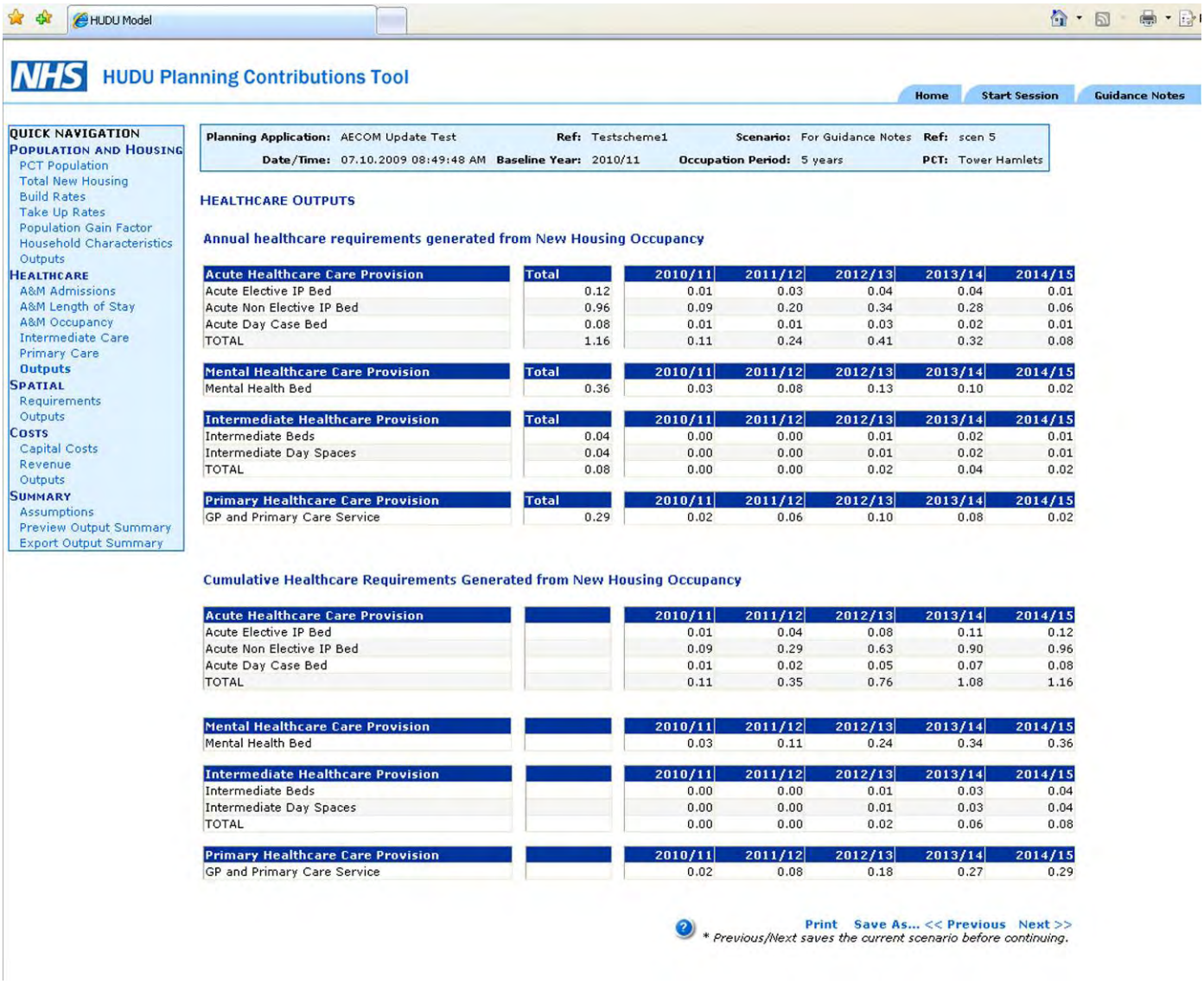
Steps when manually inputting optional data

1. Select **'Manual'** from 'Select Values to Input' option.
2. **Manually Input population threshold (target size)** associated with one General practitioner and additional primary care services
3. Select '**Next**' (in Screen Specific Actions Area)

Manually Inputting Population threshold of one GP and additional primary care services

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. The user is then required to define the total population threshold (or target list size) associated with 1 GP and additional primary care services.

3.6 Healthcare Outputs



HUDU Model

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Planning Application: AECOM Update Test Ref: Testscheme1 Scenario: For Guidance Notes Ref: scen 5
Date/Time: 07.10.2009 08:49:48 AM Baseline Year: 2010/11 Occupation Period: 5 years PCT: Tower Hamlets

HEALTHCARE OUTPUTS

Annual healthcare requirements generated from New Housing Occupancy

Acute Healthcare Care Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Acute Elective IP Bed	0.12	0.01	0.03	0.04	0.04	0.01
Acute Non Elective IP Bed	0.96	0.09	0.20	0.34	0.28	0.06
Acute Day Case Bed	0.08	0.01	0.01	0.03	0.02	0.01
TOTAL	1.16	0.11	0.24	0.41	0.32	0.08

Mental Healthcare Care Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Mental Health Bed	0.36	0.03	0.08	0.13	0.10	0.02

Intermediate Healthcare Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Intermediate Beds	0.04	0.00	0.00	0.01	0.02	0.01
Intermediate Day Spaces	0.04	0.00	0.00	0.01	0.02	0.01
TOTAL	0.08	0.00	0.00	0.02	0.04	0.02

Primary Healthcare Care Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
GP and Primary Care Service	0.29	0.02	0.06	0.10	0.08	0.02

Cumulative Healthcare Requirements Generated from New Housing Occupancy

Acute Healthcare Care Provision		2010/11	2011/12	2012/13	2013/14	2014/15
Acute Elective IP Bed		0.01	0.04	0.08	0.11	0.12
Acute Non Elective IP Bed		0.09	0.29	0.63	0.90	0.96
Acute Day Case Bed		0.01	0.02	0.05	0.07	0.08
TOTAL		0.11	0.35	0.76	1.08	1.16

Mental Healthcare Care Provision		2010/11	2011/12	2012/13	2013/14	2014/15
Mental Health Bed		0.03	0.11	0.24	0.34	0.36

Intermediate Healthcare Provision		2010/11	2011/12	2012/13	2013/14	2014/15
Intermediate Beds		0.00	0.00	0.01	0.03	0.04
Intermediate Day Spaces		0.00	0.00	0.01	0.03	0.04
TOTAL		0.00	0.00	0.02	0.06	0.08

Primary Healthcare Care Provision		2010/11	2011/12	2012/13	2013/14	2014/15
GP and Primary Care Service		0.02	0.08	0.18	0.27	0.29

Print Save As... << Previous Next >>
* Previous/Next saves the current scenario before continuing.

Step Guide:
This is an output screen and does not require any inputs/ actions

This screen presents the outputs of the third step of the HUDU model 'Healthcare', bringing together the inputs, assumptions and calculations of the previous screens, the HUDU model calculates the healthcare service requirements associated with the net new population generated by the planning application.

This additional healthcare service requirement is presented annually over the project timeline across the following elements:

- Acute Elective IP Beds
- Acute Non Elective IP Beds
- Acute Day Case Beds
- Mental Health Beds
- Intermediate Beds
- Intermediate Day Spaces
- GP and additional Primary Care Service Space

Below the table displaying annual healthcare service requirements is an additional table presenting the cumulative increase in service requirements again across the different themes. This table allows the user to see how the needs build up over the project timeline,

CALCULATIONS

The following tables briefly outline the calculations carried out to generate the Healthcare service requirements displayed on this screen. It should be noted that these calculations are also affected, with regard to the annual change in requirements, by the forecast changes to admissions, lengths of stay and occupancy as defined in the previous screens.

Acute Elective IP Beds
New Population x Admission rate per 1000 = Level of new admissions
Level of new admissions x Length of stay = Bed Days
Available Bed Days x Occupancy = Number of Beds Required.

Acute Non Elective IP Beds
New Population x Admission rate per 1000 = Level of new admissions
Level of new admissions x Length of stay = Bed Days
Available Bed Days x Occupancy = Number of Beds Required.

Acute Day Case Beds
New Population x Admission rate per 1000 = Level of new admissions
Level of new admissions / Day Bed utilisation = Number of Beds Required.

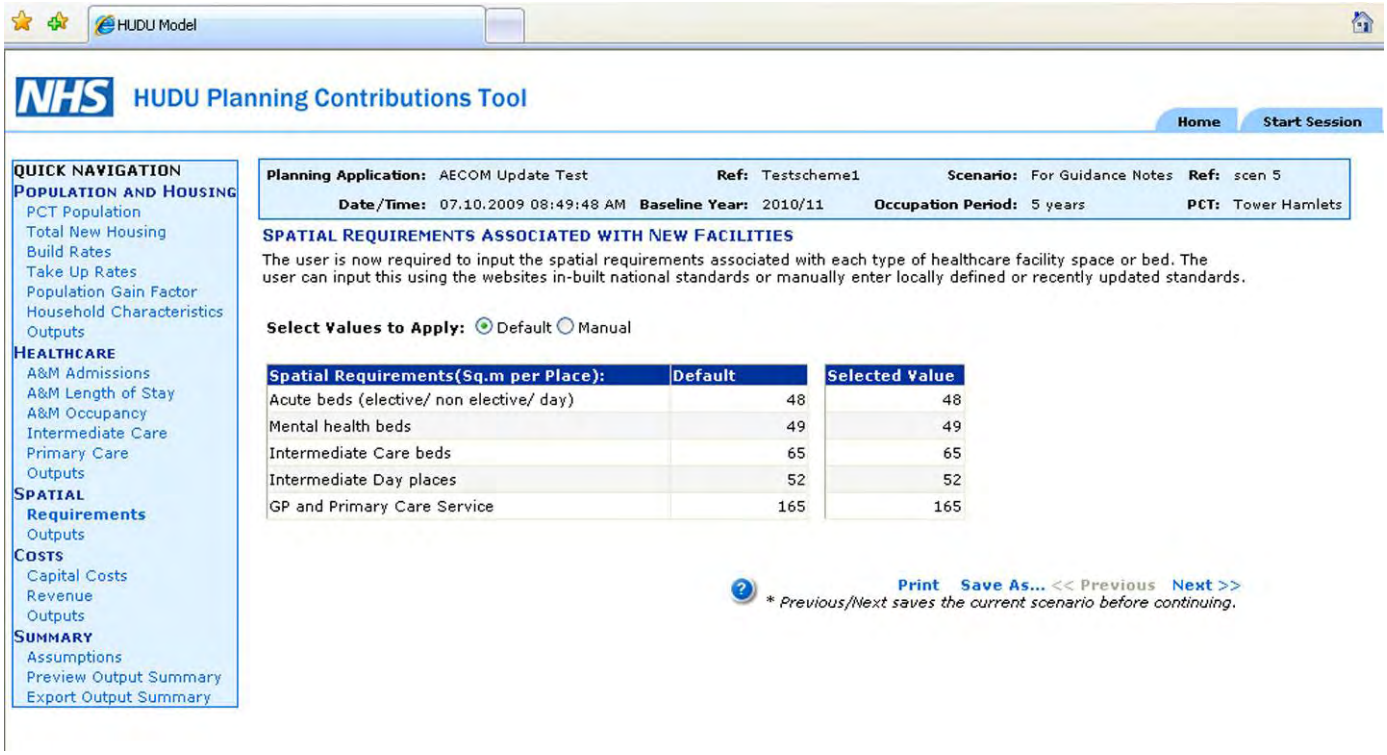
Mental Health Beds
New Population x Admission rate per 1000 = Level of new admissions
Level of new admissions x Length of stay = Bed Days
Available Bed Days x Occupancy = Number of Beds Required.

Intermediate Care Beds
New Population x Admission rate per 1000 = Level of new admissions
Lengths of stay savings per year x Proportion of Lengths of stay savings that are re-provided as intermediate care beds = Lengths of stay savings reprovided in intermediate care beds
((Level of new admissions x Lengths of stay savings reprovided in intermediate care beds) / (available bed days x occupancy)) = Intermediate Care Beds Required

Intermediate Day Spaces
New Population x Admission rate per 1000 = Level of new admissions Lengths of stay savings per year x Proportion of Lengths of stay savings that are re-provided as intermediate care day places = Lengths of stay savings reprovided in intermediate care day places. ((Level of new admissions x Lengths of stay savings reprovided in intermediate care day places) / (Community day bed utilisation = Intermediate Care Beds Required

GP and Primary Care Service Space
New Population / Target GP and additional Primary Care Service Population Threshold = Number of GPs and Primary Care Space Required

4.1 Spatial Requirements



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

To enable the capital cost of the healthcare service requirements to be calculated the model must understand the level of facility space required to deliver these services. This screen enables the user to select the standard, best practice or aspirational space standards associated with each health service facility.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

3. Select **'Default'** from 'Select Values to Input' option.
4. Select '**Next**' (in Screen Specific Actions Area)

Spatial Requirements: Selecting 'Default'

The default assumptions have been obtained from consultation with NHS Estates and Facilities as well as NHS Schedules of Accommodation 2003. All include planning, engineering and circulation allowance. The figure is not only for the bed or place but includes associated space requirements.

See '*Appendix: Spatial Requirements Default Assumptions'* for more detail on how these default floorspace requirements were calculated and what is and isn't included in the figures.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

If the user wishes to enter PCT specific assumptions towards the required floorspace standards associated with each service type, the models flexibility allows manual figures to be input. This may be desirable if an aspirational standard is desired rather than the standard NHS recommended minimum requirements.

Steps when manually inputting optional data

1. Select **'Manual'** from 'Select Values to Input' option.
2. Manually **Input sq.m floorspace requirements** associated with each facility type
3. Select **'Next'** (in Screen Specific Actions Area)

Manually inputting floorspace requirements associated with facilities

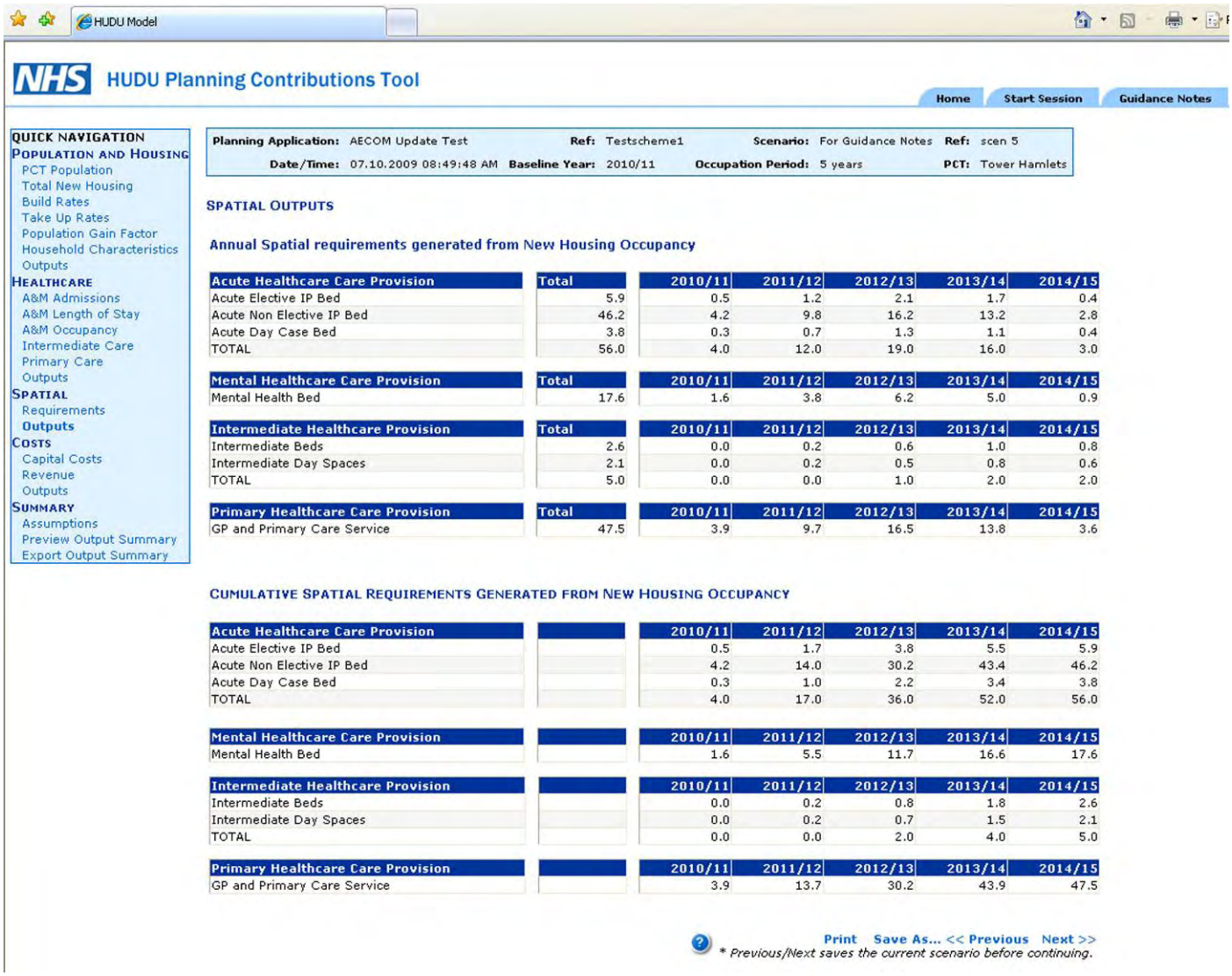
If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. The user is then required to input the spatial requirements associated with each type of healthcare facility space or bed as follows:

- Acute beds (elective/ non elective/ day)
- Mental health beds
- Intermediate Care beds
- Intermediate Day places
- GP and additional Primary Care Service Space

For each service type a square metre requirement per bed or space is required.

See '*Appendix: Spatial Requirements Default Assumptions'* for more guidance on what should be included in these calculations.

4.2 Spatial Outputs



Step Guide:
This is an output screen and does not require any inputs / actions

This screen presents the outputs of the fourth step of the HUDU model ‘Spatial’, utilising the standards defined on the previous screen, the HUDU model calculates the spatial healthcare service requirements associated with the net new population generated by the planning application.

These spatial (floorspace) requirements are presented in sq.m, annually over the project timeline across the following elements

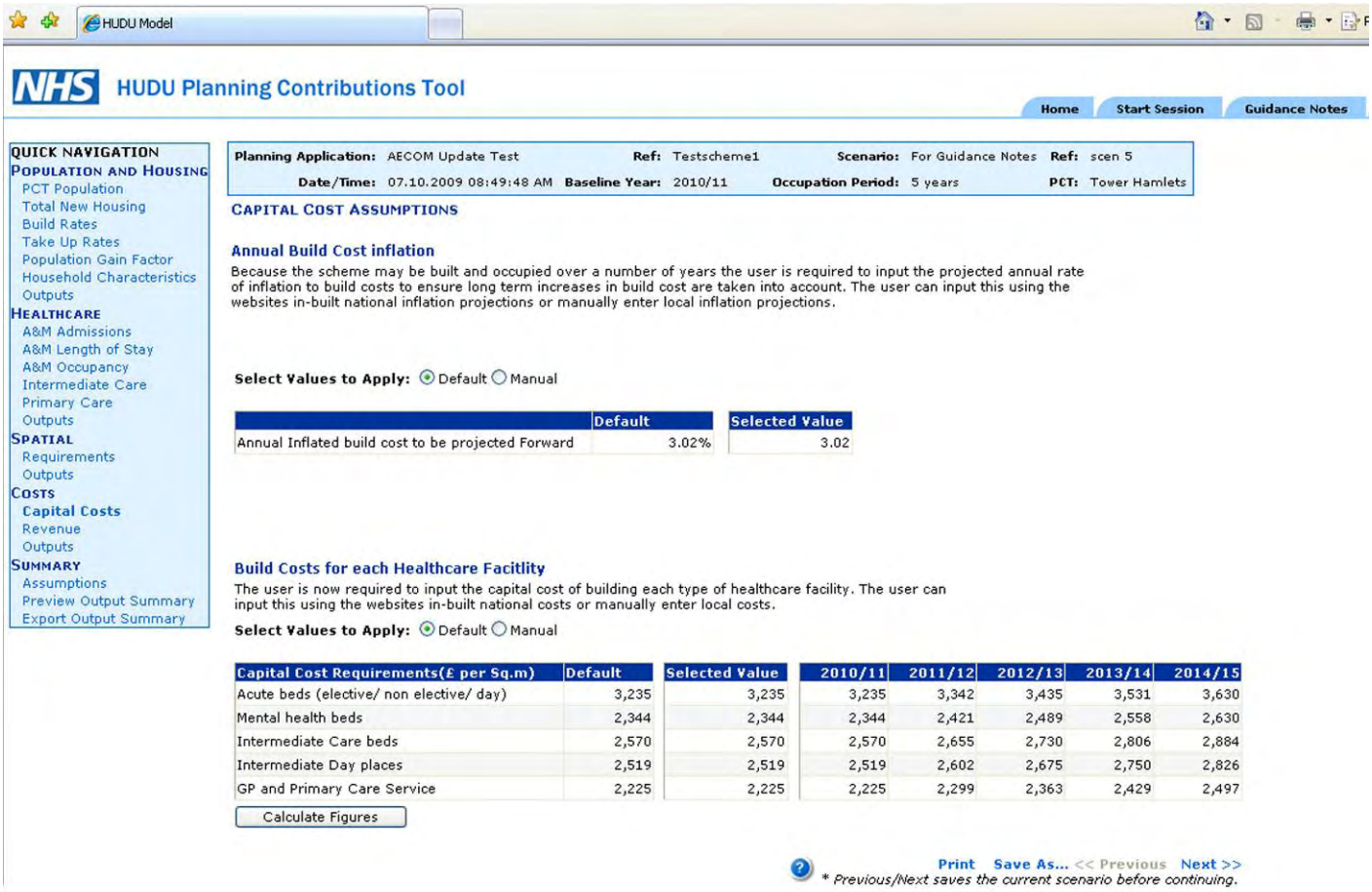
- Acute Elective IP Beds
- Acute Non Elective IP Beds
- Acute Day Case Beds
- Mental Health Beds
- Intermediate Beds
- Intermediate Day Spaces
- GP and Primary Care Service Space

Below the table displaying annual healthcare service requirements is an additional table presenting the cumulative increase in service requirements again across the different themes. This table allows the user to see how the needs build up over the project timeline,

CALCULATIONS

Spatial Outputs (across all elements, annually over project timeline)
Number of Beds or Space Required x Sq.m per Bed or Place Spatial Requirement = Sq.m Requirement associated with Beds or Space.

5.1 Capital Costs



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

To enable the model to generate capital based planning obligations, the model needs to select the cost per sq.m associated with each health service facility construction. Because the planning application may be built and occupied over a number of years the model must select the projected annual rate of inflation to build costs to ensure long term increases in build cost are taken into account.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Under Annual build Cost Inflation heading, Select '**Default**' from 'Select Values to Apply' option
2. Under Build Costs for each Healthcare Facility heading, Select '**Default**' from 'Select Values to Apply' option
3. Select **'Calculate Figures'** Option
4. Select '**Next'** (in Screen Specific Actions Area)

Annual Build Cost Inflation: Selecting 'Default'

The build costs for the various health care types were calculated at a fixed point in time and projected forward from the 2nd quarter of 2009. The inflation assumptions were obtained from "Department of Health: Estates and Facilities Division – Quarterly Briefing. Volume 17 / Number 4 / Spring 2009)

See '*Appendix: Build Cost Inflation Default Assumptions'* for more detail on how these default inflation assumptions were calculated and how they are applied to the Build Costs.

Build Costs for each healthcare Facility: Selecting 'Default'

These default assumptions have been obtained through consultation with the Strategic Estates Advisor at NHS Estates and Facilities, NHS London. It has been advised however that a more appropriate notional capital cost assumptions should be obtained from PCTs in-house assumptions for costing Health facilities (these can then be manually input as explained below).

See '*Appendix: Build Costs Default Assumptions'* for more detail on how these default floorspace requirements were calculated and what is and isn't included in the figures.

.

Selecting 'Calculate Figures' Button

To ensure the default selection is correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next screen.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

As stated above, it has been advised by NHS Estates and Facilities that the most appropriate notional capital cost assumptions should be obtained from PCTs in-house assumptions for costing Health facilities and manually input into the model. The user can manually input both the inflation rate and the build costs for each healthcare facility. It should be noted that the user can choose to do one of these 2 actions and use the default assumptions for the other or alternatively manually input data for both actions.

Steps when manually inputting optional data

1. Under Annual build Cost Inflation heading, Select '**Manual**' from 'Select Values to Apply' option
2. Manually **input annual rate of public sector build cost inflation,**
3. Under Build Costs for each Healthcare Facility heading, Select **'Manual'** from 'Select Values to Apply' option
4. **Manually input build costs (£ per sq.m)** associated with each healthcare facility,
5. Select **'Calculate Figures'** button,
6. Select **'Next'** (in Screen Specific Actions Area).

Manually inputting annual rate of public sector build cost inflation

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and the yellow box must then be filled. The user is then required to input the likely rate of inflation associated with public sector building tender prices over the project timeline.

The figure entered should be a % inflation rate representing an average rate of inflation to apply to each year of the project timeline.

See '*Appendix: Build Cost Inflation Default Assumptions'* for details on how to manually update those inflation rates currently built into the model.

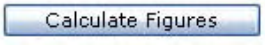
Manually inputting build costs

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. The user is then required to input the capital cost of constructing each type of healthcare facility, as a cost (£) per sq.m for:

- Acute beds (elective/ non elective/ day)
- Mental health beds
- Intermediate Care beds
- Intermediate Day places
- GP and Primary Care Service Space

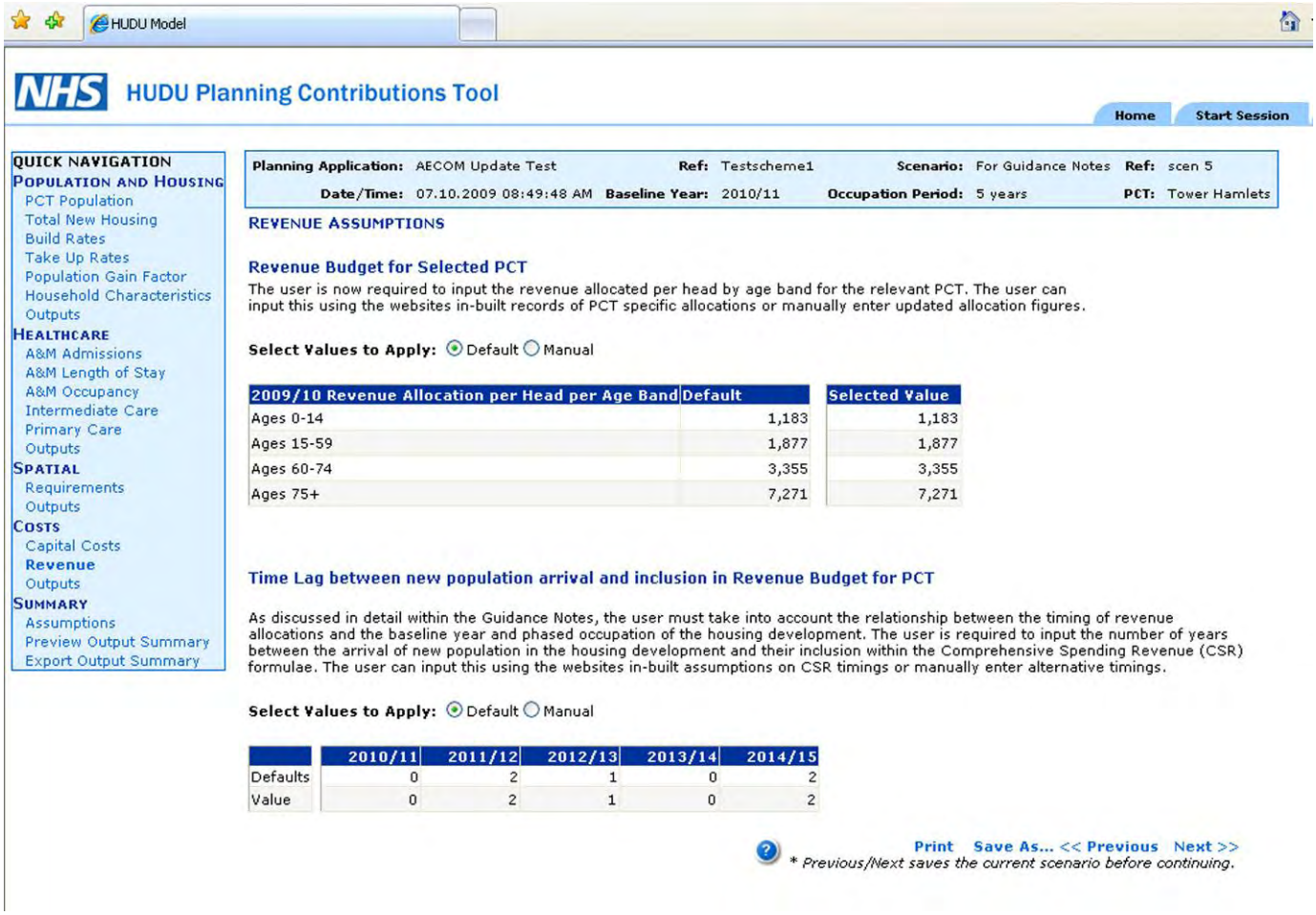
See '*Appendix: Build Costs Default Assumptions'* for more detail on how these default floorspace costs should be calculated and what should and shouldn't be included in the figures.

Selecting 'Calculate Figures' Button



To ensure the manual inputs are correctly fed into the website and subsequent screens the user must select the 'calculate figures' button before moving onto the next screen

5.2 Revenue



Step Guide:
This is an input screen and can rely on default assumptions or Optional data to be manually input.

The HUDU model calculates not only the costs associated with constructing additional physical provision but also takes into account the increased strain on allocated Health service funding created by an unanticipated increase in population. The model calculates the likely additional cost of one person of a specific age on the revenue spending of a particular PCT and also the time it takes before this person's presence is recognised by the Department of Health's allocation formulae.

INSTRUCTIONS IF RELYING ON DEFAULT ASSUMPTIONS

Steps when relying on default assumptions

1. Under Revenue Budget for selected PCT heading, Select '**Default**' from 'Select Values to Apply' option
2. Under Time Lag between new population arrival and inclusion in Revenue Budget for PCT heading, Select '**Default**' from 'Select Values to Apply' option.
3. Select '**Next'** (in Screen Specific Actions Area)

Revenue budget for selected PCT: Selecting 'Default'

The default revenue allocations per head per age band for each PCT were calculated using Department of Health 2009/2010 figures including:

- PCT Specific Total Resource Allocations for 2009/10
- Age Specific Population Figures for all PCTs
- PCT Specific Resource Allocations per head for 2009/10
- UK Average Resource Allocations per head per Age Band for 2006-08

See '*Appendix: Revenue Funding Default Assumptions'* for more detail on how these default revenue allocations per head per age band were calculated for each PCT.

Time Lag between new population arrival and inclusion in revenue budget for PCT: Selecting 'Default'

As explained earlier under 'General considerations in using the model', and within the appendix, the model takes into account the Department of Health Allocation formulae and the Comprehensive Spending Reviews impact upon this. This allows a project timeline of any length to take into account the effect of the CSR 'time lag'. For any year with a newly occupied unit, a revenue requirement will be generated based on the additional population of that year and a 'year specific' time lag is then attached to that revenue requirement.

See '*Appendix: Step 5.2 Revenue: Revenue Funding Default Assumptions'* for more detail on how CSR 'time lag' has been calculated and applied.

INSTRUCTIONS IF MANUALLY INPUTTING OPTIONAL DATA

Steps when manually inputting optional data

1. Under Revenue Budget for selected PCT heading, Select '**Manual**' from 'Select Values to Apply' option
2. Manually **input PCT specific revenue allocation** per head per age band,
3. Under Time Lag between new population arrival and inclusion in Revenue Budget for PCT heading, Select '**Manual**' from 'Select Values to Apply' option.
4. Manually **input number of years between population arrival and inclusion in PCT revenue budget**,
5. Select **'Next'** (in Screen Specific Actions Area).

Manually inputting PCT specific allocation per head per age band

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. The user is then required to input the revenue allocation (£) per head by age band for the relevant PCT.

See '*Appendix: Revenue Funding Default Assumptions'* for more detail on how to calculate revenue allocations per head per age band for a PCT (specifically to fit into the age bands included within the HUDU model).

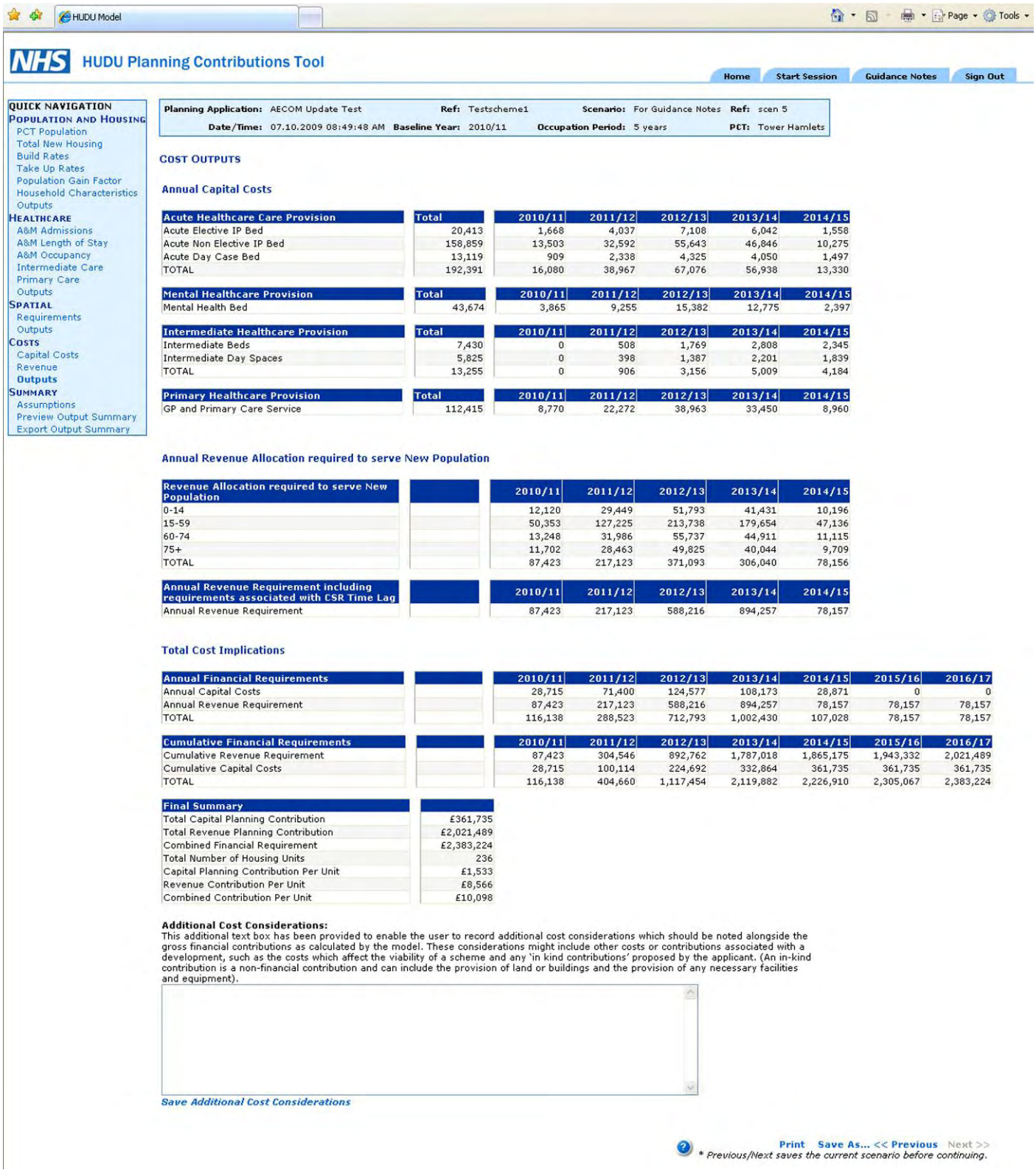
Manually inputting number of years between population arrival and inclusion in PCT revenue budget

If the user selects the manual input option, the table entitled 'Manual/Locally Specific Inputs' will empty and all yellow boxes must then be filled. In the manual option, the user has the option to either take into account the relationship between the timing of revenue allocations and the phased occupation of the housing development or alternatively leave these boxes empty (with 0) to remove this variable from the cost calculations.

For each year of unit occupation, the user is required to input the number of additional years between the occupation of the development by its new population and their inclusion within the Comprehensive Spending Revenue (CSR) formulae.

See '*Appendix: Comprehensive Spending Review Default Assumptions'* for more detail on how a CSR 'time lag' should be calculated.

5.3 Cost Outputs



HUDU Model

HUDU Planning Contributions Tool

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QUICK NAVIGATION
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Intermediate Care
Primary Care
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Revenue
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Preview Output Summary
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Planning Application: AECOM Update Test **Ref:** Testscheme1 **Scenario:** For Guidance Notes **Ref:** scen 5
Date/Time: 07.10.2009 08:49:48 AM **Baseline Year:** 2010/11 **Occupation Period:** 5 years **PCT:** Tower Hamlets

COST OUTPUTS

Annual Capital Costs

Acute Healthcare Care Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Acute Elective IP Bed	20,413	1,668	4,037	7,108	6,042	1,558
Acute Non Elective IP Bed	158,859	13,503	32,592	55,643	46,846	10,275
Acute Day Case Bed	13,119	909	2,338	4,325	4,050	1,497
TOTAL	192,391	16,080	38,967	67,076	56,938	13,330

Mental Healthcare Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Mental Health Bed	43,674	3,865	9,255	15,382	12,775	2,397

Intermediate Healthcare Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
Intermediate Beds	7,430	0	508	1,769	2,808	2,345
Intermediate Day Spaces	5,825	0	398	1,387	2,201	1,839
TOTAL	13,255	0	906	3,156	5,009	4,184

Primary Healthcare Provision	Total	2010/11	2011/12	2012/13	2013/14	2014/15
GP and Primary Care Service	112,415	8,770	22,272	38,963	33,450	8,960

Annual Revenue Allocation required to serve New Population

Revenue Allocation required to serve New Population		2010/11	2011/12	2012/13	2013/14	2014/15
0-14		12,120	29,449	51,793	41,431	10,196
15-59		50,353	127,225	213,738	179,654	47,136
60-74		13,248	31,986	55,737	44,911	11,115
75+		11,702	28,463	49,825	40,044	9,709
TOTAL		87,423	217,123	371,093	306,040	78,156

Annual Revenue Requirement including requirements associated with CSR Time Lag		2010/11	2011/12	2012/13	2013/14	2014/15
Annual Revenue Requirement		87,423	217,123	588,216	894,257	78,157

Total Cost Implications

Annual Financial Requirements		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Annual Capital Costs		28,715	71,400	124,577	108,173	28,871	0	0
Annual Revenue Requirement		87,423	217,123	588,216	894,257	78,157	78,157	78,157
TOTAL		116,138	288,523	712,793	1,002,430	107,028	78,157	78,157

Cumulative Financial Requirements		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Cumulative Revenue Requirement		87,423	304,546	892,762	1,787,018	1,865,175	1,943,332	2,021,489
Cumulative Capital Costs		28,715	100,114	224,692	332,864	361,735	361,735	361,735
TOTAL		116,138	404,660	1,117,454	2,119,882	2,226,910	2,305,067	2,383,224

Final Summary	
Total Capital Planning Contribution	£361,735
Total Revenue Planning Contribution	£2,021,489
Combined Financial Requirement	£2,383,224
Total Number of Housing Units	236
Capital Planning Contribution Per Unit	£1,533
Revenue Contribution Per Unit	£8,566
Combined Contribution Per Unit	£10,098

Additional Cost Considerations:
This additional text box has been provided to enable the user to record additional cost considerations which should be noted alongside the gross financial contributions as calculated by the model. These considerations might include other costs or contributions associated with a development, such as the costs which affect the viability of a scheme and any 'in kind contributions' proposed by the applicant. (An in-kind contribution is a non-financial contribution and can include the provision of land or buildings and the provision of any necessary facilities and equipment).

Save Additional Cost Considerations

Print Save As... << Previous Next >>
* Previous/Next saves the current scenario before continuing.

Step Guide:
This is an output screen and does not require any inputs/ actions

This screen presents the outputs of the fifth step of the HUDU model 'Costs', utilising the input and assumptions defined on the previous screens, the HUDU model calculates the capital costs and revenue requirements associated with the net new population generated by the planning application.

The total capital costs are presented in British sterling, annually over the project timeline across the following elements:

- Acute Elective IP Beds
- Acute Non Elective IP Beds
- Acute Day Case Beds
- Mental Health Beds
- Intermediate Beds
- Intermediate Day Spaces
- GP and Primary Care Service Space

Below the tables displaying annual capital cost is an additional set of tables presenting the revenue requirements associated with the net new population generated by the planning application. In addition to this basic revenue requirement is a table presenting the annual revenue requirement including those requirements associated with CSR Time Lag.

This screen is summarised with:

- A table of annual financial requirements combining capital costs and revenue requirements
- A table of cumulative financial requirements combining capital costs and revenue requirements
- A final summary table presenting all costs compared against the number of units included within the planning application enabling a cost per unit to be ascertained.

These cost outputs can provide the evidence base around which any planning obligation negotiations between the PCT, local authority and relevant developer (section 106 agreements) can take place. As mentioned in the Introduction section of these guidance notes, the HUDU Health and Urban Planning Toolkit provides information and guidance on planning obligation negotiations.

Download the Toolkit from:
www.healthyurbandevelopment.nhs.uk

CALCULATIONS

Capital Costs (across all elements, annually over project timeline)
Sq.m requirement associated with Beds or Space x Capital Cost requirement per sq.m = Total Capital Cost (£)

Revenue Requirements (annually over project timeline)
New population (by age band) x 2009/10 Revenue Allocation per Head per Age Band = Total Revenue Requirement (£) (see Comprehensive Spending Review Assumptions within 'Revenue' guidance sheet to understand additional annual revenue requirements)

Capital Planning Contribution Per Unit
Total Capital Cost / Total Housing Units = Capital Contribution per Unit

Revenue Contribution Per Unit
Total Revenue Requirement / Total Housing Units = Revenue Contribution per Unit

Combined Contribution per unit
(Total Capital Cost + Total Revenue Requirement) / Total Housing Units = Combined Contribution per Unit

Summary Screens

INPUT / ASSUMPTIONS SUMMARY

Step Guide:
This is an output screen and does not require any inputs / actions

Through any full scenario assessment carried out in the HUDU model a number of decisions will have been made influencing the outputs of the assessment. This summary sheet is a quick method of viewing all data inputs and assumptions made across the 5 main steps of the model.

This summary sheet is for reference purposes and acts as a useful tool to explain how the models outputs have been generated. This summary sheet along with the Output Summary sheet would be an essential item during negotiations between PCTs, Local Authority Planning Department and the respective planning applicant.

This summary sheet is designed to allow for simple printing.

OUTPUT SUMMARY

Step Guide:
This is an output screen and does not require any inputs / actions

Through any full scenario assessment carried out in the HUDU model a number of outputs will have been generated. This summary sheet is a quick method of viewing all outputs generated across the 5 main steps of the model.

This summary sheet is for reference purposes and acts as a useful tool to present all the models outputs generated. This summary sheet along with the Input / Assumptions Sheet would be an essential item during negotiations between PCTs, Local Authority Planning Department and the respective planning applicant.

This summary sheet is designed to allow for simple printing.

Export Output Summary

Below the ‘Preview Output Summary’ option in the Quick Navigation toolbar is the option to ‘Export Output Summary’. Selecting this button produces a pop-up window allowing the user to either open an excel spreadsheet directly from the website or to save the spreadsheet to the users computer. If the user has difficulty in generating an output from this button it may be due to ‘pop-up’ blocking software from the internet browser or virus protection. Refer to page 19 for guidance eon how to resolve this issue.

Appendix – Guide to Assumptions & Data Inputs

EXISTING POPULATION DEFAULT ASSUMPTIONS
(Step 2.1 PCT Population)

GLA DMAG 2008 Round Demographic Projections.

Having consulted with the Data Management & Analysis (DMAG) team at the Greater London Authority, it has advised that the most appropriate London based population figures for 2007/08 to include within the model as defaults are the GLA 2008 Round Demographic Projections.

These projections have however been prepared as two different scenarios entitled 'Low' or 'High'. The High Scenario is the main population projection adopted for use in the London Plan, and it is based upon the latest national assumptions regarding international migration. For this reason it is **recommended that RLP High be selected by the user** to ensure figures match those of the London Plan. The Low scenario however is driven by the increase in homes developed and planned up to 2031 and feeds into the creation of the High Scenario.

GLA DMAG has suggested that the High scenario projections be used for longer term population change but the Low scenario may be more appropriate in representing the recent changes seen in London.

As these two scenarios have noticeable differences in their outputs due to alternative formulation and use of variables, it was felt best that the model contains figures for both scenarios and allows the user to switch between the two scenarios depending on their specific requirements.

Further information on this data source, to allow for an informed choice of appropriate population figures, is available from the GLA at:
http://www.london.gov.uk/gla/publications/

BUILD RATE DEFAULT ASSUMPTIONS

(Step 2.3 Housing Build Rates)

The speed at which housing development build programs are initiated from planning consent, including sites clearance and preparation will vary per application.

Through consultation with experienced master planners and developers the following generic build rate matrix has been developed to automate build rates depending on the size of a planning application for assessment.

Table A1: Default Annual Build Rates by Application Size

Size of application (Units)	Full annual build rate	Delay to full annual build rate	Baseline Year	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8 +
0 - 125	50	0	50	50	50					
125 - 250	100	2	33	67	100	100				
250 - 375	125	2	42	83	125	125				
375 - 500	150	2	50	100	150	150	150			
500 - 625	175	2	58	117	175	175	175			
625 - 750	200	2	67	133	200	200	200			
750 - 875	225	2	75	150	225	225	225			
875 - 1000	250	2	83	167	250	250	250			
1000 - 1250	275	2	92	183	275	275	275	275		
1250 - 1500	300	2	100	200	300	300	300	300		
1500 - 1750	325	2	108	217	325	325	325	325		
1750 - 2000	350	2	117	233	350	350	350	350	350	
2000 - 2250	375	2	125	250	375	375	375	375	375	
2250 +	400	2	133	267	400	400	400	400	400	and on

This matrix is essentially making an assumption that depending on the scale of the planning application, a certain number of developers could work on site at one time and could achieve a fixed annual build rate once the site was fully operational and operating at maximum efficiency. The period between on site works beginning and the maximum build rate being achieved is referred to above as ‘Delay to full build rate’. There may be a delay in reaching the optimal level of development due to, for example a discharging of planning permission conditions, section 106 agreements or site preparation.

The baseline year, as defined on the ‘Start Session Screen’ is assumed to be the year in which building work will commence on site and not the date when the planning application is submitted.

As stated above this matrix is only designed to provide default phasing in the absence of actual phasing figures and if the user does not agree wholly with the above assumptions the ability to manually adjust automated outputs is designed into the model to resolve this issue.

It should be noted that the annual build rate generated by the model is applied to the total new housing figures and evenly distributed across the different tenure, type and unit sizes. Again this can be adjusted manually if the user feels a particular concentration of housing type is likely at a given period within the build program.

TAKE-UP RATE DEFAULT ASSUMPTIONS

(Step 2.4 Take-up Rates)

The speed at which new housing units become occupied is a difficult trend to predict or create default assumptions for. The speed will be influenced by a number of inter-relating factors such as:

- The tenure of the units,
- The size and type of the units,
- The local and regional housing market,
- The local social housing waiting list.

These factors will vary by each London Borough and will also vary over time. If the user has a specific knowledge of this area or is provided with clear evidence to input a local take-up rate the models flexibility allows manual figures to be included. However, in the absence of this data the model has a simple take-up rate assumption based on a 6 month delayed take-up of units. Assuming take-up is equal across a year, 50% of the years take-up would be supplied by the previous years build out and the remaining 50% take-up would be provided by that years build output. This concept is illustrated below.

Table A2: Default Take-up Rate formulae

	Baseline Year	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8 +
Annual Build Completions	a	b	c	d	e	f	g	-
Annual Take-up of Units	a/2	a/2 + b/2	b/2 + c/2	c/2 + d/2	d/2 + e/2	e/2 + f/2	f/2 + g/2	g/2

The table below shows an example of a 200 unit planning application and the assumed take-up of units. The effect of this take-up delay is an additional year added to the project timeline.

Table A3: Default Take-up Rate example

	Baseline Year	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Annual Build Completions	33	67	100	0	0	0	0	200
Annual Take-Up of Units	17	50	83	50	0	0	0	200

POPULATION GAIN DEFAULT ASSUMPTIONS

(Step 2.5 Population Gain Factor)

As new housing developments are completed, they will become occupied by a range of people from different previous locations. The proportions of these new residents which are entirely new to the local authority (and the PCTs health services) is defined as 'Population Gain'.

New housing occupants are essentially made up of:

- People moving into new homes from outside the local authority (or PCT) **(in-migrants)**
- People moving into new homes from existing homes within the local authority **(existing households)**
- **Newly forming households** splitting off from existing households moving into new or existing homes within the borough.

One may initially assume that the population gain factor would match the proportion of units likely to be occupied by in-migrants. However this fails to take into account the properties left empty by residents moving into the new homes from existing homes within the local authority which would subsequently be occupied by new resident (creating backfill). The proportion of this backfill occupied by residents entirely new to the area is referred to as 'Backfill Population Gain'. This concept is continual, as the backfill will itself create further backfill, but each time becoming more inconsequential. Therefore, to estimate a true population gain factor arising from any new development the continual backfill population gain must also be taken into account.

For the purpose of the HUDU model update project, EDAW were asked to look at how the concept of 'Population Gain' could be quantified across the London Boroughs. After extensive desktop research, London Borough specific 'Housing Needs Surveys' were seen as the most effective means of carrying out this assessment. The majority of London Boroughs have carried out a Housing Needs Survey with at least 27 employing *Fordham Research* to carry out a similar methodology and therefore comparable data for analysis.

Each *Fordham Research* produced Housing Needs Survey includes a 'Balancing Housing Market' Assessment (BHM assessment) considering the extent to which the Borough's housing market is approaching 'balance' through analysing supply against demand across all tenures and property sizes. A BHM analysis assesses the aspirations of would-be movers in relation to total dwellings, broken down by property size and tenure. Growth is constrained by the planned new-builds from information in the Local Authorities Local Development Framework. The steps involved are as follows:

- Establish total allocation of new dwellings to Borough
- Establish numbers of households wishing/planning to move (both existing and newly forming)
- Distinguish those who can afford their proposed moves from those who cannot
- Those who cannot afford their moves are allocated to affordable housing (in principle) as they cannot afford to rent or buy at market prices
- The total of market and non-market moves is assessed in relation to the net extra number of dwellings required

- This is assessed against the allowed total of new dwellings for the Borough. Where the net demand is greater than the total, this is noted, by tenure group
- Where the total net demand is less than the allowed total new build, then the difference is assumed to be net in-migration, often of market purchasers
- All figures are calculated on an annual basis from figures over a five year period

Below is an example of these demand tables. If a PCT wished to generate PCT specific Population Gain Factors for use within the Model (rather than the London Average default figure) the following level of information would be required for the local authority in question.

Table A4.1 Demand I: Household formation by tenure and size required

Tenure	Size requirement				Total
	1 bedroom	2 bedrooms	3 bedrooms	4+ bedrooms	
Owner-occupation	22	0	2	0	24
Affordable housing	636	114	41	0	791
Private rented	47	0	0	0	47
Total	705	114	43	0	862

Table A4.2 Demand II: Demand from in-migrants by tenure and size required

Tenure	Size requirement				TOTAL
	1 bedroom	2 bedrooms	3 bedrooms	4+ bedrooms	
Owner-occupation	84	198	125	93	500
Affordable housing	210	194	103	19	526
Private rented	194	136	10	24	363
Total	488	528	237	136	1,389

Table A4.3 Demand III: Demand from existing households by tenure and size required

Tenure	Size requirement				TOTAL
	1 bedroom	2 bedrooms	3 bedrooms	4+ bedrooms	
Owner-occupation	40	109	117	51	318
Affordable housing	575	503	336	74	1,488
Private rented	73	0	0	45	118
Total	688	612	454	171	1,924

This type of analysis is particularly useful with regard to analysing population gain factors as it includes a number of useful housing demand tables which look at the proportion of demand likely to originate from either existing households in the borough, newly forming households in the borough or alternatively in-migration from outside the borough, across tenure and unit size.

For the purpose of arriving at a default London average Population Gain Factor, the demand tables from 10 London Borough Housing Needs Survey BHM assessments were analysed by EDAW to generate tenure and unit size specific assumptions. These are shown in the table below.

Table A4: Average London Direct Population Gain Factor

	Market Units					Affordable Units				
	1 bed	2 bed	3 bed	4 bed	Total	1 bed	2 bed	3 bed	4 bed	Total
Inner London Average	56%	57%	48%	46%	**54%**	37%	36%	28%	27%	**33%**
Outer London Average	56%	49%	51%	42%	**50%**	28%	27%	26%	32%	**27%**
London Average	56%	51%	50%	43%	**51%**	31%	30%	26%	30%	**29%**

The direct population gain as presented in the table above is effectively just taking the data on demand for housing from in-migrant households only (as shown in the example in table A4.2 on the previous page). It is not taking into account the effect of empty homes left behind my existing residents in the borough.

If housing demand tables as detailed as those found in the Housing Need Surveys cannot be sourced for a particular PCT, an alternative approach would be to use Local Housing Development Surveys or CORE general letting and New Sales survey data (as explained on page 81) and to review these sources to establish the proportion of people moving into local housing developments that originated from outside the borough.

As explained earlier however, to generate a true population gain factor, the continual back fill population gain must also be taken into account. Applying a continual pattern of demand to each loop of backfill allowed us to incorporate this concept and in effect estimate the indirect proportion of new people generated in a local authority as a result of a new housing development rather than looking only at the direct proportion of new people generated in that specific housing development.

The second stage of the HUDU Model population gain research was to theoretically apply the same proportions of in-migrant, existing households and newly forming households to the properties left empty in the borough through the original ‘direct population gain’. This is then repeated continually in order to back fill the properties left empty through this cycle. The table below presents the theoretical ‘comprehensive population gain’ following this methodology. The highlighted London Average has been included in the model as the default figures.

Table A5: Average London Population Gain Factor including Backfill

	Market Units					Affordable Units				
	1 bed	2 bed	3 bed	4 bed	Total	1 bed	2 bed	3 bed	4 bed	Total
Inner London Average	72%	91%	97%	100%	**85%**	53%	71%	85%	96%	**64%**
Outer London Average	71%	74%	92%	90%	**81%**	40%	47%	72%	72%	**51%**
London Average	72%	79%	93%	93%	**82%**	44%	54%	76%	79%	**55%**

The purpose of presenting these alternative assumptions as well as the default London Average (highlighted above) is to allow the user the flexibility, using the manual input option, to choose the assumptions they feel best apply to their assessment. For example if the development is within inner London the user can manually enter those inner London specific assumptions presented above.

HOUSEHOLD CHARACTERISTICS DEFAULT ASSUMPTIONS

(Step 2.6 Household Characteristics)

ONS Census based default assumptions

The original HUDU model generated its population projects based on the unit size of new housing under assessment. This did not take into account the way in which household size varies with dwelling type and tenure.

The updated HUDU model's default assumptions on Household Characteristics are based upon EDAW analysis of an independently commissioned ONS Census Table C0549 'Accommodation type for households and age of persons by number of rooms by tenure'. As the title suggests, this census table provides detailed data on all local authorities by the size of households and their age profiles depending on both the tenure of housing but also the housing type (whether houses or flats). Using this set of data, each London Borough has had a detailed housing characteristics profile generated. In addition to this an average for Inner London, Outer London and England as a whole has also been generated.

The ONS Census, while becoming increasingly dated since its collection in 2001, provides a particularly comprehensive database of demographic evidence specific to all geographies in the UK. This unique source of data allowed the development of a default set of average household size assumptions across the housing types included in the model for all the London Boroughs. In addition, this data has also allowed an average age profile to be analysed for each housing type.

The tables below outlines how the tenure types, housing typologies and unit sizes included within Census table SO549 were sorted to allow the assumptions to fit with the HUDU Model input variables.

Table A6: Assumptions behind use of ONS Census data

Census Table S0549 tenure typologies	HUDU Model assumption on Tenure
Owns Outright	Market Units
Owns with a mortgage or loan and shared ownership	
Rented from Private landlord or letting agency	
Rented from Council (local authority)	Affordable Units
Rented from Housing Association/Registered Social Landlord	

Census Table S0549 house types	HUDU Model assumption on Type
Houses	House
Bungalows	
Flats	Flats
Maisonette	
Apartment	

Census Table S0549 Number of rooms* recorded	HUDU Model assumption on Unit Size
1, 2 or 3 rooms	1 bedroom
4 rooms	2 bedrooms
5 or 6 rooms	3 bedrooms
7 or more rooms	4 bedrooms

**Rooms include living rooms, bedroom, kitchens, utility rooms and studies but not bathrooms or storage rooms.*

A recognised weakness of the ONS Census is the lack of data collection related to the number of bedrooms in a property and instead the collection of data related to number of 'rooms'. The 2001 Census has captured data for the number of rooms within a dwelling. This measure does, however, differ from traditional measures of habitable rooms and is based upon the number of rooms available to the household excluding bathrooms, toilets, halls or landings and rooms that can only be used for storage.

For the purposes of this analysis, households with between 1 and 3 rooms are classified as one bedroom units (assuming on balance that extra rooms are kitchens and/or lounge areas), households with 4 rooms have 2 bedrooms, households with 5 or 6 rooms have 3 bedrooms and households with 7 rooms or more have 4 bedrooms (all with assumed separate kitchen and lounge areas).

The model provides the user with a transparent set of default assumptions for all the local Authorities in London but also provides a manual override function which allows the user to apply the assumptions felt most appropriate to the local area and type of housing under assessment.

Alternative sources of information to understand household characteristics

In addition to the HUDU models incorporation of default assumptions based upon ONS census data, a wide range of alternative household surveys and databases also provide valuable sources of information to understand the household characteristics of different types of new homes. For example:

- London Household Survey 2002
- Wandsworth new housing Survey 2004 and 2007
- CORE Lettings Analysis
- Post Occupancy Surveys

While the ONS census data built into the model is useful in a number of ways and serves as a good default assumption. These alternative data sources serve as useful ways of either updating the Census based defaults (based on 2001 information) or representing a scenario the new housing (delivered by the planning application) is more likely to represent rather than the existing local authority average characteristics.

2002 London Household Survey

The London Household Survey had a sample size of approximately 8,000 households across London. It was validated against data from the 2001 Census and the GLA's rolled-forward population and household estimates for 2002. The LHS has the advantage of being able to present the age structure of the household population, by the numbers of both rooms and bedrooms and

by a range of tenures. It should be noted however that the sample size is too small to use to identify new developments as fewer than 200 households in the sample were resident in property less than three years old.

Available from: www.london.gov.uk/gla/publications/factsandfigures/dmag-briefing-2005-14.pdf

Wandsworth New Housing Survey, 2004 and 2007 Update

This survey was the first for some time in London that focused on new dwellings in a borough, irrespective of whether they were in small or large developments. Questionnaires were sent to over 4,000 properties on over 120 sites that completed five or more units between 1997 and 2003. Over 2,000 forms (49 per cent) were returned. It is possible to get information based on nearly 1,800 dwellings on private developments (1,400 of which were flats, with nearly 1,000 containing two bedrooms) and a further 200 dwellings on housing association developments (over 100 of which were one and two-bedroom flats). This survey is particularly useful if the planning application is made up of predominantly flats.

The 2004 survey was recently updated through a 2007 survey which examined the occupancy of those same properties surveyed in 2004. This survey provides valuable information on the household characteristics of developments after they have been occupied for a few years. The 2004 survey however still represents the most appropriate survey to assess initial demographic impacts from developments.

Available from:
http://www.wandsworth.gov.uk/downloads/file/489/new_housing_survey_2004

CORE Lettings Analysis

The CORE (Continuous Recoding) system was developed jointly by the National Housing Federation and the Housing Corporation and is used to record information on both Registered Social Landlord (RSL) lettings and sales across England. The system was established in 1998 and in 2004 Local Authorities were invited to participate. The system captures detailed data relating to household characteristics, economic status, ethnicity, age composition of residents and can be searched by Local Authority area to provide an overview of the profile of occupiers of social housing.

This source is detailed and continually updated with latest data and as such provides a sound evidence base of the profile of new occupiers, across a range of different social housing types. This is its greatest strength. The main disadvantage is that the data obtained is in a similar fashion to the Census, a snapshot in time based upon the occupier's profile, and as such may not truly reflect how the resident profile may mature and change over time.

Available from: https://core.tenantservicesauthority.org/OnlineReports/

Post Occupancy Surveys

If users of the HUDU model are able to obtain post occupancy surveys for any reasonably new developments of a similar nature or locality to the planning application under assessment, this would be a hugely valuable source of information from which to generate manual household characteristic assumptions to enter into the model. Unfortunately, post occupancy surveys are reasonably uncommon.

ACUTE & MENTAL HEALTHCARE ADMISSIONS DEFAULT ASSUMPTIONS

(Step 3.1 Acute & Mental Healthcare Admissions)

Admission volume, by age band, is provided for the 4 admission types detailed above. The default options for each PCT have been derived from the 2007/08 Hospital Episode Statistics (HES) dataset which was the most recent year of data available when this model was updated in the summer of 2009.

Data for admissions has been sourced from HES Online, provided by the NHS Information Centre. Admissions data was sought for finished consultant episodes (an episode of care spent under one consultant), which is the standard unit of measurement. Finished admissions was input into the Model, which gives only one recording per patent for each spell and therefore reduces the potential for double counting.

The following filters and fields were applied in the HES dataset:

- Ordinary, day case and regular attenders;
- Exclude well babies
    - HES guidance recognises that it may be necessary to exclude well babies when using data to analyse NHS resources.
- NHS Patients only
    - HES guidance recognises that it may be necessary to exclude private patients when using data for NHS cost analysis.
- Include only the following speciality codes
    - 100 = General surgery; 101 = Urology; 110 = Trauma and orthopaedics; 120 = Ear, nose and throat (ENT); 130 = Ophthalmology; 140 = Oral surgery; 141 = Restorative dentistry; 142 = Paediatric dentistry; 143 = Orthodontics; 150 = Neurosurgery; 160 = Plastic surgery; 170 = Cardiothoracic surgery; 171 = Paediatric surgery; 180 = Accident and emergency (A&E); 190 = Anaesthetics; 191 = Pain management 300 = General medicine; 301 = Gastroenterology; 302 = Endocrinology; 303 = Clinical haematology; 304 = Clinical physiology; 305 = Clinical pharmacology; 310 = Audiological medicine; 311 = Clinical genetics; 313 = Clinical immunology and allergy; 314 = Rehabilitation; 315 = Palliative medicine; 320 = Cardiology; 330 = Dermatology; 340 = Thoracic medicine; 350 = Infectious diseases; 360 = Genito-urinary medicine; 361 = Nephrology; 370 = Medical oncology; 371 = Nuclear medicine; 400 = Neurology; 401 = Clinical neuro-physiology; 410 = Rheumatology; 420 = Paediatrics; 421 = Paediatric neurology; 430 = Geriatric medicine; 450 = Dental medicine; 460 = Medical ophthalmology; 501 = Obstetrics ; 502 = Gynaecology; 560 = Midwifery; 610 = General practice with maternity function; 620 = General practice other than maternity; 800 = Clinical oncology (previously Radiotherapy); 810 = Radiology; 820 = General pathology; 821 = Blood transfusion; 822 = Chemical pathology; 823 = Haematology; 824 = Histopathology; 830 = Immunopathology; 831 = Medical microbiology; 832 = Neuropathology; 900 =

Community medicine; 901 = Occupational medicine; 950 = Nursing episode; & = Not known
    - General And Acute Mental Health: 700 = Learning disability; 710 = Mental illness; 711 = Child and adolescent psychiatry; 712 = Forensic psychiatry; 713 = Psychotherapy; 715= Old age psychiatry
- Method of Admission categorised by elective, non-elective and day case;
- Primary Care Trust of Responsibility
    - PCT of responsibility holds the commissioning responsibility for individual patients. Revenue budgets are therefore likely to be allocated according to the patient numbers for which a PCT is responsible. This is also the default method provided by HES when unspecified data requests are submitted. This will mean that when PCT's request further information it will be aligned to the default measures within the model.
- Age at Start of Episode using pre-defined age bands
    - 0 – 14, 15 – 59, 60 – 74, 75+

The National Beds Inquiry was an inquiry undertaken to understand the supply and demand of the UK's hospital bed supply. Three scenarios were developed – maintaining the current scenario; focusing on acute provision; and, developing a care closer to home scenario. This report was used in the original model to inform projected changes in healthcare demand based on the care closer to home scenario due to the general healthcare climate which is becoming increasingly focused on community based care.

With regard to the forecasting of change to admission levels, the National Beds Inquiry is the only report sourced which provides actual figures and so it was felt that this was the most appropriate data available to update the model. The default assumptions for admission rates are based on the 'care closer to home scenario'.

ACUTE & MENTAL HEALTHCARE LENGTH OF STAY DEFAULT ASSUMPTIONS

(Step 3.2 Acute & Mental Healthcare Lengths of Stay)

Data for length of stay has been sourced from HES Online, provided by the NHS Information Centre. Length of stay data for the year 2007/08 was obtained from HES for acute elective inpatients, acute non-elective inpatients and mental health patients, using the filters and measures as displayed in the chapter above, 'Acute and Mental Healthcare Admissions'.

The HES data included a field for Spell Length (Length of Stay), which is defined as the length of time spent in care by number of days derived from difference in days between admission date and discharge date where both are given.

For average length of stay, bed days should be calculated as the spell end minus the start date and any stays of greater than 365 days should be converted to 365 days.

The National Beds Inquiry was an inquiry undertaken to understand the supply and demand of the UK's hospital bed supply. Three scenarios were developed – maintaining the current scenario; focusing on acute provision; and, developing a care closer to home scenario. This report was used in the original model to inform projected changes in healthcare demand based on the care closer to home scenario due to the general healthcare climate which is becoming increasingly focused on community based care.

This is the only report sourced which provides actual figures and so it was felt that this was the most appropriate data available. Therefore this data was used in the updated model. For admission rates and average length of stay, there area number of fixed positions incorporated within the model based on the 'care closer to home scenario' included within the Department of Health's National Beds Inquiry[3]. These fixed assumptions cannot be changed by the user but should be understood when interpreting outputs:

- The utilisation of day case beds is a fixed assumption at 447 patients per year for acute day case beds and 260 patients per year for community day places;
- the model assumes that the number of available bed days for all types of beds is 365;and
- the average occupancy rate for community beds (in the intermediate setting) is 90 per cent.

[3] Department of Health, National Beds Inquiry (2000)

ACUTE & MENTAL HEALTHCARE OCCUPANCY DEFAULT ASSUMPTIONS

(Step 3.3 Acute & Mental Healthcare Occupancy)

This gives a percentage of the available beds occupied during one year. The information is available for acute (though not split into elective and non-elective) and mental health beds.

Occupancy information was obtained from the Department of Health from KH03 (average daily number of available and occupied beds by sector, NHS organisations in England, 2007-08), which was produced in September 2008. The average for PCTs across London was chosen for use as the model default for all PCTS. This was done because PCT specific data was not available for all of the PCTs in the model.

The default change in occupancy rate has been set at a 0% change. It was felt best for this to be manually adjusted if the PCT has clear forecasts and procedures in place to reduce this occupancy level.

For the purposes of forecasting the annual change in occupancy of beds it should be noted that the National Beds Inquiry defines a target of 84%. Working from the existing occupancy level the annual change could therefore aim towards reaching this figure.

INTERMEDIATE HEALTHCARE DEFAULT ASSUMPTIONS

(Step 3.4 Intermediate Healthcare)

Although a quantified fall back position for these assumptions is not available, interpretation of the ‘care closer to home’ scenario within the National Beds Inquiry would suggest that the following assumptions are reasonable:

- 50 per cent as efficiency savings;
- 25 per cent as acute care re-provided in intermediate care beds; and
- 25 per cent as acute care re-provided in intermediate care day places.

PRIMARY HEALTHCARE DEFAULT ASSUMPTIONS

(Step 3.5 Primary Healthcare)

The primary healthcare assumption is set at requiring a population size of 1,800 people in order to justify one General Practitioner. This is based on guidance from the Royal College of GPs.

The evolving model of healthcare provision means that Primary Care as a model now covers a wider range of resources and services than the traditional model (of a general practitioner).

The concept, referred to in the HUDU model as ‘additional primary care services’ refers to the change in service provision towards One Stop Primary Care Centres (OSPCC), delivering integrated primary and community services which would include for example,

- General practitioners
- District Nursing,
- Health visiting,
- Women’s services,
- Diagnostic services (x-ray, ultrasound, blood testing, Cardiology, Cardiac Rehabilitation, etc)
- School Nurses,
- Dental surgery,
- Optometry; and
- Pharmacy.

SPATIAL REQUIREMENT (FLOORSPACE) DEFAULT ASSUMPTIONS

(Step 4.1 Spatial Requirements)

The default assumptions have been obtained from consultation with NHS Estates and Facilities as well as NHS Schedules of Accommodation 2003. All include planning, engineering and circulation allowance as detailed below.

Table A7: Default Spatial Requirements (sq.m per bed / place)

	Acute beds	Mental health beds	Intermediate Care beds	Intermediate Day places	Primary Care Space
Cost per	**47.5**	**48.9**	**65.3**	**54.4**	**165**

The detailed assumptions behind these default spatial requirements are outlined below.

Acute Beds

The standard space required per unit is 47.5m^2. This default has been obtained from consultation with NHS Estates and Facilities and relates to inpatient adult care – excluding elderly, children and maternity. The average space per unit attained from the Schedule of Accommodation HBN04 has been increased following recommendation from the consultees. All information relates to the average ward type of a 24 bed unit, comprising 50% single rooms and 50% shared ward

The calculation includes provision for: bed area facilities; patient support facilities; backup storage; utilities; and, office and administration services. It does not include Optional Accommodation as set out in HBN04.

The following factors have been added to the total space per patient as recommended in HBN04:

- Planning Space 5%
- Engineering Space 3%
- Circulation Space 25%

Mental Health Beds

The standard space required per unit is 48.89m^2. The space required per unit for People with Mental Illness is calculated from the total space per patient of a 15 bed Acute Unit in an Adult Acute Ward as set out in the Schedule of Accommodation HBN35P1B.

The calculation includes provision for: ward areas; sanitary facilities; patients day spaces; ward administration; and, support spaces. It does not include Optional Accommodation as set out in HBN35P1B.

The following factors have been added to the total space per patient as recommended in HBN35P1B:

- Planning Space 5%
- Engineering Space 3%
- Circulation Space 25%

Intermediate Care Beds

The standard space required per unit is 65.32m^2. The space required per unit for People with Intermediate Care need is calculated from Schedule of Accommodation HBN37, and the average space per patient of:

- In-patient facilities for older people; Intermediate care, 20 bed unit, 40% single rooms; and,
- In-patient facilities for older people; Intermediate care, 20 bed unit, 60% single rooms and therapy facilities.

The calculation includes provision for: entrance, reception and waiting facilities; in-patient facilities; day and visiting facilities; clinical facilities; activities of daily living (ADL) facilities; support facilities: sanitary; staff support facilities; other support facilities; and, therapy facilities where applicable. For more detailed information please see the Schedule of Accommodation HBN37. Calculations do not include Optional Accommodation as set out in HBN37.

The following factors have been added to the total space per patient as recommended in HBN37:

- Planning Space 5%
- Engineering Space 3%
- Circulation Space 30%

Intermediate Day Places

The standard space required per unit is 52.42m^2. The space required per patient for People with Intermediate Day Care needs is calculated from Schedule of Accommodation HBN08, and the average space per patient of:

- Small Rehabilitation Services Unit; and,
- Large Rehabilitation Services Unit.

The calculation includes provision for the following in facilities in the small rehabilitation unit: entrance, reception & waiting facilities; visitors & patient support facilities: sanitary; administration facilities; rehabilitation clinical / therapy shared facilities; physiotherapy facilities; hydrotherapy facilities; occupational therapy facilities; activities of daily living (ADL) facilities; speech and language therapy facilities; staff support facilities; patient library / information facilities; and, support facilities.

In the case of a Large Rehabilitation Unit as described in HBN08, the following additional facilities are also required: podiatry facilities; rehabilitation engineering facilities; repair and adjustment facilities: Orthotics; and, supply and fitting facilities.

For more detailed information please see the Schedule of Accommodation HBN08. Calculations do not include Optional Accommodation as set out in HBN08.

The following factors have been added to the total space per patient:

- Planning Space 5%
- Engineering Space 3%
- Circulation Space 28%

The Schedule of Accommodation recommends an allowance of 21% of total space for Circulation Space, but this has been increased to 28% following discussions with Strategic Estates Advisers for NHS London.

Primary Care

The standard space required per unit is 165 m^2. This space required per patient for Primary Care is calculated from a combination of sources.

Firstly the basic GP related floorspace requirements have been generated from the average space per patient between a 3 GP and a 9 GP Primary Healthcare Centre as set out in the Schedule of Accommodation "HBN36A - Local Healthcare Facilities: Primary healthcare centre". The calculation includes provision for: patients' reception spaces; consulting / examination / treatment spaces; office accommodation; staff facilities; and, Utility space and stores. It does not include Optional Accommodation as set out in HBN36A.

The following factors have been added to the total space per patient as recommended in HBN36A:

- Planning Space 5%
- Engineering Space 3%
- Circulation Space 25%

However, these calculations suggest the average space required per GP is 83 m^2. After consultation with Tower Hamlets Primary Care Trust, it was recommended that this space requirement be doubled to 165 m^2. This increase in space is required to reflect the changing role of Primary Care in providing a wider range of health services closer to the community as explained earlier under 'Primary Healthcare Default Assumptions'

BUILD COST INFLATION DEFAULT ASSUMPTIONS

(Step 5.1 Capital Costs)

The build costs for the various health care types were calculated at a fixed point in time and projected forward from the 2nd quarter of 2009. The inflation assumptions were obtained from "Department of Health: Estates and Facilities Division – Quarterly Briefing. Volume 17 / Number 4 / Spring 2009)

In order to predict the likely increase in build costs for the rest of the Model's study period it was necessary to use this publication to obtain inflation predictions. This publication details the APSAB Building Cost Index (a combined index), which gives a measure of the notional trend of costs to a contractor of increases in the cost of labour, materials and plant by application of the Price Adjustment Formulae for Building and Specialist Engineering Works to a Public Sector Average Building.

The specific projection used from the APSAB Building Cost Index is the "Median Index of Public Sector Building Tender Pricing (MIPS): all tenders". The HUDU Model uses the MIPS data projections to the 4th quarter of 2012. Due to the difficulty in accurately predicting beyond this time period MIPS does not predict beyond this point. For the purposes of the HUDU Model the % increase prediction at the 4th quarter of 2012 is held and projected forward. This should be updated as further information becomes available.

BUILD COST DEFAULT ASSUMPTIONS

(Step 5.1 Capital Costs)

Having consulted with the Strategic Estates Advisor at NHS Estates and Facilities, NHS London, it has been advised that the most appropriate notional capital cost assumptions (£ per m^2) should be obtained from PCTs in-house assumptions for costing Primary Care, Acute Care and Mental Health facilities.

For the purposes of a default assumptions however, the following costs have been prepared.

Table A8: Capital Build Cost Assumptions

	Acute beds*	Mental health beds*	Intermediate Care beds*	Intermediate Day places*	Primary Care Space*
Default Costs	£ 3,140	£ 2,275	£ 2,445	£ 2,160	£ 2,495

*as defined in Spatial Requirement Default Assumptions

NHS London has supplied the data for primary care, mental health and acute care capital costs. The consultation process was unable to refine the capital cost assumptions associated with intermediate care beds and day places and so the assumptions contained within the original HUDU model have been retained and inflated forward.

Cost considerations

The following assumptions have been made:

- Build costs for all facilities are based on new buildings on a clear site with external works limited to landscaping and normal car parking provision.
- Design fees have been included within costs
- Non works costs have been included within costs
- Equipments has been included within costs

- A contingency of 7.5% has been included within costs

The following factors have not been taken into account:

- On-costs (cost of circulation space, plant rooms, lifts, water provision, etc).
- Location Factor (considerable difference between national and inner London build costs)
- VAT
- Land Costs

It should be noted that circulation, engineering and planning space has been included within the default spatial requirements.

Land Costs

It should be noted that the HUDU model does not take account of the cost of land in providing health facilities. Land costs will vary considerably across London depending on a number of variables.

If the HUDU model generates sufficient healthcare requirements to suggest a new facility large enough to require land outside existing PCT assets (refer to PCT Estate portfolio / estate strategy), the cost of acquiring new land should be included in addition to the build costs calculated by this model. PCT Estates departments (or equivalent if out sourced) will have detailed knowledge of existing land assets and likely costs of purchasing new land in PCT)

Acute Care build cost assumptions

The assumptions for Acute Care are based upon HBN04, 24-bed Unit for Inpatient Acute Adult Care, 50% single rooms. The assumptions are:

Table A8.1: Acute Care cost assumptions

Based upon HBN4, 24 Bed Accommodation and Departmental Cost Allowances Guide			**£/m2**
Departmental Costs	11.01.01 (at MIPS 360)	£	1,512.00
Total Works Costs	Adjusted to MIPS 455	£	1,911.00
inc. Fees	15% of works costs	£ 286.65	£ 2,197.65
inc. Non Works Cost	1% of works costs	£ 19.11	£ 2,216.76
inc. Equipment	15% of works costs	£ 286.65	£ 2,503.41
inc. Contingencies	7.5% of above	£ 187.76	£ 2,691.17
Gross Capital costs inflated forward	Adjusted to MIPS 531 (Q3 2009)	**£**	**3,140.68**
	Rounded	**£**	**3,140**

Mental Health build cost assumptions

The assumptions for Mental health are based upon HBN35, 15Bed Accommodation and Departmental Cost Allowances Guide, 100% single rooms. The assumptions are:

Table A8.2: Mental Care cost assumptions

Based upon HBN35, 15 Bed Accommodation and Departmental Cost Allowances Guide			£/m2
Departmental Costs	11.01.01 (at MIPS 360)		£ 1,175.00
Total Works Costs (Adjusted to MIPS 455)	Adjusted to MIPS 455		£ 1,485.07
inc. Fees	15% of works costs	£ 222.76	£ 1,707.83
inc. Non Works Cost	1% of works costs	£ 14.85	£ 1,722.68
inc. Equipment	6% of works costs	£ 89.10	£ 1,811.78
inc. Contingencies	7.5% of above	£ 135.88	£ 1,947.67
Gross Capital costs inflated forward	Adjusted to MIPS 531 (Q3 2009)		**£ 2,272.99**
	Rounded		**£ 2,275**

Intermediate Beds and Day Places

The consultation process was unable to refine the capital cost assumptions associated with intermediate care beds and day places and so the assumptions contained within the original HUDU model have been retained and inflated forward, from their 2005 prices in accordance with Median Index of Public Sector Building Tender Pricing (MIPS) to the 3rd quarter of 2009.

Table A8.3: Intermediate Care cost assumptions

Based upon original HUDU Model research and Inflated forward	£/m2
Gross Capital costs of Intermediate Care Beds	**£ 2,445**
Gross Capital costs of Intermediate Day Places	**£ 2,160**

Primary Care build cost assumptions

The assumptions for Primary Care are based upon HBN35 Primary Healthcare Centre – 6 GPs and are shown below:

Table A8.4: Primary Care cost assumptions

Based upon HBN36, 6GPs and Departmental Cost Allowances Guide			£/m2
Departmental Costs	11.01.01 (at MIPS 360)		£ 1,269.00
Total Works Cost	Adjusted to MIPS 455		£ 1,603.88
inc. Fees	15% of works costs	£ 240.58	£ 1,844.46
inc. Non Works Cost	1% of works costs	£ 16.04	£ 1,860.50
inc. Equipment	8% of works costs	£ 128.31	£ 1,988.81
inc. Contingencies	7.5% of above	£ 149.16	£ 2,137.97
Gross Capital cost inflated forward	Adjusted to MIPS 531 (Q3 2009)		**£ 2,495.08**
	Rounded		**£ 2,495**

REVENUE FUNDING DEFAULT ASSUMPTIONS

(Step 5.2 Revenue)

The model has been updated from the original to include default PCT specific assumptions on the additional revenue costs generated by an additional person of a specific age band. The Department of Health (DOH) does not hold this specific information and instead were able to provide:

- PCT Specific Total Resource Allocations for 2009/10
- Age Specific Population Figures for all PCTs
- PCT Specific Resource Allocations per head for 2009/10
- UK Average Resource Allocations per head per Age Band for 2006-08

Using the above information EDAW have calculated a 2009/10 Revenue allocation per head per age band for each London PCT. This was particularly difficult given the fact that the DOH generated UK average resource allocations per head are divided into different Age Bands to those used in the HUDU model. With guidance from the DOH, the PCT specific allocations per head per age band were calculated through:

- Establishing the proportion of each PCT's population into each HUDU age band.
- Converting UK average resource allocation per head 2006-08 from DOH age bands into HUDU age bands. (*During the 2009 update of this model no UK average allocation per head update was available from this and its use has therefore been continued*).
- Continuing to use the UK average resource allocation per head 2006-08 but weighting the UK age profile to match that of the PCT in question.
- Applying the PCT specific total resource allocations for 2009/10
- Multiplying the weighted UK, age band specific, proportion of total allocation by each PCT's total resource allocation 2009/10 to derive an allocation for each age band
- Dividing this age band allocation by the population in the PCT age bands to derive an allocation per head per age band.

The outputs of this process are presented in tables A8 and A9 on the following page.

Table A9: 2009/10 Revenue Allocation per person

PCT name	Total Resource Allocation (2009/10)	Allocation Per Head (2009/10)
Barking and Dagenham	£301,079,534	£1,820
Barnet	£528,745,040	£1,554
Bexley	£321,349,980	£1,507
Brent Teaching	£501,537,663	£1,759
Bromley	£466,264,867	£1,523
Camden	£453,988,710	£1,834
City and Hackney Teaching	£472,222,229	£2,136
Croydon	£526,751,909	£1,568
Ealing	£545,775,284	£1,681
Enfield	£436,717,913	£1,601
Greenwich Teaching	£424,159,507	£1,795
Hammersmith and Fulham	£326,447,546	£1,886
Haringey Teaching	£424,321,265	£1,741
Harrow	£313,370,362	£1,547
Havering	£376,447,369	£1,575
Hillingdon	£379,496,484	£1,542
Hounslow	£362,964,485	£1,615
Islington	£412,125,691	£2,143
Kensington and Chelsea	£337,423,678	£1,676
Kingston	£249,459,295	£1,414
Lambeth	£580,017,496	£1,983
Lewisham	£484,938,563	£1,876
Newham	£510,371,368	£2,014
Redbridge	£365,514,662	£1,490
Richmond and Twickenham	£267,441,502	£1,501
Southwark	£492,748,457	£1,862
Sutton and Merton	£583,187,995	£1,518
Tower Hamlets	£447,591,233	£2,014
Waltham Forest	£395,510,316	£1,728
Wandsworth	£488,964,692	£1,697
Westminster	£447,789,245	£1,776
England	£80,030,703,125	£1,540

Table A10: 2009/10 Revenue Allocation per person by age band (as calculated for HUDU Model based upon table A9 & UK average age band allocation)

PCT name	£ per head (0-14)	£ per head(15-59)	£ per head (60-74)	£ per head (75+)
Barking and Dagenham	£988	£1,567	£2,801	£6,070
Barnet	£802	£1,271	£2,273	£4,924
Bexley	£746	£1,184	£2,116	£4,585
Brent Teaching	£955	£1,514	£2,707	£5,865
Bromley	£742	£1,178	£2,105	£4,561
Camden	£1,031	£1,635	£2,923	£6,333
City and Hackney Teaching	£1,230	£1,952	£3,488	£7,559
Croydon	£828	£1,313	£2,347	£5,086
Ealing	£910	£1,444	£2,581	£5,593
Enfield	£840	£1,332	£2,381	£5,160
Greenwich Teaching	£974	£1,545	£2,762	£5,985
Hammersmith and Fulham	£1,030	£1,634	£2,920	£6,327
Haringey Teaching	£980	£1,554	£2,777	£6,019
Harrow	£788	£1,251	£2,235	£4,844
Havering	£757	£1,201	£2,147	£4,653
Hillingdon	£802	£1,272	£2,273	£4,926
Hounslow	£880	£1,395	£2,494	£5,404
Islington	£1,199	£1,902	£3,399	£7,365
Kensington and Chelsea	£880	£1,396	£2,495	£5,406
Kingston	£745	£1,183	£2,114	£4,580
Lambeth	£1,126	£1,786	£3,193	£6,919
Lewisham	£1,044	£1,656	£2,960	£6,413
Newham	£1,180	£1,872	£3,346	£7,250
Redbridge	£789	£1,251	£2,236	£4,846
Richmond and Twickenham	£789	£1,252	£2,238	£4,849
Southwark	£1,049	£1,664	£2,974	£6,444
Sutton and Merton	£796	£1,262	£2,256	£4,889
Tower Hamlets	£1,183	£1,877	£3,355	£7,271
Waltham Forest	£952	£1,510	£2,699	£5,848
Wandsworth	£943	£1,495	£2,672	£5,791
Westminster	£959	£1,521	£2,719	£5,892
England	£763	£1,211	£2,164	£4,689

COMPREHENSIVE SPENDING REVIEW DEFAULT ASSUMPTIONS

(Step 5.2 Revenue)

The 2002 Spending Review set spending plans and Public Service Agreements for 2003/04 to 2005/06. The 2004 Spending Review set new spending plans for 2006/07 and 2007/08, and confirmed the spending plans which were set for 2005/06 in the 2002 Spending Review. The 2007 Comprehensive Spending Review subsequently set the spending plans for 2008/09, 2009/10 and 2010/11.

Lord Mandelson confirmed in 2009 that the Treasury was abandoning plans to publish a spending review covering 2010/11. Lord Mandelson stated that the last spending review had covered the years up to 2011, "beyond the next election, and therefore it is reasonable to review public spending at that time….. We are not in a position, in June 2009, to be able to forecast what growth will be and what the performance of the economy will be in 2011. That is why we have to wait." Therefore the previous 2 spending reviews will have had 3 year gaps between each (if a spending review is undertaken next year which is more than likely).

Revenue allocations are made up of a number of factors including population (weighted for age and need) and geographical location. The 2001 Census was used for the population estimates for the 2003/06 allocations as this was felt to be the most robust estimate available at the time, whilst population projections (still based on the 2001 Census) were used for the 2006/08 allocations.
In the 2006/08 allocations, there was an additional adjustment made for accelerated population growth in DCLG growth areas. The 2008/09, 2009/10 and 2010/11 allocations were calculated based upon the ONS 2006-based Sub National population projections.

The allocation formula works by assessing the required share of resources for the population based on a number of factors including age and need. This is then compared to the actual (target) resources that are being used and growth monies are allocated to the PCT at a higher than average rate where the PCT is below target (and conversely, a lower than average rate where the PCT is above target). It is important to note, however, that all PCTs get a base level of growth monies and that the weighted population is used to determine a share of a pre-determined pot of money (as allocated by HM Treasury) rather than an amount per person. It is therefore not straight-forward to assert when allocations will “catch up” with population growth.

However, it can be said that accelerated population growth was unlikely to have been picked up in the formula until 2006, that some will have been included for 2006/08 (especially for the ODPM accelerated growth areas where additional funding was made available) and that further growth is likely to be picked up post-2008. However, this growth in funding may not match the actual cost of additional services as this is dependent on the overall level of funding for the NHS across England.

The concept of a Revenue funding gap (as included within the HUDU Model) is particularly relevant when we can be sure that the ONS population projections will not be picking up the growth from the new housing. Its relevance is specific to the local authority and Primary Care Trust in question and the trends upon which that areas ONS Sub National population projections have been based.

This HUDU model suggests that revenue contributions should be taken into account until the increase in population is accounted for in NHS funding, namely until the beginning of the next funding cycle. This is assuming that the development is not considered within the population projections upon which the resource allocation is calculated.

The text below attempts therefore to consider the possible future pattern of Spending Reviews and the Revenue allocation timings that might be linked to such reviews. This is of course speculative but without definite plans in place this logical pattern is the only approach available for to us consider. The purpose of this exercise is to consider the possible gap in funding which might exist between a development being occupied and the related population being included within an allocation calculation. It should be noted that a number of assumptions have been made in generating these assumed patterns, particularly the timing of the future spending reviews. Any changes to the timing and frequency of future reviews will need to be taken account of manually by the user of the model.

Comprehensive Spending Review took place in 2007.
DoH Revenue allocations used - 2006 based ONS population projections used).

- Resource Allocations announced in 2008.
- These allocations allocated funds for 2008/9, 2009/10 and 2010/11.
- Therefore, if the development was above that considered in the crude population projection and became occupied in:
    - 2008/9: then 3 years of revenue funding required
    - 2009/10: then 2 years of revenue funding required
    - 2010/11: then 1 year of revenue funding required

Comprehensive Spending Review could take place in 2010
DoH Revenue allocations could still use 2006 based ONS population projections potentially as the next ONS projections may only be available in mid-2010 (if previous patterns continue). However, bespoke up to date projections may alternatively be used or a new system such as the use of GP registers as recently proposed by ACRA).

- Resource Allocations could be announced in 2011
- These could allocate funds for 2011/12, 2012/13 and 2013/14
- Therefore, if the development was above that considered in the crude population projection and became occupied in:
    - 2011/12: then 3 years of revenue funding required
    - 2012/13: then 2 years of revenue funding required
    - 2013/14: then 1 year of revenue funding required

Comprehensive Spending Review could takes place in 2013
DoH Revenue allocations could use 2010 based ONS population projections potentially may be available in mid-2010). However, bespoke up to date projections may alternatively be used or a new system such as the use of GP registers as recently proposed by ACRA).

- Resource Allocations could be announced in 2014.
- These could allocate funds for 2014/15 and 2015/16 and 2016/17
- Therefore, if the development was above that considered in the crude population projection and became occupied in:
    - 2014/15: then 3 years of revenue funding required
    - 2015/16: then 2 years of revenue funding required
    - 2016/17: then 1 year of revenue funding required,

This concept has been built into the model and rolled forward allowing a project timeline of any length to take into account the effect of the CSR 'time lag'. Therefore for any year with a newly occupied unit, a revenue requirement will be generated based on the additional population of that year and a 'year specific' time lag is attached to that revenue requirement. The table below illustrate this concept:

Table A11: Default CSR Time Lag formulae

The example tables below illustrates the revenue requirements for a housing development being occupied over an 4 year period from 2008/09 to 2011/12.

New population occupy development in:	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Revenue required for population occupying development that year	£a	£b	£c	£d	£e	£f	£g	£h	£I
Time Lag (additional years after actual year) until revenue is no longer required	2 years	1 year	n/a	2 years	1 year	n/a	2 years	1 year	n/a
Total number of years of revenue required for that population	**3 years**	**2 years**	**1 year**	**3 years**	**2 year**	**1 years**	**3 years**	**2 year**	**1 years**
Revenue required for population occupying development that year	a	a + b	a +b + c	d	d + e	d + e + f	g	g + h	g + h + I

New population occupy development in:	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Revenue required for population occupying development that year	£1000	£500	£700	£800					
Time Lag (additional years after actual year) until revenue is no longer required	2 years	1 year	n/a	2 years					
Total number of years of revenue required for that population	**3 years**	**2 years**	**1 year**	**3 years**					
Annual requirement (combining actual and time Lag requirements)	£1,000	£500 + £1,000	£700 + £500 + £1,000	£800	£800	£800			
	£1,000	£1,500	£2,200	£800	£800	£800			

New population arrive in development	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Cumulative Revenue requirement over time	£1,000	£2,500	£4,700	£5,500	£6,300	£7,100			