European-study for Quantifying the Utility of Investment in Protection from Tobacco

Excel ROI tool

User Guide

v2.80

Contents

The EQUIPT Project

EQUIPT is a comparative effectiveness research (CER) project in tobacco control, funded by the European Commission's Seventh Framework Programme (FP7).

EQUIPT brings together expertise from multiple disciplines and aims to provide policy makers and wider stakeholders with bespoke information about the economic and wider returns that investing in evidence-based tobacco control including smoking cessation agendas can generate.

Led by Health Economics Research Group (HERG) at Brunel University, London, EQUIPT is a partnership of 11 consortium members from 7 member states – Belgium, Croatia, Germany, Hungary, the Netherlands, Spain and the UK.

Project rationale
Local policy makers and public health procurers often lack the data and financial justification to make the case for tobacco control investments. No doubt, there is a vast body of evidence around the cost-effectiveness of an individual intervention within the smoking cessation and tobacco control area but most of this is deemed insufficient to decision-makers because:
  (a) the evidence base, which is usually generated from wider contexts, do not necessarily resonate with the local population and their needs; and
  (b) there is a lack of user-friendly decision-support tools that synthesise costs, effectiveness and other relevant data for a large number of interventions in to a single return on investment (ROI) metric. Addressing both gaps is timely in this current austere climate – perhaps for the first time in history, public health funding is exposed to such a highly competitive financial environment.

To fill in this important gap in evidence, ten institutions from seven European member states have worked together to develop a programme of research, coordinated by Health Economics Research Group (HERG) at Brunel University. This programme of research is informed by the earlier work – the Tobacco Return on Investment (ROI) tool – which HERG and the National Institute for Health and Care Excellence (NICE) have been developing in partnership with several UK institutions including three leading smokefree organisations – Healthier Futures, Smokefree South West and FRESH North East.

Funded by the European Commission's Seventh Framework Programme (FP7), EQUIPT is a comparative effectiveness research (CER) project that brings together expertise from many disciplines and aims to provide policy makers and wider stakeholders with bespoke information about the economic and wider returns that investing in evidence-based tobacco control including smoking cessation agendas, can generate.

The EQUIPT tool

The EQUIPT team has developed a decision-support tool comparing the cost of tobacco control interventions with savings to the local economy and the wider health sector.

The EQUIPT tool is based on the model used in the UK Tobacco return on investment tool, published by NICE (the National Institute for Health and Care Excellence). This model uses a Markov process to account for the following characteristics of smoking in society: background quit rate; differential risk of death for smokers and former smokers; clinical data relating to attributable risk for lung cancer, coronary heart disease, COPD, myocardial infarction and stroke. It projects the incidence of smoking-attributable disease in the population and then projects the costs of treatment and expected number of QALYs (quality-adjusted life years) for that population.

As part of the EQUIPT Project, the model underlying the NICE tool has been refined and updated for the population in England and has then been adapted into specific models for each of the other partner countries – the Netherlands, Germany, Spain and Hungary. The models have been developed in Microsoft Excel and presented with user-friendly graphical user interface, developed in VBA.

Early drafts of the Excel tool were piloted with relevant stakeholders to market-test the relevance and applicability of the product. In this pilot stage, all interviewed stakeholders were invited to use the tool and to consider the relevance of policy recommendations coming from it in their own contexts; this feedback was used to revise the final tool.

In addition to the 5 core countries for which specific models have been developed, the transferability work package of the EQUIPT Project investigated how these models can be applied to other EU member states without requiring the intensive data collection practices undertaken to develop the original models.

The 3 countries selected – Romania, Bulgaria and Croatia – are systematically different from the five core countries: lower-income with less availability of HTA decision support mechanisms and much higher smoking prevalences (i.e. a higher potential to save life years). The policy recommendations for these non-sample countries have been compared with those from sample countries to assess potential improvements to the transferability of the ROI evidence to other EU countries.

This User Guide has been created to help support the use of the EQUIPT Excel tool for the 8 countries described above. The guide was created using v2.80 of the Excel tool.

For more information about the model, data and other research underpinning the tool, please refer to the EQUIPT website (www.equipt.eu), which includes a comprehensive Technical Report.

Getting Started

Launching the EQUIPT Tool

The tool has been developed in Microsoft Excel using Visual Basic for Applications and is optimised to run in the 2007 Edition and later. **It is not compatible with Excel for Macs.**

Once you have downloaded the tool from the EQUIPT website, please open the Excel file and enable any security warnings.
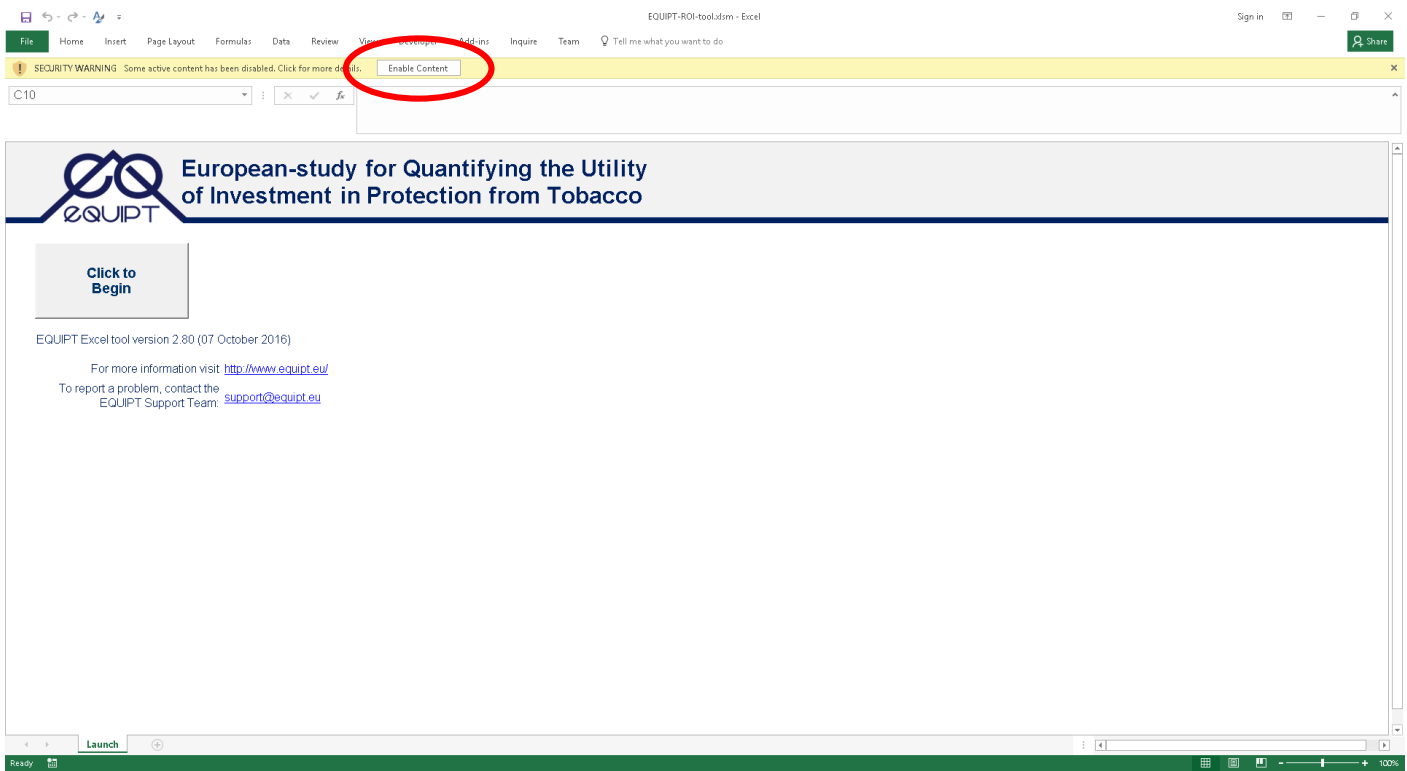

Because it runs in VBA, macros must be enabled in Excel before you are able to use the EQUIPT tool. For guidance on how to enable macros, please see this site; for organisational computers, you may need to speak with your IT administrator.

To launch the tool, click the button on the front page.

Selecting Your Location

Upon launching the tool, you must first select your country of choice from the map. The five core countries are highlighted in yellow and the three out-of-sample countries in orange.
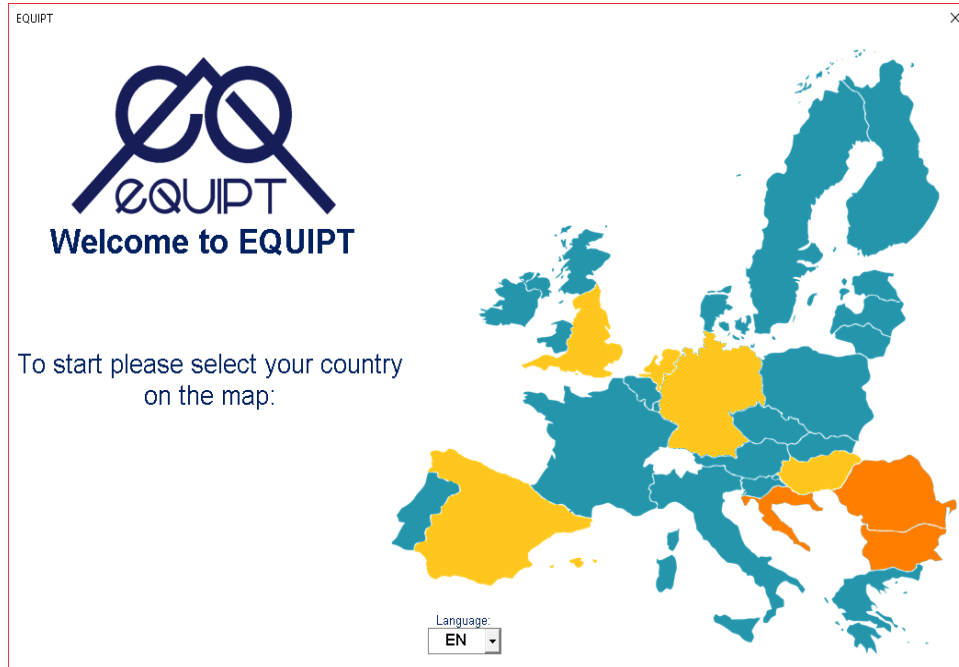
You can select a country by clicking it on the map; some countries have subnational geographies available from drop-down lists.
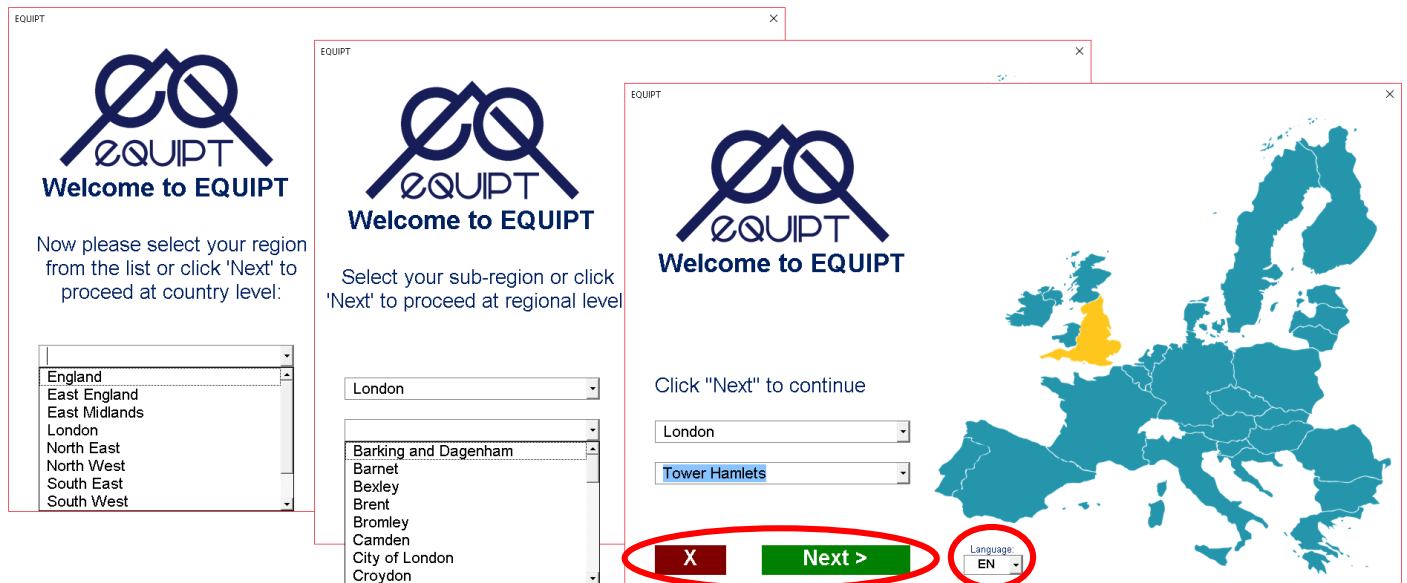
When you select a country, the text in the tool is automatically updated to reflect the local language, however you can also change this using the option at the bottom of the window.

To cancel your selection, simply click the red button.

Once you have selected you desired location, click 'Next' to load the relevant data.

Selecting Your User Profile

Based on the stakeholder engagement work conducted as part of the EQUIPT project, different user types have been identified based on varying usability requirements. Selecting the role that most-closely matches your interest in the EQUIPT tool will help to refine your user experience.

The different user types relate to 3 different levels of complexity in the user interface:
- The **Advanced** profile presents a detailed interface and allows full access to all functionality in the tool;
- The **Medium** profile presents a slightly less-detailed interface without, with some of the more complex and technical functionality removed;
- The **Basic** profile is entirely stripped-back and automatically runs the tool and generates the Narrative Report, detailing your selected location's current profile in relation to smoking in society and the impact of the default current delivery of tobacco control interventions (see page 24).

Once you are using the tool, you can change your profile at any time by clicking the EQUIPT logo in the top left hand corner.
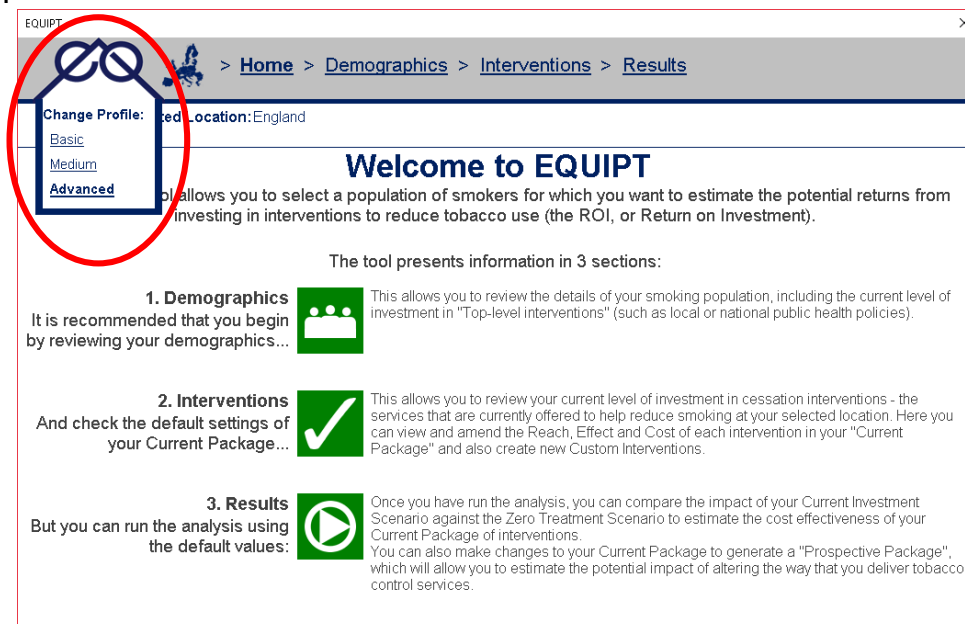

The information in this User Guide is presented from the Advanced profile perspective in order to provide a full overview of the available functionality.

Navigating Through the EQUIPT tool

The Home Screen

Once you have selected your location and defined your user type, you will be directed to the main EQUIPT Home screen. This is the first page you will see when you come back to the tool at a later time.
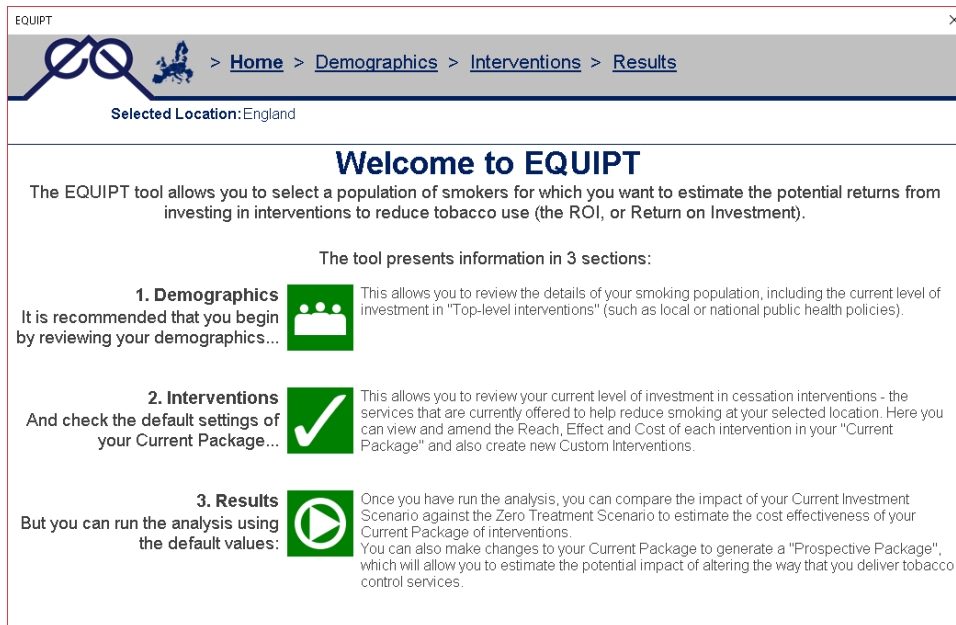
The Home screen highlights the 3 main areas of the EQUIPT tool that you can access to help confirm this information, which you can access by clicking the green buttons:

- The Demographics Area allows you to review the details of your smoking population, including the current level of investment in interventions and policies which will encourage smokers to make quit attempts (see page 9).
- The Interventions Area allows you to review your Current Investment in interventions which increase the likelihood of quitting in those smokers who make quit attempts (see page 11).
- The Results Area is where you can review the impact of your Current Investment and investigate the potential impact of making changes to the extent and nature of your investment in the future (see page 17). You can run the tool using just the default values, however it is recommended that you first take some time to review the default estimates for your location to ensure that they are representative.

The Navigation Menu

At the top of the of the EQUIPT tool you will find the Navigation Menu, which allows you to skip to specific areas at any time. If you hover over the 'Demographics' and 'Interventions' options, you are also offered submenus. You can click the options in the image below to skip to the relevant sections of the User Guide.

Help Buttons

Help buttons are associated with different elements throughout the EQUIPT tool – you can click these to find out more information and guidance.

Reviewing Your Current Investment

Confirming Your Local Demographics

Prevalence Information

The tool illustrates the adult population at your selected location as a blue square, and subdivides this according to the estimated smoking status – orange for current smokers, green for former smokers.

You can amend these prevalence values if you have more recent or more accurate data – to do so, simply click the plus/minus buttons or edit the text directly in the field. All amended values are highlighted in orange and they can be reset to the default figures at any time by clicking the red X button.
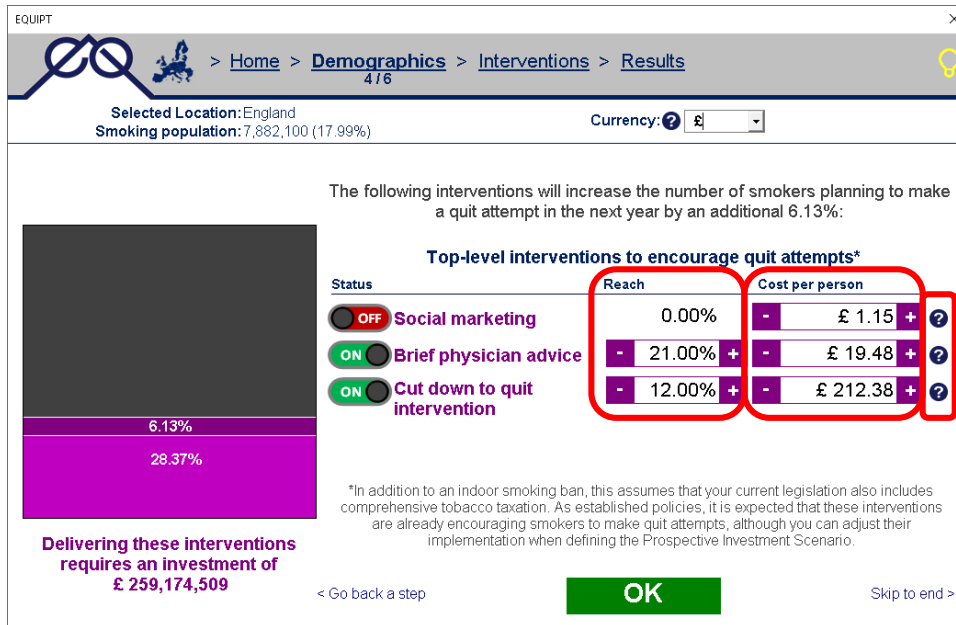
Top Level Interventions

Of your smoking population, the tool also estimates the proportion who would be likely to make a quit attempt in the next 12 months, even without any investment in interventions, and then demonstrates how the policy-level initiatives currently in place are working to increase this rate of quit attempts.

In the EQUIPT tool, these policies are referred to as **Top Level Interventions** – here you can see an overview of three such interventions, of which 2 are estimated to be active in the selected country. You can change the status of an intervention by clicking the "ON/OFF" toggle.

From this overview of the Top Level Interventions, you can directly adjust the reach (percentage of smokers receiving an intervention) and the cost per recipient to more-accurately reflect your local services.

It should be noted that comprehensive tobacco taxation and indoor smoking bans are assumed to be established policies that do not require additional investment to maintain, and so do not contribute to the cost of the Current Investment.

To ensure you understand the nature of the intervention, you can click on the help button to view more information:

You can also click the intervention name to see more information in the Intervention Details area – see page 13.

Checking the Default Interventions

Distribution of Cessation Interventions

The combined impact of the Top Level Interventions is to increase the overall number of smokers who will **consider making a quit attempt over the next 12 months**. It is this population of smokers who will go on to receive smoking cessation interventions and the EQUIPT tool estimates how the methods of making quit attempts are distributed across that population.
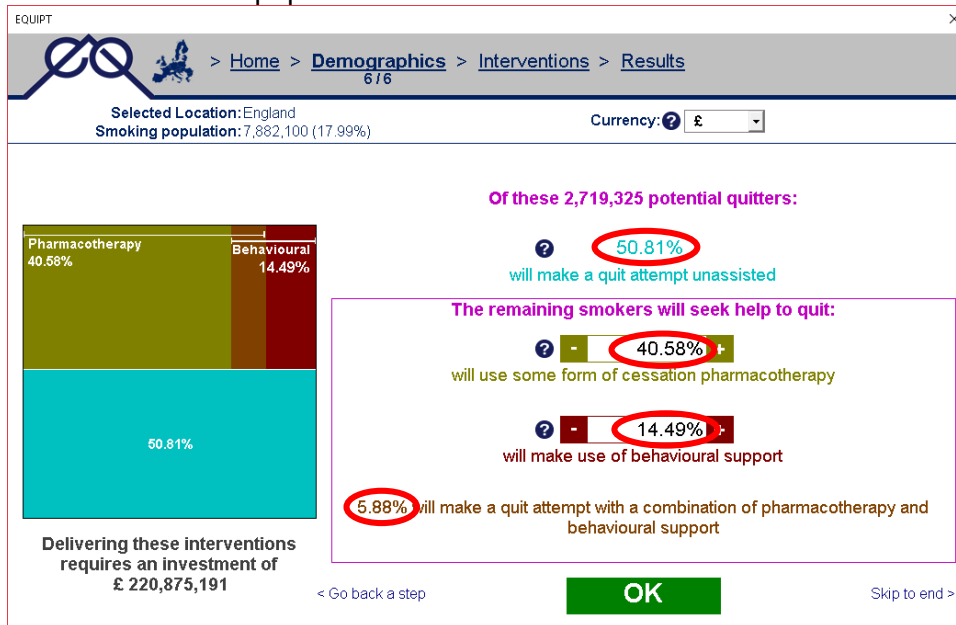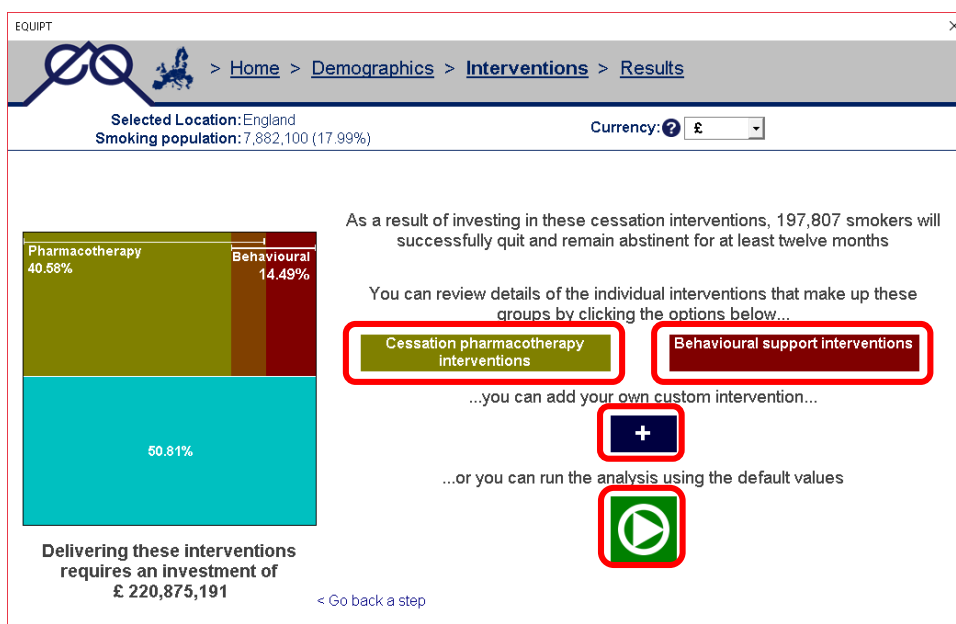

In this example, roughly 50% of smokers making quit attempts will do so without assistance (light blue). Of those potential quitters who do receive interventions, the estimates that:
- 40.58% will receive <u>only</u> pharmacotherapies (olive green)
- 14.49% will receive <u>only</u> behavioural support therapies (brown)
- the remaining 5.98% will make quit attempts using a <u>combination</u> of therapies.
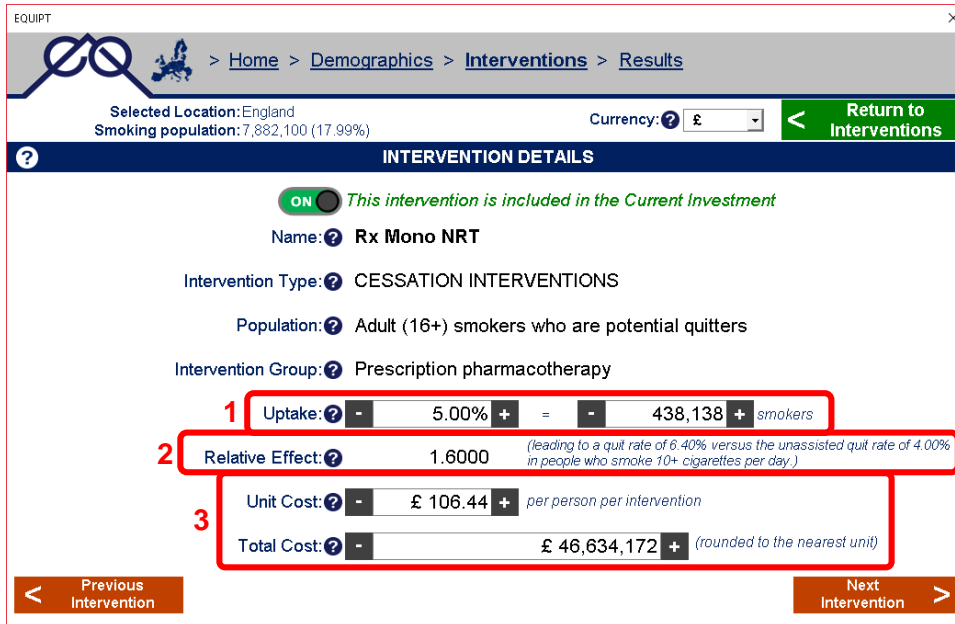
Interventions Menu

To review the detail of the specific cessation interventions of different types – pharmacotherapies and behavioural therapies – available to smokers, you can click the relevant button. From this menu you can also add Custom Interventions (see page 14) or move directly to Run the Analysis (see page 16).

Interventions Lists

This Interventions List overviews allow you to review the various interventions available in the different cessation groups (prescription pharmacotherapies and over the counter therapies on the left; behavioural support therapies on the right – see Appendix II for a comprehensive list of the available interventions).

These overview allow you to assess, at a glance:

1. how many potential quitters are receiving each intervention;
2. how many are receiving the intervention type in general (pharmacotherapies, in this example);
3. the overall investment required to deliver this type of intervention;
4. the total Current Investment;
5. the resulting number of smokers setting quit dates;
6. the resulting number of successful quitters.

As well as being able to reset changes made to individual fields (by clicking the relevant red X), you can also reset the parameter values for all interventions in the current group.

Similarly, you can choose to quickly enable or disable all interventions in the current group using the "ON/OFF" toggle in the lower right hand corner.

You can click an intervention name to view the Intervention Details area for that intervention.

Intervention Details

The Intervention Details area gives you full access to all of the information about an intervention and also allows you to cycle through the different interventions of the same type (by using the orange buttons in the bottom corners).

All interventions in the EQUIPT tool are composed of 3 key parameters, which are crucial to how the return on investment model estimates the impact of your selected provision of services:

1. **Uptake** – the number of smokers who will receive or be exposed to the intervention. This is presented as both a total count of individuals and as a proportion of all smokers, either of which can be edited.

2. **Effectiveness** – this represents the likelihood that an intervention will result in a successful quit with sustained abstinence after 52 weeks. This parameter is presented as a relative effect, relative to the likelihood of remaining abstinent when quitting <u>without assistance</u>.
    -   For behavioural therapies, this is in relation to the general, unassisted quit rate (across all smokers);
    -   For pharmacotherapies, this is specifically in relation to the unassisted quit attempts made by people who smoke 10 or more cigarettes per day.

    The effectiveness data are fixed and are based on a review of the best available empirical evidence, undertaken by the EQUIPT Effectiveness subgroup.
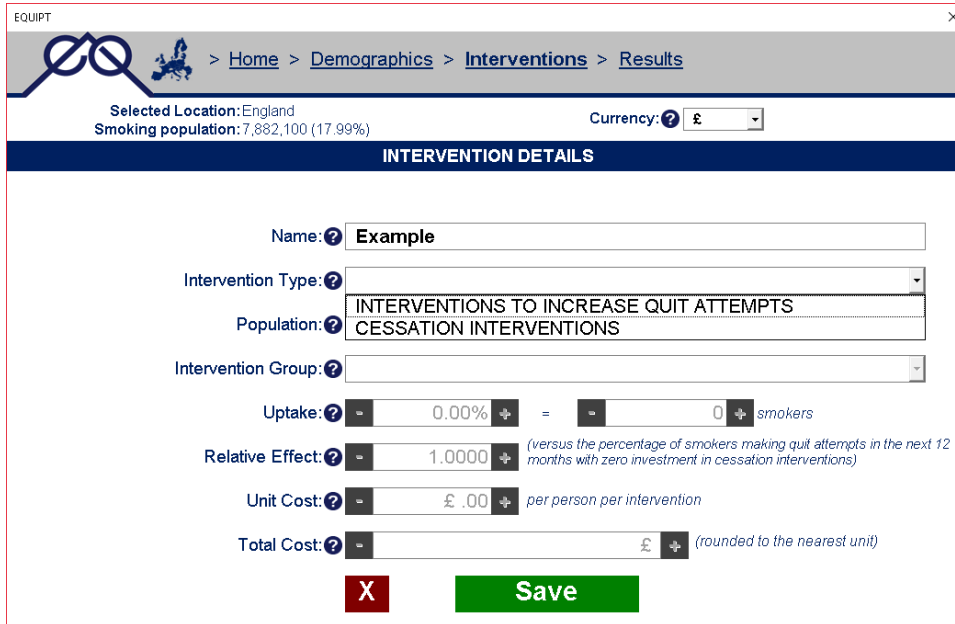
3. **Cost** – calculated as the investment required <u>per recipient per treatment</u> to deliver the intervention for the required duration.

The Uptake and Cost parameters can be updated if you feel you have more up-to-date or accurate data, <u>however</u> it is recommended that you review the information from the help buttons and refer to the Technical Report to ensure that any changes to the default values are correctly and reasonably applied.
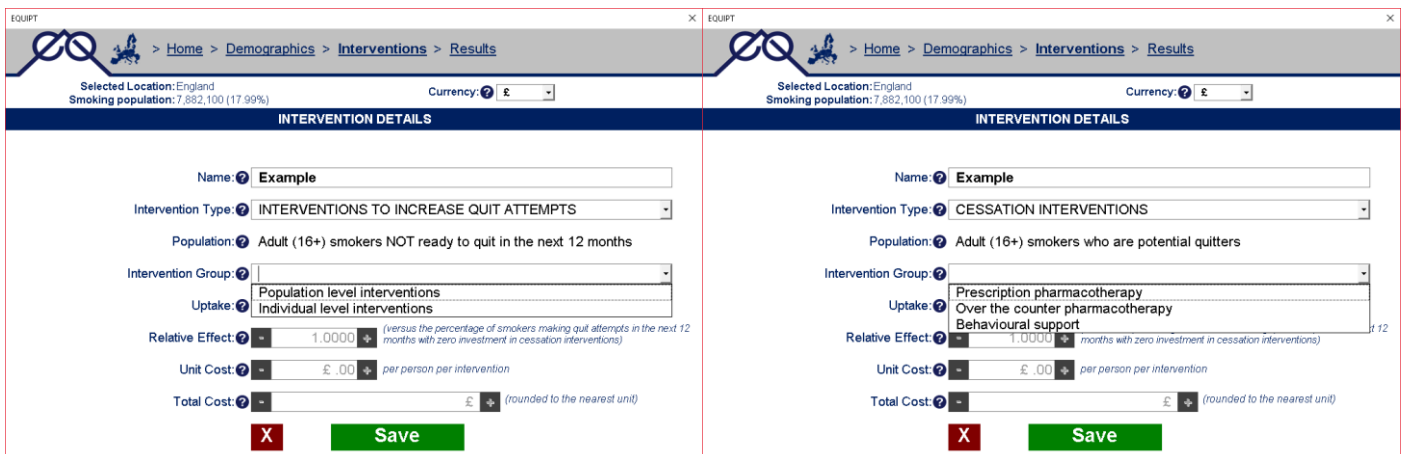
Creating Custom Interventions

If you feel you offer one or more tobacco reduction services locally which is not present by default in the EQUIPT tool, you can define a custom intervention – assuming that you have reliable data to inform the key parameters.

For each new, custom intervention you must provide an identifiable name before you can define its characteristics.

There are two main types of intervention that can be created:
- **INTERVENTIONS TO INCREASE QUIT ATTEMPTS** – Top Level Interventions, which lead to increases in quit attempts among smokers who might not otherwise consider quitting;
- **CESSATION INTERVENTIONS** – therapies that help people who are trying to quit to improve the chances of success.

For Top Level Interventions, there are two main types of interventions:
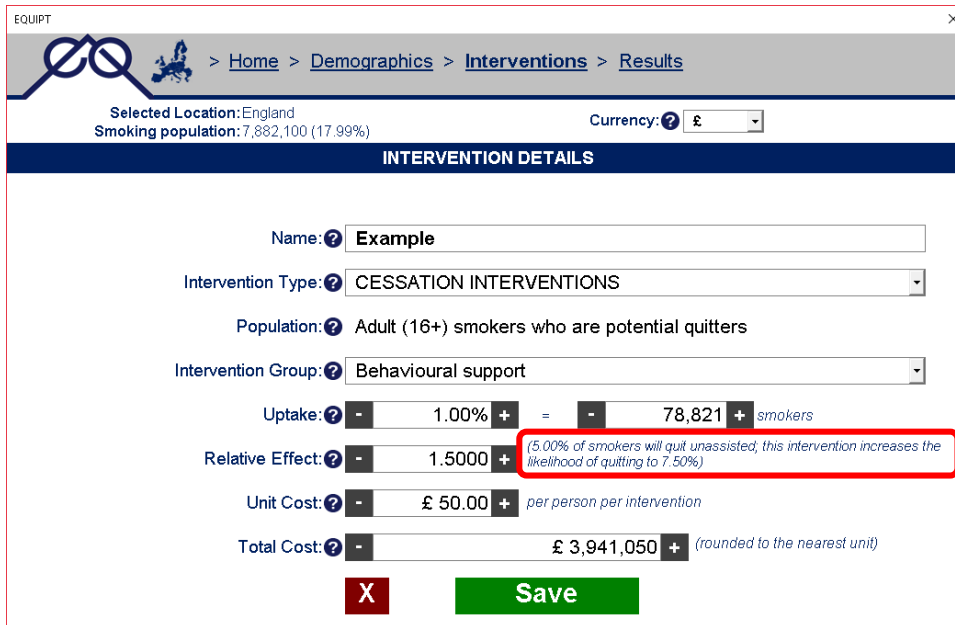- Population-level interventions – those that are dispersed at the population level (such as mass media);
- Individual-level interventions – those that are delivered to individuals directly (such as GP Brief Advice).

For cessation interventions, there are three main groups:
- Prescription pharmacotherapies;
- Over the counter pharmacotherapies;
- Behavioural support therapies.

As with amending existing interventions, it is important that you pay close attention to the parameter values you define for custom interventions to ensure that they are realistic.
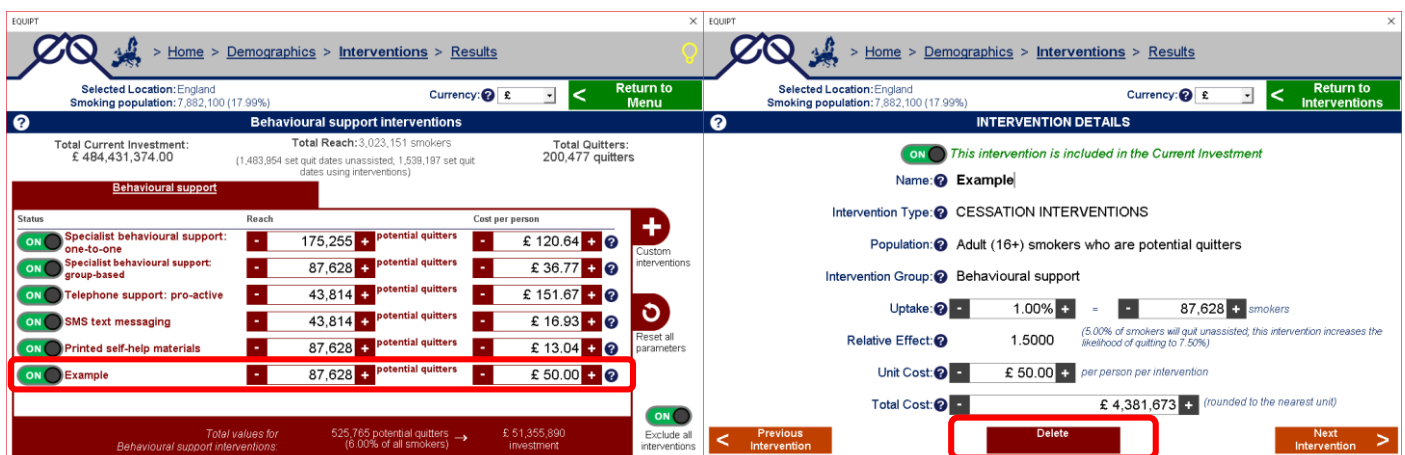

Uptake values are defined as a proportion of all smokers or as a gross count and costs are defined per smoker receiving the intervention.

Relative effectiveness is defined in terms of the likelihood of successfully quitting without assistance – in this example, that is 5%, so a relative effect of 1.5 results in an intervention with which an average of 7.5% of quit attempts will be successful after one year.

Once you have saved a custom intervention, it will be found with the other interventions of that type – so in this example, it is in the Behavioural Support list.
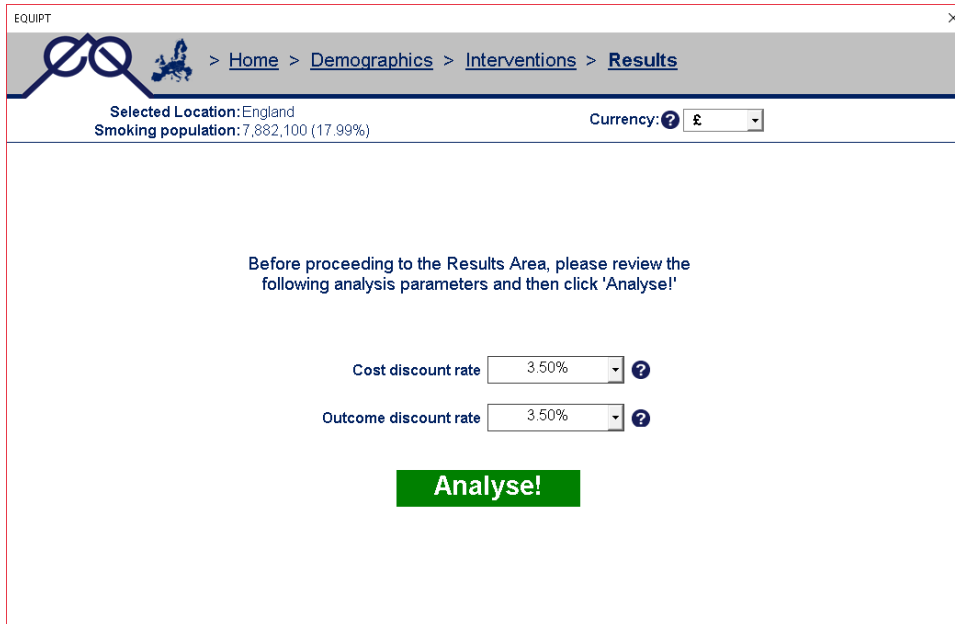
As with any other intervention, you can click its name to see more information and, because this is one that you have created, you can also choose to delete it.

Running the Analysis

Once you are happy that the Current Investment scenario is representative of your local provision of services, you can begin the analysis. Either from the Navigation menu or from the landing page, select to move to the Results area.

Before you can proceed with the analysis, it is important to check that the correct discounting rates are set for the data – note that the available discounting values have been set by the EQUIPT team country leads and, for some countries, alternatives to the default settings may not be available.

When you click the "Analyse!" button, the modelling process begins, which can take between up to 90-120 seconds, depending on the speed of your computer.

Due to the nature of Microsoft Excel, the progress of the analysis will look like it has stopped at 40%, however it is in continuing to calculate in the background and will resume after a short while.

Interpreting the Results

Understanding the Results Area

The Results Area is loosely divided into two sections:

1. The left hand side represents an overview of the properties of the Current Investment, both in terms of:
   a. the specific intervention parameters (divided across top level interventions, pharmacotherapies and behavioural therapies); and
   b. the overview of total investment, reach and success of the full Package of Interventions.

   It is by amending the intervention values for the Current Investment Scenario that you can define a Prospective Investment.

2. The right hand side is the ROI Display Area, where the results of the analysis are presented in graphs and tables. The collapsible Outputs menu provides an overview of the metrics and tools that are available to help you gauge the impact of your interventions (see Appendix I).

All costs presented in the EQUIPT tool default to the local currency of the selected country, however this can be changed at any time by using the drop-down menu.
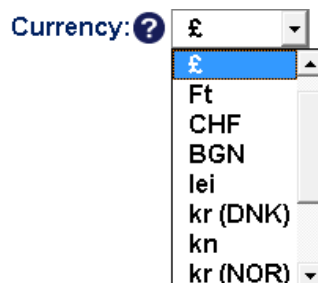
The ROI Display Area

Using the Outputs Menu you can select to view the results of your analysis via a range of different metrics (see Appendix I for a detailed list).

The metrics can be displayed in tabular or chart form – you can toggle between these views by clicking the button in the top left corner:
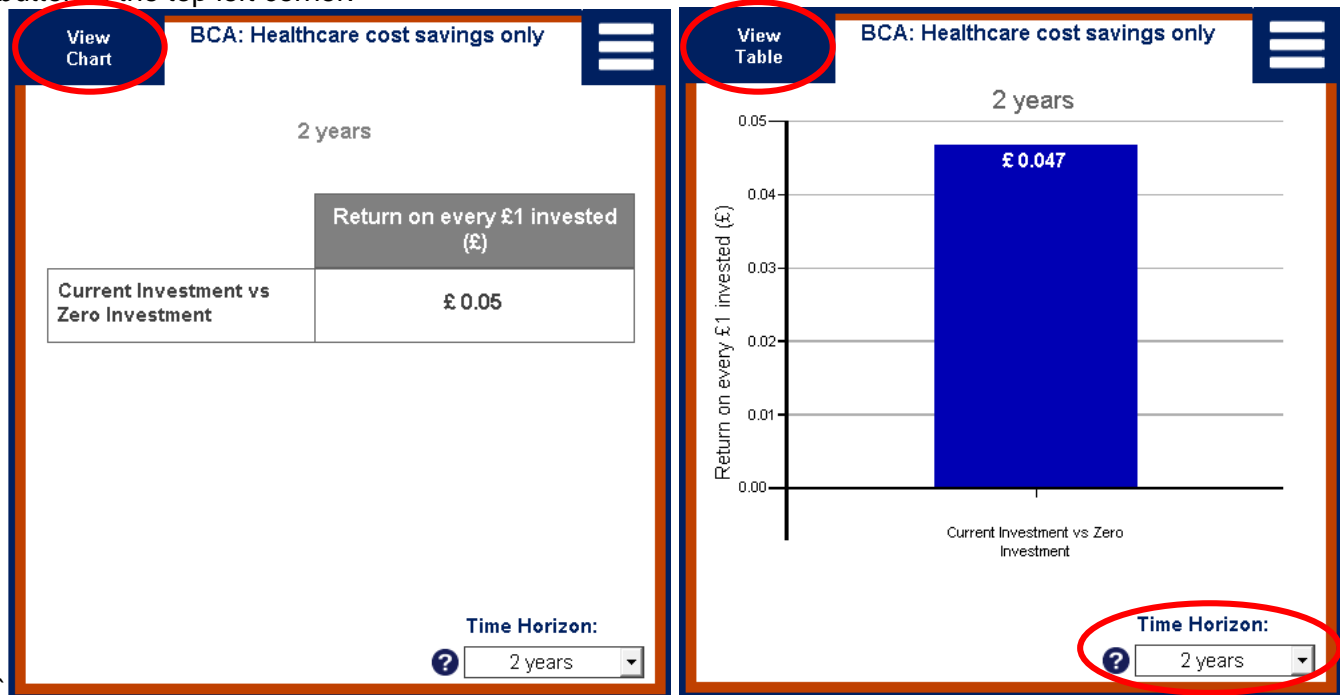
All metrics can be viewed at the 2 year, 5 year, 10 year and Lifetime time horizons, which can be changed using the drop down list in the lower right hand corner.

When no Prospective Package is defined, results are displayed exclusively as a comparison between the Current Investment scenario and the **Zero Investment scenario**, a hypothetical baseline where no money is invested in any interventions, policies or other tobacco control initiatives.

For metrics that involve an assessment of willingness to pay for QALY gains (i.e. "BCA: Healthcare cost savings + value of health gains" and "Incremental Net Benefit"), it is also possible to adjust the QALY threshold value from the drop-down list at the bottom of the window.
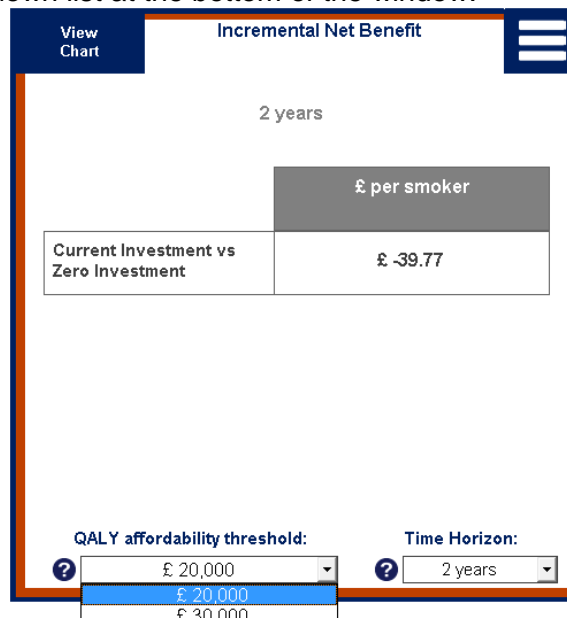
Results for the ICER metrics are presented in a cost-effectiveness plane:
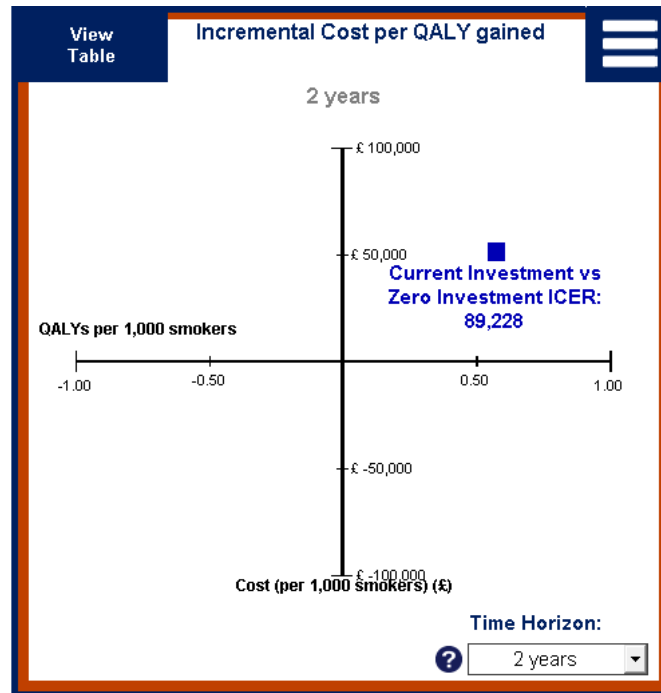
The cost-effectiveness plane consists of a four-quadrant diagram where the X axis represents the incremental level of effectiveness of an outcome (QALYs in the above example) and the Y axis represents the additional total cost of implementing this outcome. For example, the further right you move on the X axis, the more effective the outcome.

Importantly, the X axis also allows less effective interventions to be represented on the left-hand side of the graph. Similarly, the further up you move on the Y axis, the more costly the outcome.
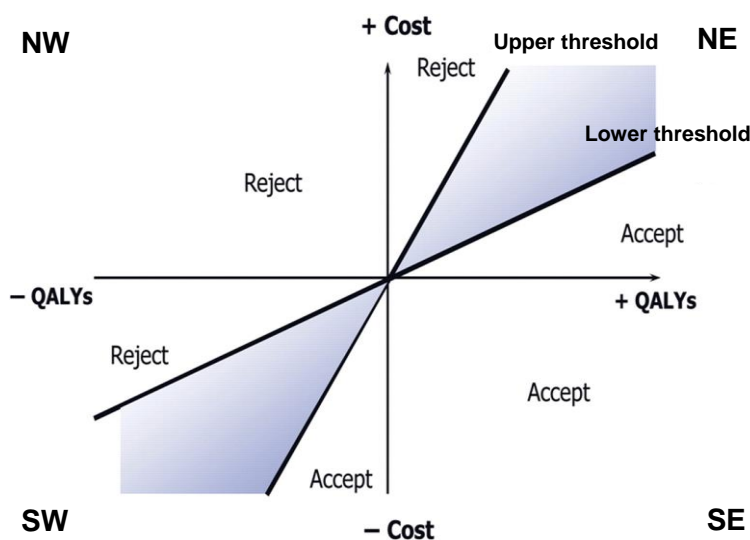
The above figure is adapted from the figure available from
http://europace.oxfordjournals.org/content/early/2008/12/20/
europace.eun342/F1.large.jpg

Defining a Prospective Package

The EQUIPT tool allows you to review and make adjustments to your Current Investment Scenario in order to create a Prospective Investment Scenario. This has been designed to help users assess the potential impact of altering their existing local provision of services, for instance by increasing uptake of a certain intervention or by replacing one treatment type with an alternative.

Such changes are made by amending the values previously defined for the Current Package:

In the above example, doubling the reach (uptake) of "Varenicline (standard duration)" has generated a Prospective Investment scenario (displayed in the top right), which costs more money to deliver but results in a greater number of quits. These comparative values for the Prospective Investment are colour-coded, with increases in smokers accessing services and increases in quitters highlighted in green and increases in investment cost highlighted in red (and *vice versa*).

It is worth noting that, in the above example, the total Reach (number of smokers making quit attempts) <u>includes</u> those smokers who will do so without assistance. As such, the total reach does not change, although the net number of smokers receiving interventions is greater with the Prospective Investment. You can see this information by hovering your cursor over the relevant values:

When reviewing the metrics in the ROI Display Area, additional comparisons are available to help you assess the impact of the Prospective Investment, both relative to the Zero Investment scenario and the Current Investment scenario.
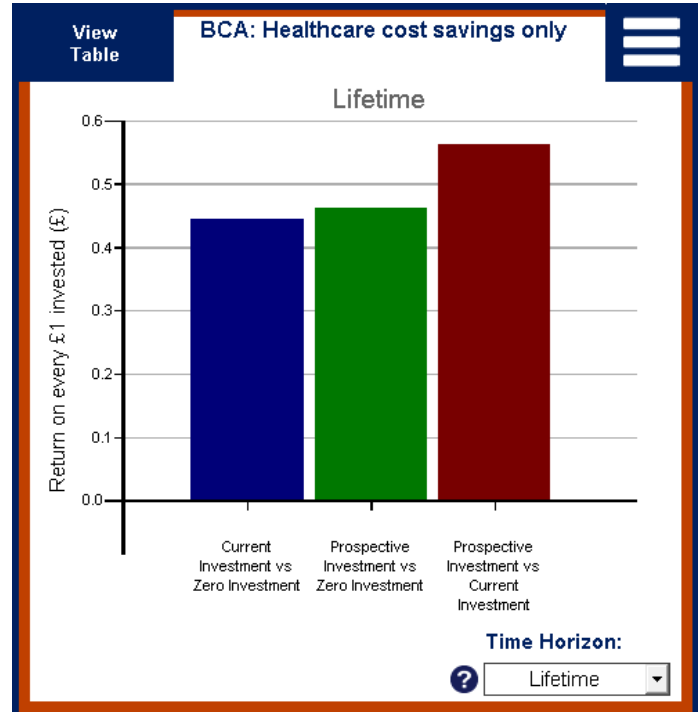
You can reset your Prospective Investment at any time by clicking on the reset button at the top of the window:

As when reviewing the interventions in the Current Package, you can click on an interventions name to see more information in Intervention Details page. Any changes made to interventions in the Prospective Package will be lost when leaving the Results Area – in other words, changes you make will not affect the Current Package.

If you decide to leave the Results Area (by using the Navigation Menu at the top of the window), you will be prompted to confirm that you want to proceed:

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The Data Dashboard

In addition to comparing individual Packages of interventions, the EQUIPT tool also allows you to export an unlimited number of packages to a self-contained data dashboard. Simply select the option from the Outputs Menu and your Packages will be exported.

The dashboard contains the same metrics as the EQUIPT tool – including longitudinal graphs – and does not use any Macros, so can be readily emailed to colleagues, even if they do not have access to the EQUIPT tool itself.
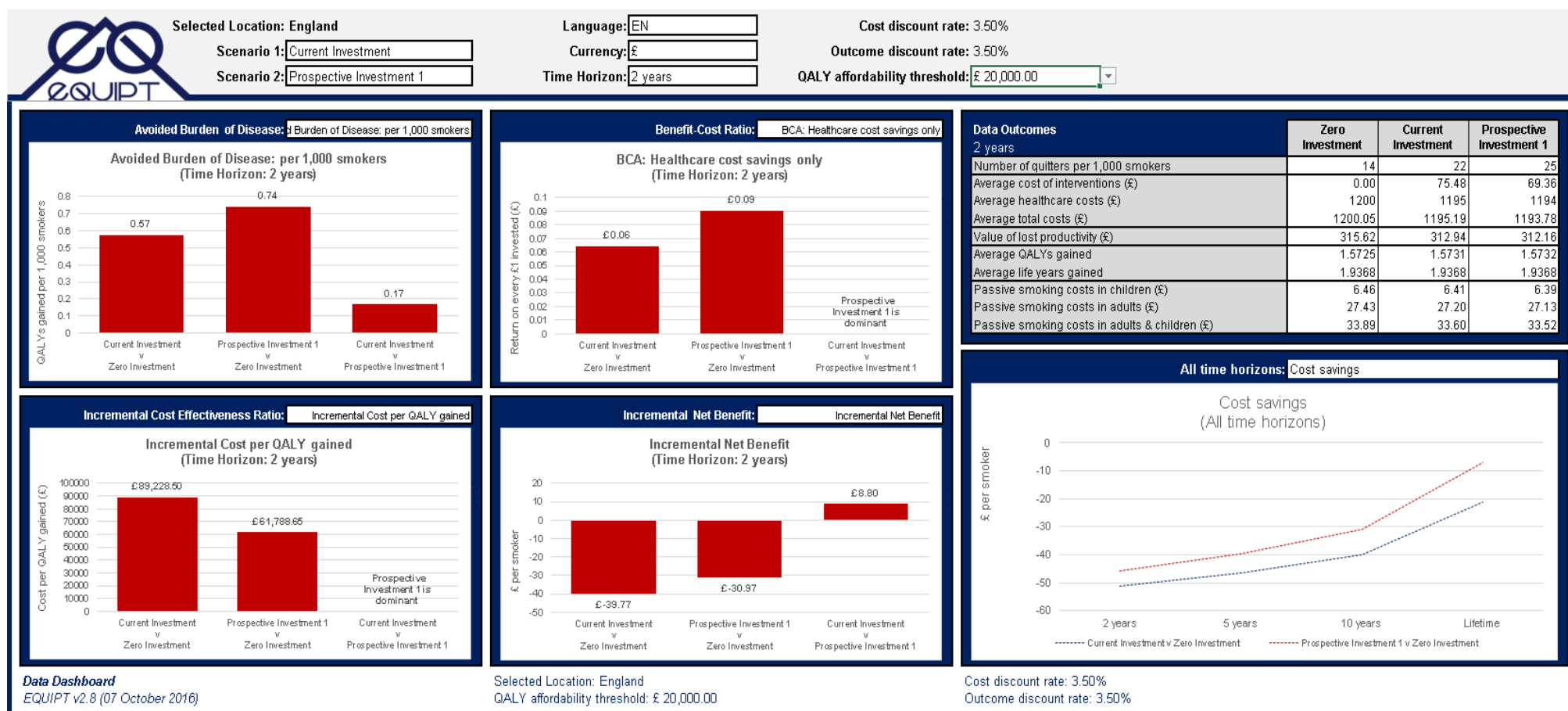
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In the EQUIPT tool, you can make additional changes to generate an alternative Prospective Investment scenario and can export this new package to the dashboard for direct comparison with the previously exported packages. There is no limit to the number of packages you can append to the dashboard.

The Data Dashboard also includes a description of the makeup of all the packages of interventions that have been exported, so you can readily identify what changes are driving the differences between investment scenarios. All exported Prospective Investments are presented relative to the Current Investment, with increases in smokers accessing services highlighted in green and increases in expenditure highlighted in red (and *vice versa*).

Interventions:	Target population:	Current Investment (£)		Prospective Investment 1 (£)	
		Total Reach:	Total Cost:	Total Reach:	Total Cost:
Unassisted (no intervention)	Potential Quitters	17.53% 1,536,022	0	17.53% 1,536,022	0
Social marketing	All Smokers	0.00% 0	0	0.00% 0	0
Brief physician advice	All Smokers	21.00% 0	35,849,531	21.00% 0	35,849,531
Cut down to quit intervention	All Smokers	12.00% 0	223,324,944	12.00% 0	223,324,944
Tobacco duty	All Smokers	100.00% 0	0	100.00% 0	0
Indoor-smoking ban	All Smokers	100.00% 0	0	100.00% 0	0
Rx Mono NRT	Potential Quitters	5.00% 438,138	46,634,156	0.00% 0	0
Rx Combo NRT	Potential Quitters	2.00% 175,255	19,098,888	2.00% 175,255	19,098,888
Varenicline (standard duration)	Potential Quitters	5.00% 438,138	84,071,232	5.00% 438,138	84,071,232
Varenicline (extended duration)	Potential Quitters	1.00% 87,628	31,167,670	1.00% 87,628	31,167,670
Bupropion	Potential Quitters	1.00% 87,628	7,008,480	1.00% 87,628	7,008,480
Nortriptyline	Potential Quitters	0.00% 0	0	0.00% 0	0
Cytisine	Potential Quitters	0.00% 0	0	5.00% 438,138	7,724,657
OTC Mono NRT	Potential Quitters	0.00% 0	0	0.00% 0	0
OTC Combo NRT	Potential Quitters	0.00% 0	0	0.00% 0	0
Specialist behavioural support: one-to-one	Potential Quitters	2.00% 175,255	21,143,107	2.00% 175,255	21,143,107
Specialist behavioural support: group-based	Potential Quitters	1.00% 87,628	3,222,158	1.00% 87,628	3,222,158
Telephone support: pro-active	Potential Quitters	0.50% 43,814	6,645,304	0.50% 43,814	6,645,304
SMS text messaging	Potential Quitters	0.50% 43,814	741,618	0.50% 43,814	741,618
Printed self-help materials	Potential Quitters	1.00% 87,628	1,142,321	1.00% 87,628	1,142,321
TOTAL		3,200,946	480,049,408	3,200,946	441,139,909

The Narrative Report

The EQUIPT tool also allows you to generate a comprehensive PDF report, which dynamically profiles your selected location in terms of the baseline cost of tobacco to society, the impact of the Current Investment and (if one has been defined) the differential impact of the Prospective Investment.

The Narrative report has been developed as an entry-level, accessible document, which explains the various ROI metrics in plain language and can easily be circulated among stakeholders. As with the EQUIPT tool and the data dashboard, the report has full multi-language support.

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EQUIPT Narrative Report: England
Model run on 03-Oct-2016 at 20:54 using v2.8

About this report

This report has been generated using the EQUIPT tool. The tool allows you to select a population of smokers for which you want to analyse the potential returns on investing in interventions to reduce tobacco use (the ROI, or Return on Investment). Using the figures included in this report, you will be able to answer the following questions[1]:

1. How much does tobacco cost society in England?
2. What is the current level of investment in tobacco control interventions in England?
3. How is the Current Investment encouraging smokers to make quit attempts?
4. How is the Current Investment helping smokers to quit?
5. What are the economic impacts of the Current Investment?
6. What is the ROI of the Current Investment?
7. How do I interpret the ROI results of the Current Investment Scenario?
8. How does the Prospective Investment Scenario differ from the Current Investment Scenario?
9. What is differential impact of the Prospective Investment?
10. What is the ROI of the Prospective Investment?
11. How do I interpret the ROI results of the Prospective Investment Scenario?

About the terminology

- There are two main categories of intervention in EQUIPT:
  1. **Top-level interventions:** these are interventions such as national or regional public health policies that encourage smokers to make quit attempts. These include:
     - **Established tobacco control policies**
       Tobacco duty
       Indoor-smoking ban
     - **Population-level initiatives**
       Social marketing
     - **Individual-level initiatives**
       Brief physician advice
       Cut down to quit intervention

  2. **Cessation interventions:** these are interventions designed to assist quitting and are only aimed at those smokers who will make a quit attempt in the next 12 months. These include:
     - **Pharmacotherapy interventions:**
       Rx Mono NRT
       Rx Combo NRT
       Varenicline (standard duration)
       Varenicline (extended duration)
       Bupropion
       OTC Mono NRT
     - **Behavioural support interventions:**
       Specialist behavioural support: one-to-one
       Specialist behavioural support: group-based
       Telephone support: pro-active
       SMS text messaging
       Printed self-help materials
       A proportion of smokers is also assumed to receive a combination of both pharmacotherapy and behavioural support interventions.

- The Zero Investment Scenario presents the theoretical gross cost of tobacco to society if all ongoing financial investment in interventions and policies were immediately cut (note: some policies would continue to be effective without continued investment - see description below). The Zero Investment scenario provides a benchmark against which to compare the impact of your selected package of interventions.

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[1] For full references and sources, please refer to the EQUIPT Technical Report

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Appendix I: Metrics included in the EQUIPT tool

Metric	Description
Average cost of interventions (per smoker)	Investment per smoker required to deliver the package of interventions. The costs (per smoker) associated with treating smoking-related lung cancer, chronic obstructive pulmonary disorder (COPD), coronary heart disease and strokes.
Average healthcare costs (per smoker)	
Average total costs (per smoker)	Sum of the intervention costs and healthcare costs.
Average QALYs gained (per smoker)	Rate (per smoker) of quality-adjusted life years (QALYs) gained as a result of the package of interventions.
Average Life Years gained (per smoker)	Rate (per smoker) of Life Years gained as a result of the package of interventions.
Number of quitters per 1,000 smokers	Rate (per 1,000 smokers in the population) of quitters who have successfully remained abstinent after 52 weeks as a result of the package of interventions.
Value of lost productivity (per smoker)	Cost of work days lost to absenteeism due to smoking-related illness.
Passive smoking costs in children (per smoker)	Healthcare costs associated with illness attributable to secondhand smoke in non-smokers (both adults and children).
Passive smoking costs in adults (per smoker)	Investment per smoker required to deliver the package of interventions.
Avoided Burden of Disease: QALYs gained per 1,000 smokers	The product of number of QALYs gained per person and the population reached by the intervention (the population reached is the proportion of the UK population affected by the condition). This provides an indication of the scale of the health problem that can be resolved by the intervention. In the tool, this metric is available both as a total count of QALYs gained across the whole population and as a standardised rate per 1,000 smokers.
Avoided Burden of Disease: QALYs gained across all smokers	Sum of the intervention costs and healthcare costs.
BCA: Healthcare cost savings only (return on every £1 invested)	The sum of health care cost savings per recipient divided by the cost of the intervention per recipient. A value greater than 1 indicates that the benefits of the intervention exceed its costs.
BCA: Healthcare cost savings + value of health gains (return on every £1 invested)	The sum of health care cost savings per recipient and value of health gains (monetary value of QALY multiplied by the number of QALYs gained), divided by the cost of the intervention per recipient. A value greater than 1 indicates that the benefits of the intervention exceed its costs.
ICER: Incremental Cost per Life Year Gained (per 1000 smokers)	Intervention cost minus health care cost savings divided by the number of life years saved. A negative number indicates that the health care cost savings are greater than the original cost of the intervention.
ICER: Incremental Cost per QALY gained	Intervention cost minus health care cost savings divided by the number of QALYs gained. A negative number indicates that the health care cost savings are greater than the original cost of the intervention.
Cost savings (per smoker)	Net health care cost savings per smoker (healthcare cost savings in the first year minus the cost of the intervention).
Incremental Net Benefit (per smoker)	Indicates the cost-effectiveness in relation to the decision-maker's willingness - the QALY threshold. A positive value indicates a cost-effective package of interventions.

Appendix II: Interventions included in the EQUIPT tool

Type	Intervention	Content	Mode of delivery	Target population	Definition of outcome
Top Level Interventions	Tax increase	Increase in duty on tobacco	Fiscal policy	Smokers	Percentage of smokers attempting to stop during the year
	Indoor-smoking ban	Ban on smoking in indoor public spaces	Legislation		
	Social marketing	Provision of verbal messaging and imagery about smoking and stopping smoking constructed in accordance with principles set out in Public Health England communication strategy document or equivalent	Printed materials, and/or broadcast media, and/or social media		
	Brief physician advice	Provision of advice to stop smoking with discussion about the best available options for stopping according to principles set out in NCSCT brief advice training	In person by a physician trained to NCSCT standard	All smokers attending a surgery or clinic for any purpose during the year	
	Nicotine replacement therapy: reduce to quit	Provision of one of the many forms of NRT (chewing gum, transdermal patch, lozenge, sublingual tablet, nasal spray, inhalator, mouth spray)	In person by health professional, retailer or by post	Smokers of least 10 cigarettes per day not otherwise making a quit attempt during the year but willing to reduce consumption by 50% with a view to possible quitting	

Type	Intervention	Content	Mode of delivery	Target population	Definition of outcome
Prescription Pharmacotherapy	Rx Nicotine replacement therapy: single form	Provision of one of the many forms of NRT (chewing gum, transdermal patch, lozenge, sublingual tablet, nasal spray, inhalator, mouth spray)	In person by health professional on prescription	Smokers of at least 10 cigarettes per day making a quit attempt during the year	Sustained smoking abstinence for 52 weeks from target quit date
	Rx Nicotine replacement therapy: dual form	Provision of nicotine transdermal patch together with one of the faster acting forms			
	Varenicline: standard duration	Provision of varenicline (Champix)			
	Varenicline: extended duration	Provision of varenicline (Champix)			
	Bupropion	Provision of bupropion sustained release (Zyban)			
	Nortriptyline	Provision of nortriptyline (generic)			
	Cytisine	Provision of cytisine (generic; available brands: Tabex and Desmoxan)			
Over the Counter Pharmacotherapy	OTC Nicotine replacement therapy: single form	Provision of one of the many forms of NRT (chewing gum, transdermal patch, lozenge, sublingual tablet, nasal spray, inhalator, mouth spray)	Over the counter, in person by health professional, retailer or by post		
	OTC Nicotine replacement therapy: dual form	Provision of nicotine transdermal patch together with one of the faster acting forms			

Type	Intervention	Content	Mode of delivery	Target population	Definition of outcome
Behavioural Support Therapy	Specialist behavioural support: one-to-one	Provision of practical advice and emotional support and encouragement based on Maudsley model	In person by a health professional trained to NCSCT standard or equivalent; provided in an office or clinic setting in-person by a single practitioner to a single client or patient	Smokers making a quit attempt during the year	
	Specialist behavioural support: group-based	Group discussion based on Maudsley model	Led by one or two health professional trained to NCSCT standard or equivalent; provided in a clinic setting to groups of between 6 and 30 smokers		
	Telephone support: pro-active	Provision of practical advice and emotional support and encouragement according to principles set out in the NHS Service and Monitoring Guidance or similar	Delivered by a health professional trained to NCSCT standard or equivalent		
	SMS text messaging	Automated provision of practical advice and encouragement	Delivered by automated system		
	Printed self-help materials	Provision of practical advice and encouragement	Provided by health professional or health promotion agency free of charge		