

Entering Outcome Measures or Numerical Data

The easiest option is simply to set up selectable codes and then use the resultant **Info** box (also known as **Additional Text**) to record the specific numeric or text data.

So, you could just have one code e.g. *Sample Size* and then enter a number in the **Info Box**... This would come out in any report / Excel export when you reported on that particular code... However, you couldn't "operate" on those values – sort them in numeric order, for example.

The screenshot shows the EPPI software interface. A dialog box titled "Additional Text" is open, with a text input field containing the number "9". Below the input field are "Cancel" and "Save" buttons. In the background, a list of items is visible, with "Simple Example (numeric data)" highlighted. A red circle highlights the "Info" icon next to this item.

The screenshot shows the EPPI software interface with the "More Examples" section expanded. A table lists items with their IDs, titles, and years. The "Simple Example (numeric data)" code is selected, and the "Get Report" button is visible.

Item	More Examples
Adolfsson (2020) (ID:66902186)	-Simple Example (numeric data) 9
Agesen (2016) (ID:66902172)	-Simple Example (numeric data) 7
Agesen (2018) (ID:66902181)	-Simple Example (numeric data) 3
Agesen (2019) (ID:66902185)	-Simple Example (numeric data) 7
An (2021) (ID:66448447)	-Simple Example (numeric data) 0

Simple Numeric Data

Short Title	Simple Example (numeric data)
Adolfsson (2020)	9
Agesen (2016)	1
Agesen (2018)	3
Agesen (2019)	1
An (2021)	0

(Just as an aside - equally any text you highlight in a full-text PDF can be associated with a code and automatically appear in your reports, if you select the option to show highlighted text. The PDF highlights are also very good for carrying out inductive coding, where themes and codes become apparent as you work through full-text papers.)

Alternatively, you go further and enter **Outcome Measures**. You can then run Outcome reports showing the numerical values for various arms or time points in a paper...

The screenshot shows the EPPI REVIEWER Beta interface. The top navigation bar includes 'Feedback', 'Help', 'Zak Ghouze', and 'Logout'. The main navigation tabs are 'Item Details', 'Links Arms Timepoints', 'PDF', and 'Coding Record'. The 'Arms' section contains a table with the following data:

Arm Title	Actions
Control	Edit Delete
Intervention	Edit Delete

The 'Time Points' section contains a form to add a new time point with the following data:

Timepoint	Actions
12 weeks	Edit Delete

Enter the new time point values (**value** and **unit**), then press the **Add Time Point** button.

The screenshot displays the 'Item Details' page in the ePPI Beta system. The interface includes a sidebar with various tool categories, a top navigation bar with 'Item Details', 'Links', 'Arms', and 'Timepoints' tabs, and a main content area. The 'Arms' section is currently active, showing a table with two arms: 'Control' and 'Intervention'. The 'Time Points' section is also visible, showing a table with one time point: '12 weeks'. The 'Add Time Point' button is highlighted with a red circle.

I created a new coding tool called *Example Analysis* to demonstrate the next part of entering different outcomes and associating them with different time points.

I added a child code to this codeset, with a **Code Type** of **Outcome**.

ePPI Beta

Edit Coding Tools

Import Coding Tool(s) Add Coding Tool Edit Coding Tool **Add Child**

Current code (or set) Name: **Example Analysis**

Code Type*

- Not selectable (no checkbox)
- Not selectable (no checkbox)
- Selectable (show checkbox)
- Outcome**
- Intervention
- Comparison
- Outcome classification code

Create Cancel

When coding a reference, select this code and you can then click the associated **Outcomes** button.

Codes Apply to: Whole Study

- Screen on title & abstract
- Allocation codes
- Screen on full report
- Data extraction tool
- Retrieval status
- Report sets
- Risk Of Bias (Cochrane)
- Data Extraction
- Data extraction (Home Office review guidelines)
- EPPI Support
- Example Analysis
 - Example Outcome Info Outcomes

Example Outcome Info **Outcomes**

You can then select an existing outcome or create a new one.



You can then select the relevant time point and associate your outcome with it. As you create new timepoints you can associate one of your Outcomes with each time point.

(Equally, you can also associate your Outcomes with a particular arm, intervention or comparison.)

ePPI REVIEWER Beta

Title: EG1

Timepoint: 12 weeks

Outcome Description: 12 weeks

Outcome type: Manual entry

Outcome: Example Outcome

Intervention:

Comparison:

Group 1 arm:

Group 2 arm:

SMD: 0 standard error: 0

r: 0 SE (Z transformed): 0

odds ratio: 0 SE (log OR): 0

risk ratio: 0 SE (log RR): 0

risk difference: 0 standard error: 0

mean difference: 0 standard error: 0

Correct for unit of analysis error:

Effect size: 0

SE: 0

You can further characterise this outcome by associating it with any code in the current codeset:

- ▶ Example Analysis

(You can also associate the outcome with any other code in the [Example Analysis] codeset.)

Note that you can select from a variety of Outcome types when entering an Outcome's details / values.

Outcome type	Manual entry
Outcome	Manual entry
Intervention	Continuous: Ns, means, and SD Binary: 2 x 2 table
Comparison	Continuous: N, Mean, and SE Continuous: N, Mean, and CI Continuous: N, t- or p-value Diagnostic test: 2 x 2 table
Group 1 arm	Correlation coefficient r

e.g.

Outcome type	Continuous: Ns, means	Outcome type	Diagnostic test: 2 x 2 table
Outcome	<input type="text"/>	Outcome	<input type="text"/>
Intervention	<input type="text"/>	Intervention	<input type="text"/>
Comparison	<input type="text"/>	Comparison	<input type="text"/>
Group 1 arm	<input type="text"/>	Group 1 arm	<input type="text"/>
Group 2 arm	<input type="text"/>	Group 2 arm	<input type="text"/>
Group 1 N	<input type="text" value="0"/>	Group 2 N	<input type="text"/>
Group 1 mean	<input type="text" value="0"/>	Group 2 mean	<input type="text"/>
Group 1 SD	<input type="text" value="0"/>	Group 2 SD	<input type="text"/>
Correct for unit of analysis error: <input type="button" value="Go"/>		Correct for unit of analysis error: <input type="button" value="Go"/>	
SMD	0.0000000000000000	Diagnostic OR	1
SE	NaN	SE	2.8284271247461

You can report on outcomes via a **Configurable Report**, Any outcome data will be shown in this report. (The report should be an **Answer** report.)

(Running the same report in the standard fashion gives you the usual reference and coding details.)

Review home References Reports Search & Classify Collaborate

Frequencies and crosstabs Configurable reports ^ Run Reports

Items: All selected items

Order by: Short title

Reports

Standard Risk Of Bias Outcomes

Report Name: Trial Outcome Report

Display Options:

- Item Id
- Imported Id
- Short title
- Title
- Year
- Abstract
- Uncoded Items
- Add Bullets to Codes

Alignment: Horizontal Vertical

Additional Text Tag: [info]

Run/view [Print] Cancel

Trial Outcome Report

Item ID	Short Title	Title	Year	New Column
57997699	Arora (2017)	Cost-effectiveness analysis of telephone-based support for the management of pressure ulcers in people with spinal cord injury in India and Bangladesh./td>	2017	Example Outcome Example Outcome

For this example paper, I've gone on to enter several time points (via the *Links / Arms / Timepoints* tab of the *Item Details* view.)

ePPI Beta

Feedback Help Zak Ghouze Logout

Item 1 of 6

First Previous Next Last

Show terms? Auto Advance? Close/back

Codes Apply to: Whole Study

Item Details **Links Arms Timepoints** PDF Coding Record

Linked Items Add new Link... Collapse

Arms Collapse

Create new study arm:

Add New Study Arm Cancel

Arm Title	Actions
Control	Edit <input type="button" value="Delete"/>
Intervention	Edit <input type="button" value="Delete"/>

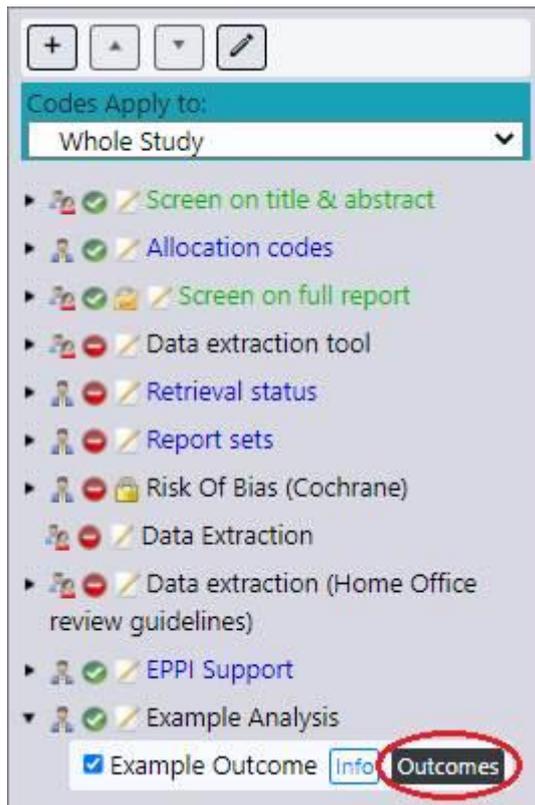
Time Points Collapse

Enter Time Point value: Time Unit: Choose time point metric

Add Time Point Cancel

Timepoint	Actions
6 weeks	Edit <input type="button" value="Delete"/>
12 weeks	Edit <input type="button" value="Delete"/>
18 weeks	Edit <input type="button" value="Delete"/>
24 weeks	Edit <input type="button" value="Delete"/>

Selecting the *Example Analysis* codeset and the child code *Example Outcome*, you can then click the associated **Outcomes** button (present when a code is of type **Outcome**).

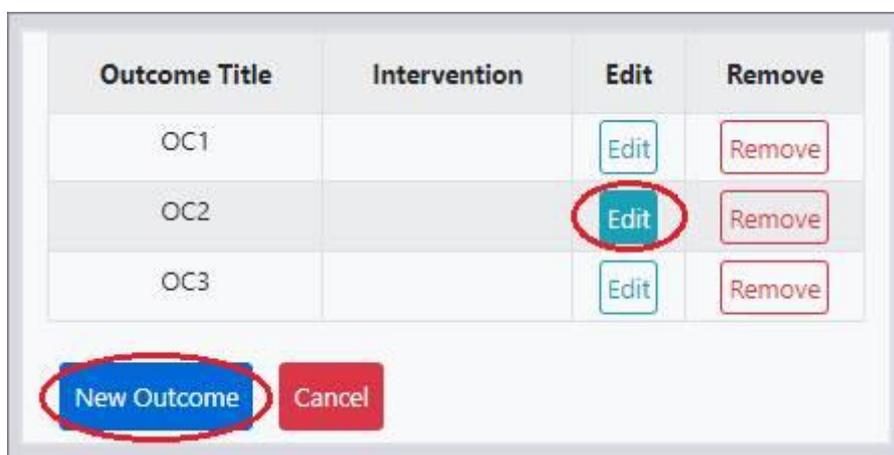


You will see the **Outcomes** panel.



You can add **New Outcomes** here.

(Or if any are already present, you can use them or edit them.)



You can add data here for each outcome and associate the outcome with a particular [existing] time point.

Title	OC2		
<u>Timepoint</u>	6 weeks		
Outcome Description	6 weeks		
Outcome type	12 weeks		
	18 weeks		
	24 weeks		
Outcome	Example Outcome		
Intervention			
Comparison			
Group 1 arm			
Group 2 arm			
SMD	1	standard error	-3
r	2	SE (Z transformed)	4
odds ratio	2	SE (log OR)	2
risk ratio	2	SE (log RR)	2
risk difference	1	standard error	1
mean difference	1	standard error	1
Correct for unit of analysis error: <input type="button" value="Go"/>			
Effect size	1		
SE	-3		
You can further characterise this outcome by associating it with any code in the current codeset:			
▶ Example Analysis			
<input type="button" value="Save Outcome"/>		<input type="button" value="Cancel"/>	

We can opt to include IDs etc.

Item Id	Imported Id	Title	Example Outcome	Outcome description	Timepoint	Outcome type	Outcome	Intervention	Comparison	Arm 1	Arm 2	Data 1	Data 2	Data 3	Data 4	Data 5	Data 6	Data 7	Data 8	Data 9	Data 10	Data 11	Data 12	Data 13	Data 14	ES	SE	
57997699	130973263	Arora (2017)	1	OC1	6 weeks	Manual entry	Example Outcome					1	2	3	4	2	2	0	0	0	0	0	0	0	0	0	0	0
57997699	130973263	Arora (2017)	1	OC2	12 weeks	Manual entry	Example Outcome					3	-2	1	4	1	1	1	1	0	0	0	0	0	0	0	0	0
57997699	130973263	Arora (2017)	1	OC3	18 weeks	Manual entry	Example Outcome					5	6	8	5	3	6	1	1	0	0	0	0	0	0	0	0	

How you enter your numbers would depend on how much further meta-analysis are you intending to do.

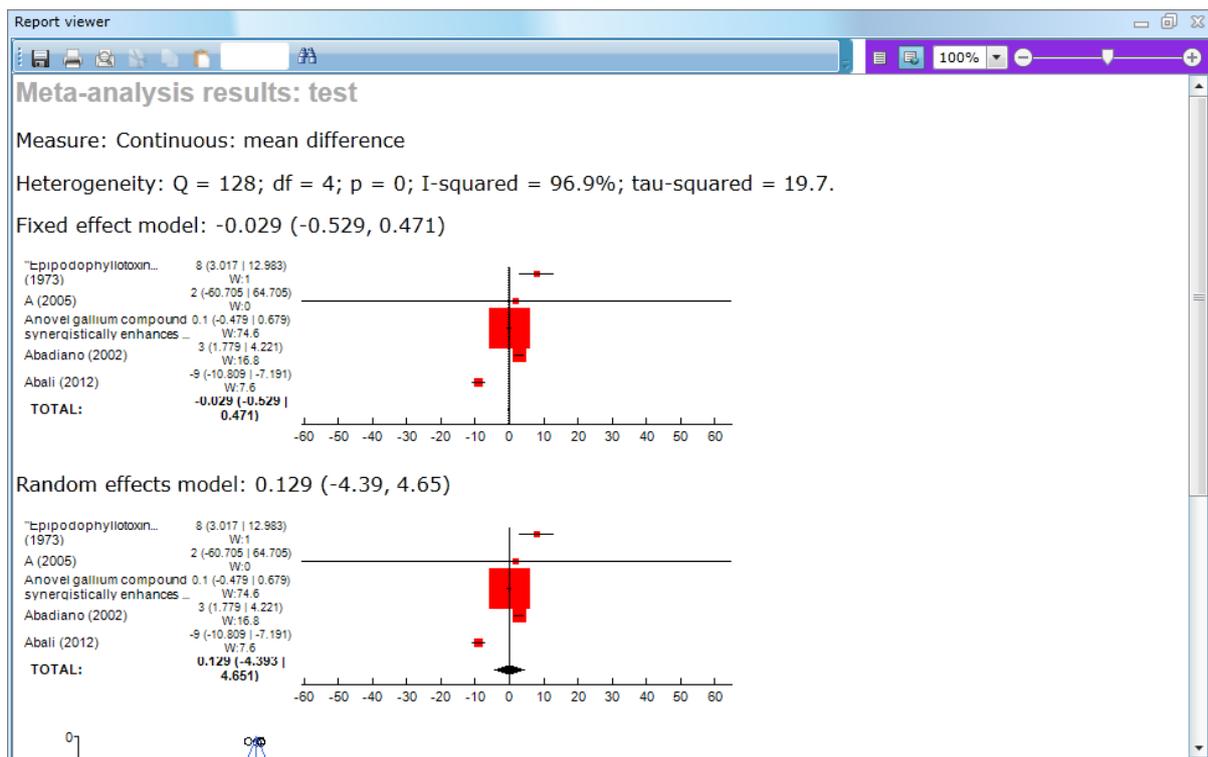
Note that statistical data can be entered into ER Web, and Outcome reports can be produced, but for full meta-analysis you would need to use the earlier version of EPPI Reviewer - ER 4. (We have yet to complete the coding for meta-analysis in ER Web.)

You can still open the same reviews in either version, so could use ER 4 for your meta-analysis and ER Web for everything else.

The only drawback of ER 4 is that was developed using slightly older web technology (Microsoft's Silverlight). This no longer runs on some newer Apple Mac operating systems and many newer browsers.

If you are using a PC, it is quite easy to add the Chrome extension [IE Tab](#) and access [ER 4](#) using that. Alternatively, you can use IE Mode in Microsoft's Edge browser. (You may still have Internet Explorer on your PC, in which case you can install Microsoft's browser extension Silverlight and then run ER 4. The final possibility is to use a legacy browser like Waterfox Classic or Firefox ESR v52.9.0. See <https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3848#ER4SetUp> for further details. We have a brief document on running ER 4 available [here](#).

ER 4 will give you access to a lot more statistical functions and analysis e.g.



You can find further information on meta-analysis within ER 4 in the manual at https://epi.ioe.ac.uk/cms/Portals/35/ER4_8_0%20user%20manual.pdf#page=97. It may be worth looking at this anyway, as it will give you further information on the basics of entering Outcome data in ER Web too. (Though the user interface has changed somewhat, the underlying principles remain the same.)

The main consideration at the moment is to consider how you want to report on your review (whether you want to include the outcome measures) and whether you want to do further meta-analysis. (Do your papers give comparable numbers that you can use together or analyse together. If they are all measuring different things and unrelated in the way the studies were carried out, you may not be able to carry out meta-analysis.)

We generally suggest creating a trial codeset structure, entering details from one or two studies, then seeing if reporting on this provides what you want.