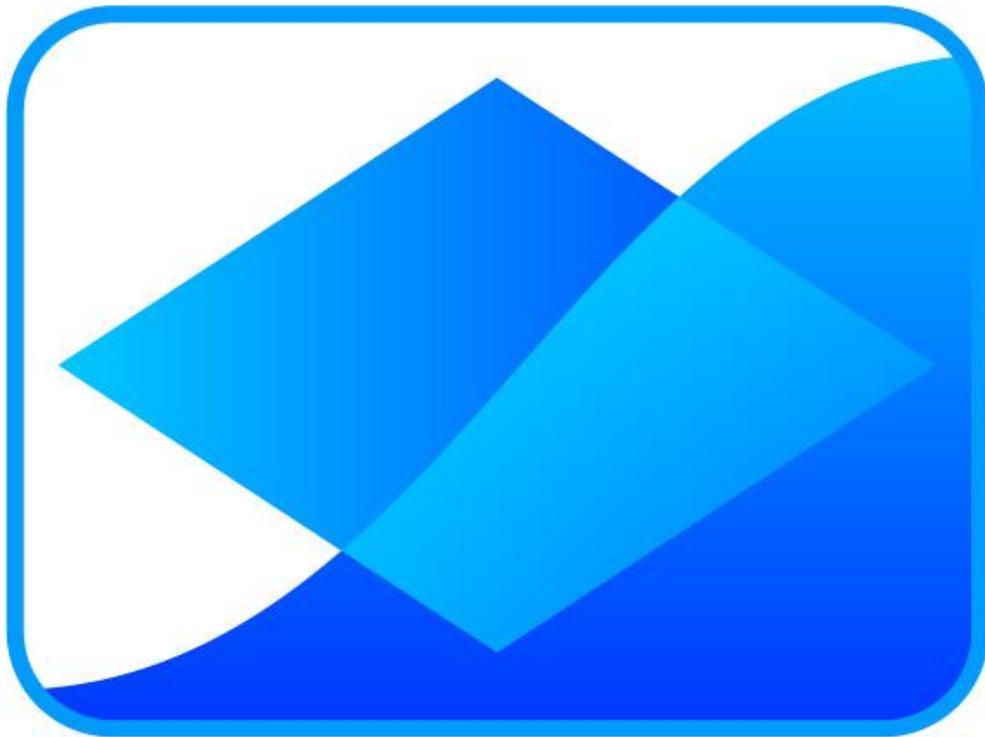# MIX 2.0 tutorial

Creating a forest plot with data columns

Creating forest plots with data columns

Prerequisites
This tutorial assumes you have activated and started MIX 2.0 Pro and you have loaded the built-in dataset called 'Arrol'.

Tutorial content
Many journals prefer forest plots that also show information about the included studies in columns next to the plot. MIX 2.0 allows you to add up to 6 of such columns with custom variables. The columns are integrated as chart objects so if you alter the size of the plot, the columns change also and will remain proportional to the plot size.

Creating a forest plot
MIX 2.0 has a number of forest plots (see the meta-tutor inside MIX 2.0 for more information). For this tutorial, let's create a synthesis forest plot by clicking on 'Synthesis forest plot' in the 'Synthesis' menu of the 'Meta-analysis' group in the MIX ribbon interface.
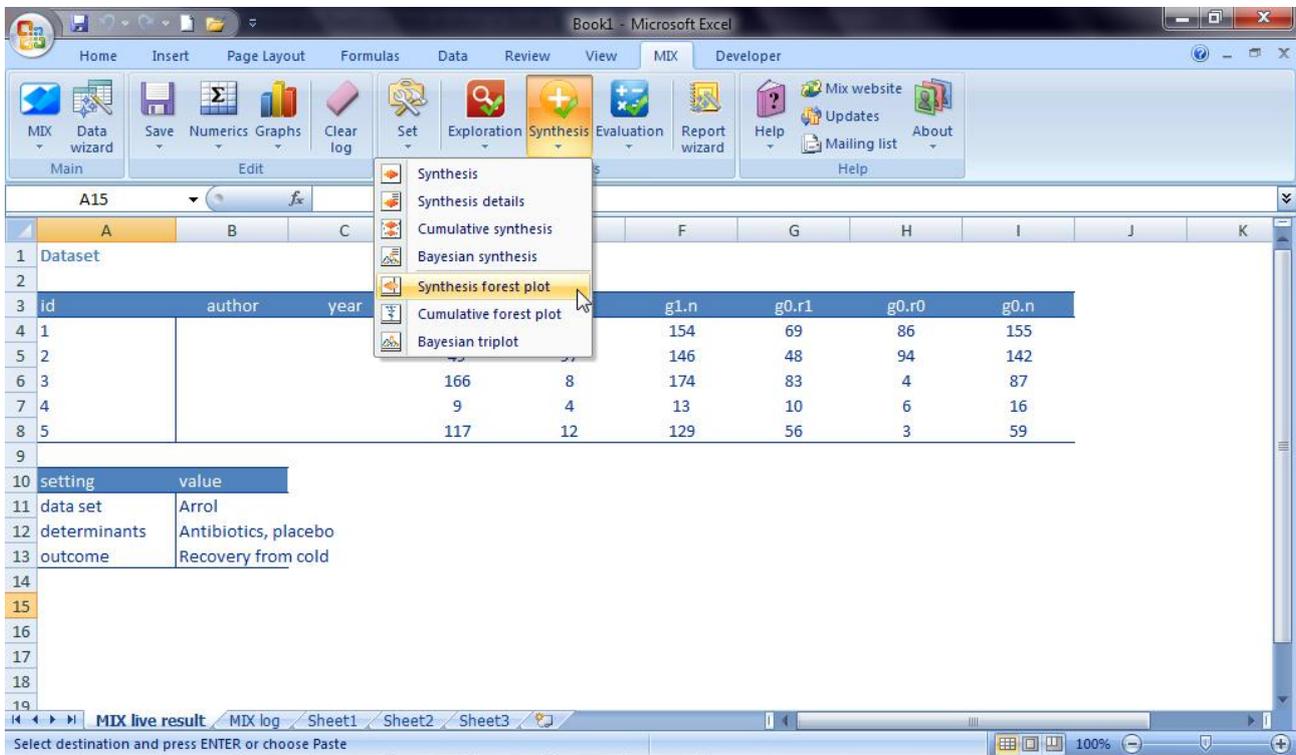

This will create a forest plot, similar to the one below:

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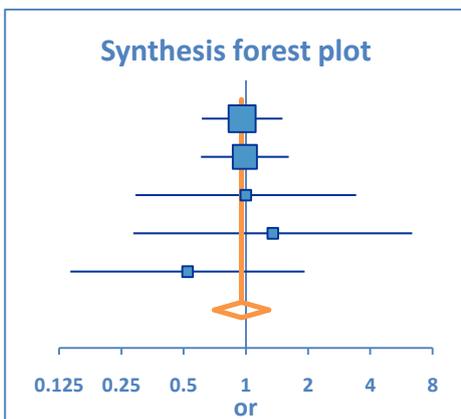
Starting the graph labeler

To create data columns in forest plots, MIX 2.0 provides you with a graph labeler that has a special function for labeling forest plots with data columns. Start the graph labeler by clicking 'Graphs' and then 'Label graphs' in the 'Edit' group of the MIX ribbon interface.
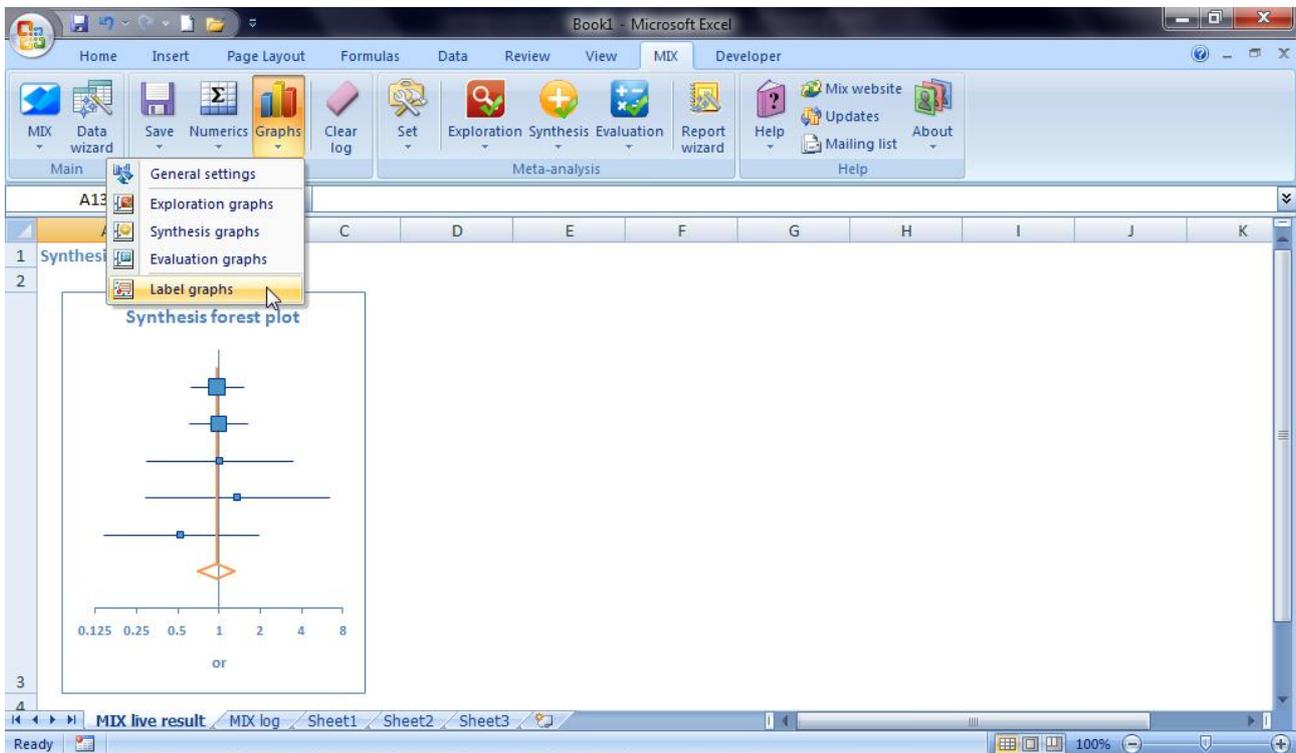
The following dialog will pop-up. By default, it starts on the 'Create marker labels' page. To create data columns in the forest plot, you will have to choose 'Forest plot annotation' in the left menu. The graph labeler will subsequently look like this:
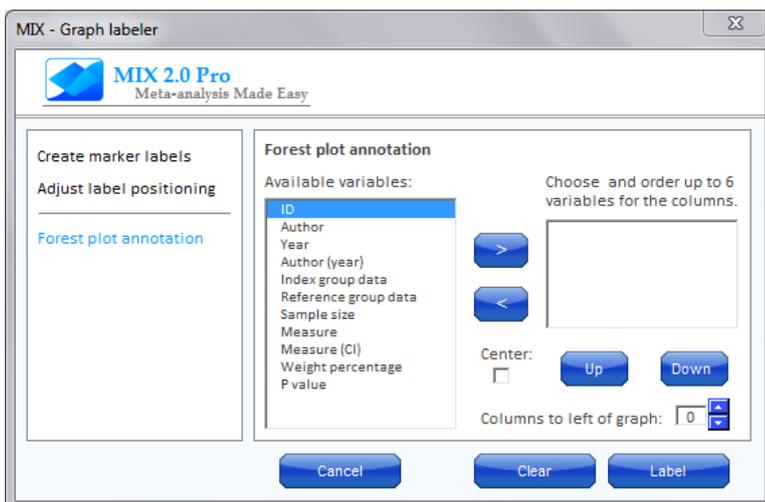

 The 'Available variables' list shows you what variables you can add as a data column in the forest plot. By clicking the blue '>' (right) button you can add variables to the list on the right of the dialog box that holds up to 6 variables that will be shown in the data columns. The '<' (left) button deletes a variable from that list. With the blue 'Up' and 'Down' buttons you can change the order of the variables. Finally, you can set the number of columns you want to appear to the left of the graph (the remaining will be shown on the right) and you can adjust the alignment of the data inside the columns to be centered (the default is left-aligned).

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Creating the data columns with the graph labeler

Let's add a total of 4 columns that hold the ID (in this data set the author names and years are empty), the currently selected measure (the odds ratio in this case) with its confidence interval, the weight, and the P-value for each study. Select these variables in the 'Available variables' list and click the blue '>' button.

The plot will probably look best if the IDs are shown to the left of the plot and the other columns to the right. To arrange the columns this way, click the blue spin button behind 'Columns to the left of the graph' at the bottom to the graph labeler until its value is 1. The graph labeler should look like this:
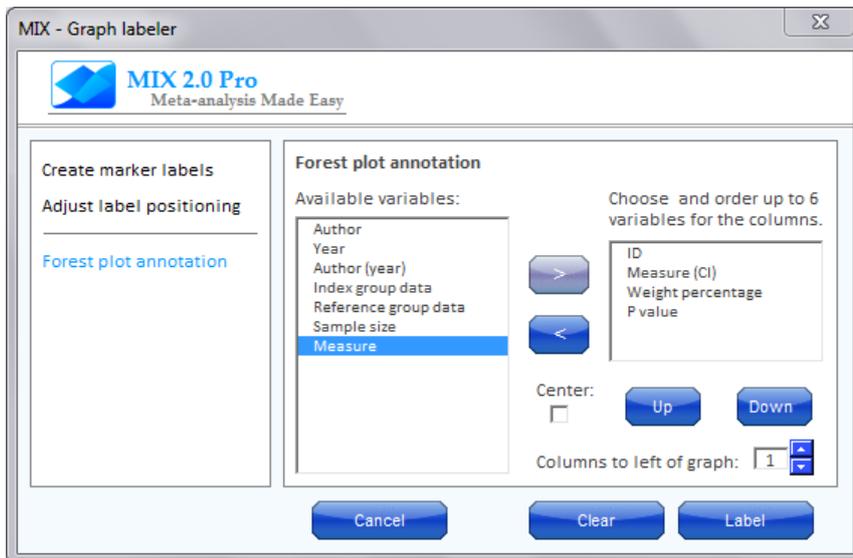
The screen will show you the process of inserting columns and the following graph (or similar, depending on the graph size settings you use) will appear.
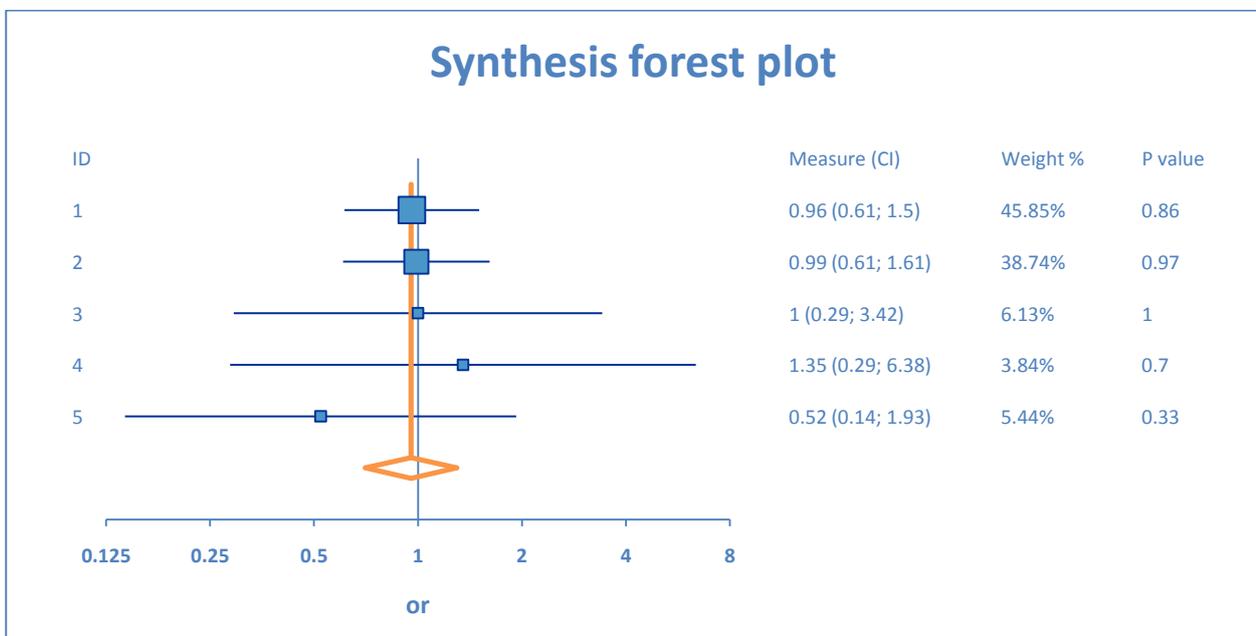

Adjusting the position of the columns

If you have your default graph size set to very small, your graph may not look as pretty as the one above. Some of the columns may be too close to each other and overlap. This is something that we intend to improve in future updates, but the graph labeler can also easily adjust the position of the columns.

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For example, suppose we would like to make the entire graph a bit more narrow by adjusting the width of the plot and the column positions. Let's start by making the graph narrower and see what happens to the plot and the columns.

The best approach here is to adjust the total width of the graph first. You can do this by selecting the graph and dragging the right-side edges somewhat to the center. This gives you a narrower graph with columns that are a little bit too close to each other.
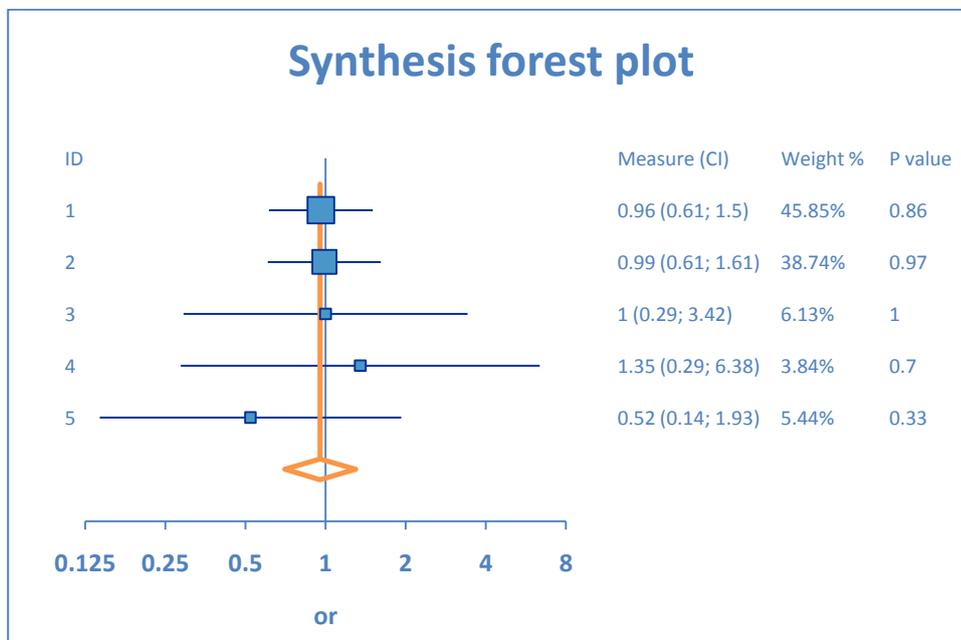

Next, you can resize the plot part of the graph by clicking on the plot area and dragging the left and right edges a little bit to the center. This gives some room to the columns in the graph, but as you can see, resizing the plot area also alters the position of the columns.
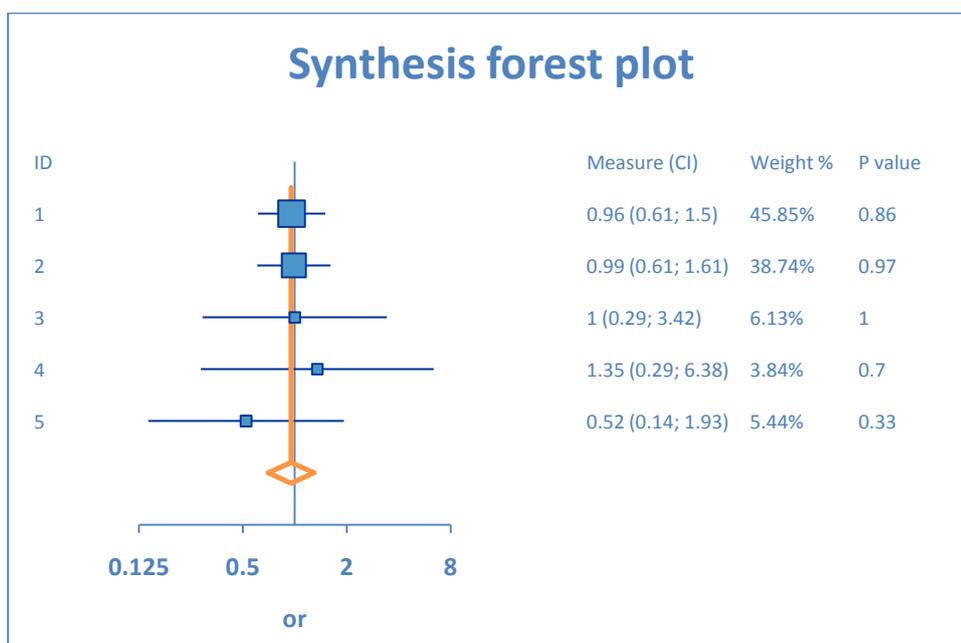

Let's reposition the columns as follows: (1) move the 'ID' column a little to the center of the graph, (2) move the 'Measure (CI)' column to the left, (3) move the 'Weight %' column to the left, and (4) leave the 'P value' column positioned as it is now.

To adjust the position of the columns, select a column by clicking on one of its values once (the entire column will be selected) and then using the 'Adjust label positioning' part of the graph labeler. In this dialog you can adjust the position of a single selected label or a group of selected labels (as is the case here). The large arrow buttons will move the labels by a number of picas (a unit used by Excel) that is designated in the small text box at the bottom of the dialog. Enter '10' in the box at the bottom and click the right-facing arrow button.
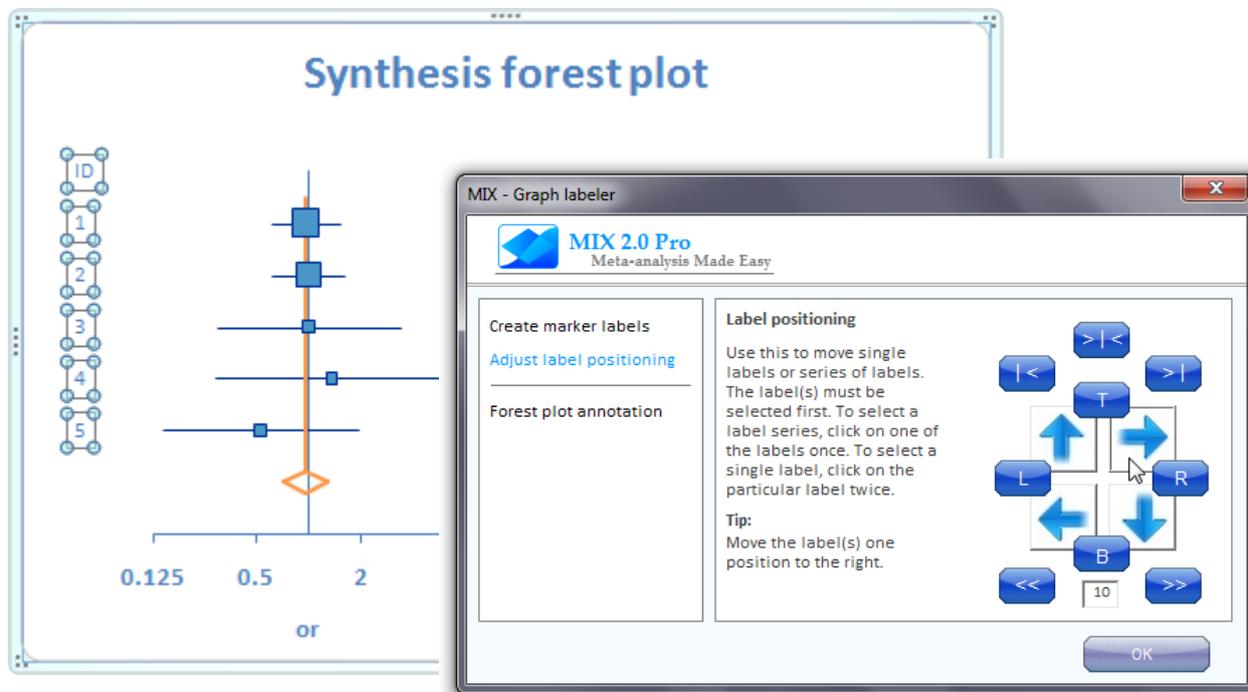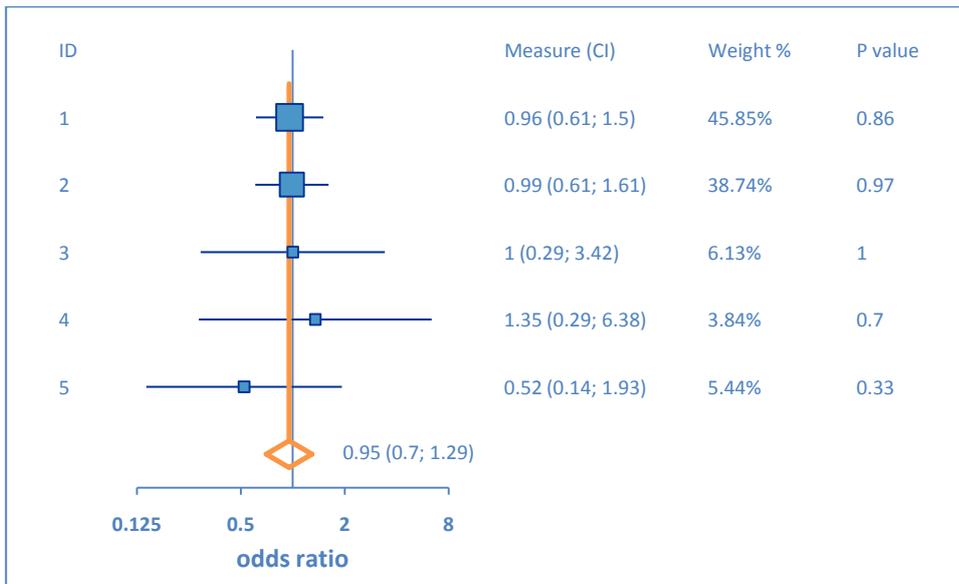

The other buttons can do much more, but we'll cover that specifically in the graph labeler tutorial. For now, let's move the 'Measure (CI)' column 30 picas and the 'Weight %' column 15 picas to the left. You do this by selecting the labels, entering the appropriate number in the number box, and clicking on the big left-facimng arrow button. Your graph should look something like this:
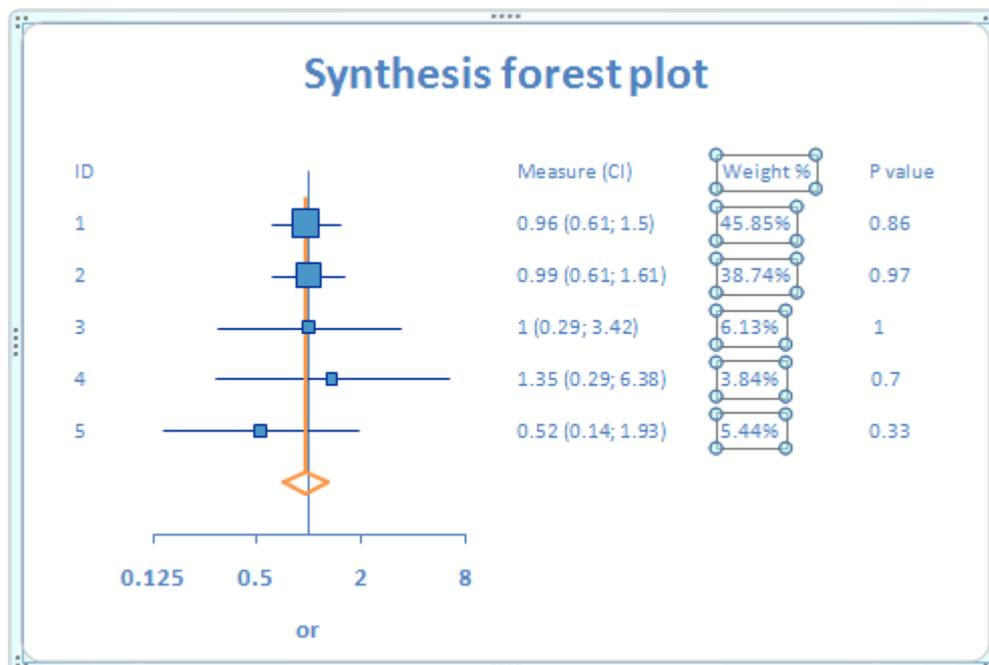
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Finally, you could delete the graph title and adjust the axis font size and axis title a little bit and your graph is ready for the journal.

ID		Measure (CI)	Weight %	P value
1		0.96 (0.61; 1.5)	45.85%	0.86
2		0.99 (0.61; 1.61)	38.74%	0.97
3		1 (0.29; 3.42)	6.13%	1
4		1.35 (0.29; 6.38)	3.84%	0.7
5		0.52 (0.14; 1.93)	5.44%	0.33
		0.95 (0.7; 1.29)		

odds ratio: 0.125 0.5 2 8

That was the tutorial. Good luck with your meta-analysis!

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