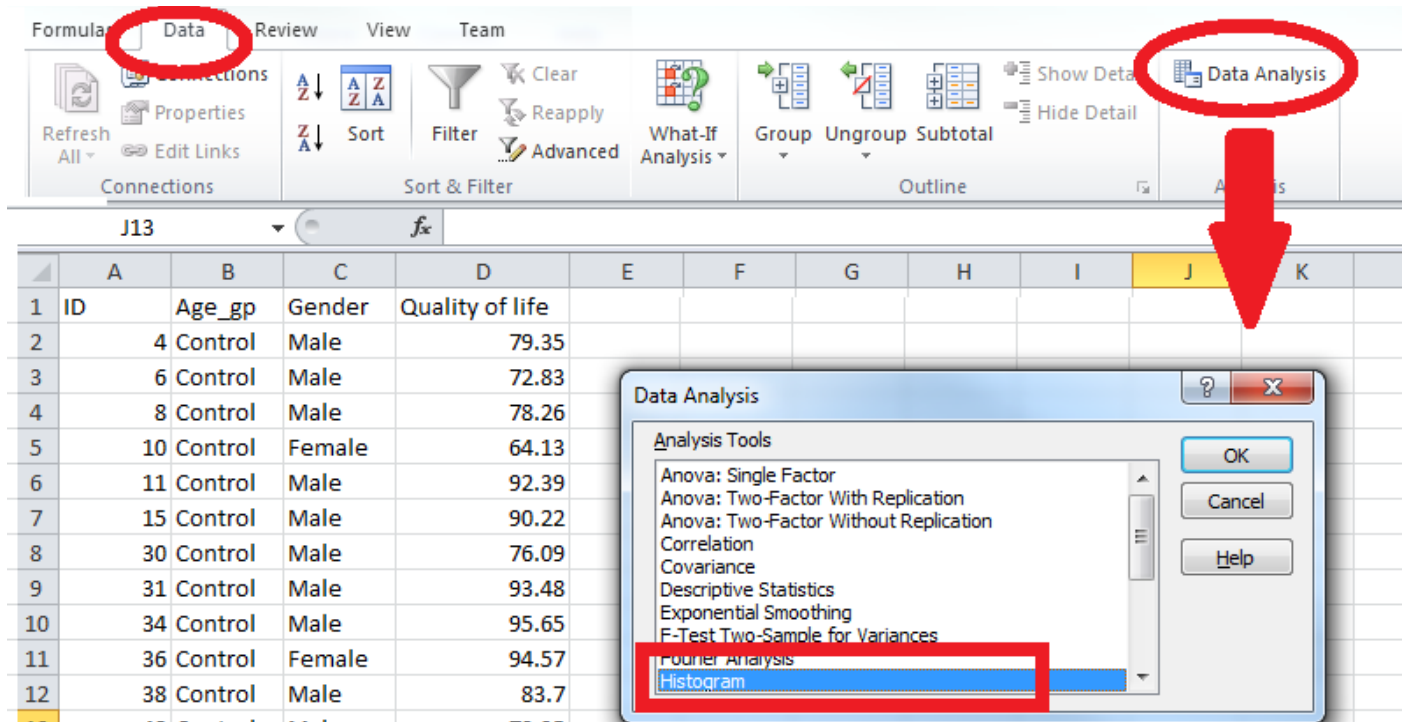# EXCEL: Histograms

Data: Quality of life for young adults with diabetes, measured on 100 point scale from 0 (worst quality of life) to 100 (perfect quality of life).

In Excel it is simplest to create a Histogram using the Data Analysis Tool Pack. Select *Histogram* from the Data Analysis dialogue box to open the Histogram dialogue box.

This will open up the following dialogue box:

Tells EXCEL where the data are that you want to produce the histogram for. In this case it's in Column D, Rows 1 to 110
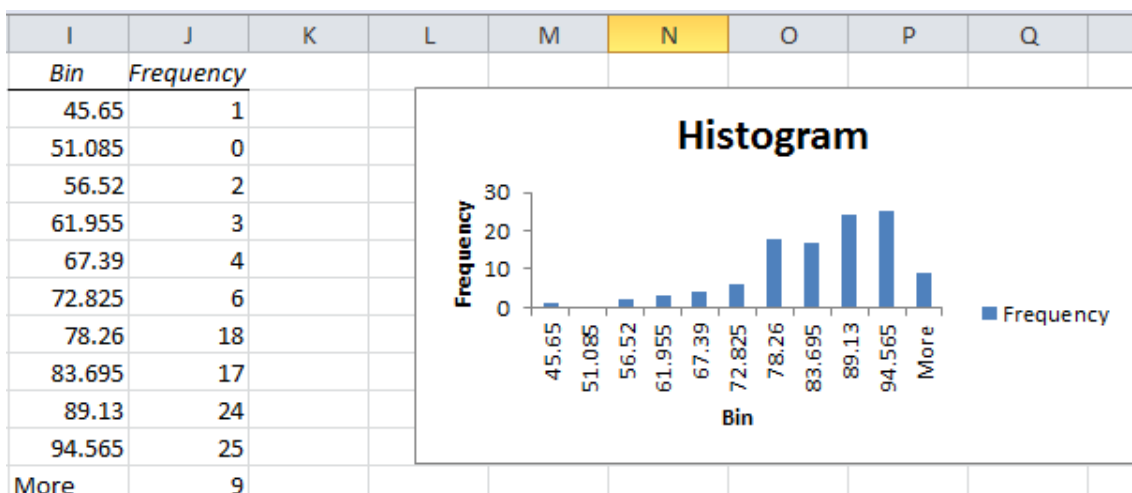
If left blank, EXCEL will divide the data into bins (the vertical bars on the histogram)

Lets EXCEL know that the input range contains labels (usually in the first row)

Tells EXCEL where to put the output, in this case it starts in Column I, row 1

This must be checked if you want a chart to be produced

And here's the output:

| Bin	Frequency
45.65	1
51.085	0
56.52	2
61.955	3
67.39	4
72.825	6
78.26	18
83.695	17
89.13	24
94.565	25
More	9

The histogram that has been produced will need to be edited as technically it is a bar chart as there are gaps between the bins (vertical bars). It could also do with some more meaningful labels and removing unnecessary content such as the title 'Histogram'. To start with, to change the number of decimal places displayed on the horizontal axis, highlight the data in the 'Bins' column, and click on the symbol highlighted in the figure below. Note that these numbers represent the start of the category, not the midpoint.
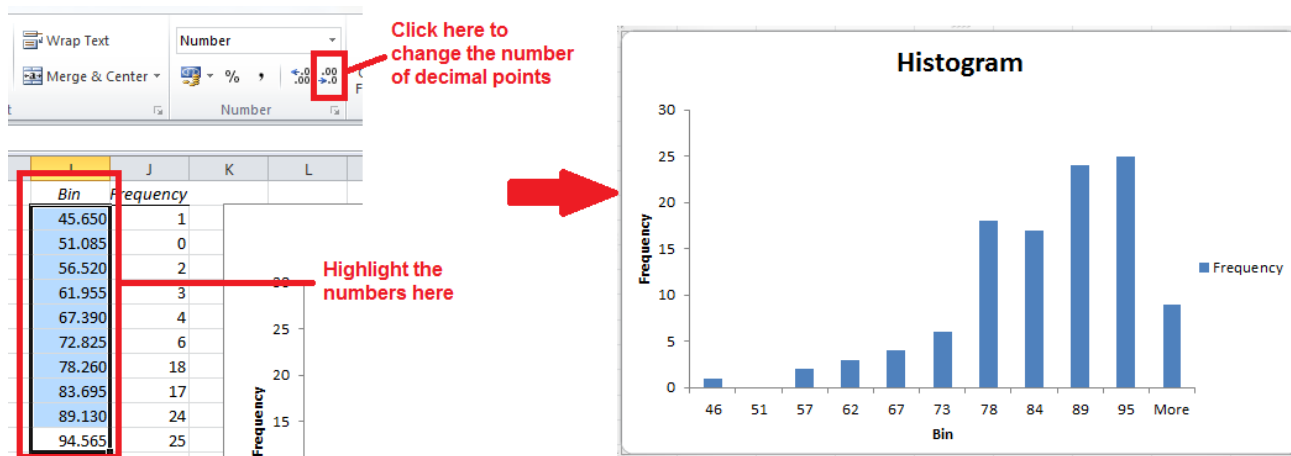
Next you can start to edit the chart to remove the spaces, change the labels, add/remove labels, add gridlines, even change the colour and font size of the text. To do this, click on the chart and then click on the element within the chart that you want to edit. For example let's change the X axis label from 'Bin' to something meaningful such as 'Quality of life at baseline'. Click on the label 'Bin'. If you can't immediately edit the word 'Bin' click on it again and you should now be able to edit it and change it to 'Quality of life at baseline'.

Once you click on the chart, you will notice that the Chart Tools menu appears on the top bar:
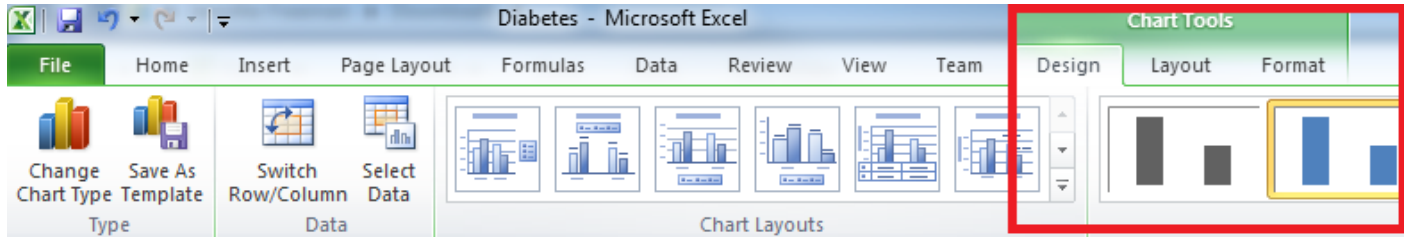

You can use this to edit the chart. For example, if you click on the 'Layout' tab one of the things that you can add is gridlines:
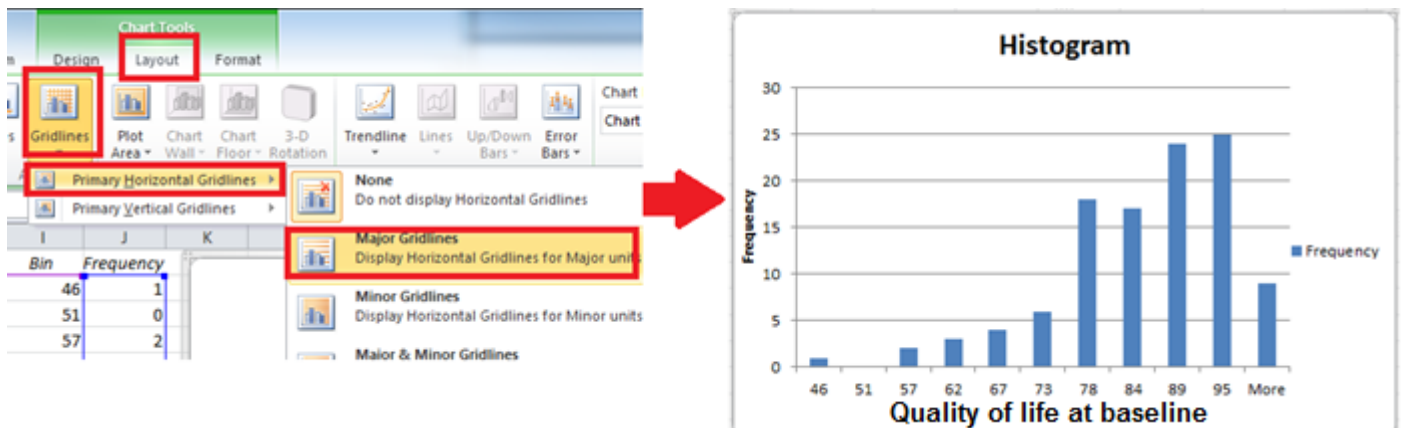
To remove the gaps between the bars, double click on one of the bars and you should get the following dialogue box opening up. Slide the Gap width slider to the left 'No Gap' and click close:
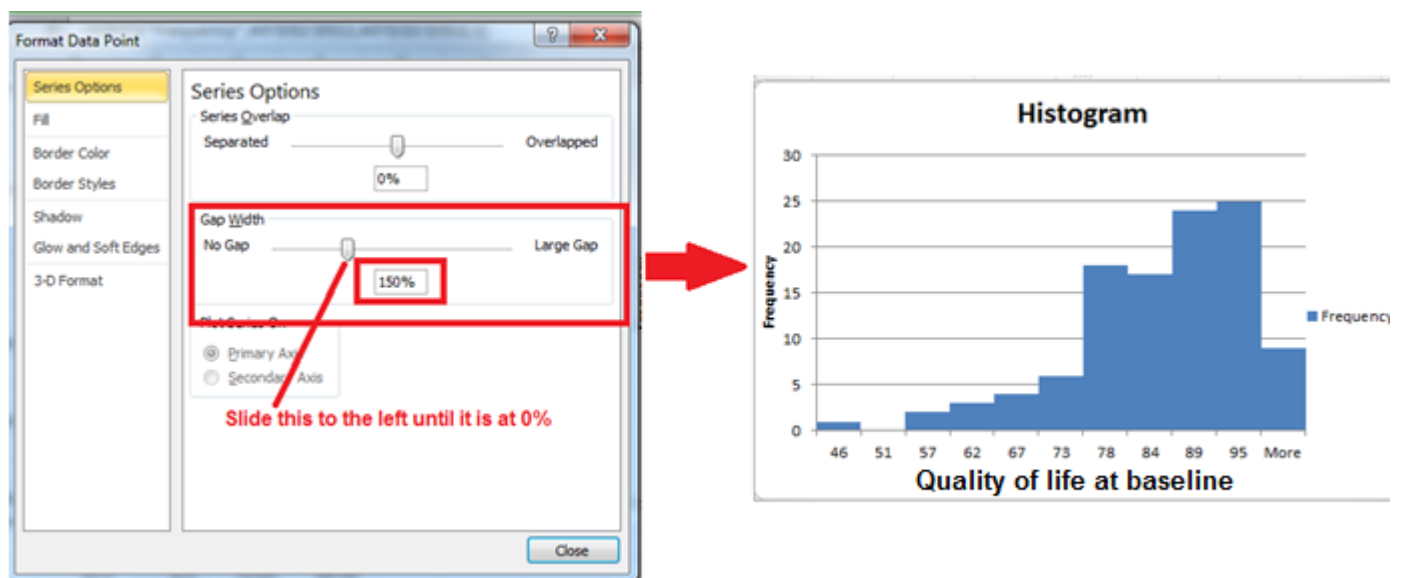
To change the font size of any of the numbers and text on the graph, click on that element and then in the main home tab of EXCEL use the Font menu to edit:
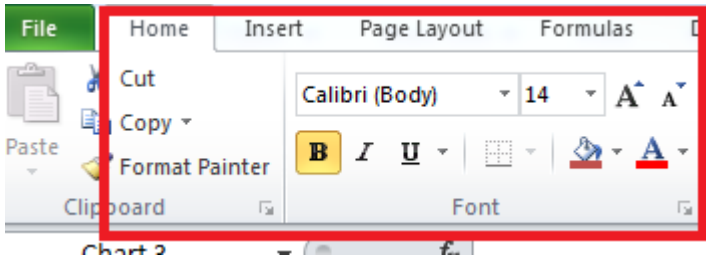
You can remove unnecessary items such as the label 'Frequency' on the right and the title 'Histogram' by clicking on the element and pressing the delete key on your computer keyboard. Or you can edit the title to be more meaningful. And finally you can change the colour of the bars by clicking on the bars and in the 'Format' tab using the ''Shape Fill' and 'Shape Outline' dialogue boxes