

# PQIP Perioperative Quality Improvement Programme



## How to create a simple run chart (using Microsoft Excel 2010):

Open a new workbook/ worksheet;

In cell A1, enter the name of the value you wish to plot on your x-axis (e.g. Time / Date / Interval);

In cell B1, enter the name of the value you wish to plot on your y-axis (e.g. Frequency / Number / %);

Enter your data for columns A and B in the rows below, e.g.:

	A	B	C	D
1	Date	%	Median	
2	Jan-14	46	59.5	
3	Feb-14	57	59.5	
4	Mar-14	68	59.5	
5	Apr-14	65	59.5	
6	May-14	43	59.5	
7	Jun-14	62	59.5	
8	Jul-14	74	59.5	
9	Aug-14	55	59.5	
10	Sep-14	49	59.5	
11	Oct-14	71	59.5	
12	Nov-14	81	59.5	
13	Dec-14	79	59.5	
14				

XX →

Highlight all of the completed cells in column B only, then click on the 'Insert' tab across the top of the formatting ribbon and click on the 'Line' chart option from the 'Charts' section. Select the basic 'Line' chart option (top left) from the drop-down menu which appears;

This should produce a simple line chart from the data you have entered in column B;

You now need to add column A to the x-axis on your chart:

Right-click on the chart you have created and click 'Select Data...', click on 'Edit' under 'Horizontal (Category) Axis Labels' and highlight (click and drag over) all of the completed cells in column A except cell A1;

Click 'OK' and 'OK' again to bring you back to your worksheet and chart again (hopefully now with x-axis values);

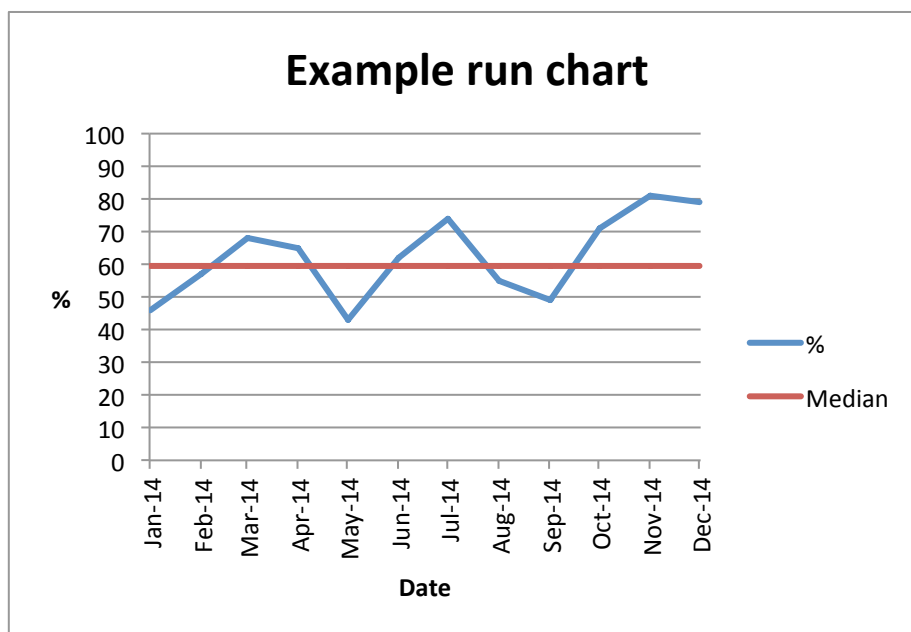
You should now have a simple run chart with data from your first two columns. You can format the appearance of the chart by clicking on the chart and clicking on the 'Chart Tools' tabs which appear along the top of the formatting ribbon.

To add a median line, click on cell C1 and enter 'Median'. In cell C2, type: **=MEDIAN(\$B\$2:\$B\$XX)**

in the formula bar, where BXX is the last complete cell in column B on your worksheet (e.g. B13 in the above example). Click enter to see the calculated result in cell C2, then click on cell C2 again and drag the dot in the bottom right-hand corner of the cell down to fill column C against all the completed values in column B;

*NB the dollar signs signify a function called 'absolute referencing', which allows you to fill column C with the same median value; if you enter '=MEDIAN(B2:BXX)', when you fill column C, each value would be different due to something called 'relative referencing' (which you don't want!);*

Now to add the median line to your chart, click on the chart, then click once more on the grey frame outline of the chart. Column B should appear highlighted in blue. Drag the blue outline to include the values in column C as well as column B. Your median line should appear on the chart.



To get the data points to start and finish at the edge of the x-axis, click on the chart and then the 'Layout' tab across the top of the formatting ribbon. Select 'Axes' > 'Primary Horizontal Axis' > 'More Primary Horizontal Axis Options...', then click the 'On tick marks' option under 'Position Axis:' at the bottom of the 'Axis Options' page.

To adjust the scale on the y-axis, follow the same procedure for the 'Primary Vertical Axis', and enter 'Fixed' maximum and minimum points for your y-axis values.

[Click here](#) for a template of the example data. Good luck!