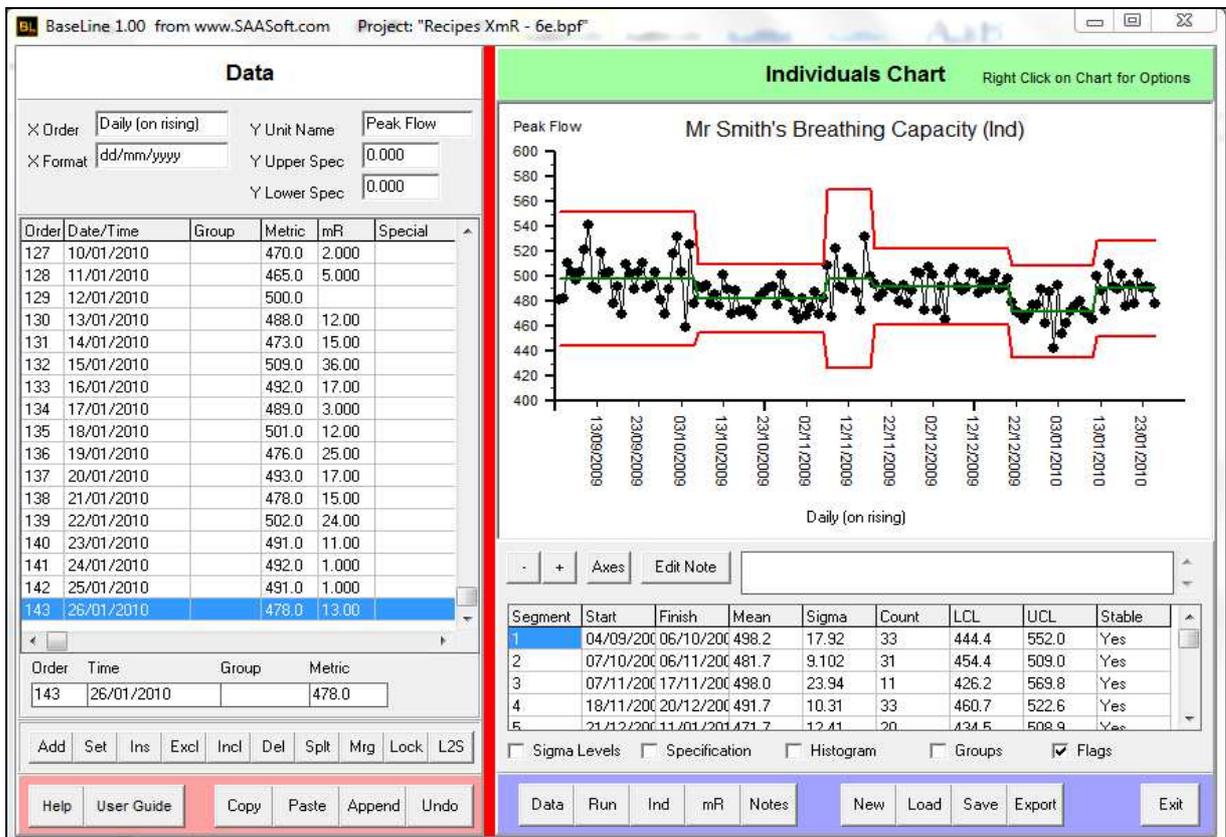


BaseLine© Examples

F. Use your charts prognostically – to monitor your system and guide future systemic intervention: both the actions and their timing

1. Open an existing BaseLine© file, that has a completed data set – right up to the present moment.
2. Complete the **diagnostic phase** – using the special cause flags as well as your intuition to identify the systemic shifts in either the centre-line or the level of variation (see Example **D**). As always aim to split the data as few times as you can whilst revealing the systemic story:



3. Click the **"Export"** tab and paste the chart and its summary into whatever application you choose – ensuring there is a tick in the dialogue box marked **"Summary"** before clicking the **"Proceed"** tab (see Example **B**)

Summary

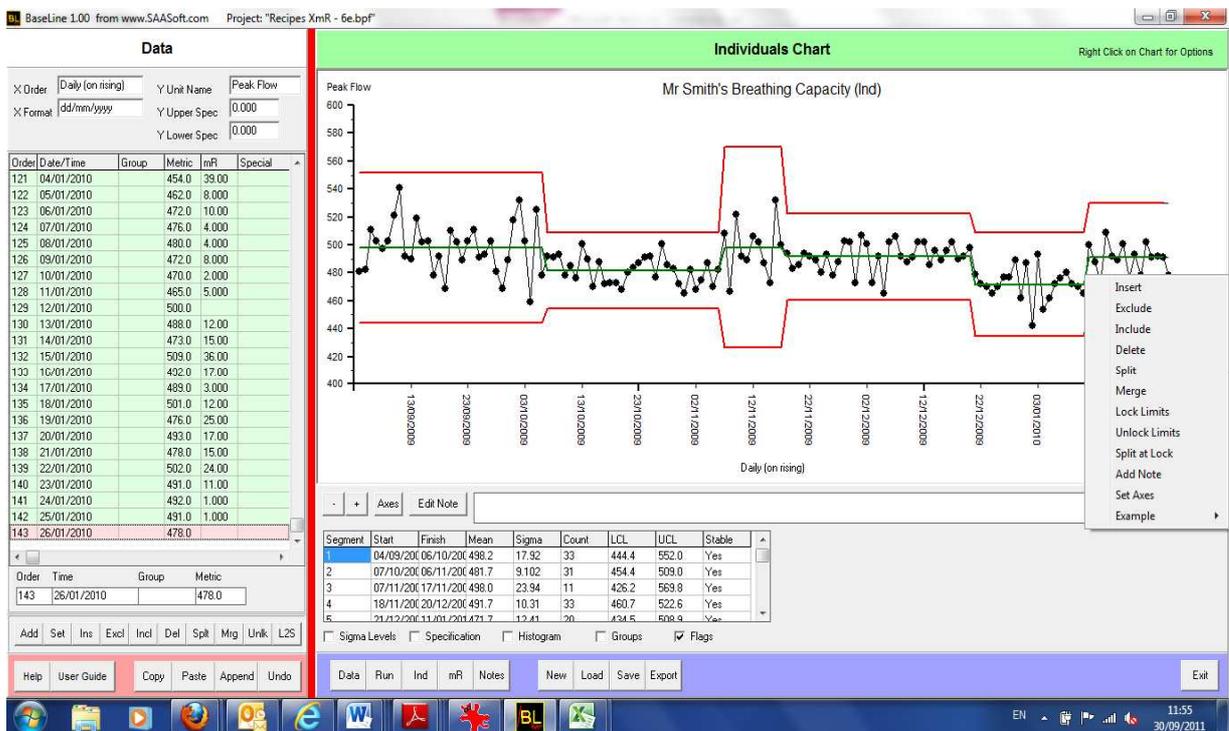
Segment	Start	Finish	Mean	Sigma	Count	LCL	UCL	Stable
1	04/09/2009	06/10/2009	498.2	17.92	33	444.4	552.0	Yes
2	07/10/2009	06/11/2009	481.7	9.102	31	454.4	509.0	Yes
3	07/11/2009	17/11/2009	498.0	23.94	11	426.2	569.8	Yes
4	18/11/2009	20/12/2009	491.7	10.31	33	460.7	522.6	Yes
5	21/12/2009	11/01/2010	471.7	12.41	20	434.5	508.9	Yes
7	12/01/2010	26/01/2010	490.2	12.79	15	451.8	528.6	Yes

4. In the above example there have been two sustained dips in the centre-line, one from 7th October for 31 days, and one from 21st December lasting for 20 days. In discussion between clinician and patient, the causes are attributed to fungi spores for the first one, and a common cold for the second.

5. The patient and clinician now wish to use BaseLine© to improve their interventions and manage the shortfall in breathing capacity. They assume that for the moment the initial **diagnostic phase** has been completed.

6. Moving into the **prognostic phase** they make a **prediction** that "IF NOTHING CHANGES, ALL THE NEW DATA WILL EXHIBIT COMMON CAUSE CHARACTERISTICS."

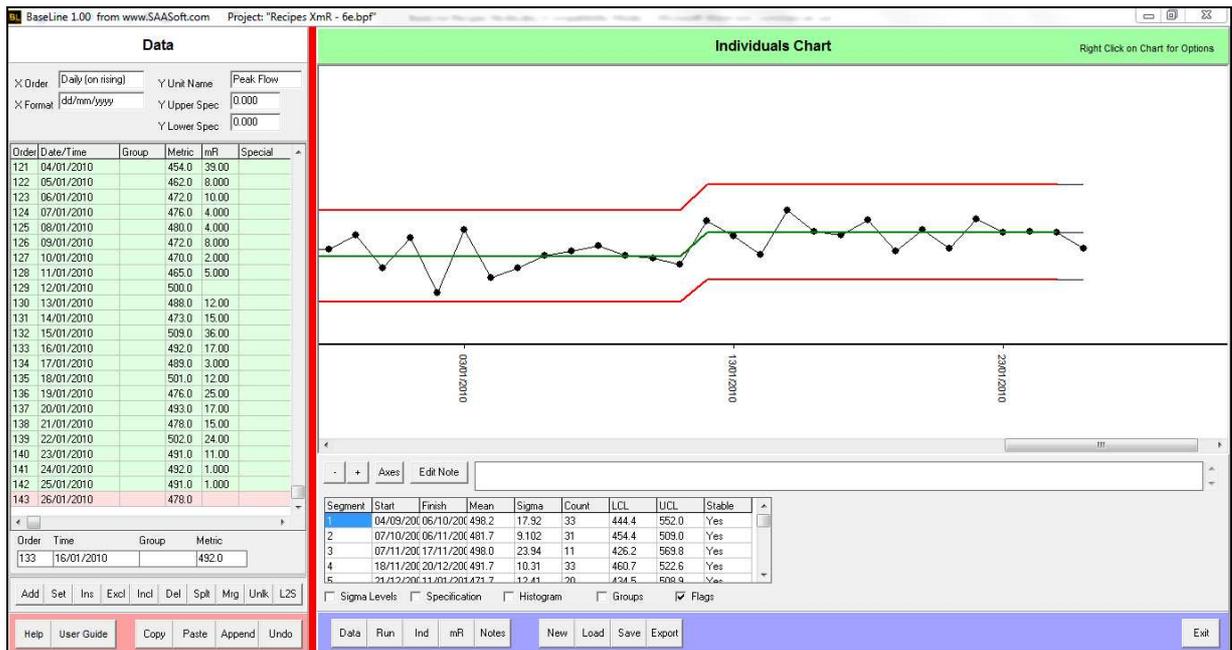
7. The cursor is held over the most recent data point. A right click reveals the dialogue box, from which the "Lock Limits" option is selected. The data point row for point 143 is highlighted in **pink** to make it clear that the limits are now locked:



8. Each new day brings a new data point. But now there's a difference: the chart's **limits are fixed** because they are a continuation of the limits that have been in place since the last systemic change (i.e. the moment when the patient's cold subsided). The same Western Electric rules that were used to identify special cause variation in the most recent diagnostic phase will now therefore be applied to each new data point. Only, this time each new piece of data will **not** be used to re-calculate the limits. In this way the hypothesis implied by the prediction made at stage 6, can be properly tested.

9. Here is what happens in the example as the daily data arrives.

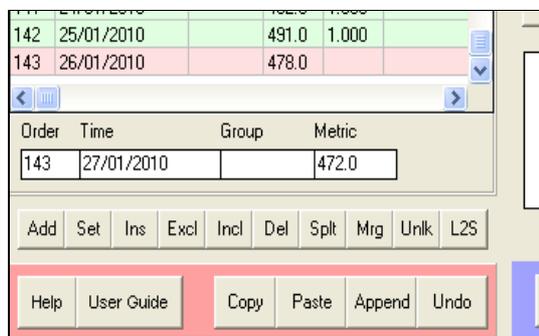
Note that by using the and tabs we can elongate the chart and make it more visible:



10. To insert each new data point as it arrives each day, click on the last point entered in the Data Screen, such that the **Order**, **Time** and **Metric** appear in the boxes underneath..



11. Enter the new data in these boxes by overwriting the previous data. In the example this means changing the date to the 27th and the metric to 472.



12. Click **Add** and the new data will appear in the data screen – in this case as Point 144.

Notice that like the previous point, the background colour remains pink as a continual reminder that the Limits remain locked.

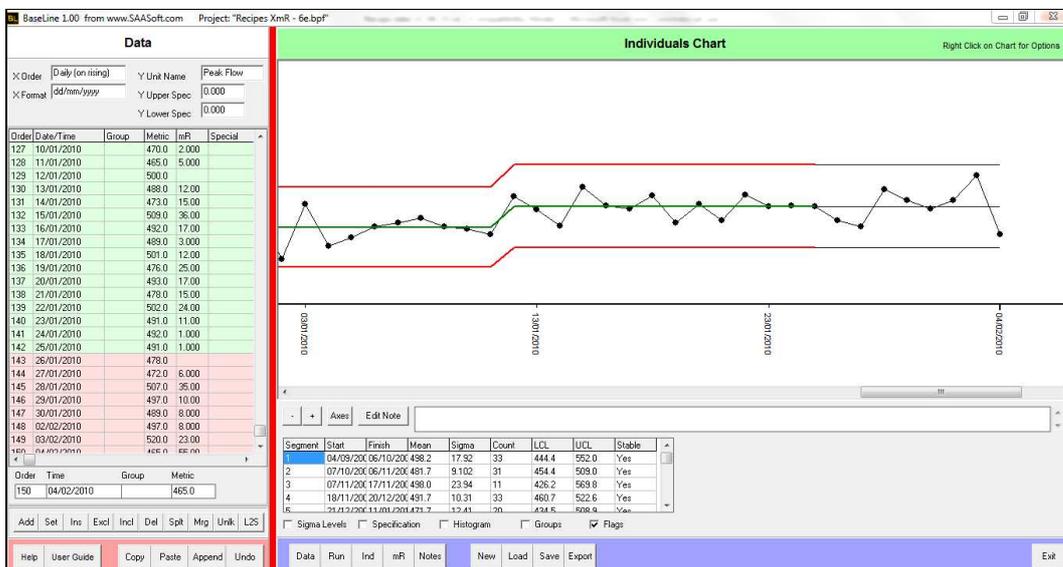
140	23/01/2010		491.0	11.00	
141	24/01/2010		492.0	1.000	
142	25/01/2010		491.0	1.000	
143	26/01/2010		478.0		
144	27/01/2010		472.0	6.000	

Order	Time	Group	Metric

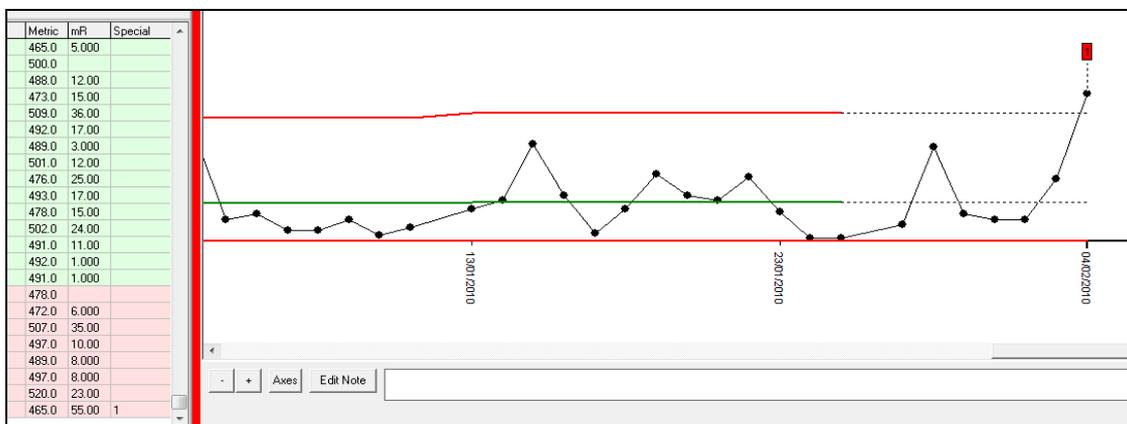
Add	Set	Ins	Excl	Incl	Del	Splt	Mrg	Unlk	L2S
-----	-----	-----	------	------	-----	------	-----	------	-----

Help	User Guide	Copy	Paste	Append	Undo
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13. Continue to add each new point as soon as you can after collecting it, and watch to see if any of the new points is flagged as special.



14. Nothing special is flagged until point 150 (4th February). In the example, both this point and the previous one are inside the limits, however there is a flag identified by the mR chart.

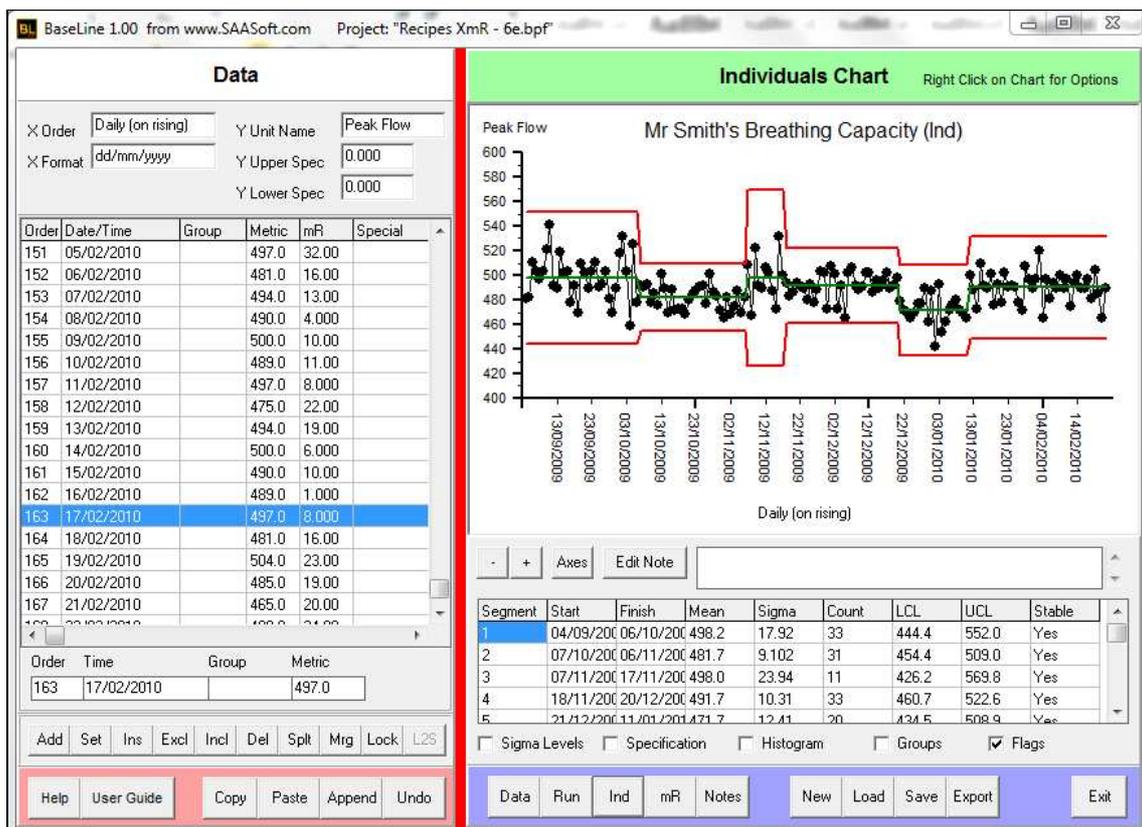


15. The patient asks them self : "WHAT ON THIS PARTICULAR DAY MIGHT HAVE CAUSED THE EXCESSIVE VARIATION?" The daily reading is taken first thing each morning, and the patient concludes it was probably due to an unusually long singing session the previous evening. Given that there doesn't appear to have been a shift in the centre line, it is decided that the locked limits will be maintained as they are until there is more evidence.

16. To date (10th Feb) there has been no more special causes on either the Individual Chart or the mR Chart. The current stability and capability are being maintained. No investigation, nor action, is necessary. Monitoring will continue.

17. Let's suppose that after several weeks there is a flag indicating a worsening in breathing capacity. If the ensuing investigation reveals a clear root cause, action would be needed. Implementation of the action would of course be a systemic intervention which should be properly implemented as a (PDCA) experiment as per the scientific method.

By **right clicking** on the chart, and choosing the "Unlock Limits" option, all the relevant historical data to date may then be used to calculate fresh limits and make a fresh prediction, against which the hypothesis underpinning the proposed intervention can be properly tested. Monitoring will then continue as in steps 9-15 above.



18. Monitoring continues, and knowledge of the ever changing system deepens – for both patient and physician. The story of each successive intervention is recorded and can be drawn upon at any future date – even years later.