



National Emergency Laparotomy Audit

Online Reports (Dashboard) Overview

Run Chart:

A **run chart** is a graph of your data over time. It is a simple and effective way to help you see whether the changes you are making are leading to improvement.

Run charts help teams depict how well (or poorly) a process is performing, and understand the value and impact of a particular change over time. There is a short animation which explains a bit more about run charts here: <https://www.nela.org.uk/NELA-QI-Videos>

Control Chart:

A **control chart** also displays the data over time, but also includes an upper control limit (UCL) and a lower control limit (LCL), and so goes further to help teams learn more about the variation in their performance. You can read a bit more about them and how to interpret them in these great videos and resources from the IHI, NHS Improvement and NHS Scotland:

<http://www.ihl.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/Whiteboard13.aspx>

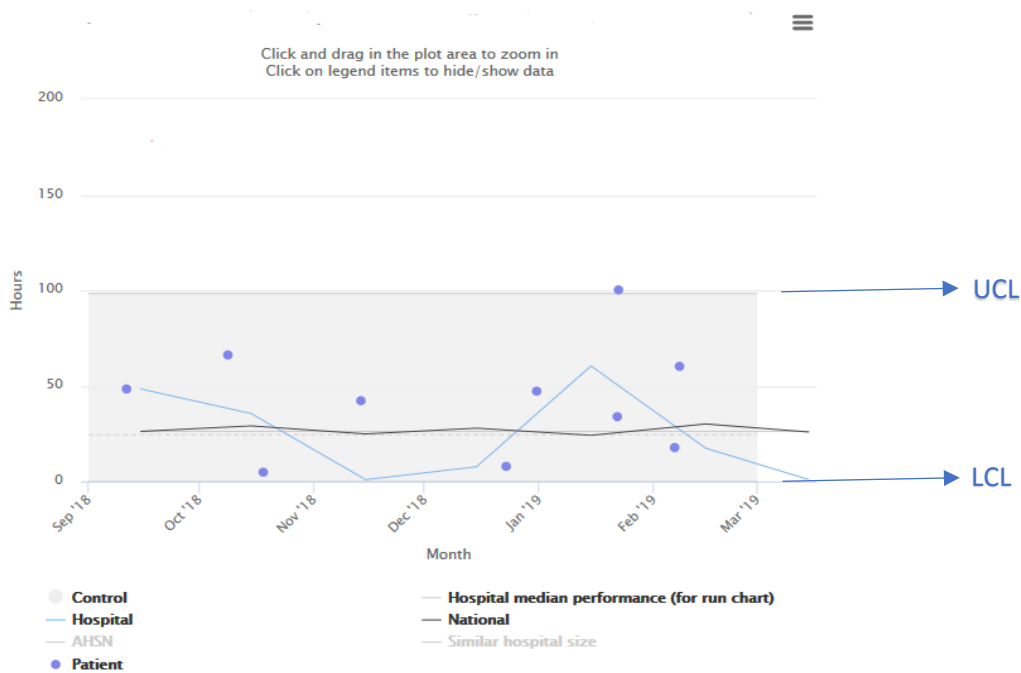
<https://learn.nes.nhs.scot/3702/quality-improvement-zone/qi-tools/spc-charts>

<https://improvement.nhs.uk/resources/making-data-count/>

Frequently Asked Questions:

1. What do the control limits mean?

The control limits are not a target or quality measure. They are mathematically calculated from your data, and in normal circumstances we would expect 95% of our data points to fall within the limits. Looking at your data and seeing when your data falls outside the mathematically expected range can help you to understand how your processes are working, by understanding the variation in your processes. Control charts help teams identify 'special-cause' or 'common cause' variation in a process, identify signs of success in an improvement project, and monitor a process to ensure it is holding the gains after improvement.



2. Why do some charts have one straight line, and some have a line that goes up and down?

The control limits are calculated differently depending on the type of data, so the position of the line varies. You interpret both in the same way.

3. Why are my control limits very wide? The calculation for the control limits on some charts depends on the number of data points that month, so if you don't have very many data points, the limits can be quite wide.

The chart is only as informative as the data put into it, if the control chart lines aren't helping you because the number of cases you have are too small, then you can switch the lines off, with the toggle function at the bottom of the chart.

4. Why can I only see one control limit line? It might be that the mathematical calculation resulted in a number that was below zero- this obviously isn't possible in our data, so we have reset the lower limit to 0 in those cases.

5. What do you mean by common and special cause variation?

Common-cause variation is the natural or expected variation inherent in a process. This is the normal ebb and flow of circumstances that we see every day- for example your blood pressure may be slightly different if you measured it every hour today, but broadly speaking your blood pressure doesn't really change. Special-cause variation arises because of specific circumstances that are not inherent in the process. For example your blood pressure might be dramatically different if you lose 2 litres of blood suddenly, or if a theatre trolley runs over your toe.



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Distinguishing between common and special causes of variation is really important, because it is helpful to try a different improvement strategy for each one. If you have special cause

variation, you should investigate those particular cases to see why that is happening (as they are outliers from your normal performance). For example, why a particular patient has a very long length of stay, or experienced a long delay to get to theatres. If you want to improve care when you have only common cause variation, then you should concentrate on improving the whole process, rather than trying to understand what happened in individual cases.

Other lines on the chart:

In addition to your own monthly mean performance, there is a mean performance line for the following:

- Your AHSN average performance
- National performance
- Hospitals of a 'similar size' This is calculated by dividing sites into 4 quartiles, according to the number of beds they have (as recorded in the NELA organisational audit in 2017). It is a rough benchmark of size, as many sites asked if they could compare themselves with similar sized hospitals.

2 charts also have individual patients represented by a dot, these can also be toggled on or off. You can see the NELA ID of the patient in question by hovering your cursor over the dot.

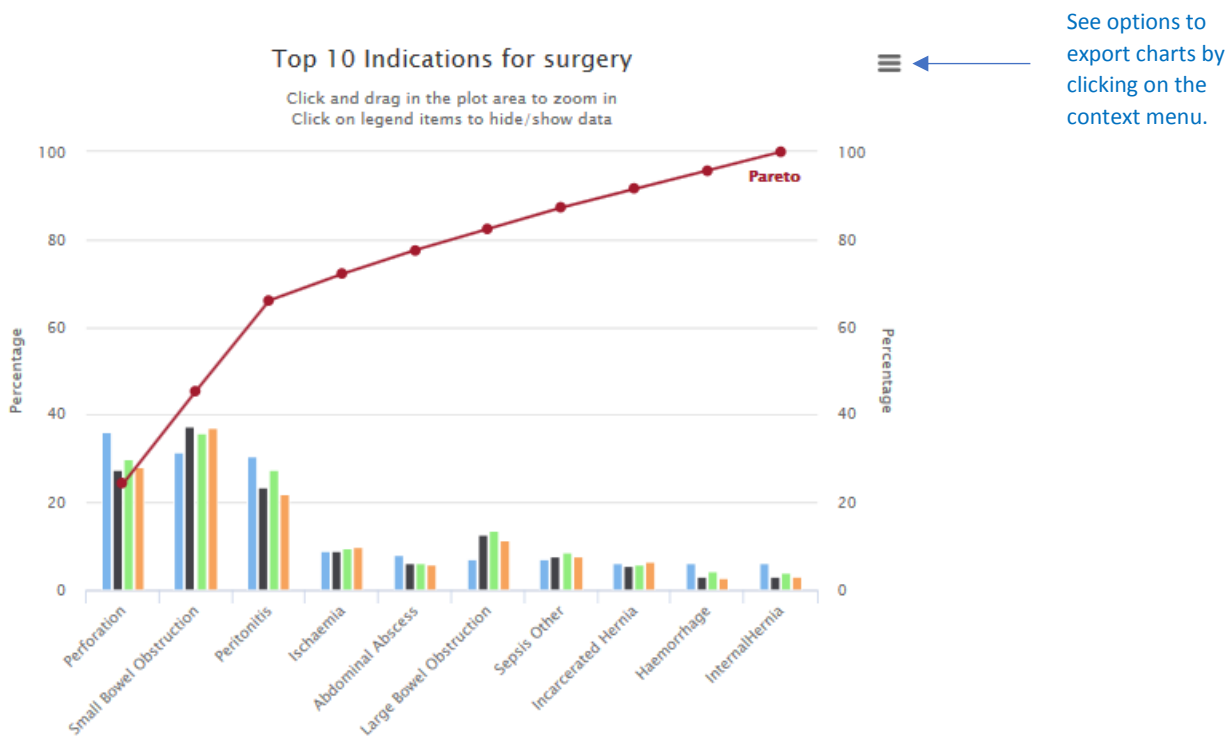
To avoid confusion, these lines/dots can be switched on or off, by clicking on the key at the bottom of the chart if you do not wish to see that data.



You can highlight and zoom into part of the chart in detail by clicking and dragging your cursor over that part of the chart.

Some of the charts have a drop-down menu above them where you can chose a smaller cohort of patients for the chart- by surgical urgency.

You can download your chart as an image, by clicking on the 3 lines on the top right-hand side of the chart.



If you have any other questions or queries about the NELA Online Reports please contact - info@nela.org.uk