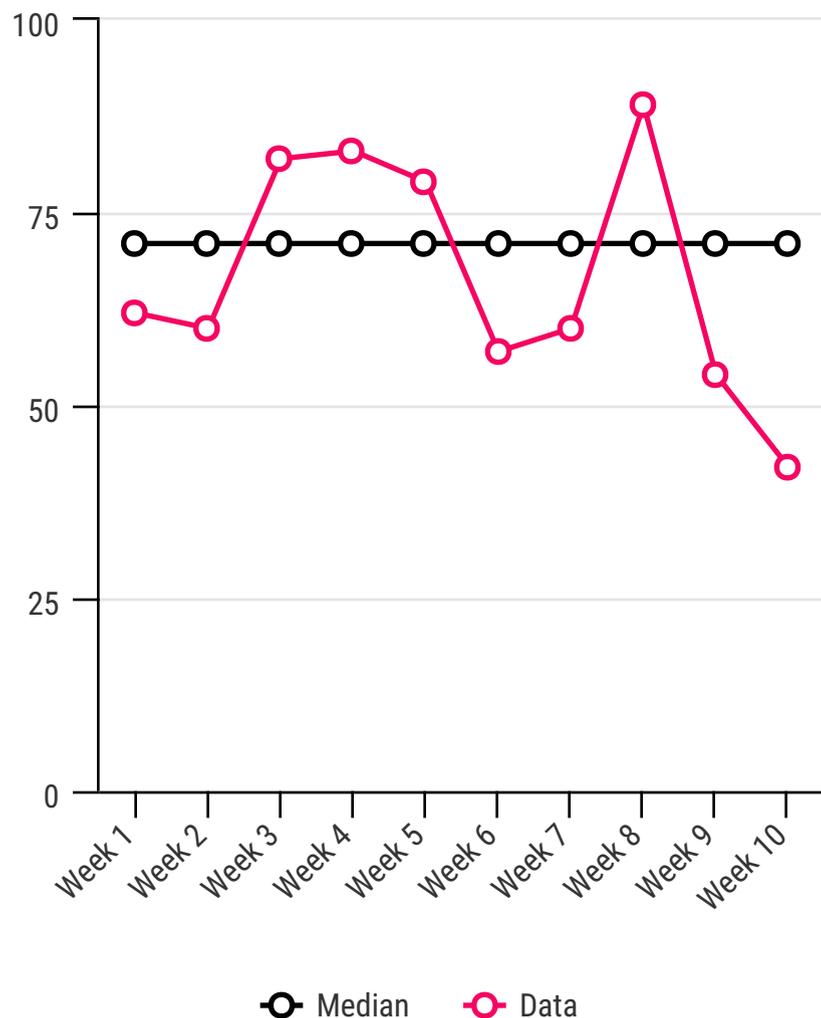


# CASC intro to Run Charts

## What are they? How do you use them?



## What is a run chart?

As a basic definition a run chart is 'a graphical display of data over time'. A typical run chart will display a timescale (minutes, hours, weeks, months) plotted on the horizontal x axis and the quality indicator being measured (number of infections, patient falls, did not attends) on the vertical y axis.

Run charts are useful because they provide us with a visual representation of what is happening over time. For example, if we have made changes in care to reduce infection rates in the hospital we can use a run chart to measure the outcome. And if different interventions have been implemented at different times the run chart can help us understand the impact of each change. To create run charts you will need regular periodic access to data you want to measure.

## What to look for:

Run charts are much less complex than the various forms of Statistical Process Control (SPC) charts that are used in a wide range of different industries, including healthcare.

The beauty of a run chart is that we can quickly identify what we call 'non-random trends' by analysing the data. Non-random trends are important as they inform us that a new pattern is emerging for a particular reason. In other words, run charts can illustrate that our interventions have led to an improvement (or not!).

## Signals to look for:

- **SHIFT:** 6 or more consecutive points above or below the median line (horizontal line representing the middle point of all data collected)
- **TREND:** 5 or more consecutive points that continually show either an increase or decrease in results
- **ASTRONOMICAL POINT:** defined as a 'singular data point far from other results recorded'. In other words an astronomical point is deemed a considerable outlier
- **TOO MANY/TOO FEW RUNS:** we can identify non-random trends where we have too many or too few runs within a data set. To calculate this we will need to refer to a statistical data table but this is easy to interpret.

## For more information:

1. Perla et al *The run chart: a simple analytical tool for learning from variation in healthcare processes*
2. Watch the Institute of Healthcare Improvement's short film created by Dr. Robert Lloyd.