RUAVIRA COLLECTIVE INC.
Healthcare Quality Consulting for a Better World

The Run-Chart Cheat-Sheet

Read your improvement data correctly in five minutes — and stop mistaking noise for change. *Built on IHI measurement practice.*

The single most common error in quality work is comparing two numbers ("we were at 60%, now we're at 68% — it's working!") when the difference is just normal variation. A run chart fixes that. This one-page cheat-sheet is everything you need to plot and read one.

How to build a run chart

1. **Plot the measure over time** — time on the X axis, your measure on the Y. 2. **Draw the median** of the baseline points as a horizontal line. 3. **Annotate** the chart with when you made each change (a small flag on the date). Now you can see whether the change moved the line.

The four signals of real change (non-random variation)

| Signal | What you see | What it means | |---|---|---| | **Shift** | 6+ consecutive points all above (or all below) the median | Something real changed | | **Trend** | 5+ consecutive points all going up (or all down) | A sustained move | | **Too few / too many runs** | The line crosses the median far less/more than expected | Non-random pattern | | **Astronomical point** | One point obviously far from the rest | A special event — investigate it |

If none of these are present, your data is **common-cause variation** — the normal noise of the system. Reacting to it ("why did Tuesday dip?") wastes effort and often makes things worse.

The discipline that makes it honest

- Decide what counts as a real signal **before** you start — so you can't rationalise noise as success later.
- Keep the **same measure and definition** every period.
- Annotate **every** change, even the ones that didn't work.
- Don't switch to a control chart until you understand the run chart — most improvement work never needs more than this.

Run chart vs the two things people use instead

- **Two-bar comparison ("before/after")** — can't tell improvement from noise. Avoid.
- **A table of monthly numbers** — hides the pattern the eye would catch instantly on a chart. Plot it.

How this was built. This cheat-sheet distils the measurement habits taught across years of improvement coaching and learning collaboratives, where reading variation correctly was the difference between teams that improved and teams that chased noise. It is framework-true to IHI measurement practice.