Tip Sheet: Collecting Data and Creating a Run Chart

This guide will help you set up a simple data collection system and create a run chart to visualize your fall rate data over time. This chart is your first step in establishing a baseline for analysis.

1. Collect Your Data

The foundation of a good analysis is clean, consistent data. Your initial tool is a simple spreadsheet.

Scheduling and Approach

- **Keep it Simple: Create a spreadsheet with just two columns:**
  - **Column A: Date. This should represent the time period (e.g., 01/2024, 02/2024).**
  - **Column B: Fall Rate. This is the value you are measuring for that period.**
- **Be Consistent: Use the same format for every entry.**
  - **Dates: Pick one format and stick to it (e.g., MM/YYYY).**
  - **Values: Ensure your fall rate is calculated the same way each time (e.g., falls per 1,000 patient-days).**
- **Gather Enough Data: Collect at least 12-20 months of historical data. This provides a reliable baseline and helps you see meaningful patterns beyond normal monthly fluctuations.**
- **Check for Errors: Double-check your entries for typos or missing months. Gaps in data can make your chart misleading.**

Example Spreadsheet Layout:

Date (MM/YYYY)	Fall Rate
01/2024	3.2
02/2024	3.5
03/2024	3.1
...etc.	...etc.

2. Visualize Your Data with a Run Chart

A run chart plots your data over time, making patterns easy to spot. The key feature is the median line, which acts as a center line for your data.

Scheduling and Approach

+ **Choose Your Platform:** You can create a run chart in most spreadsheet or analysis programs (like Microsoft Excel, Google Sheets, or specialized quality improvement software).
+ **Steps to Create the Chart:**

1. **Calculate the Median:** First, find the median of your "Fall Rate" data column. The median is the middle value when all data points are lined up in order. It's used instead of the average because it's less affected by unusually high or low values.
    + **In Excel/Google Sheets, use the formula =MEDIAN(B2:B21) on your data range.**
2. **Add a Median Column:** Create a third column in your spreadsheet and fill every cell with the median value you just calculated.
3. **Insert the Chart:**
    + **Highlight all three columns (Date, Fall Rate, Median).**
    + **Go to Insert > Chart and select a Line Chart or a Scatter Chart with Straight Lines.**
4. **Format Your Chart:**
    + **Give it a clear title (e.g., "Monthly Patient Fall Rate Run Chart").**
    + **Label your axes. The horizontal X-axis is "Time" and the vertical Y-axis is "Fall Rate."**
    + **Make the median line distinct (e.g., a solid or dashed red line).**

3. Read the Chart: What to Look For

Your run chart provides a visual story of your performance. Look for signs of "non-random" patterns, which suggest that something other than chance is influencing your fall rate.

- **Shifts:** Are there 6 or more consecutive points all above or all below the median? This could indicate a significant change in your process.
- **Trends:** Are there 5 or more consecutive points all going up or all going down? This shows a sustained change over time.
- **Runs:** A "run" is a series of one or more consecutive points on the same side of the median. Too many or too few runs can signal a pattern.
- **Outliers:** Are there any data points that are dramatically higher or lower than the rest? Try to understand what happened during that specific time period.

Pro-Tip: Annotate your chart! If you know why a data point is unusually high or low (e.g., "New lift equipment introduced" or "Staffing shortage week"), add a note directly on the chart. This context is invaluable for your analysis.