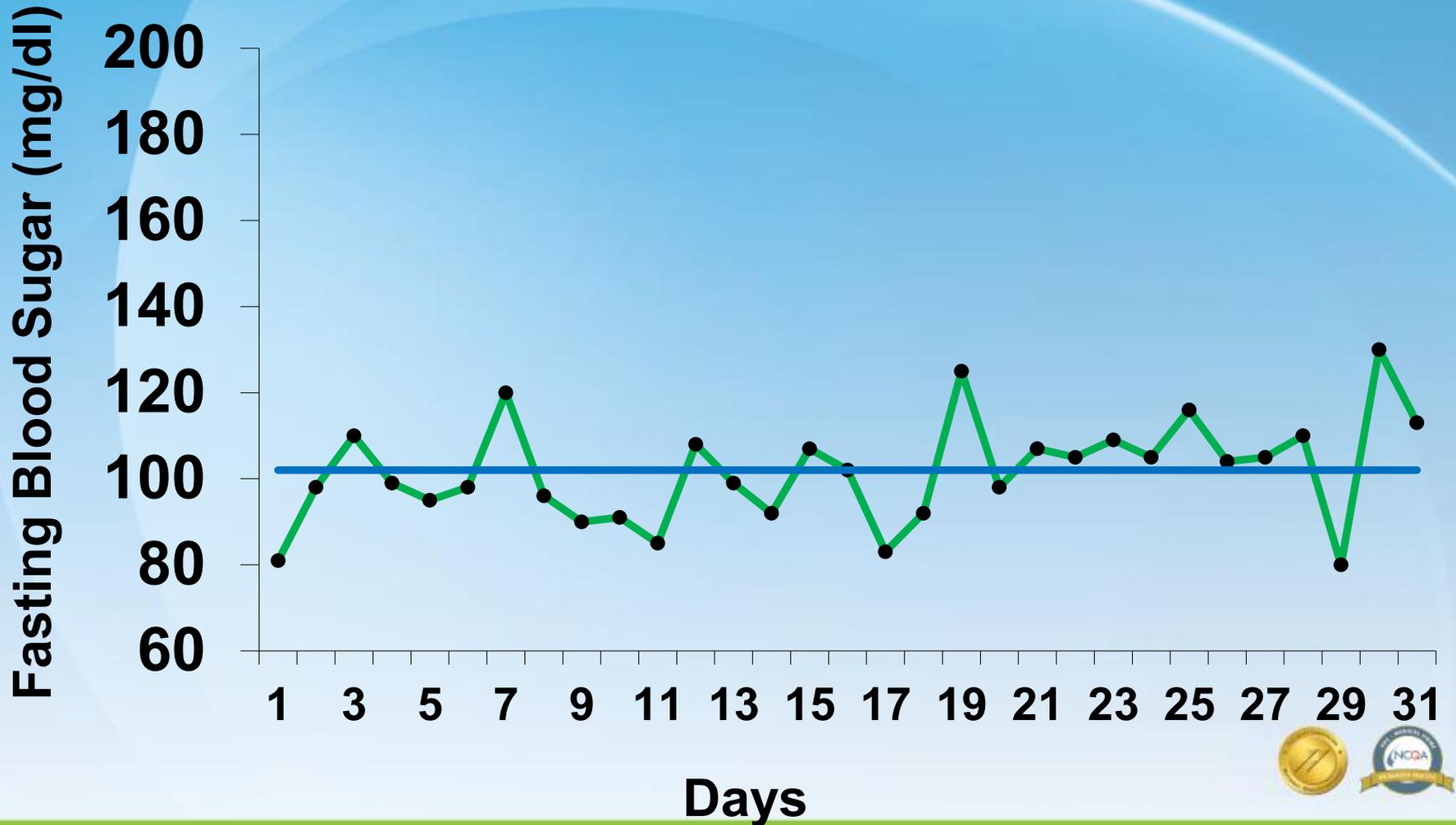# Non-Random Patterns on Run Charts

- The presence of a <u>shift</u> in the process
  - A run that is too long (6 or more consecutive points on one side of the median)
- The presence of a <u>trend</u>
  - A run with consecutive increases or decreases in data (5 or more consecutive points)
- The presence of <u>too much or too little variability</u>
  - Too few or too many runs (depends on number of points on the chart)

2

## Table. Runs Rule Guidance

| Number of observations excluding points on the median | Lower limit for the number of runs | Upper limit for the number of runs |
|---|---|---|
| 13 | 4 | 11 |
| 14 | 4 | 12 |
| 15 | 5 | 12 |
| 16 | 5 | 13 |
| 17 | 5 | 13 |
| 18 | 6 | 14 |
| 19 | 6 | 15 |
| 20 | 6 | 16 |
| 21 | 7 | 16 |
| 22 | 7 | 17 |
| 23 | 7 | 17 |
| 24 | 8 | 18 |
| 25 | 8 | 18 |
| 26 | 9 | 19 |
| 27 | 10 | 19 |
| 28 | 10 | 20 |
| 29 | 10 | 20 |
| 30 | 11 | 21 |
| 31 | 11 | 22 |