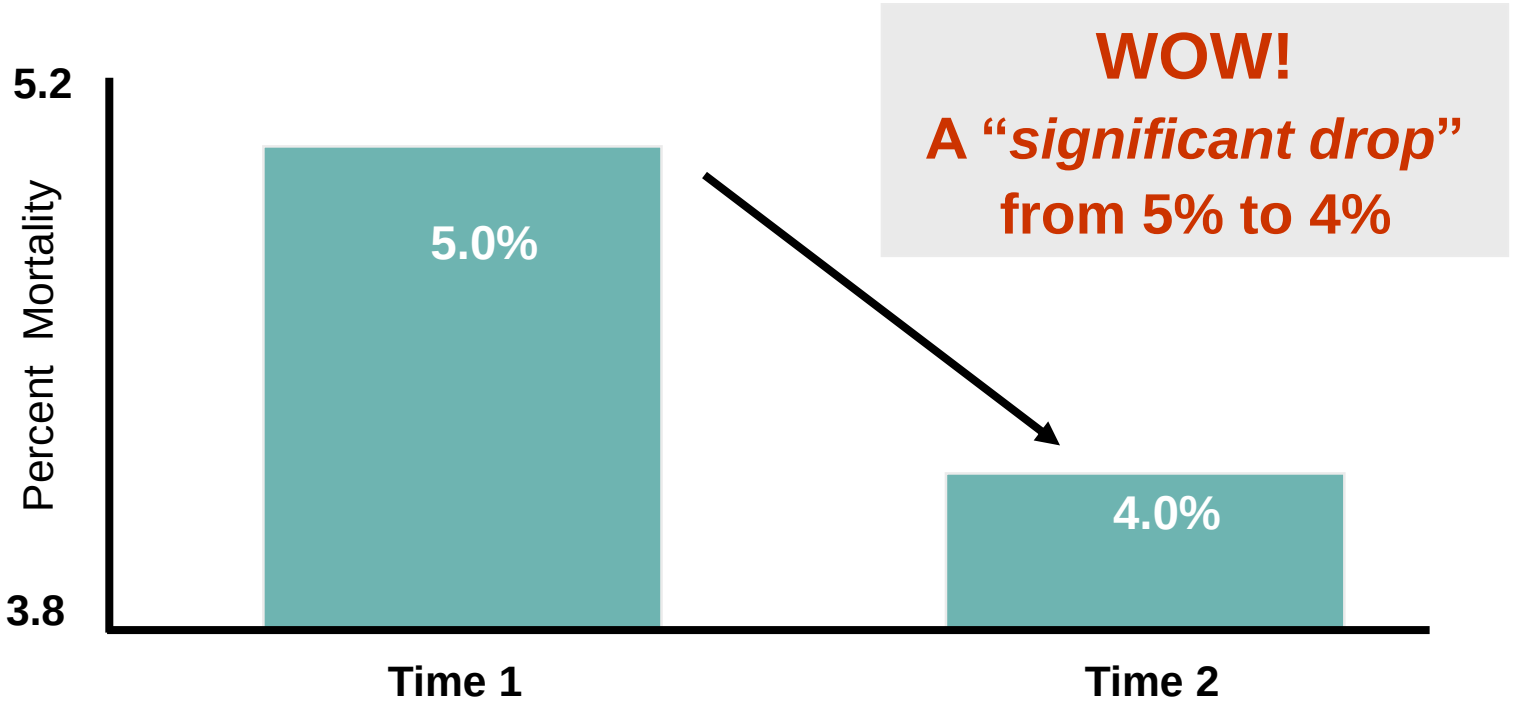
Measurement 101
Understanding your data

NCCMH

Average mortality from coronary artery bypass graft procedure

Before and After the Implementation of a New Protocol



WOW!

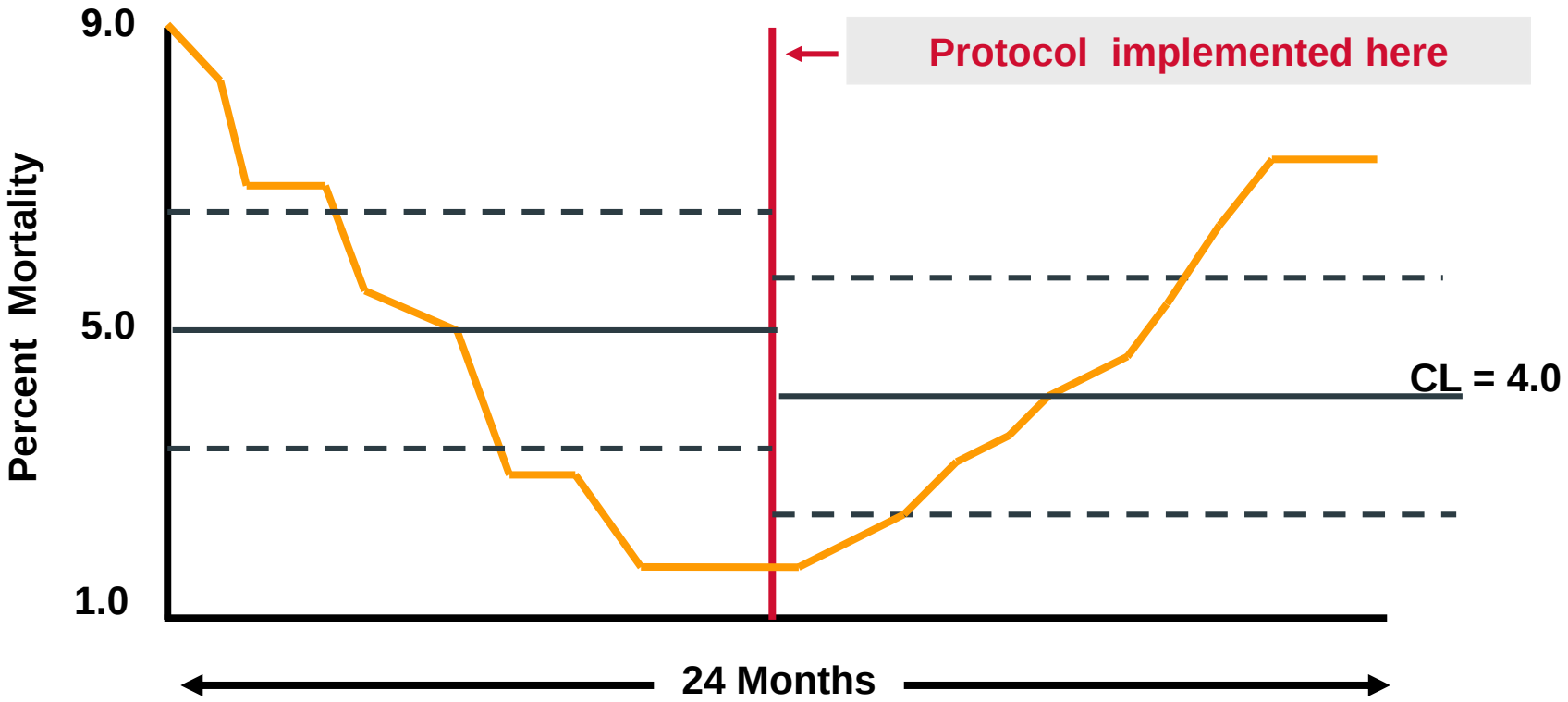
A "*significant drop*" from 5% to 4%

Conclusion -The protocol was a success!
A 20% drop in the average mortality!

Average CABG Mortality

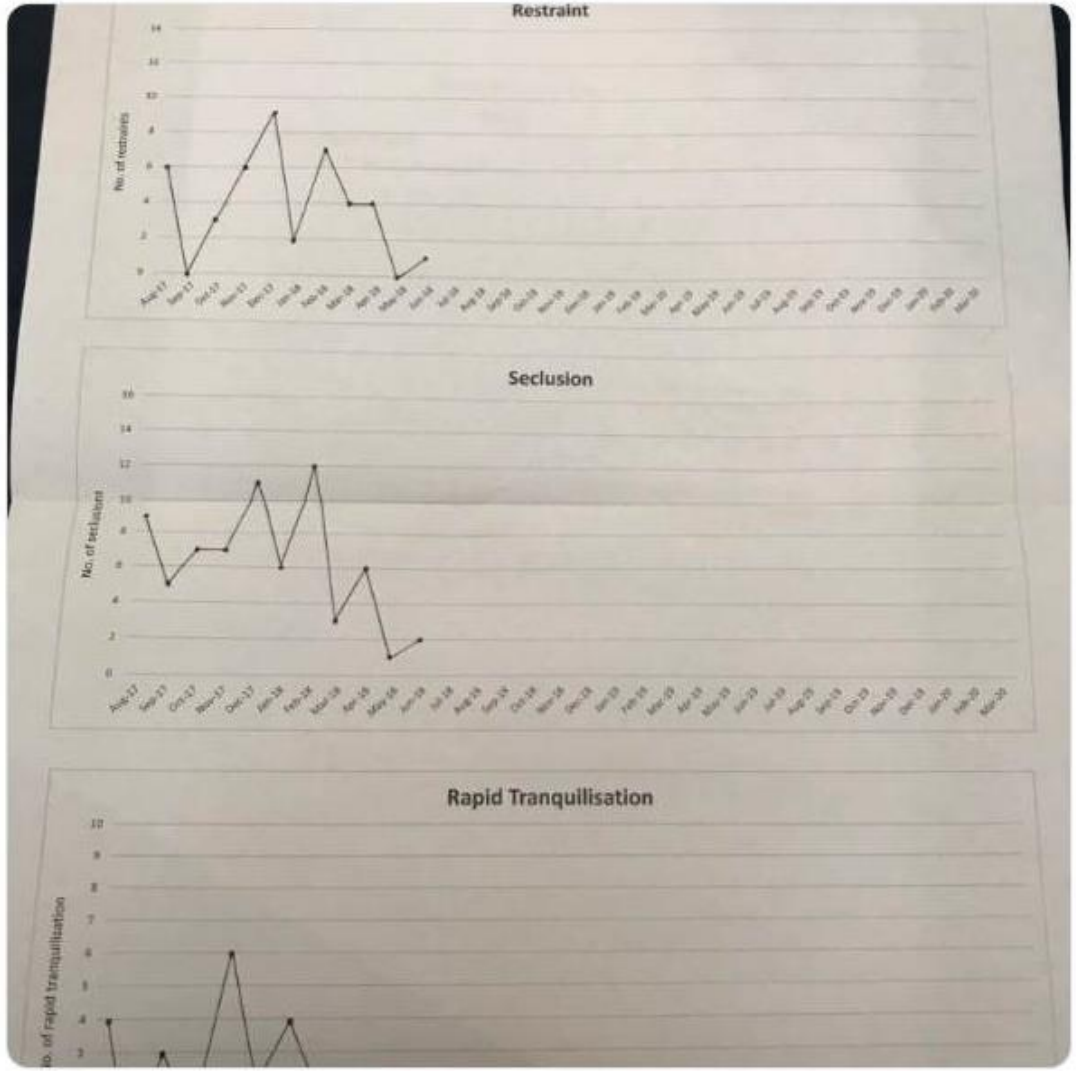
Before and After the Implementation of a New Protocol

A second look at the data



Now what do you conclude about the impact of the protocol?

Line charts



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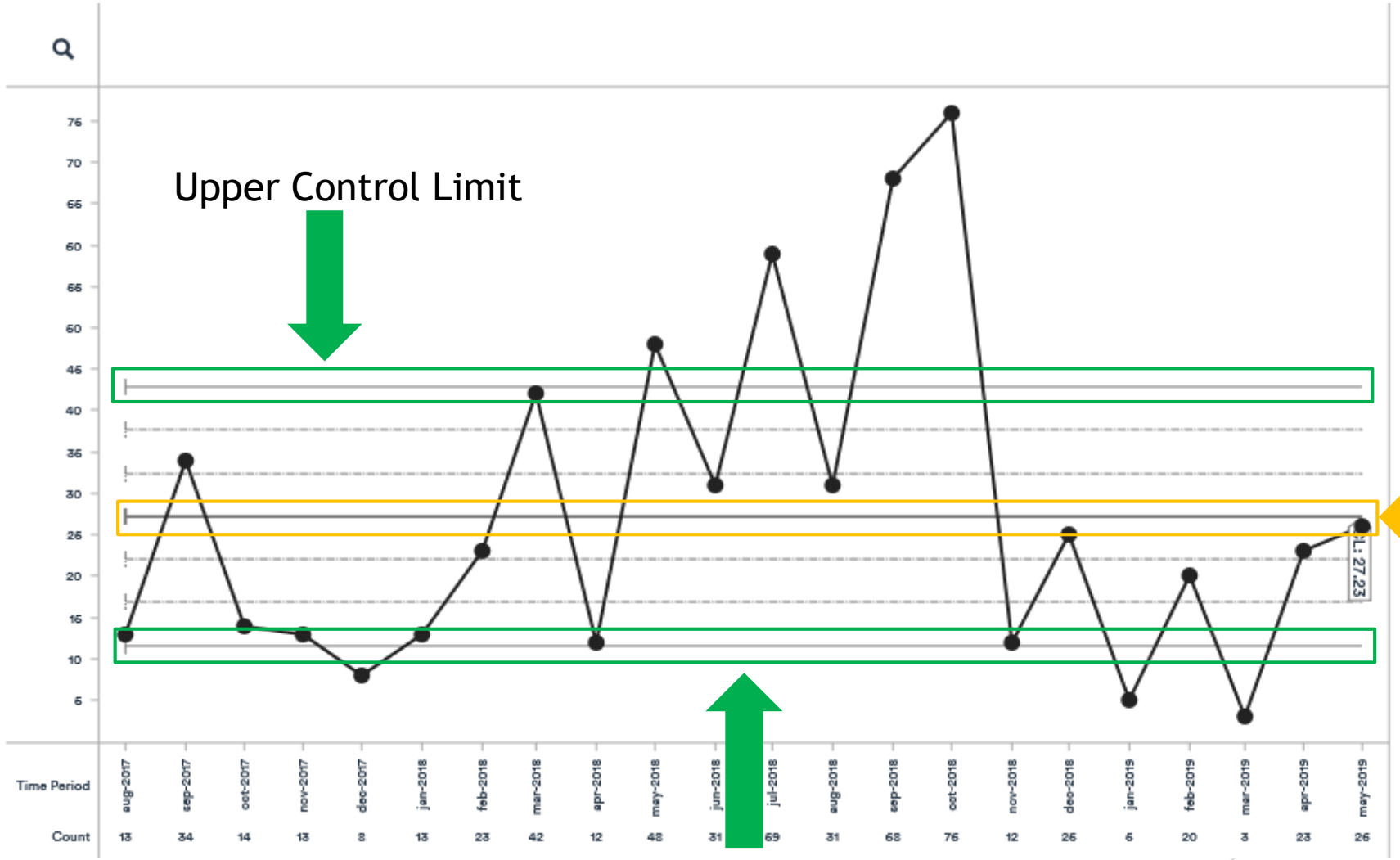
The anatomy of a control chart



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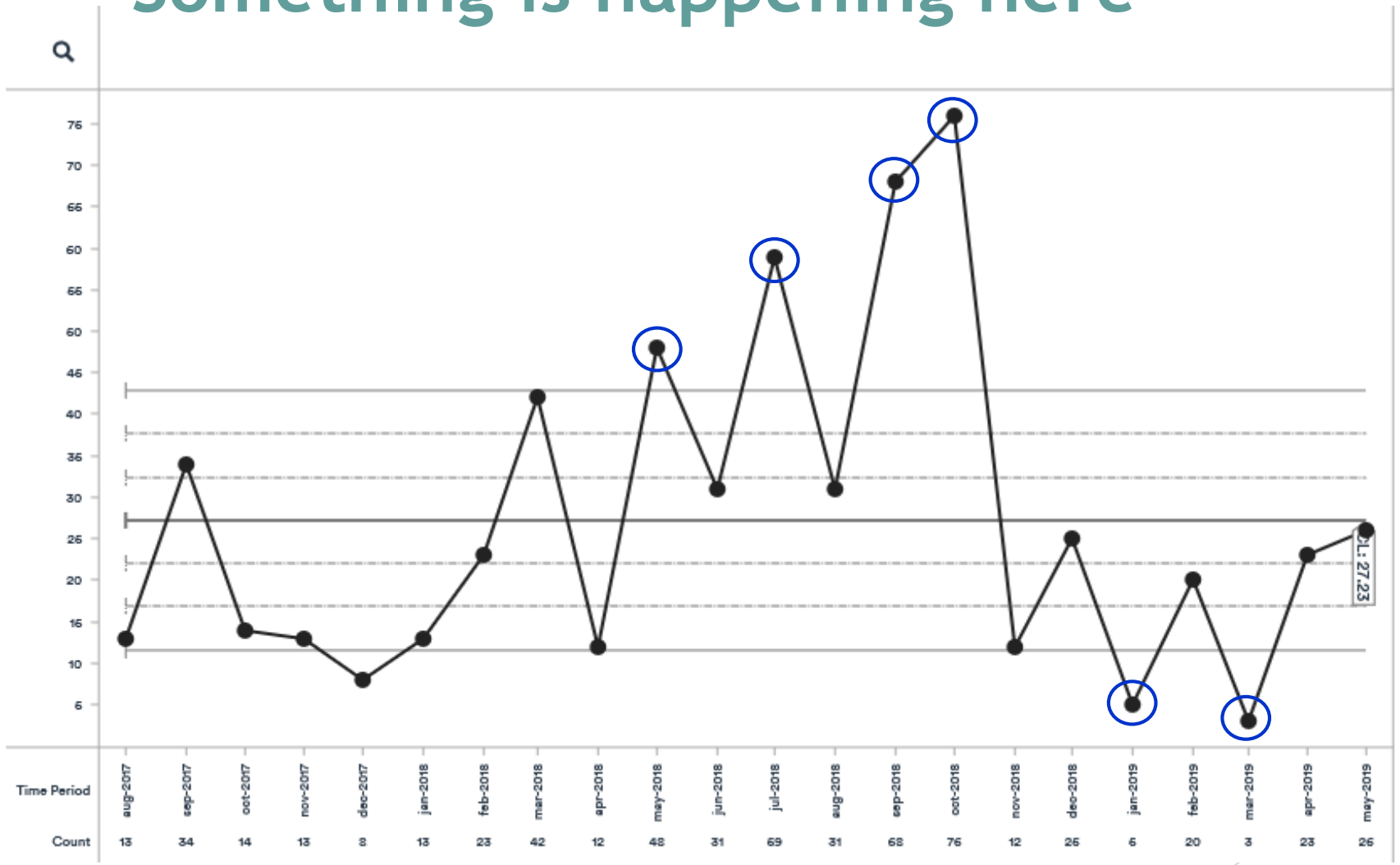
Signal vs noise

- Signal – something special in our data that we should pay attention to
- Noise – normal variation, inherent to the process

1) Special cause variation: Something is happening here



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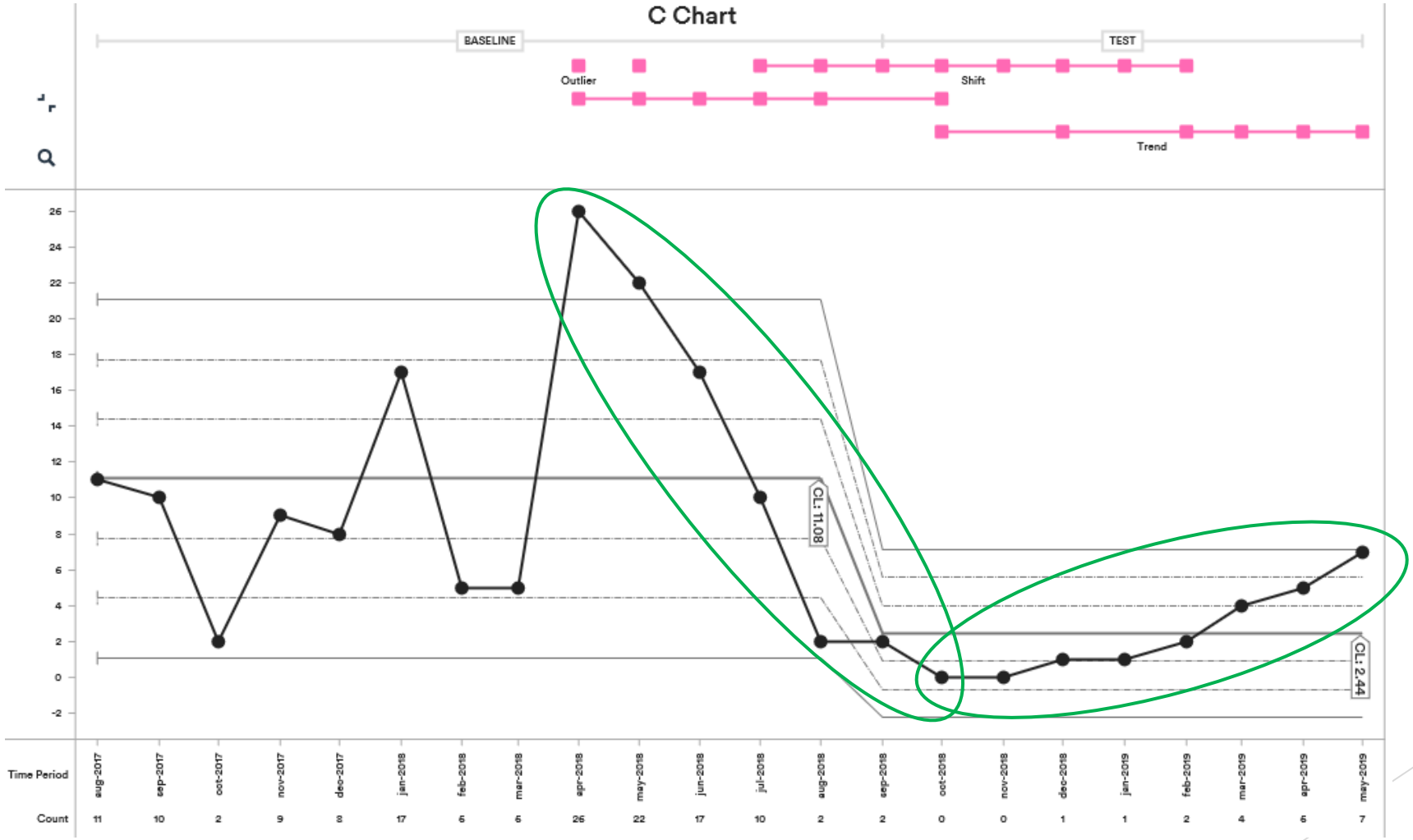
2) A trend

- Data is moving in a certain direction
- Unlikely to occur by natural processes
- 6 or more consecutive points in ascending or descending order

A trend



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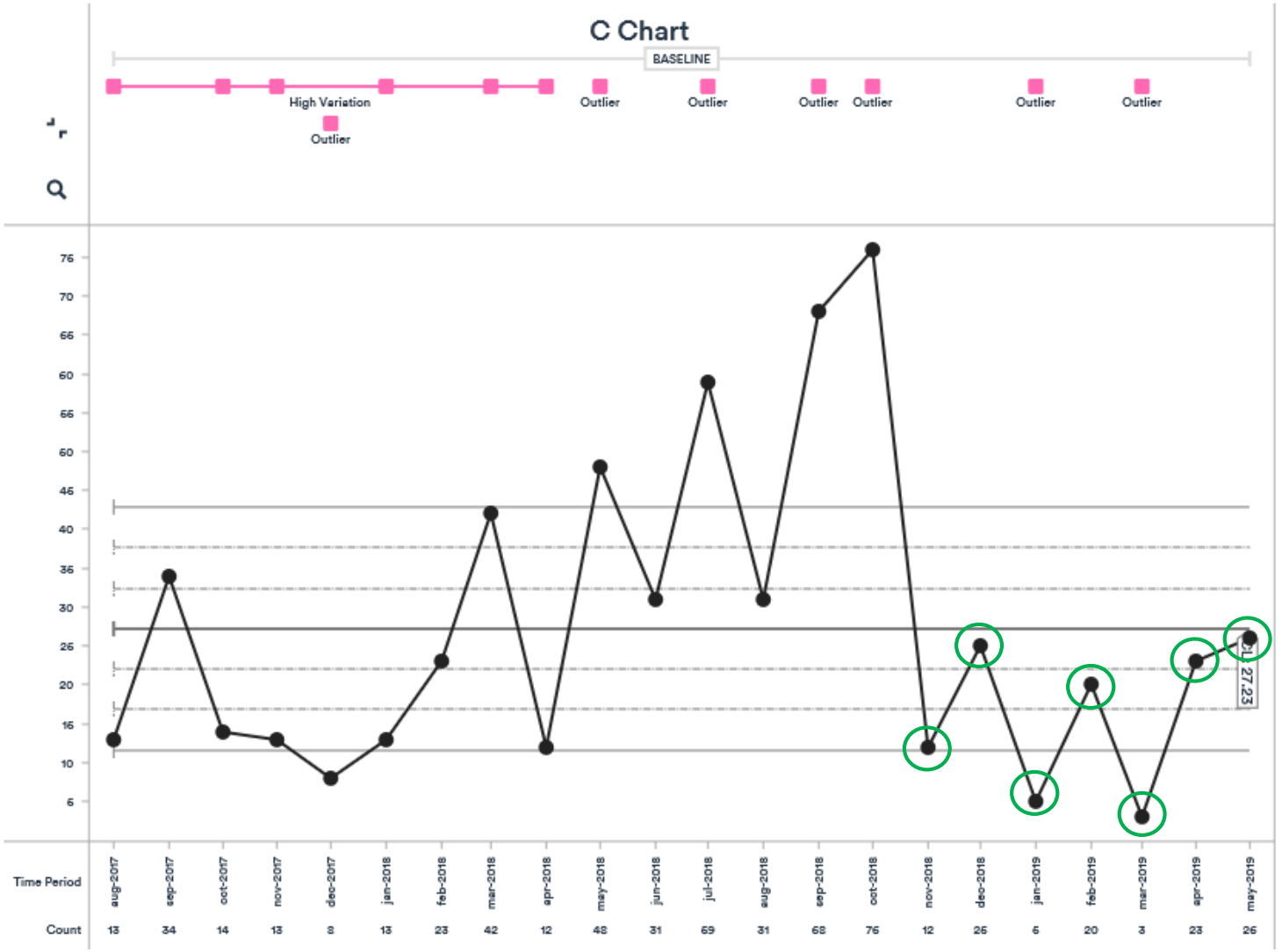
3) A shift

- A string of 8 points above/below the mean is a shift
- Indicates a sustained change in your data
- The mean and control limits no longer reflect your data and are recalculated

A shift



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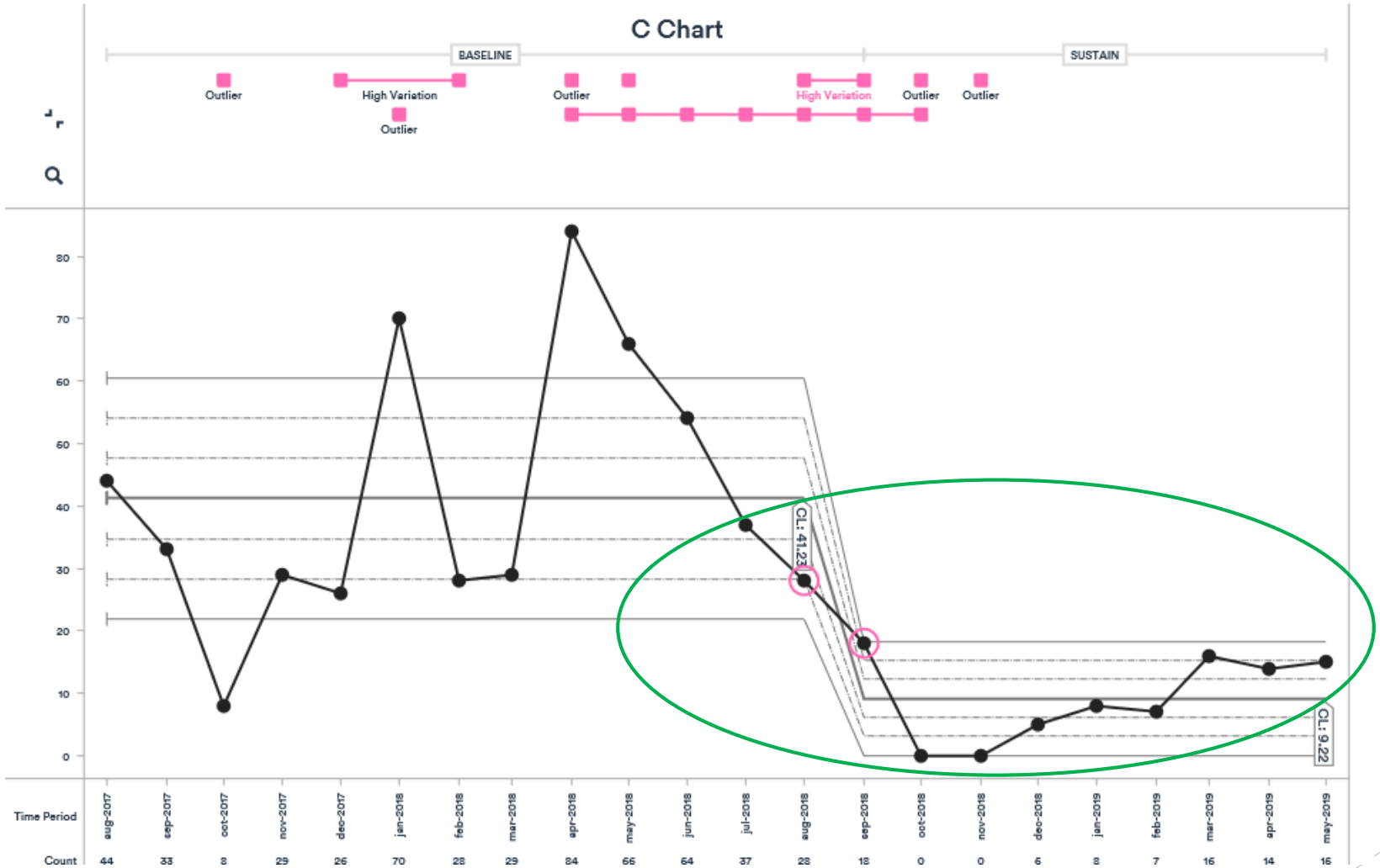
A shift



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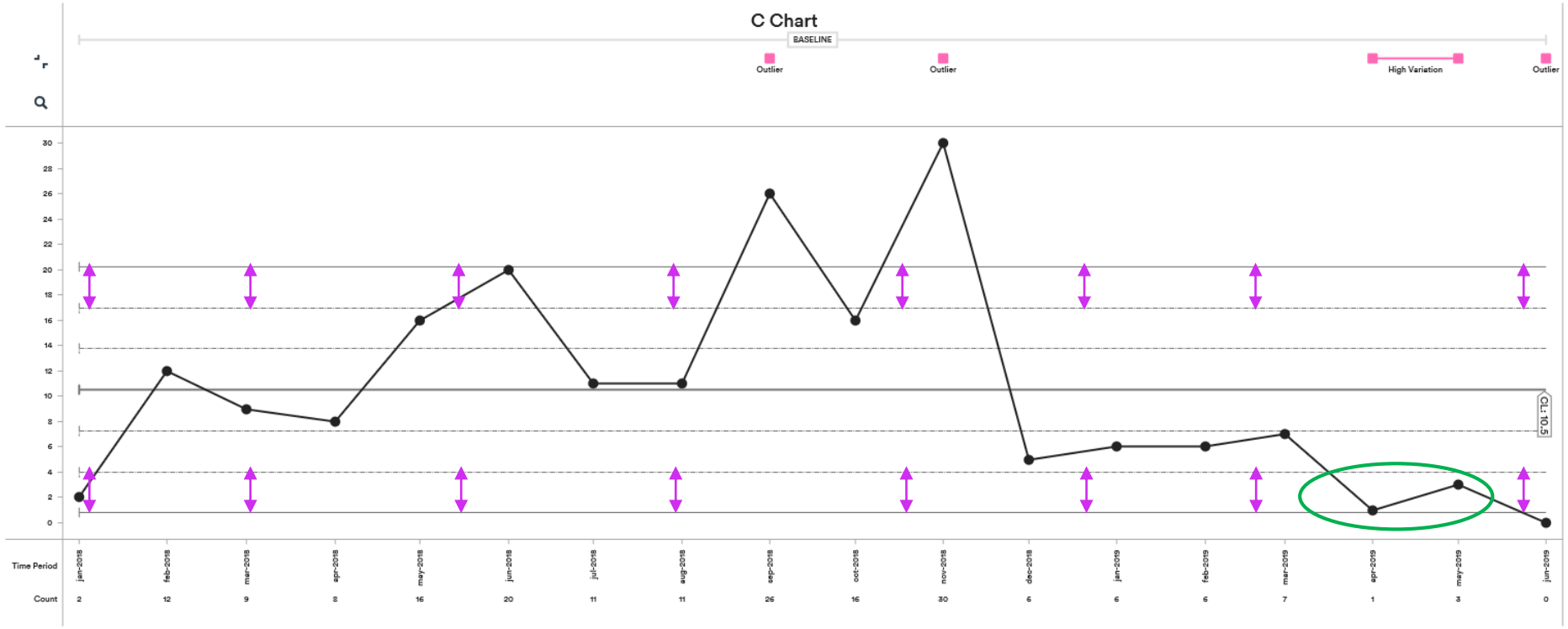
4) 2 out of 3 consecutive points in outer third



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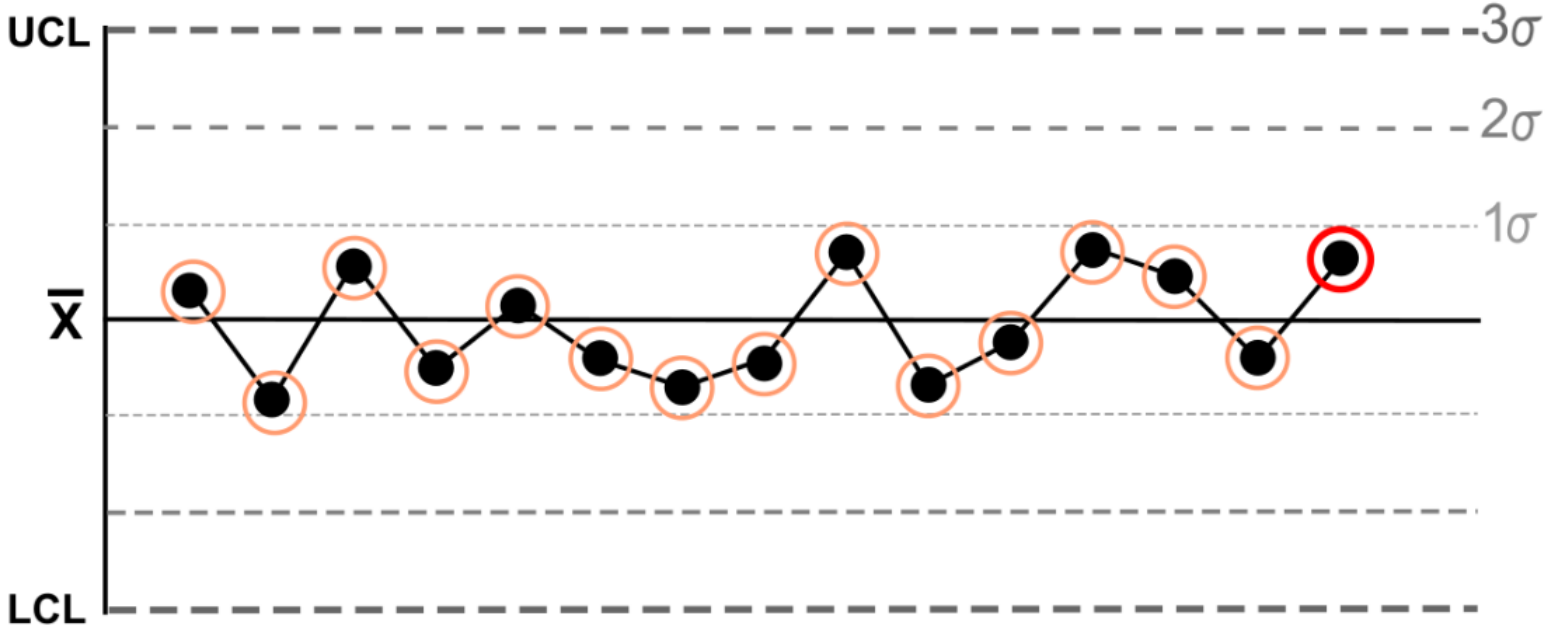
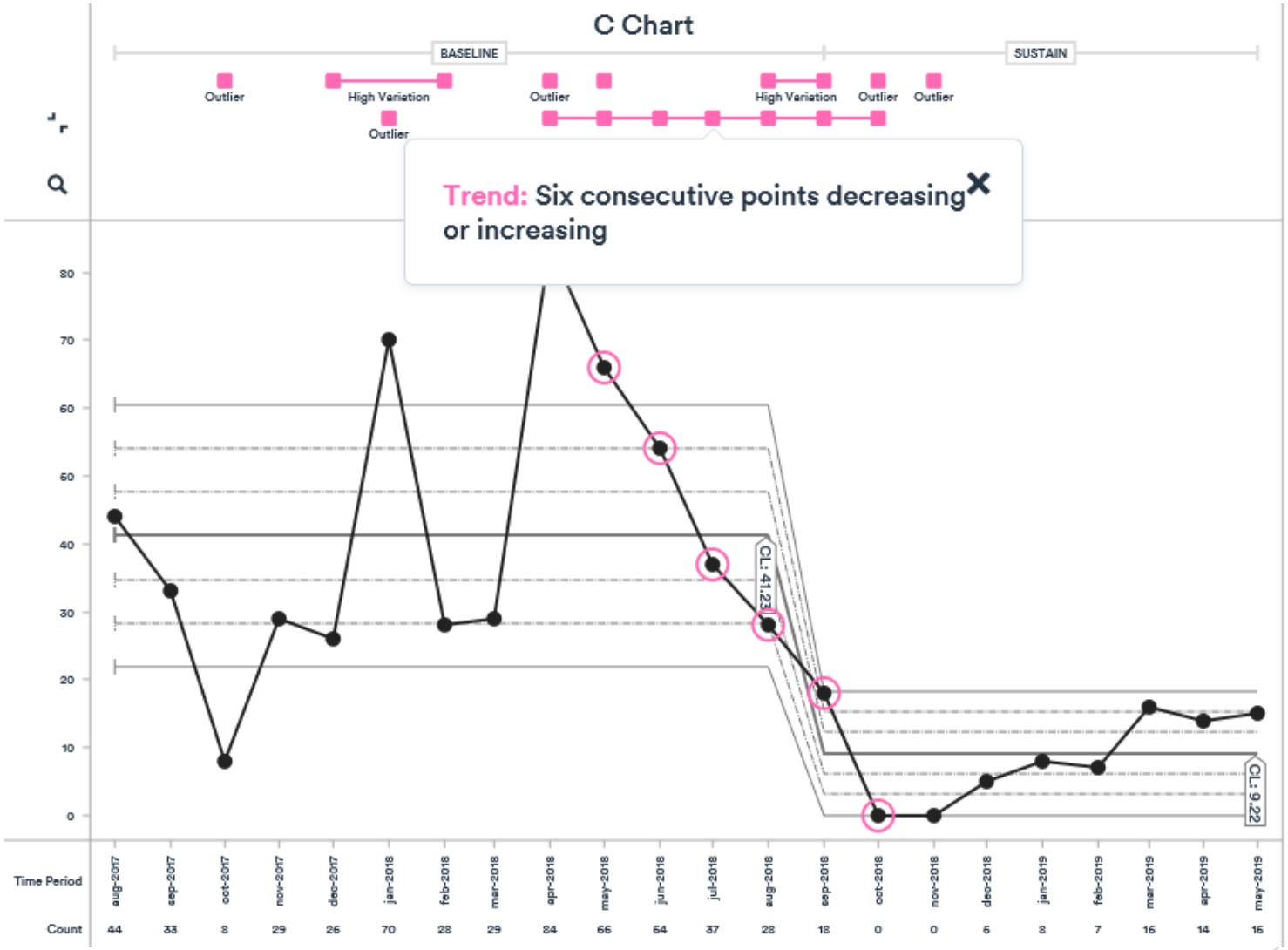
5) 15 consecutive points in inner third



LifeQI



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Interpreting your own data

- What story is your data telling you?
- Is there anything unusual in your data? Can you spot any of the rules?
- Annotate your charts with possible reasons for increases/decreases, special cause variation