Improve Your Lean Management System With a Simple Chart

Measures of Success: React Less, Lead Better, Improve More

Resources: MeasuresOfSuccessBook.com
Slides: MarkGraban.com/LeanFrontiers

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www.LeanBlog.org

A Lean Management System

Methods

- Value Stream Mapping
- Kaizen Boards
- Daily Huddles
- A3 Problem Solving
- Strategy Deployment
- Performance Measures

Mindsets

- Customer Focus
- Respect for People
- Create a system in which people can be successful
- Engage everybody
- Scientific, systematic problem solving and improvement

A Lean Management System

- One goal is reducing waste
  - This includes "management waste"
    - Wasted motion
    - Overprocessing

“What gets measured, gets managed.”

How do we manage?

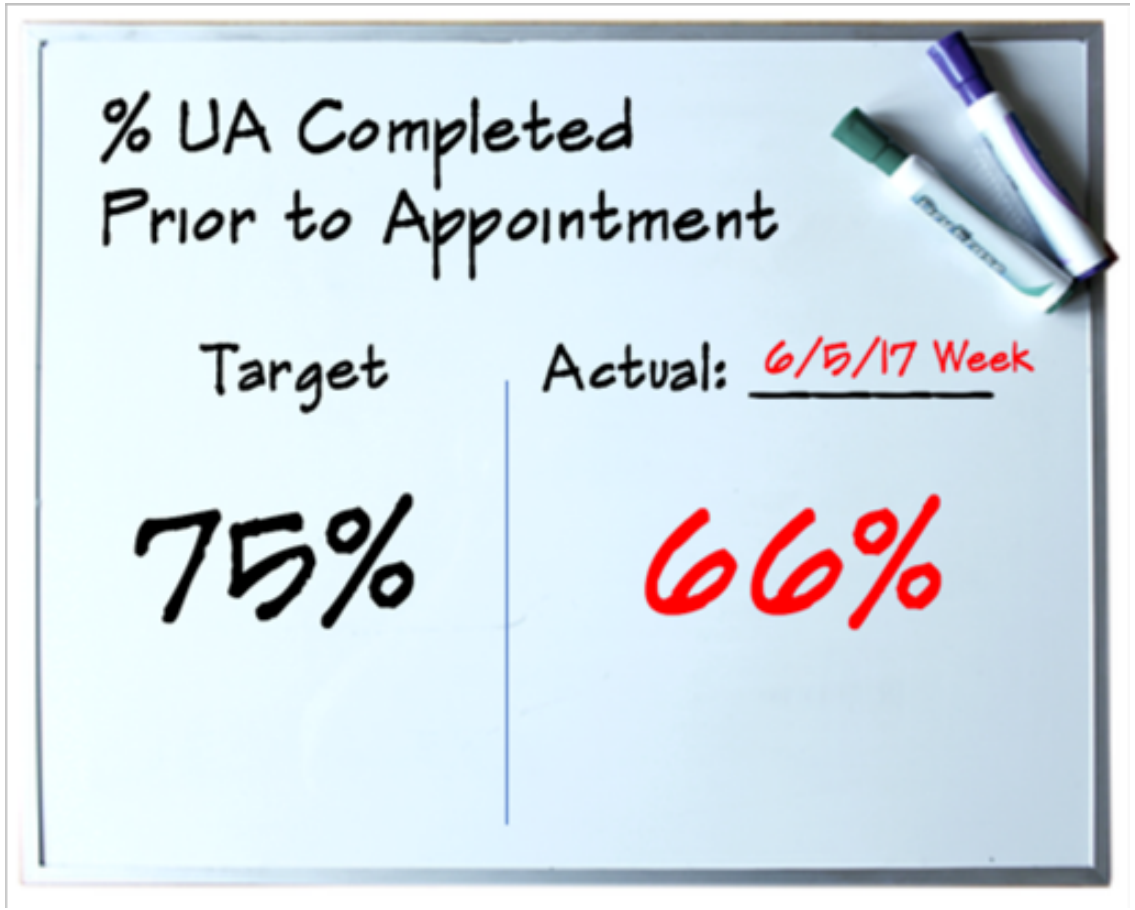
% UA Completed Prior to Appointment

Target

75%

Actual: 6/5/17 Week

66%



Three Key Questions

1. Are we achieving our target or goal?
2. Are we improving?
3. How do we improve?

Surgical Dashboard

Performance Measure	Target	Aug'05	Jan '06	Feb '06	Mar '[illegible]	[illegible]	[illegible]	[illegible] '06	Jul '06	Aug'06
REVENUE										
Total Patient Workload (cases)										
Total Cases		532	569	521	59[illegible]			[illegible]23	492	532
Inpatient		235	267	227	29[illegible]			[illegible]25	254	269
Outpatient		297	302	294	297			298	238	263
Total Minutes		49632	52246	49668	62433			[illegible]4828	46871	52212
***Total Prime Time Workload**										
Inpatient Workload (Prime Time)		171	176	160	194			204	160	168
Outpatient Workload (Prime Time)		271	273	270	270			271	212	280
Percentage of Weekday Cases (Prime Time)		86%	82%	85%	81%		85%	81%	82%	87%
Average Cases per Day										
Average Cases per Day (weekday)		22	26	23	25	24	24	27	23	22
Average Cases per Day (weekend)		2	2	2	3	3	4	3	3	4
Average Minutes per Case (total)		93	92	93	103	103	102	104	95	98
Turnover Time - Average (minutes)										
Inpatient Turnover Time - Average		25	25	30	28	28	34	27	30	27
Outpatient Turnover Time - Average		18	16	16	18	18	18	20	19	17
CVS		0	0	0	14	0	41	35	0	27
ENT		21	16	20	13	21	18	21	16	0
GENERAL		24	21	22	26	26	23	25	26	23
NEURO		23	34	35	39	39	39	40	48	36
OBGYN		24	29	24	22	26	27	20	24	24
OPHTHAL		8	7	7	11	8	9	7	8	5
ORALDENT		0	0	0	0	0	0	0	0	0
ORTHO		20	21	26	16	20	27	23	20	23
PAINMGMT		44	0	32	0	31	0	0	0	0
PLASTIC		28	24	23	47	37	29	19	16	28
PODIATRY		0	0	37	22	28	0	0	33	29
UROLOGY		19	23	21	18	20	26	24	16	23
Delays										
Anesthesia										
ANES DELAY		6	12	3	4	7	10	8	6	6
Preoperative										
NO LAB REPORT		1	1	2	2	0	1	0	1	0
NO H&P		7	6	3	6	2	7	4	3	8
NO EKG REPORT		1	5	0	0	0	0	2	1	2
X-RAY DELAY		3	2	0	0	2	0	0	0	0
PT DELAYED FROM UNIT		2	3	0	1	1	1	0	2	3
PT DELAY		4	4	0	3	1	1	3	2	6
SUBTOTAL		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

PERFORMANCE DATA	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	NOW
Speed (mph)	45	No Data	47	72	38		
Eco Driving Rating	7	No Data	6	3	7		
Emergency Braking Alerts	1	No Data	0	2	0		
Miles Range Remaining	298	No Data	232	153	100		
Front Left Tire Air Level	45	No Data	46	45	45		
Front Right Tire Air Level	46	No Data	45	46	46		
Rear Left Tire Air Level	46	No Data	47	46	47		
Rear Right Tire Air Level	46	No Data	46	45	37		
Outside Temperature (F)	65	No Data	67	68	72		
Driver Temperature (F)	72	No Data	72	72	72		
Passenger Temperature (F)	70	No Data	70	70	70		
Artist (Sat Radio)	Jewel	No Data	Boy George	Nickleback	MC Hammer		

"Bowling Chart" or "Bowler"

True North Pillar	Metric	Desired Direction		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Quality & Safety	Falls with Severe Injury	DOWN	Actual	0	1	0	0	1	0	0	0	0			
			Target	0	0	0	0	0	0	0	0	0	0	0	0
Quality & Safety	CLABSI	DOWN	Actual	0	0	1	0	0	1	2	0	0			
			Target	0	0	0	0	0	0	0	0	0	0	0	0
Quality & Safety	CAUTI	DOWN	Actual	1	0	0	0	0	0	0	1	1			
			Target	0	0	0	0	0	0	0	0	0	0	0	0
Team Engagement	Necessary Information Available Survey	UP	Actual	67%	50%	48%	70%	46%	40%	60%	70%	50%			
			Target	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Patient Experience	Likelihood to recommend	UP	Actual	76.40%	78.40%	80.50%	70.00%	46.00%	40.00%	60.00%	70.00%	50.00%			
			Target	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%	79.90%
Patient Experience	Hospital rating	UP	Actual	76.40%	77.70%	77.60%	77.60%	77.20%	77.60%	77.00%	75.00%	63.00%			
			Target	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%

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Quality & Safety	CLABSI	DOWN	Actual	0	0	1	0	0	1	2	0	0
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Quality & Safety	CAUTI	DOWN	Actual	1	0	0	0	0	0	0	1	1
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Patient Experience	Hospital rating	UP	Actual	76.40%	77.70%	77.60%	77.60%	77.20%	77.60%	77.00%	75.00%	63.00%
			Target	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%

Three Key Questions

1. Are we achieving our target or goal?
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			Target	0	0	0	0	0	0	0	0	0
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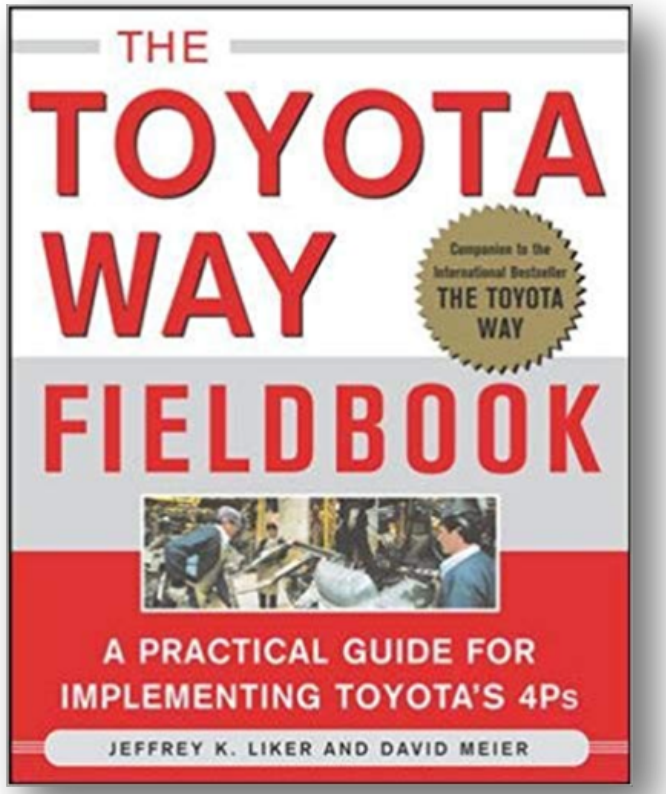
			Target	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%

Additional Questions

- Which of these numbers (if any) suggests that the system has changed significantly?
- Which of these merit reaction, investigation, or explanation?
- How do we prioritize?

WWTD?



Any improvement process should be driven by targets that have these characteristics. Then consistently measure and plot the measures on simple visual trend charts as discussed in Chapter 14. In this case,

- **Tendency.** Is the problem getting worse, improving, or staying the same? When comparing problems it is necessary to consider whether every problem should be addressed.

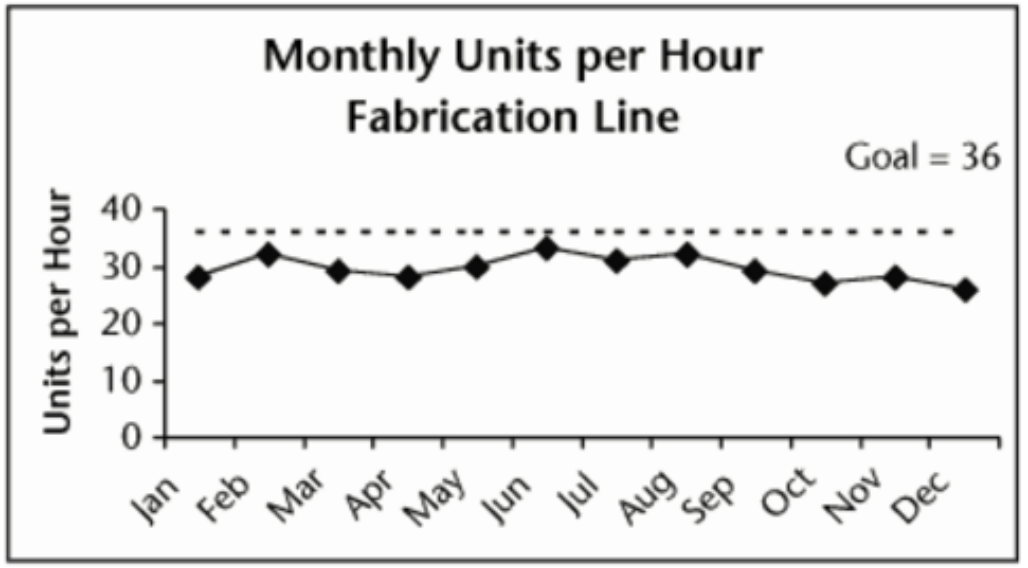
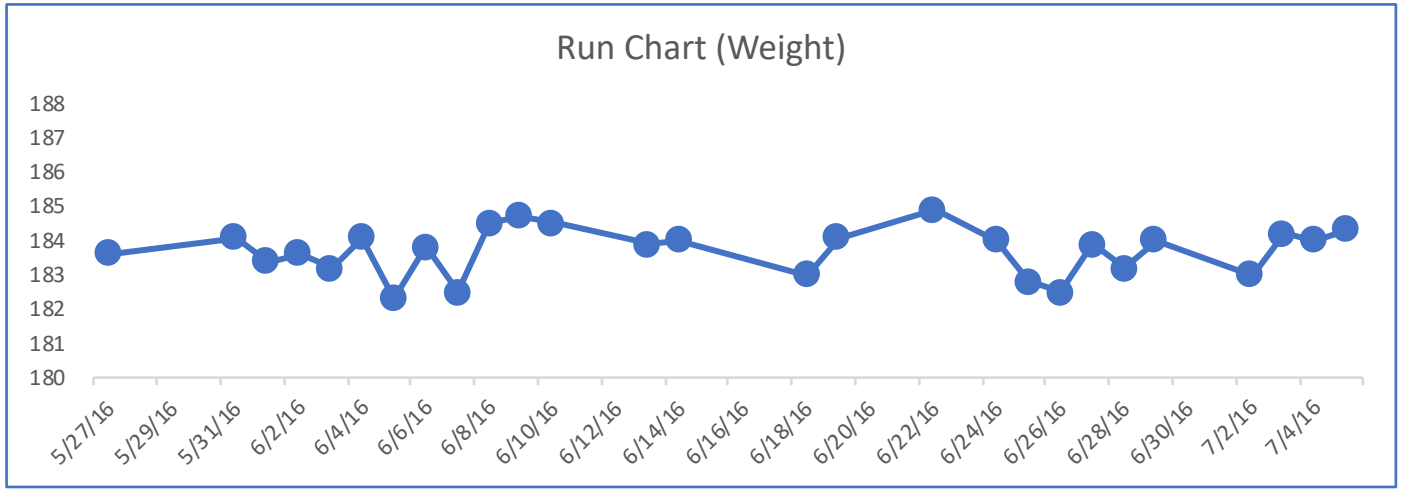


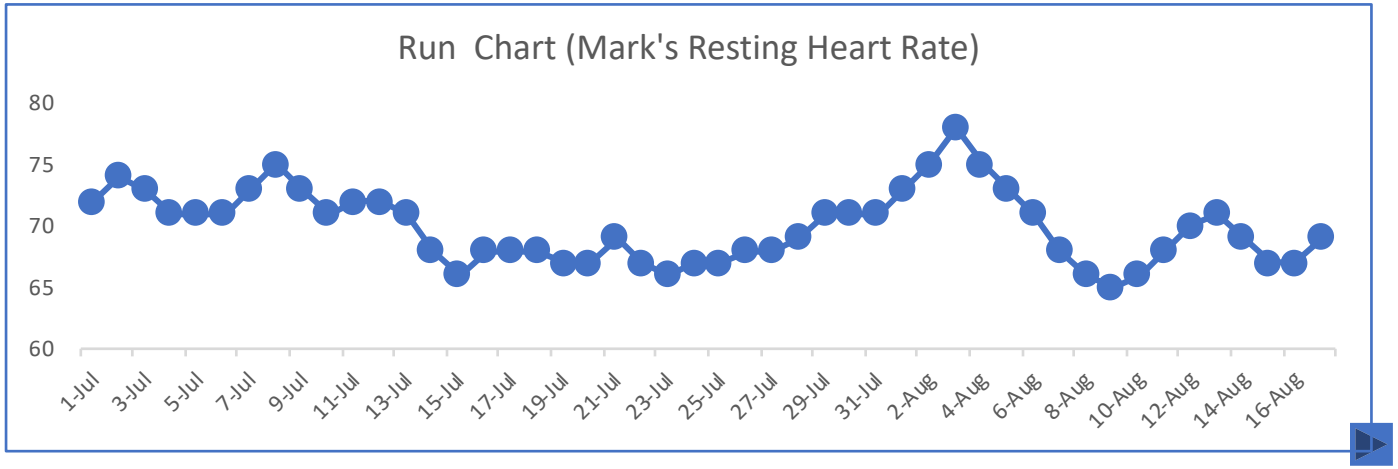
Figure 14-5. Trend chart of monthly units per hour

There is Variation in Every Metric

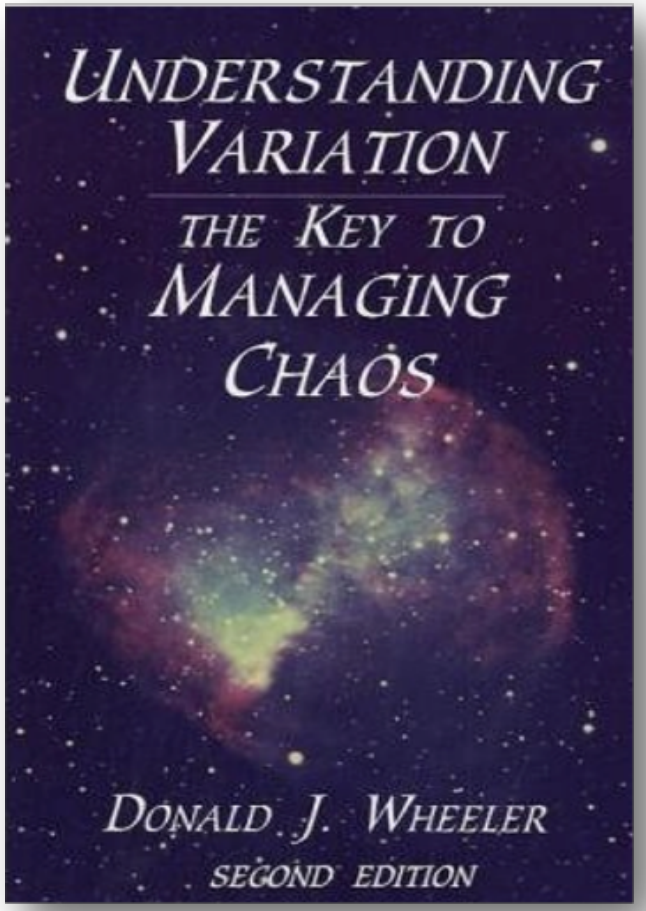
- The question is "how much variation is routine?"

- Personal examples:
  - Body weight
  - Time to drive to work
  - Resting heart rate





Signals vs. Noise

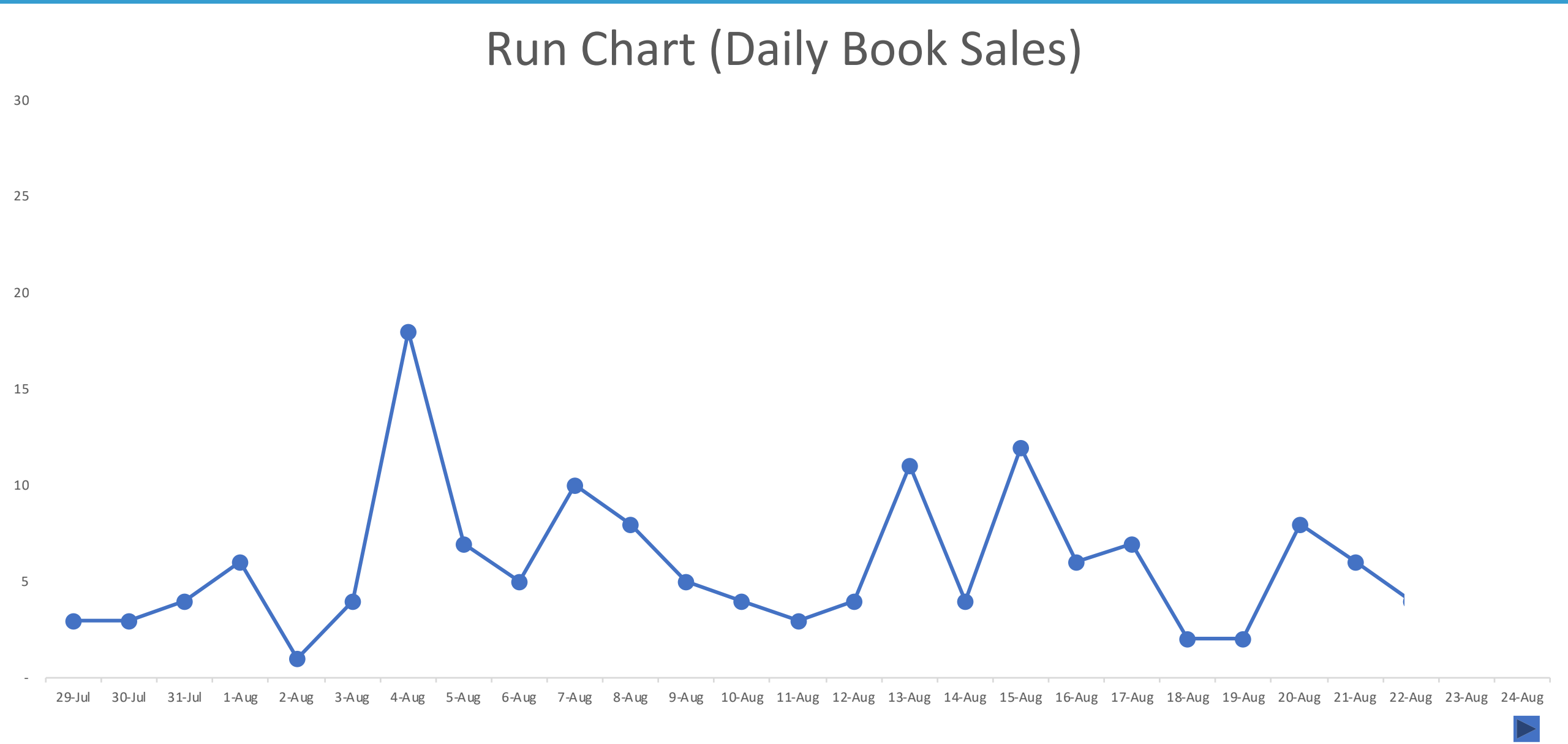


"While every data set contains noise,
some data sets may contain signals.

Therefore, before you can detect a signal
within any given data set,
you must first filter out the noise."

"Process Behavior Charts"

"Process Behavior Chart" – *Measures of Success*



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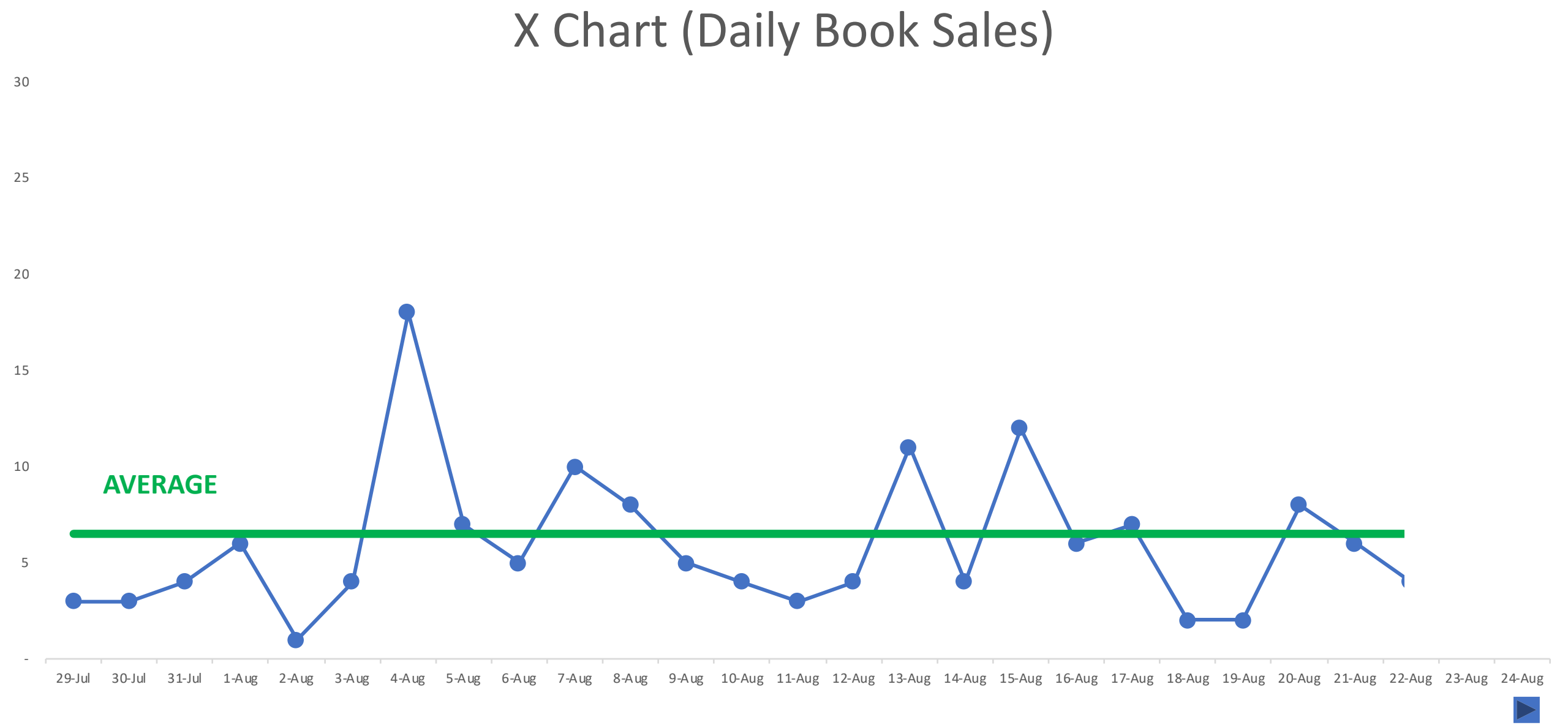

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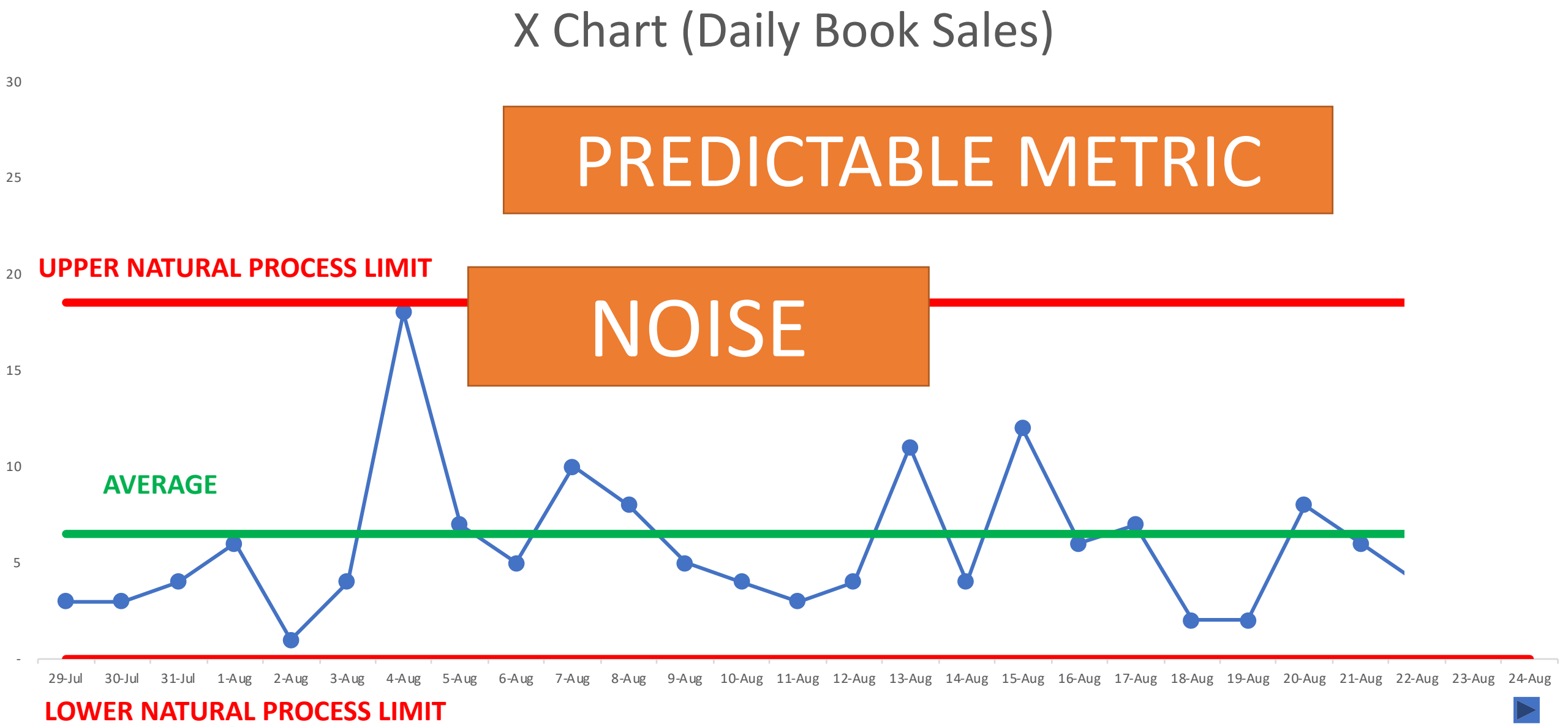

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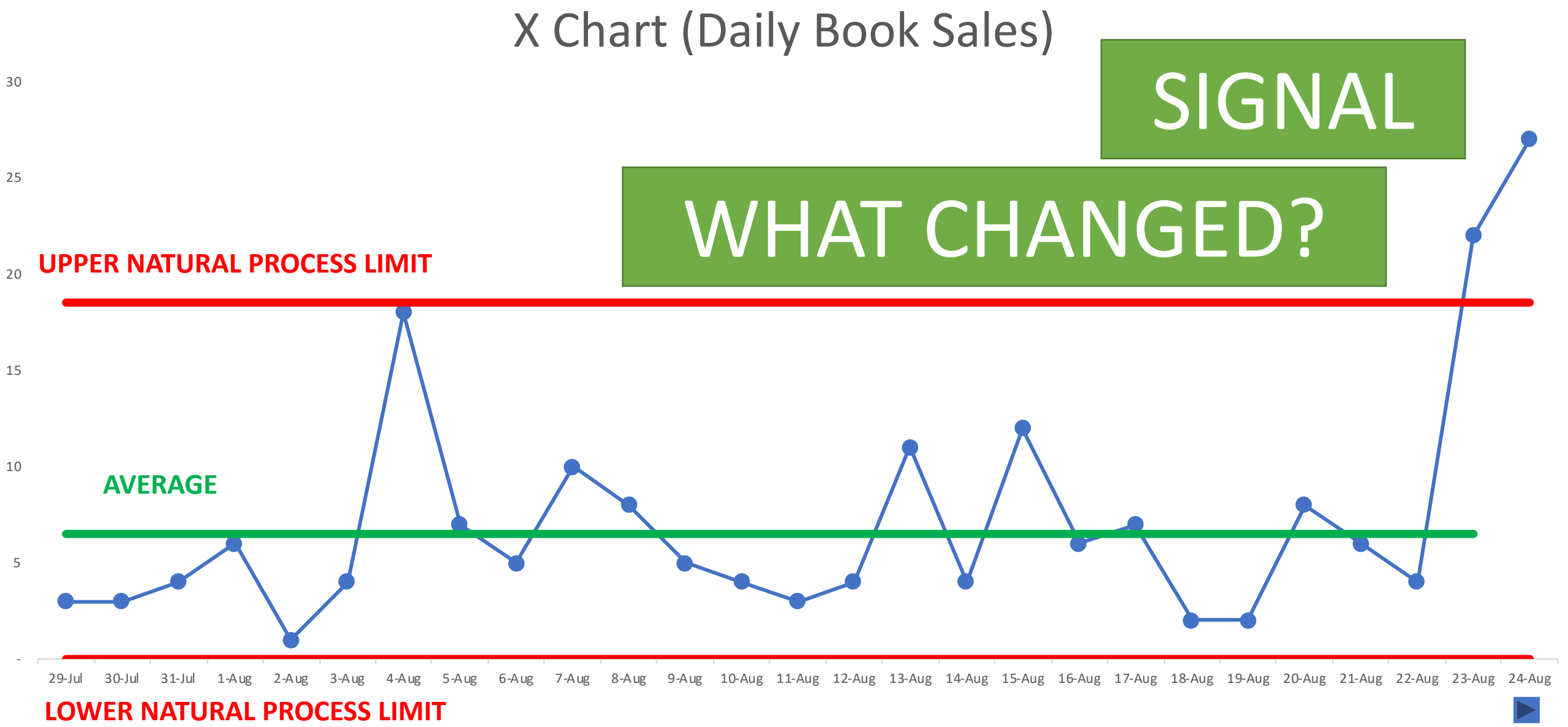
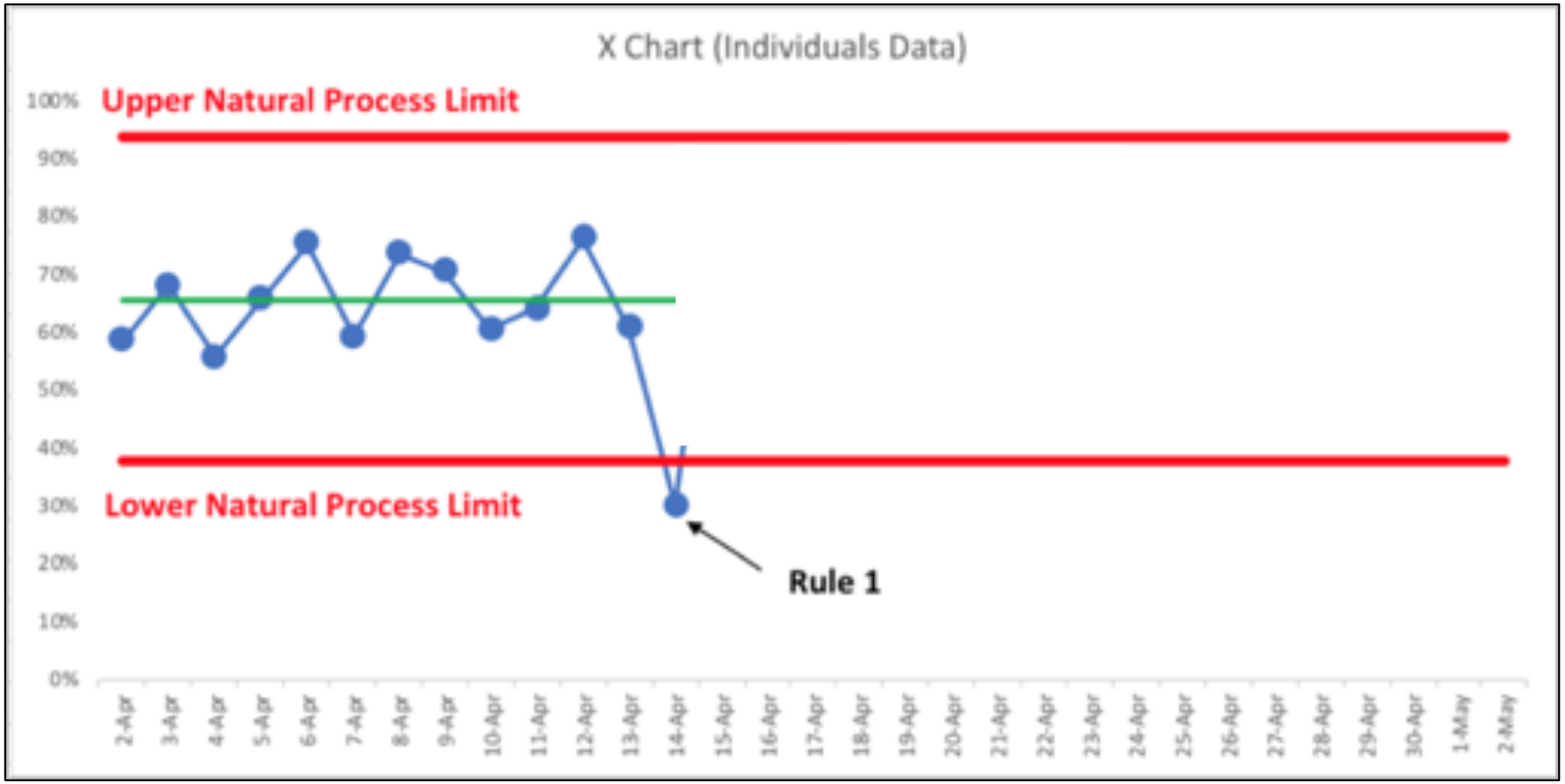


3 Rules for Finding a Signal



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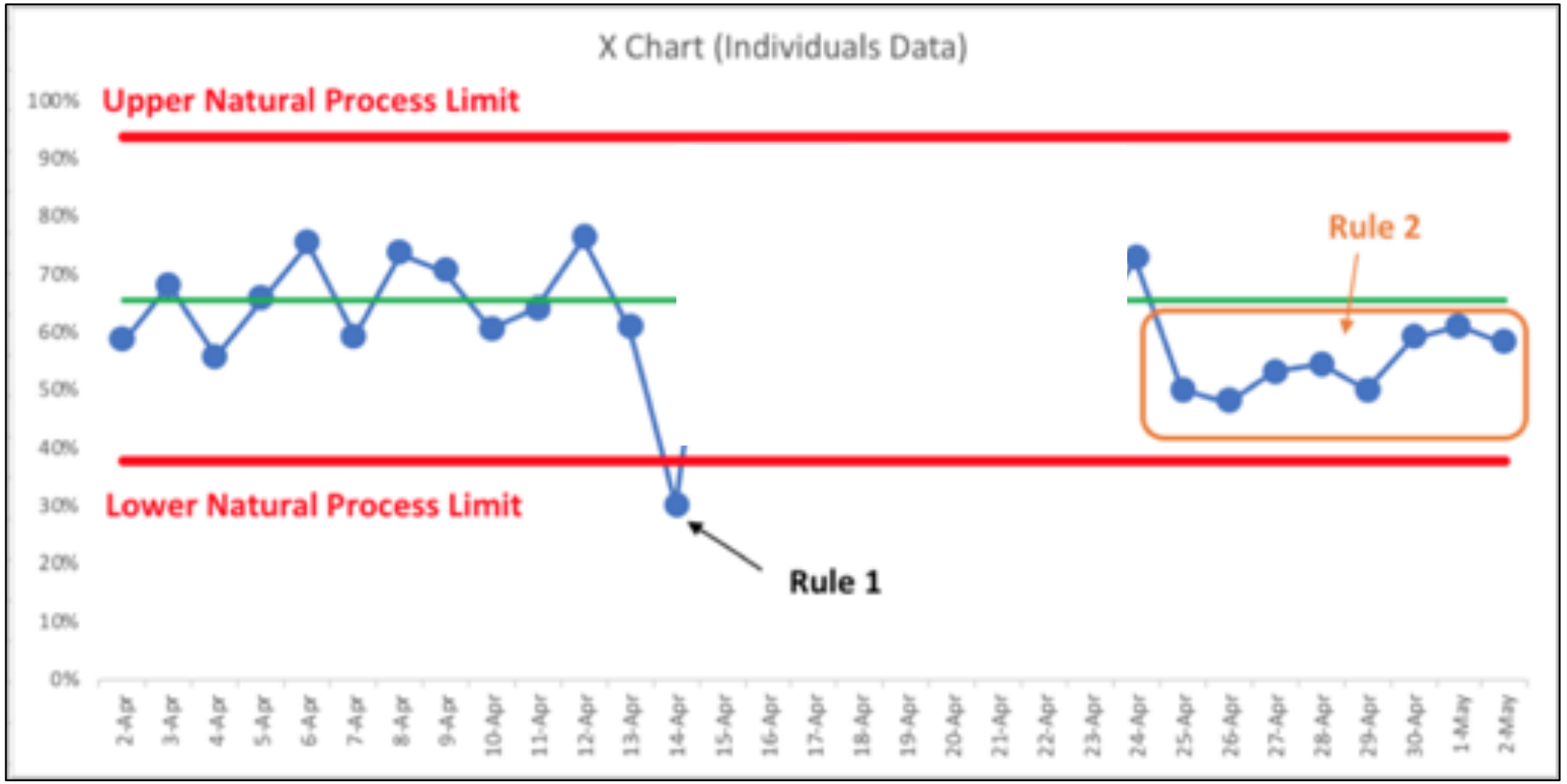

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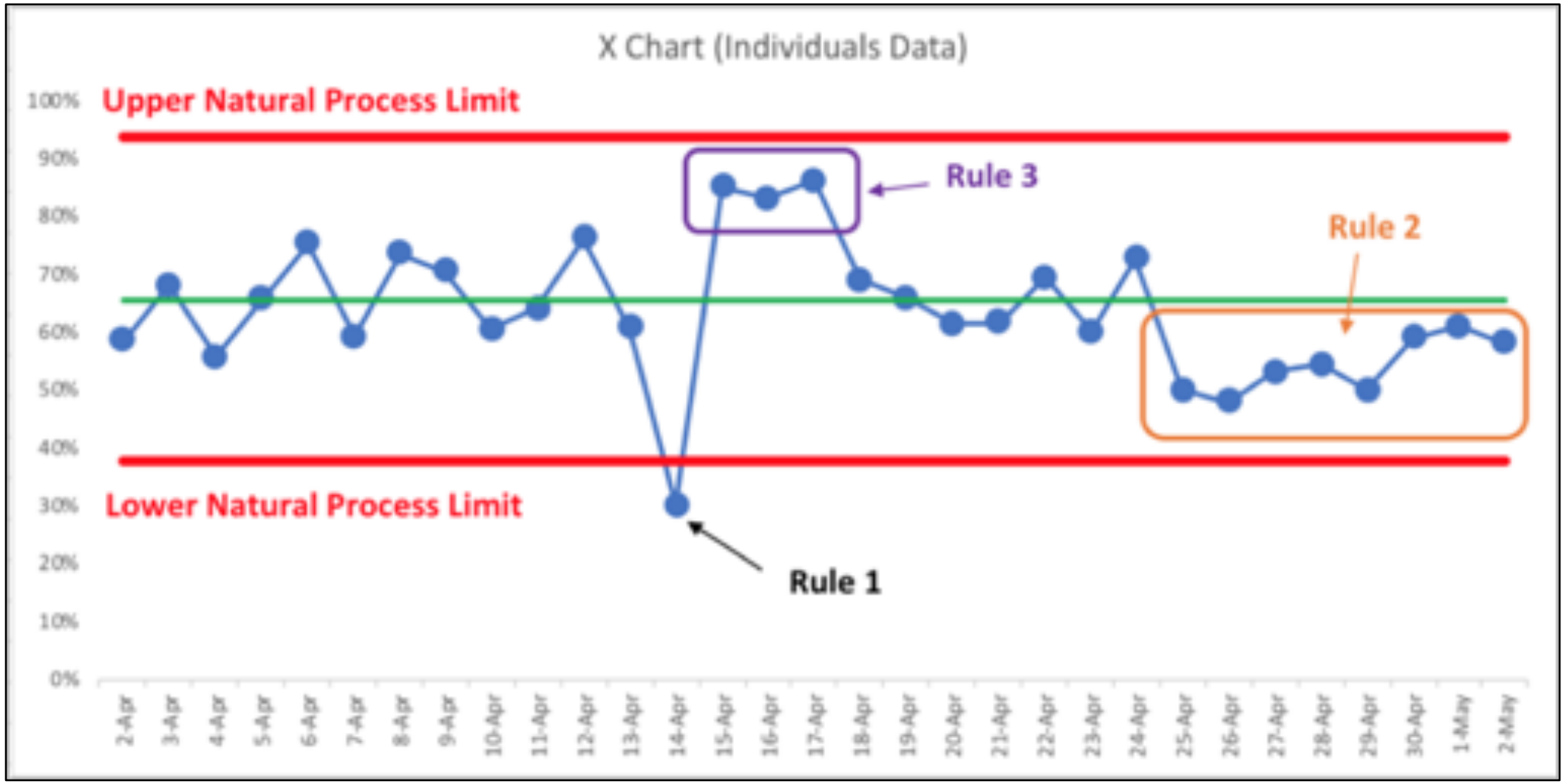

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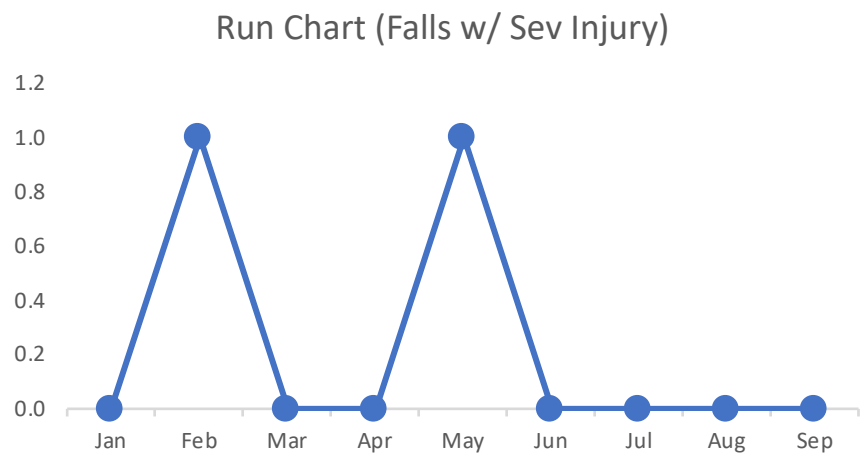
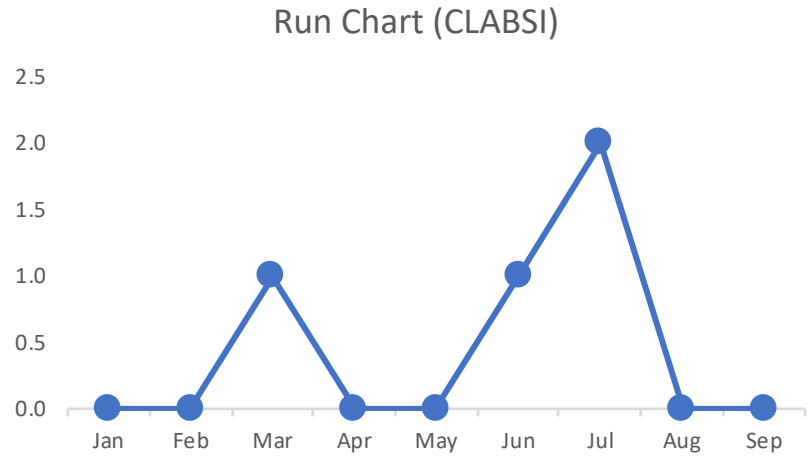
			Target	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%	77.50%

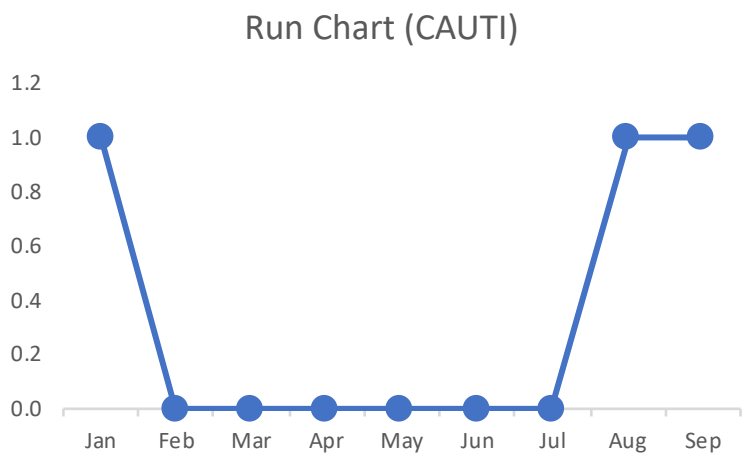
Three Key Questions

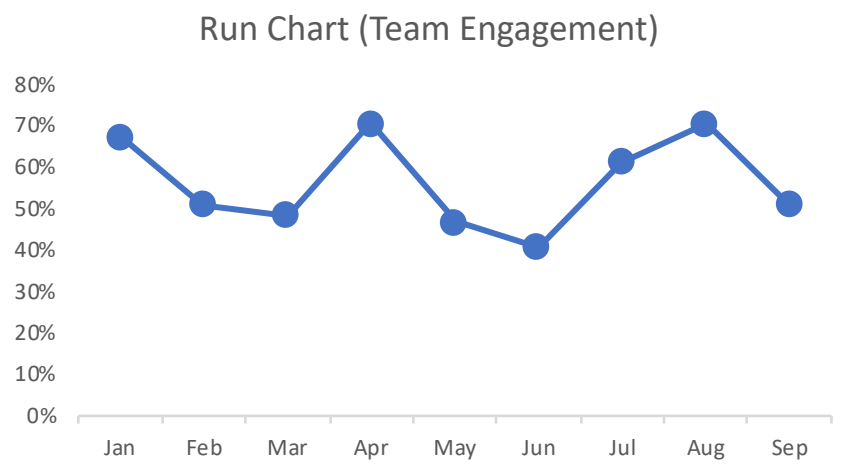
1. Are we achieving our target or goal?
2. Are we improving?
3. How do we improve?

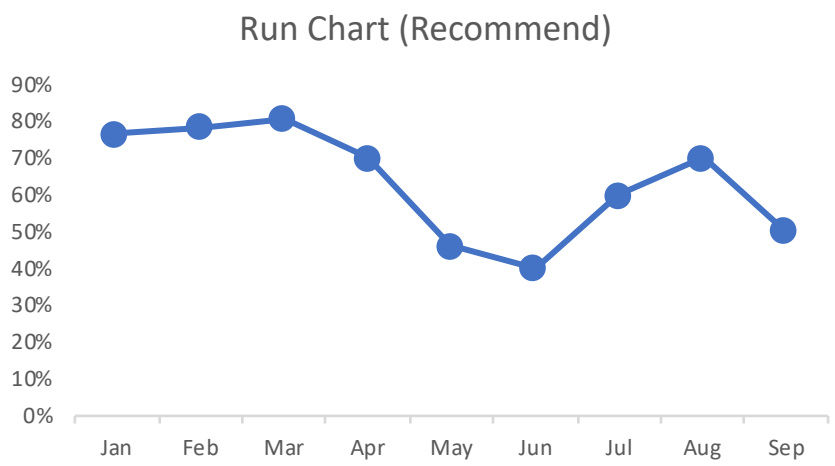
Bowling Chart as Run Charts

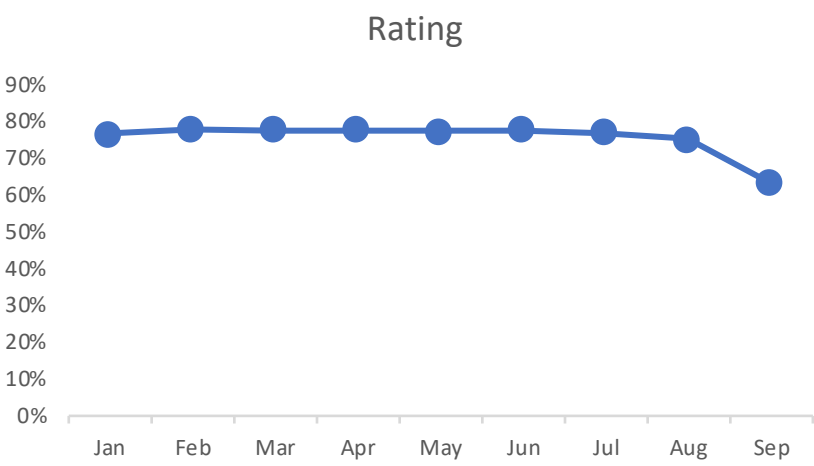






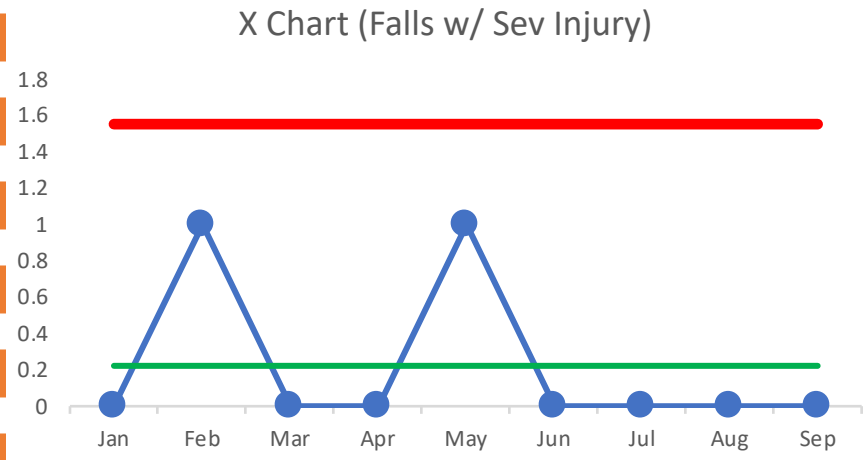


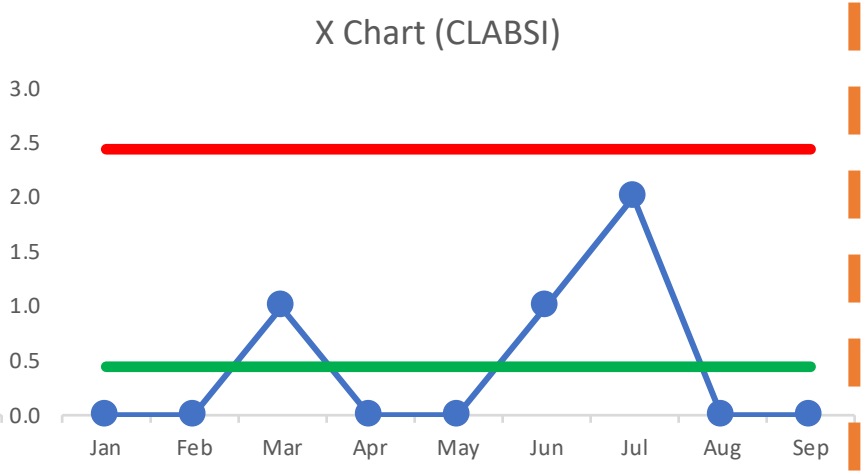


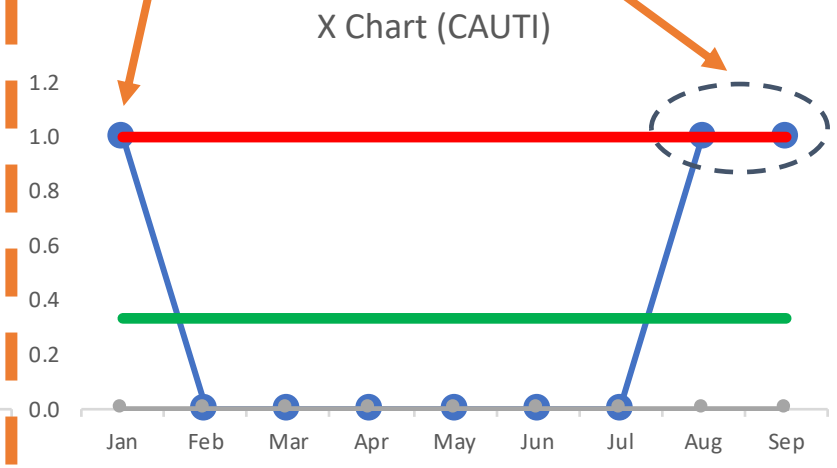


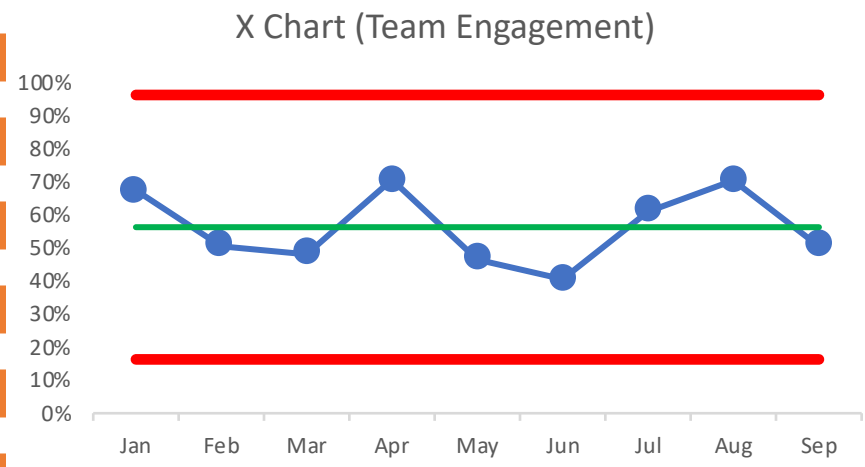
WHEN DO WE REACT?

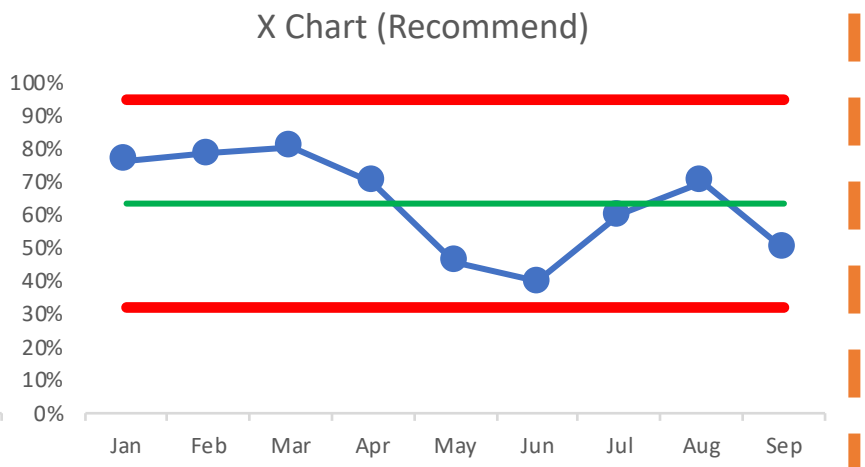
Bowling Chart as PBCs

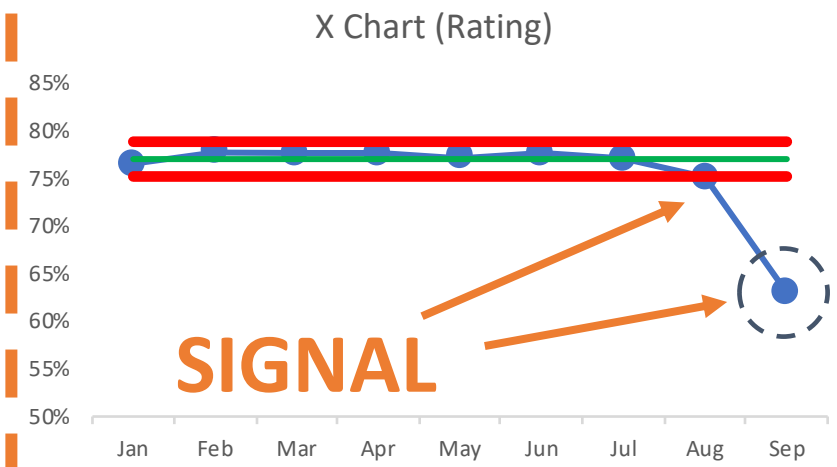












NOISE

Three Key Questions

- **Question 1: Are we achieving our target or goal?**
  a. Are we doing so occasionally?
  b. Are we doing so consistently?

- **Question 2: Are we improving?**
  a. Can we predict future performance?

- **Question 3: How do we improve?**
  a. When do we react?
  b. When do we step back and improve the system?
  c. How will know if we've improved?

A PBC for the *Fieldbook* "Trend Chart"

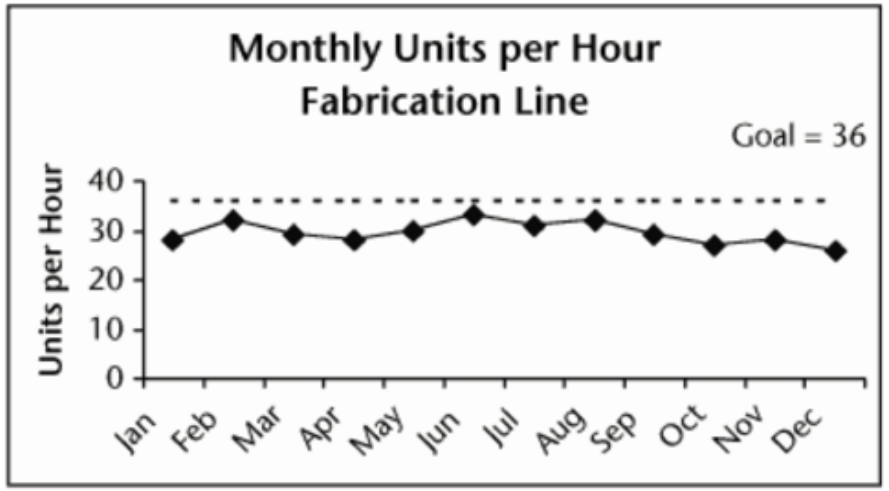
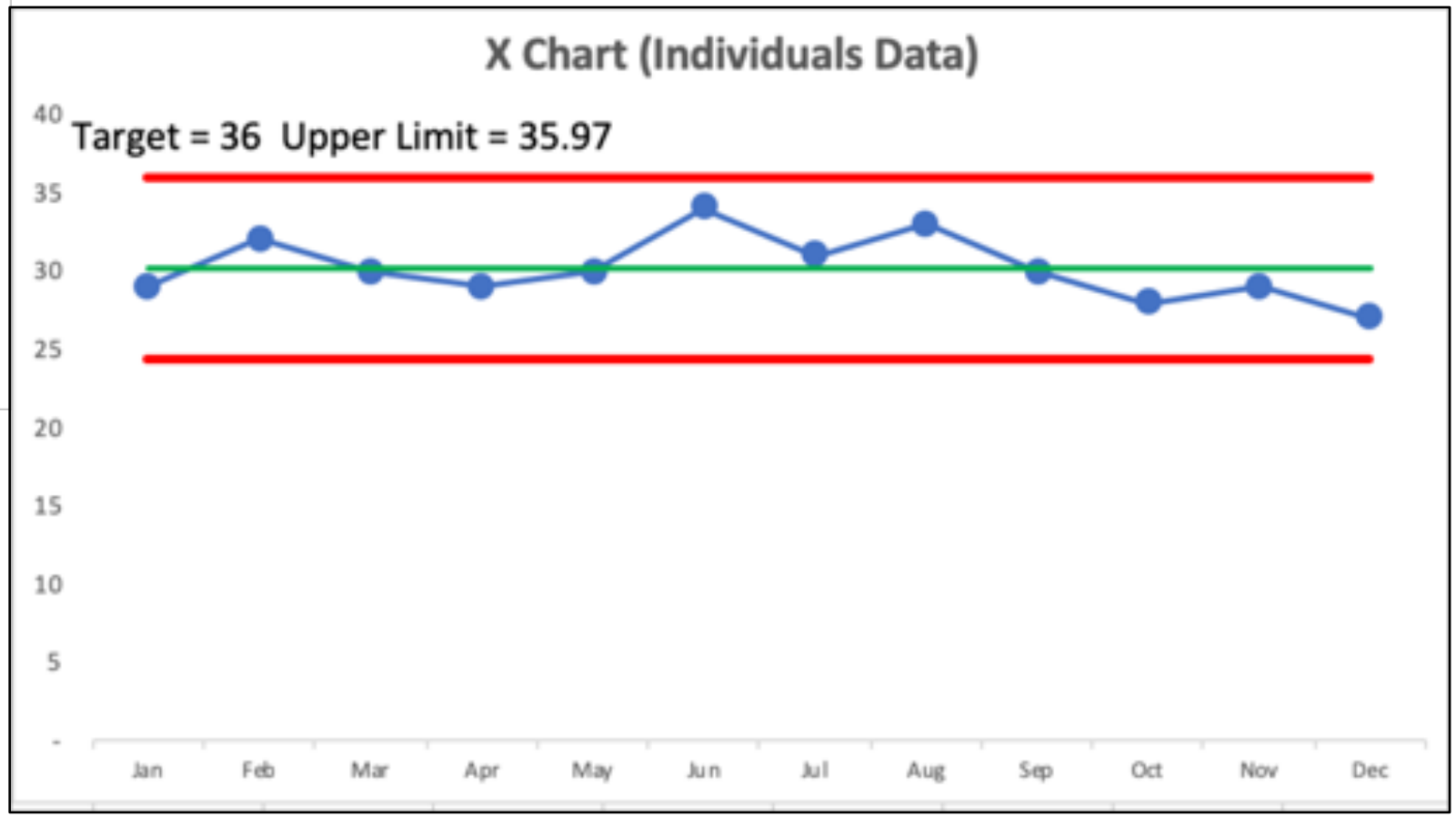


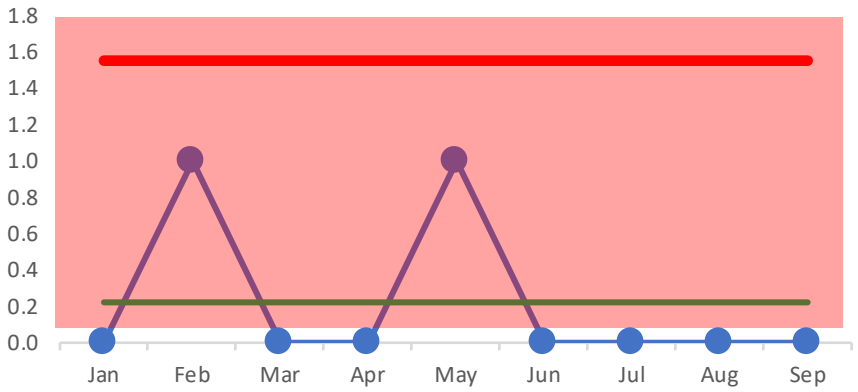
Figure 14-5. Trend chart of monthly units per hour



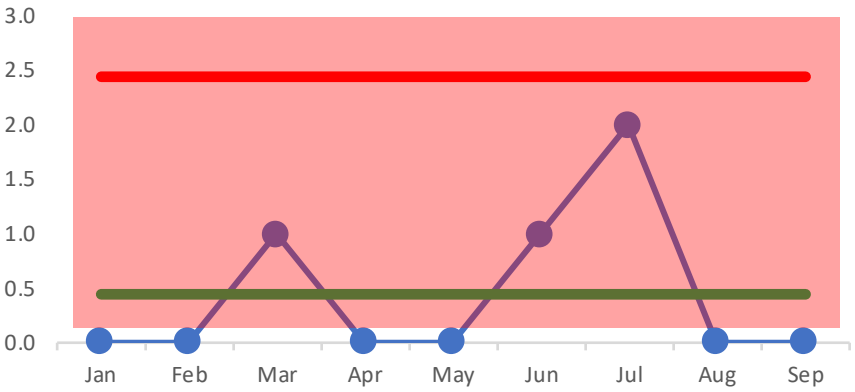
Bowling Chart as PBCs with Red/Green

SIGNAL

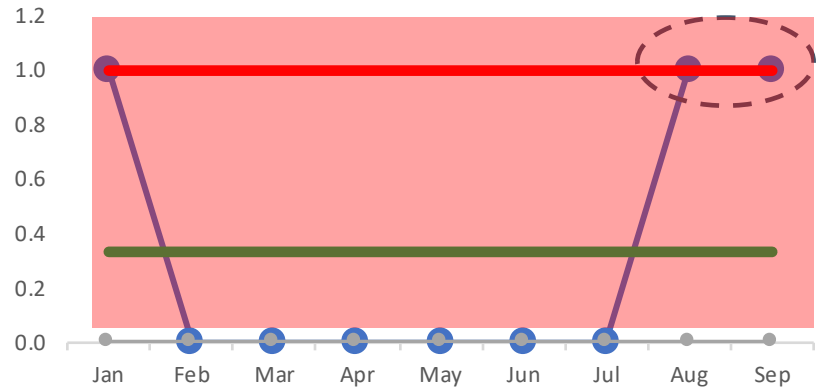
X Chart (Falls w/ Sev Injury)



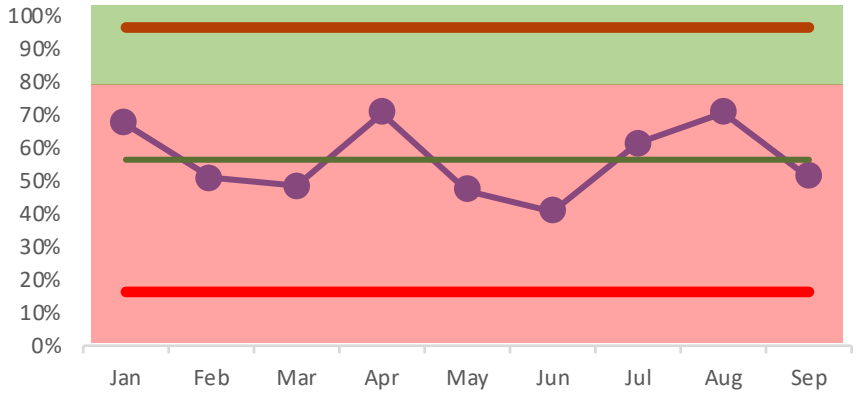
X Chart (CLABSI)



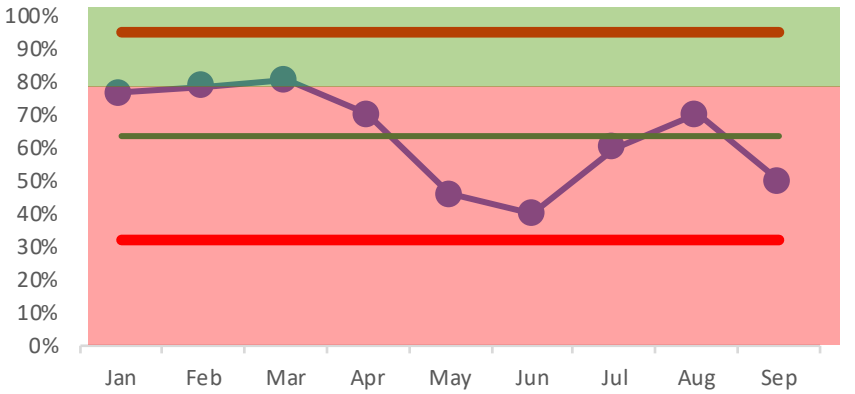
X Chart (CAUTI)



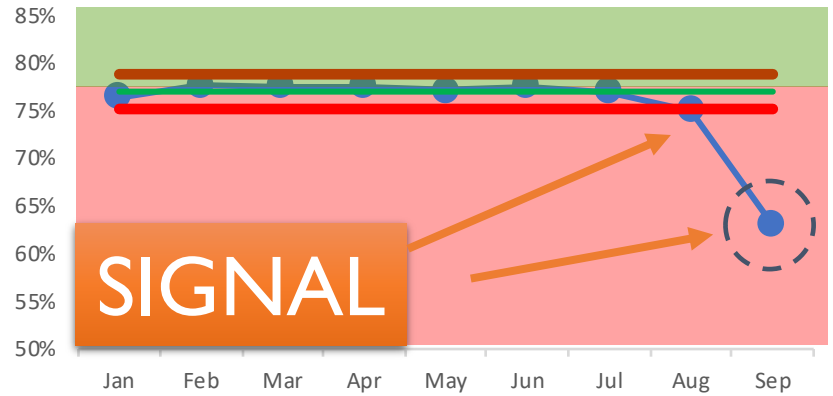
X Chart (Team Engagement)



X Chart (Recommend)

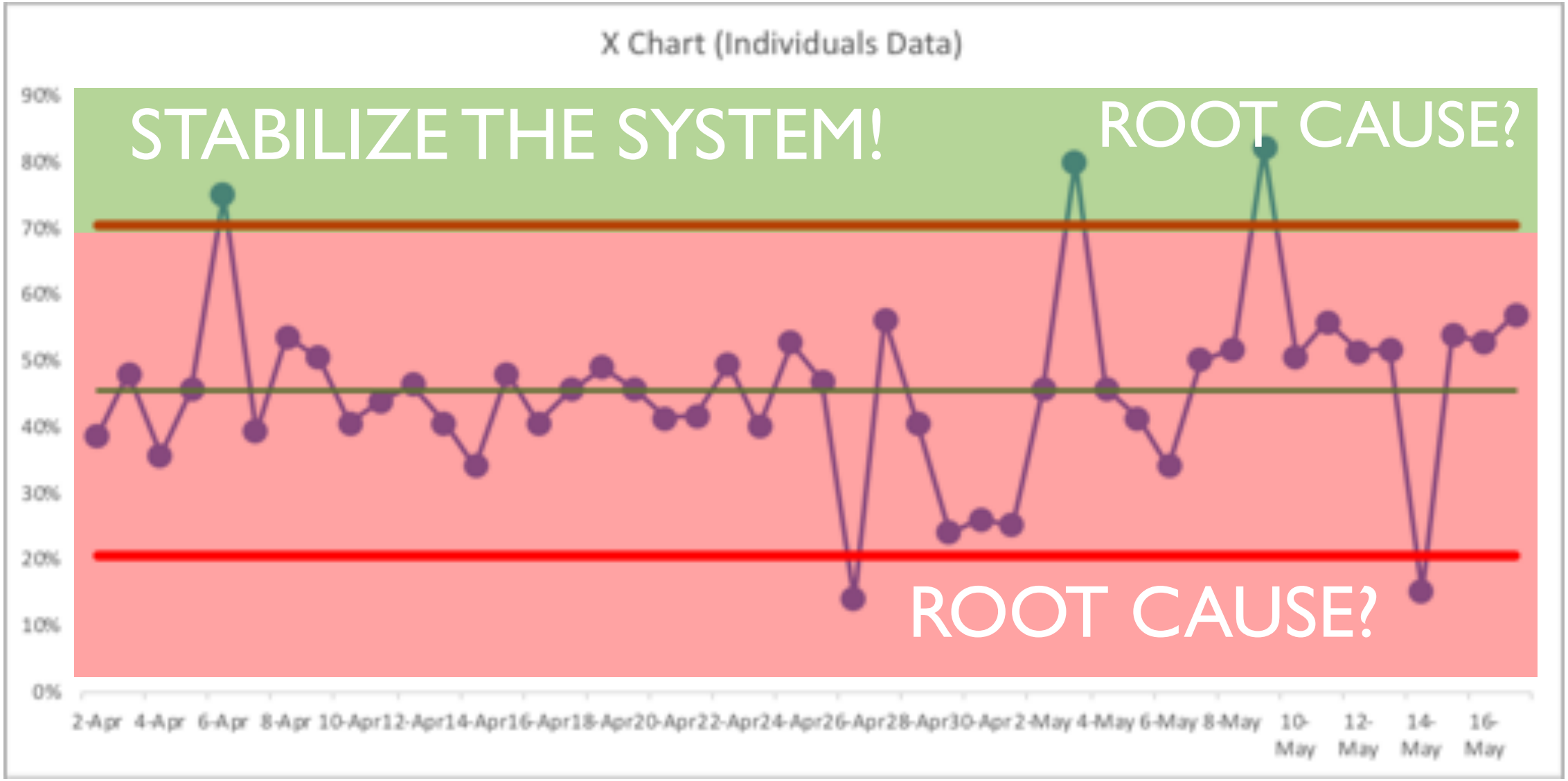


X Chart (Rating)

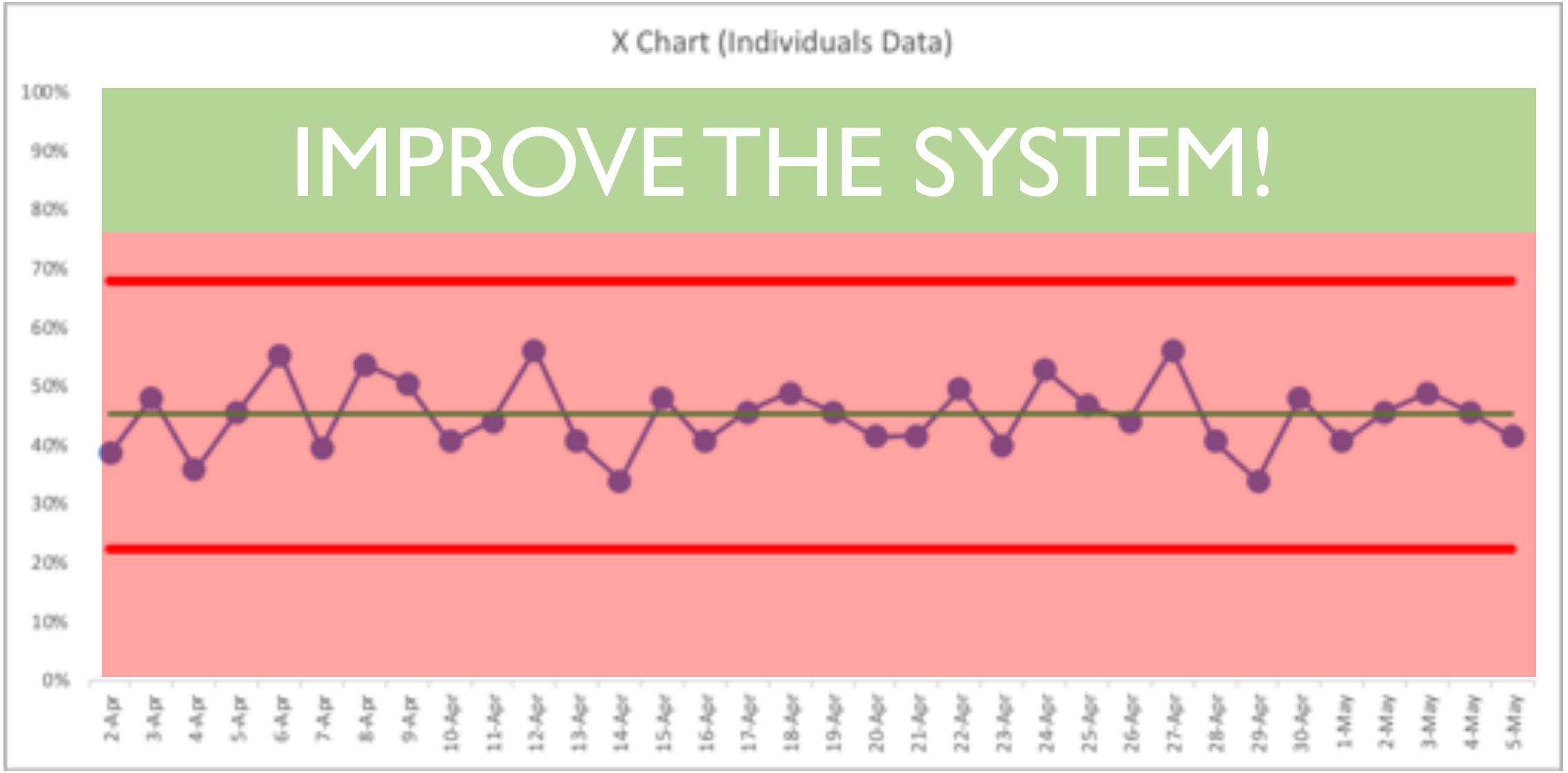


NOISE

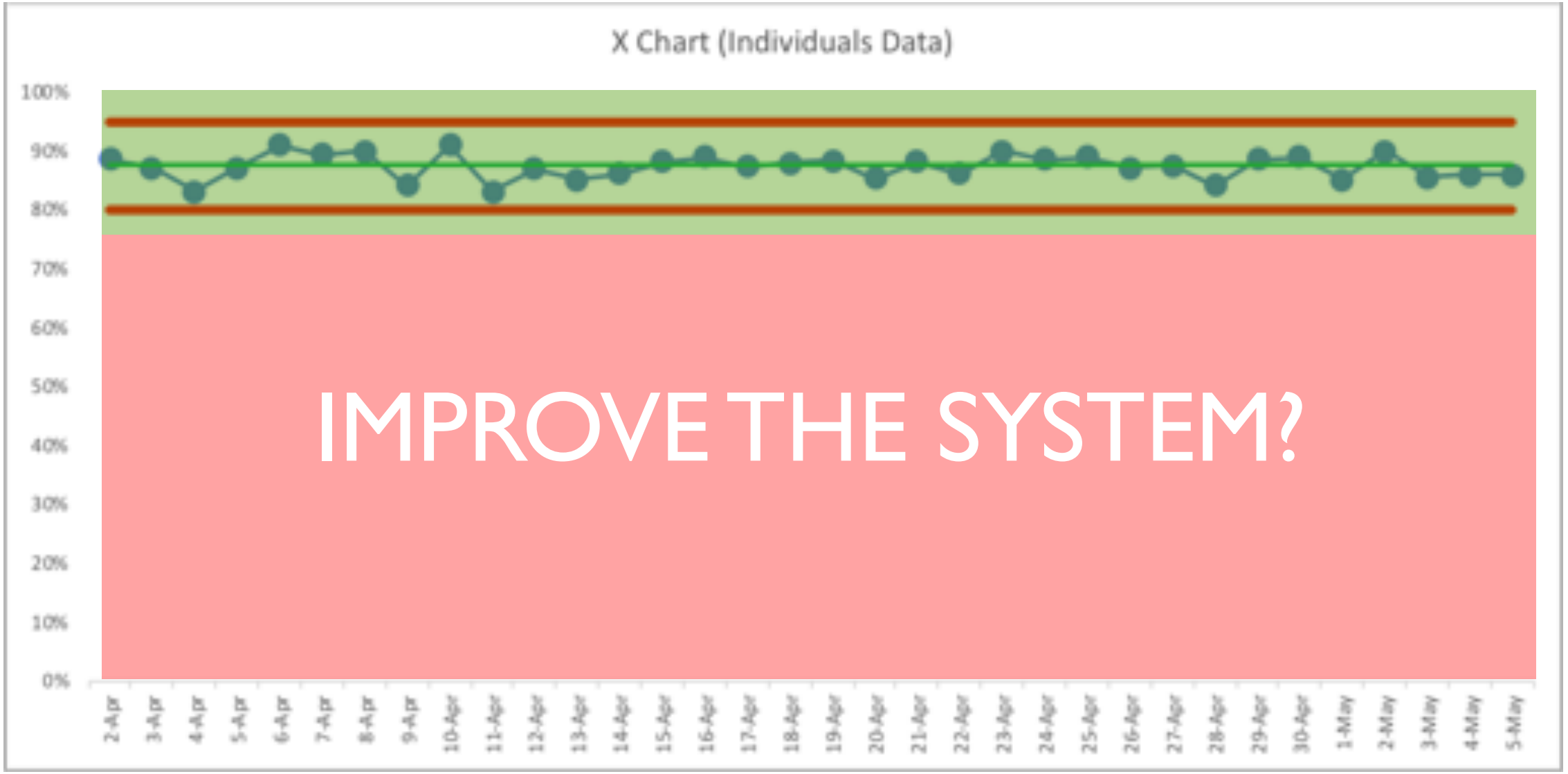
Unpredictable & Not Meeting Target



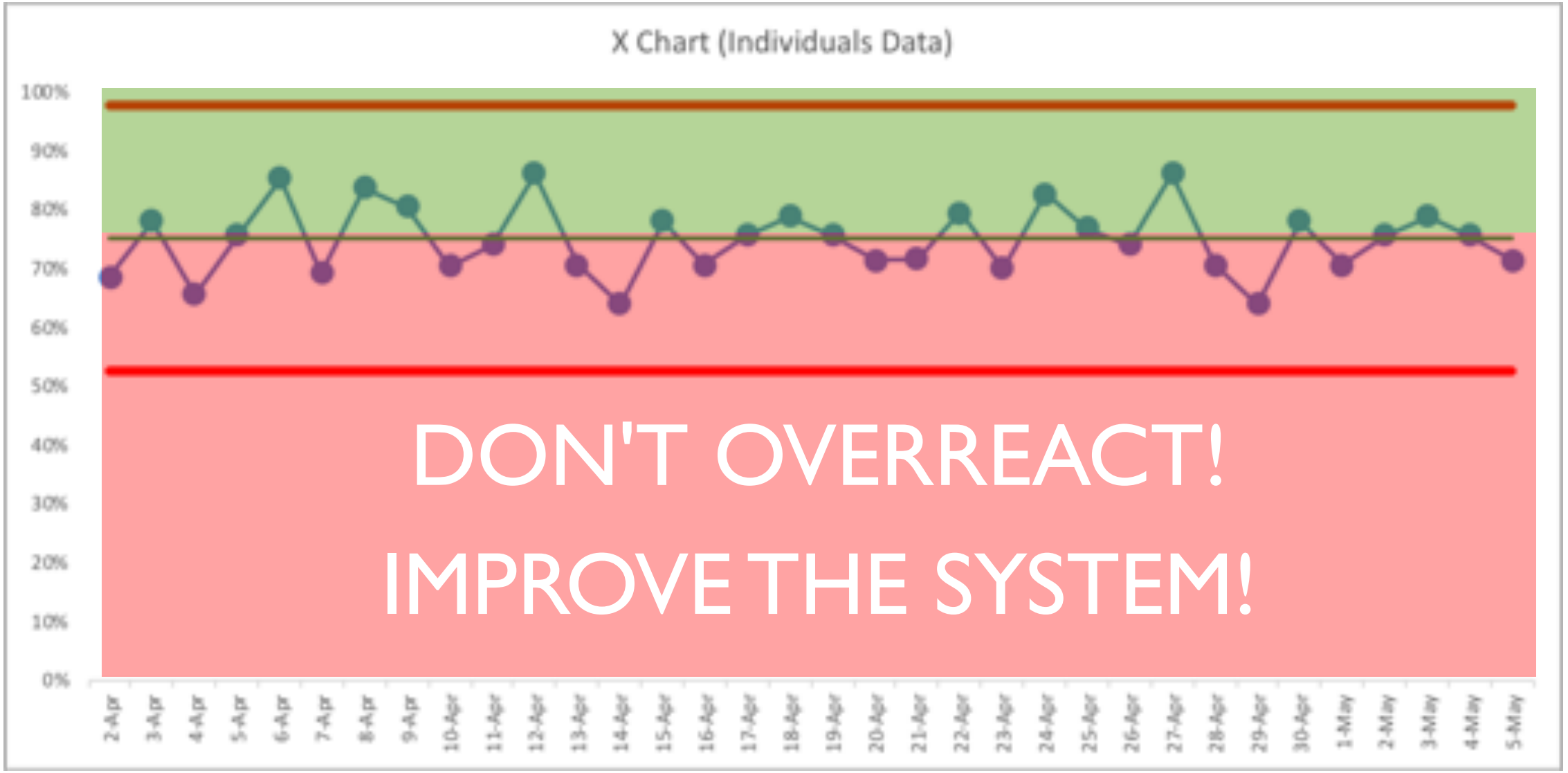
Predictable & Not Meeting Target



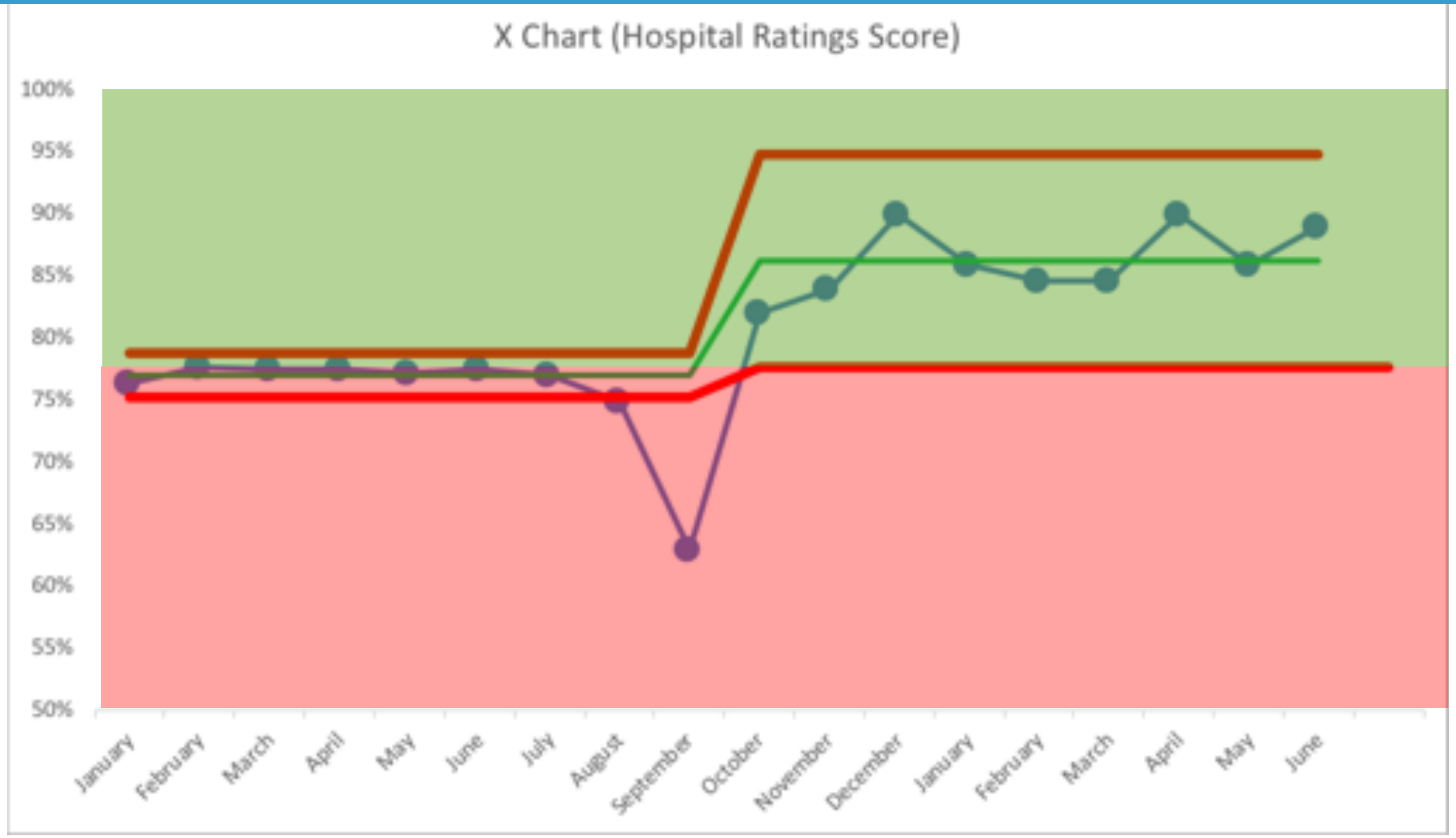
Predictable and Always Meets Target



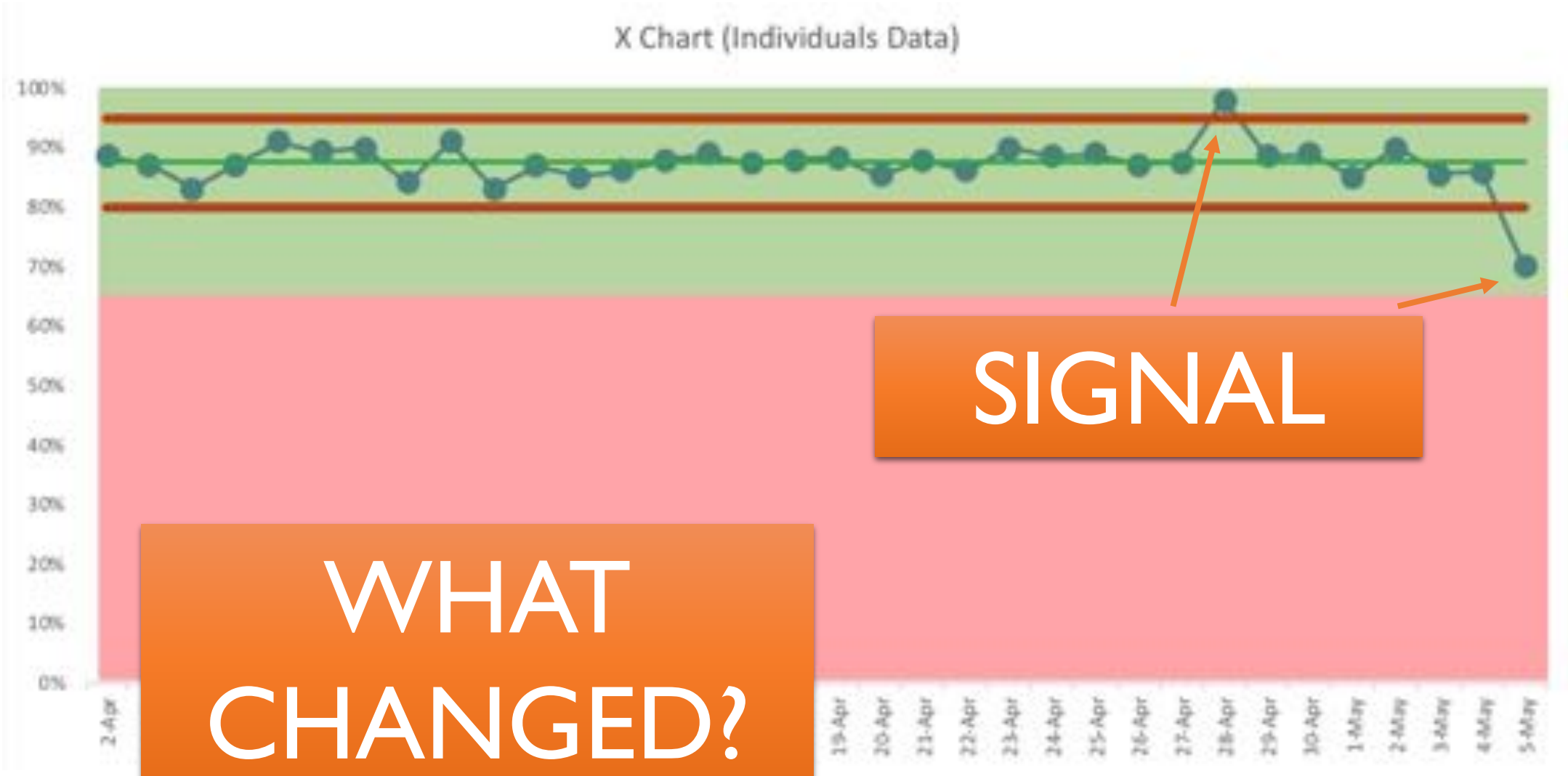
Predictable and Sometimes Meets Target



Shifting into the Green



Looking for Signals in a Metric That Meets Target



WWTD?

Question:

"Does Toyota use Six Sigma?"

Answer:

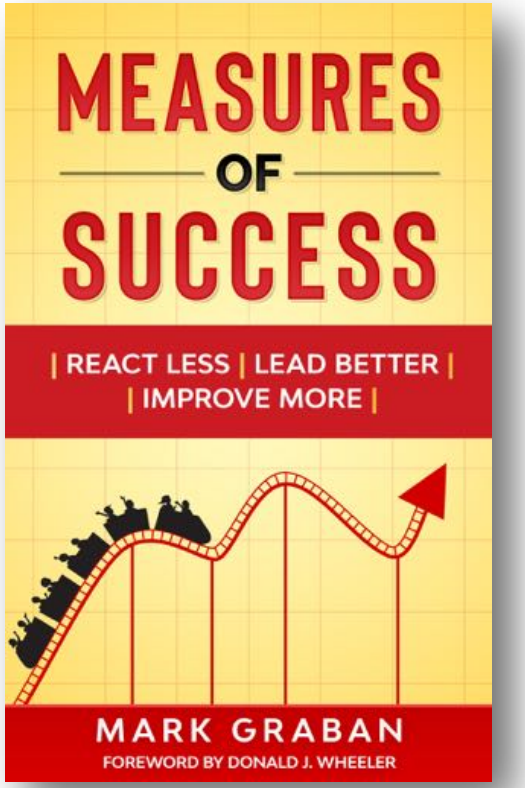
"No, but we teach everybody the seven basic Q.I. tools."

React Less
Lead Better
Improve More

Questions?

Mark Graban

@MarkGraban

Resources: MeasuresOfSuccessBook.com
Slides: MarkGraban.com/LeanFrontiers

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