Improvement Sustainability

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Reasons Why Improvements Fail

- Not Digging to the Root Cause of the Problem
- Not Involving the Right People
- Not Building a Problem-Solving Culture
  - Don’t Say “Don’t bring me a problem, bring me a solution”
- Ineffective Sustainment Strategy

Source: Karlo Tanjuakio, “Three Critical Reasons Process Improvement Fails”, Forbes, Feb 12, 2020, https://www.forbes.com/sites/theyec/2020/02/12/three-critical-reasons-process-improvement-fails/?sh=757fc5ec5049

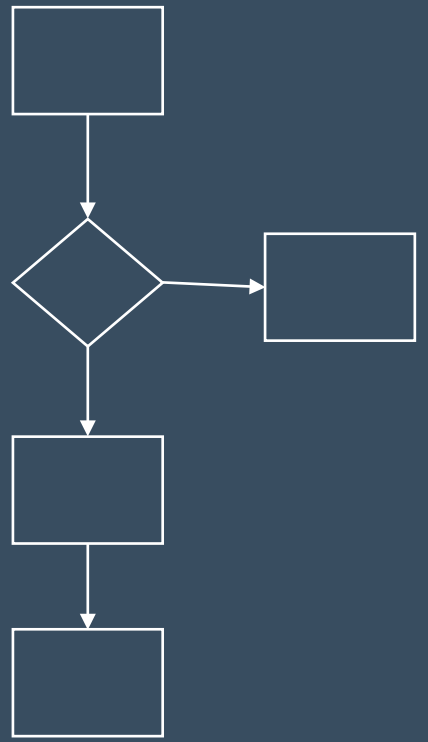
Ineffective Sustainment Strategies

- Policy Creation
- Inspection
- Process Complication
- Working Harder
- Training

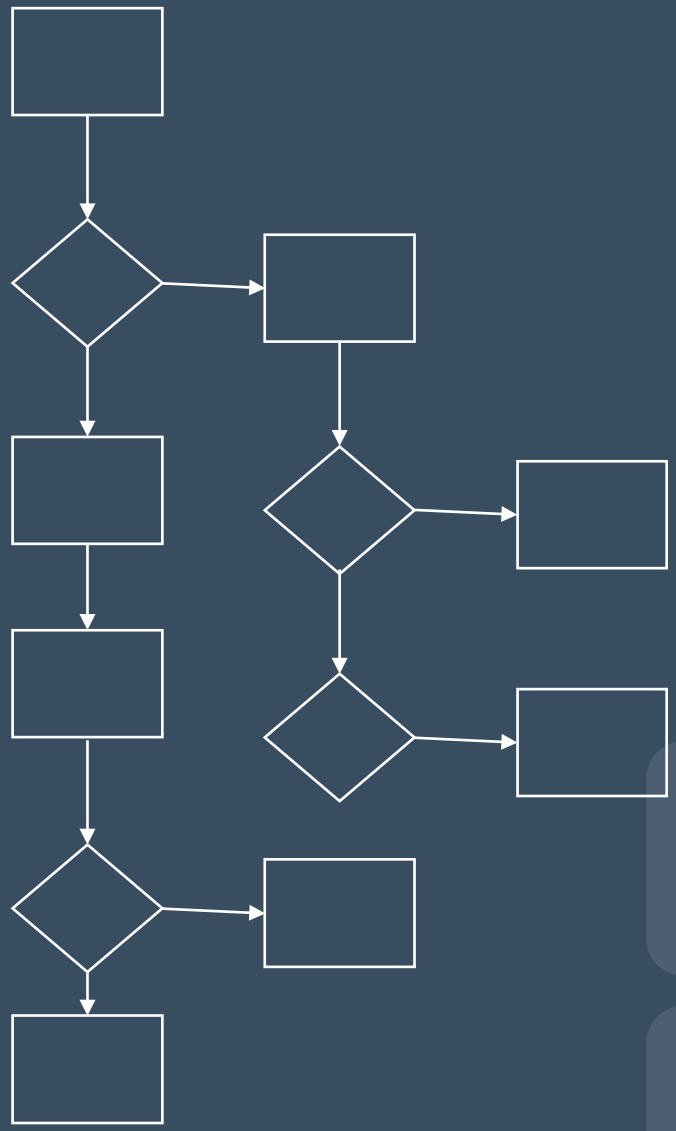
Policies

versus

Processes



versus



Training and Education

- Based upon clearly defined work
- Training should be based on procedures and control plans
- The team should develop and test procedures and control plans as dictated by the remedies and solutions

Training Effectiveness

1) Information in our memories will decay
2) The brain builds on existing knowledge— that's why practice can make perfect.
3) Sleep affects memory. So working long shifts and variable hours affects the effectiveness of training.

Source: https://www.getbridge.com/blog/10-stats-about-learning-retention-youll-want-forget/#:~:text=After%20one%20hour%2C%20people%20retain,the%20information%20in%20their%20training.

Effective Sustainment Strategies

- Design for Ease of Use
- Mistake Proofing AKA Poke Yoke
- Standardization
- Process Management
  - Control Plans
  - Control Charts

Design for Ease of Use

- Design processes for:
  - Simplicity
    - “The best design is the simplest one that works.“
    - Simplicity means less opportunity for errors.
      - Minimal number of steps
      - Clearly defined work to avoid misinterpretation
  - Value Added Work
    - Eliminate Waste
  - Standardization
  - Mistake Proofing
- Is process “new employee-proof”?
- Is the right way very clear?

Mistake Proofing

- Design your process so that it will detect error immediately.
- Design so it is impossible to make errors.
- Provide people with the best possible opportunity of getting it right first time.

Poke-Yoke Example in Healthcare

- Utility connections in patient rooms.
- Color designations for outlets or tank storage
- Best Practice Alerts
- Imbedded EMR algorithms
- Wrist band (in combination with proper patient identification)

Standardization 101

- Standardize the Critical elements
- Allow freedom to innovate beyond critical elements

OUTCOME METRICS VS PROCESS METRICS

Resides higher in the organization

Often delayed in measurement

Watch

Resides closer to frontline and is close to real-time

If we do this well, outcome is good

Drive

DRIVE METRICS vs WATCH METRICS

What matters most

~3 metrics

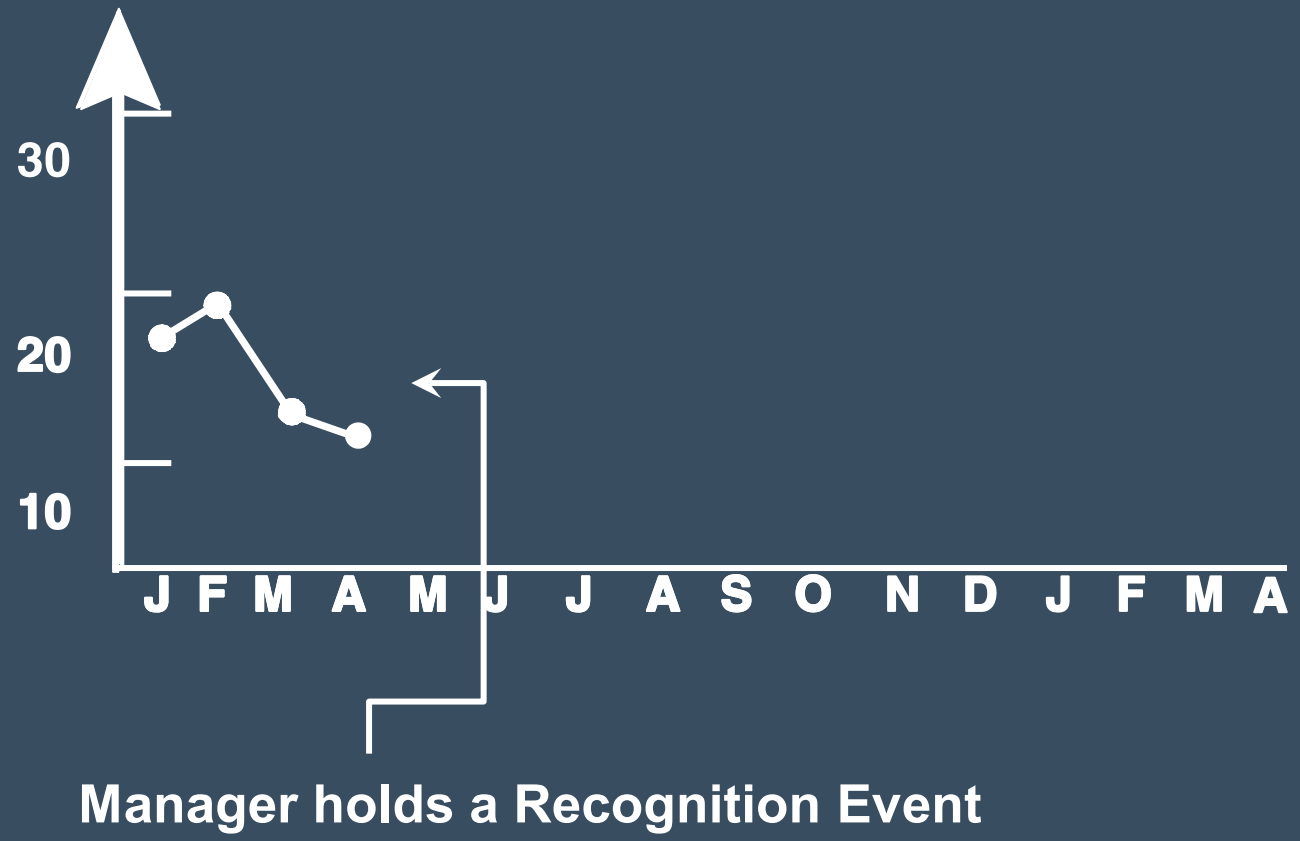
Actively driving improvement

Responsible for

Doing pretty well

Action needed if performance changes significantly

Understanding Variation



Understanding Variation

Manager regrets giving award and starts managing by the "shiny object" approach and puts a team together to analyze the problem.

Understanding Variation – Example

Understanding Variation

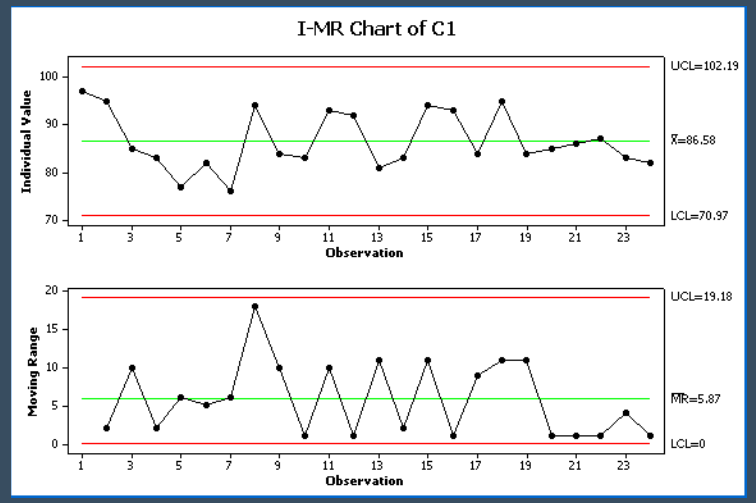
Understanding Variation – Example

Did the Process Ever Really Change?

Types of Variation

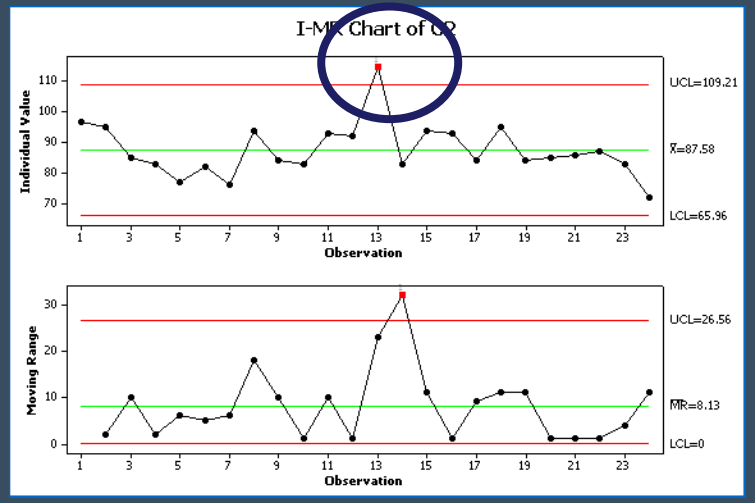
Common Cause Variation - The result of random variability inherent in the process being measured

- Noise
- Random variation
- In control
- Predictable
- Stable



Special Cause Variation - The abnormal occurrence that interrupts the stability and symmetry of the distribution

- Signal
- Not random
- Out of control
- Not predictable
- Unstable



Reacting on Variation

Type of Variation	Special Cause Strategy "The message is in a single point or combination of points."		Common Cause Strategy "Message is in all the points."	
	Look for what was different between individual points	Standardize the process to eliminate special cause events	Study all the data	Make basic changes to the process
Common Cause	Waste time	Increase variation	Gain a better understanding of the system	Reduce variation
Special Cause	Gain useful information	Reduce variation	Lose time in responding to the problem	Loss of productivity may increase variation

Fix the System not the People

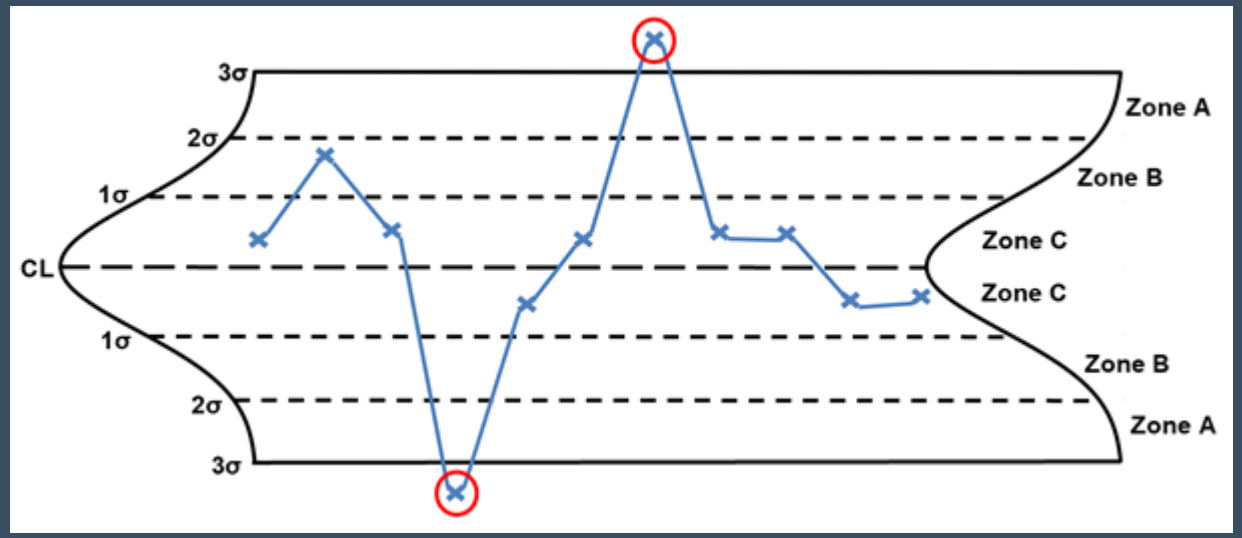
- Resist being held accountable for fluctuations in data unrelated to Special Causes
- Common Cause reflects the natural signature of the process. If this is not acceptable, then systemic changes must be made.
- Workers labor within the system and have little influence over it
- Management owns the system and therefore is responsible for systemic changes
- Workers can frequently influence Special Cause, but rarely impact Common Cause
- The process defines the control limits not the specification limits.

Control Charts

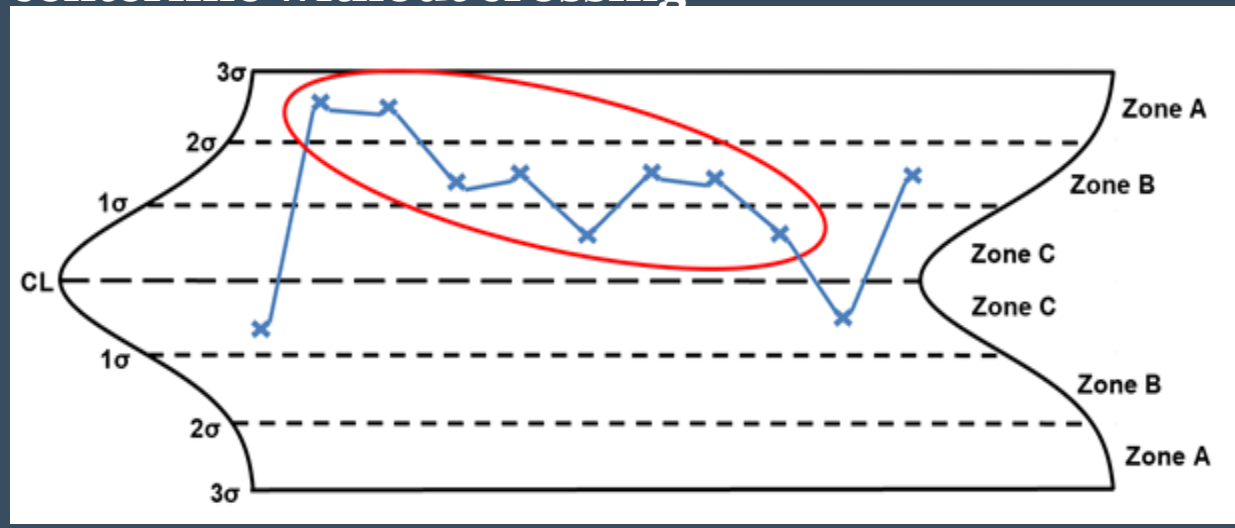
- The Control Chart provides the following:
  - What the process has been doing
  - What the process is doing
  - What the process is likely to do
- Statistical Control
  - All special causes of variation have been eliminated
  - Absence of points beyond the control limits
  - Absence of non-random patterns or trends within the control limits.

Control Chart Interpretation

Rule 1 – One point beyond the 3 σ control limit



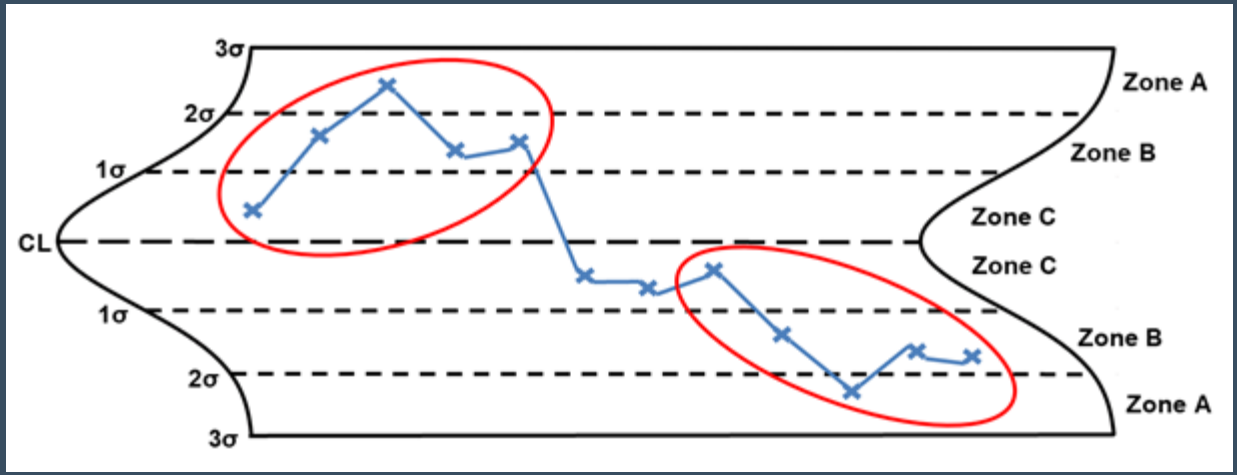
Rule 2 – Eight or more points on one side of the centerline without crossing



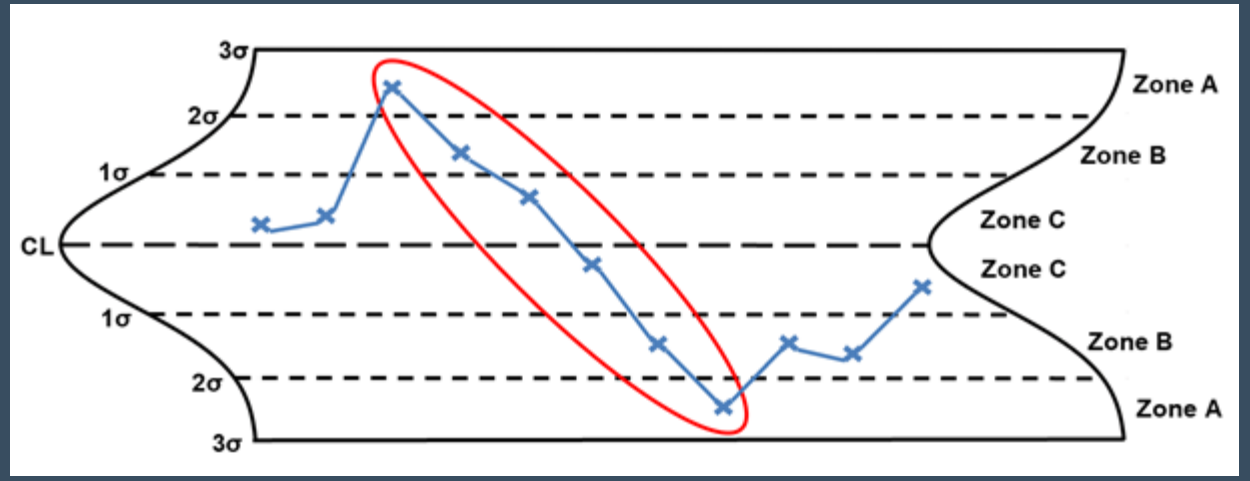
Source: https://www.pharmaceuticalonline.com/doc/rules-for-properly-interpreting-control-charts-0001

Control Chart Interpretation

Rule 3 – Four out of five points in zone B or beyond



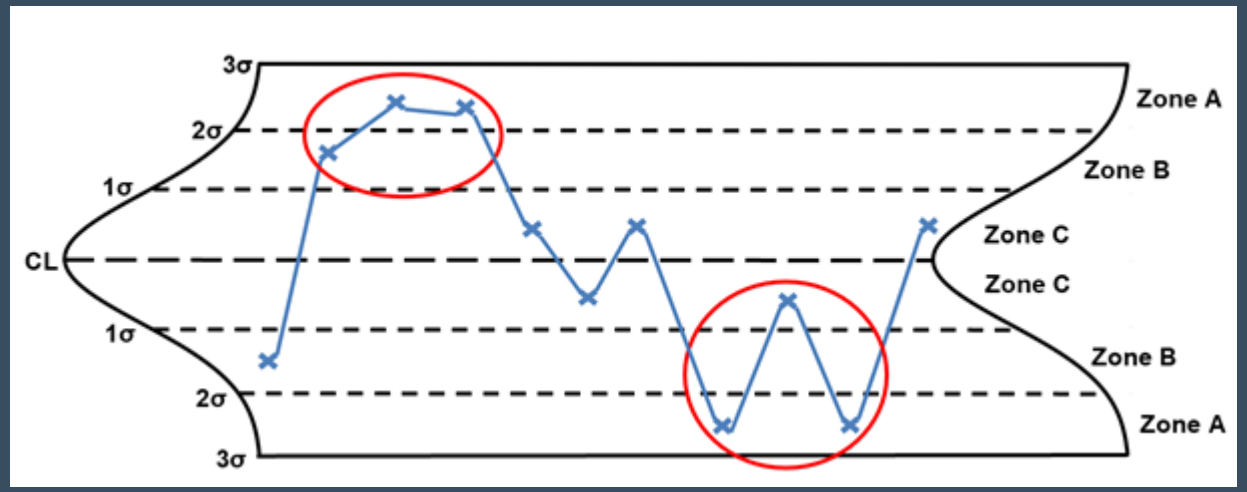
Rule 4 – Six points or more in a row steadily increasing or decreasing



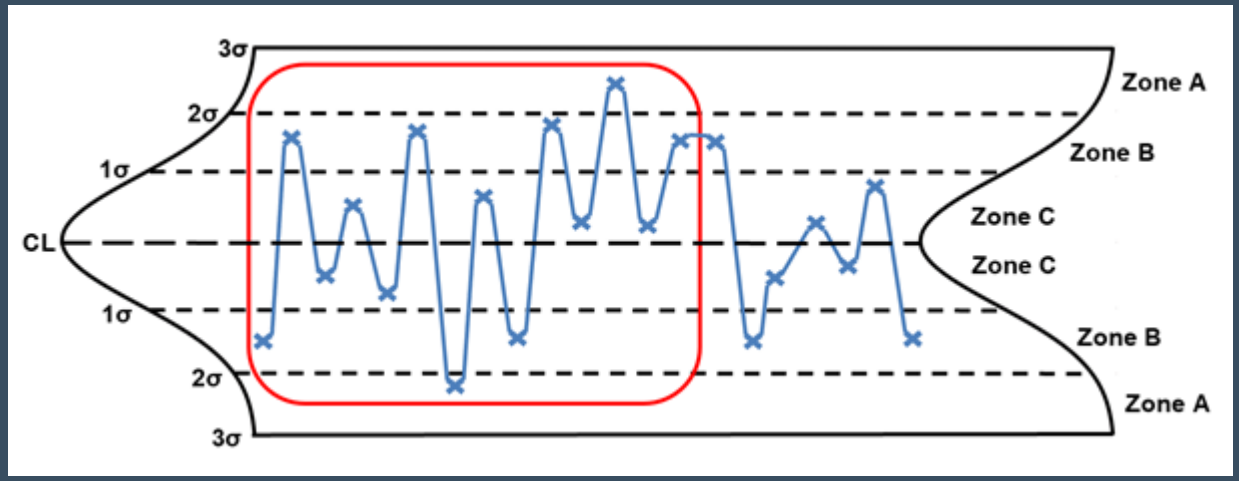
Source: https://www.pharmaceuticalonline.com/doc/rules-for-properly-interpreting-control-charts-0001

Control Chart Interpretation

Rule 5 – Two out of three points in zone A



Rule 6 – 14 points in a row alternating up and down



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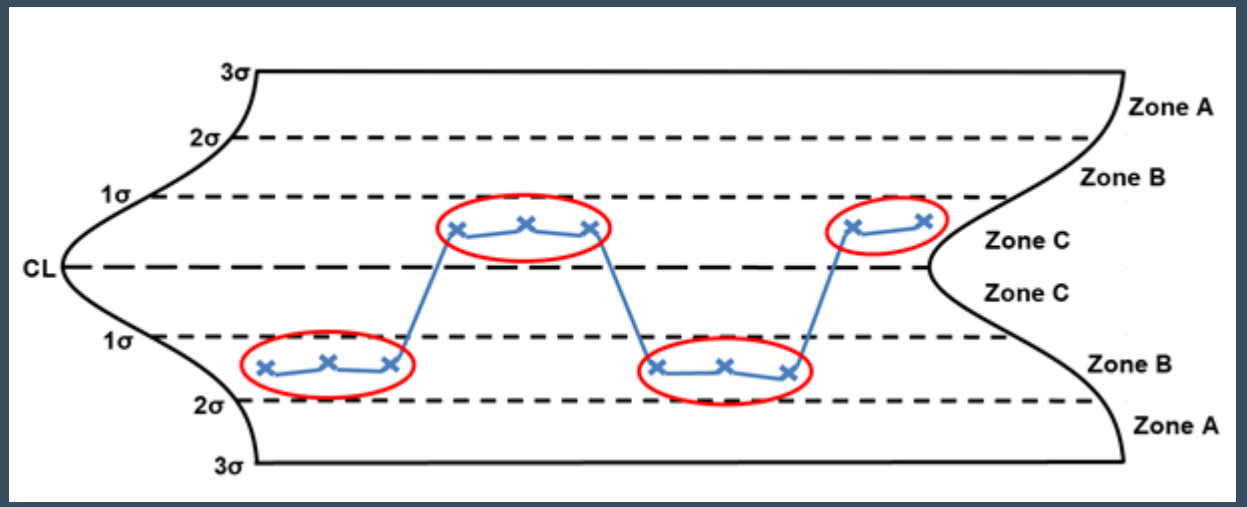
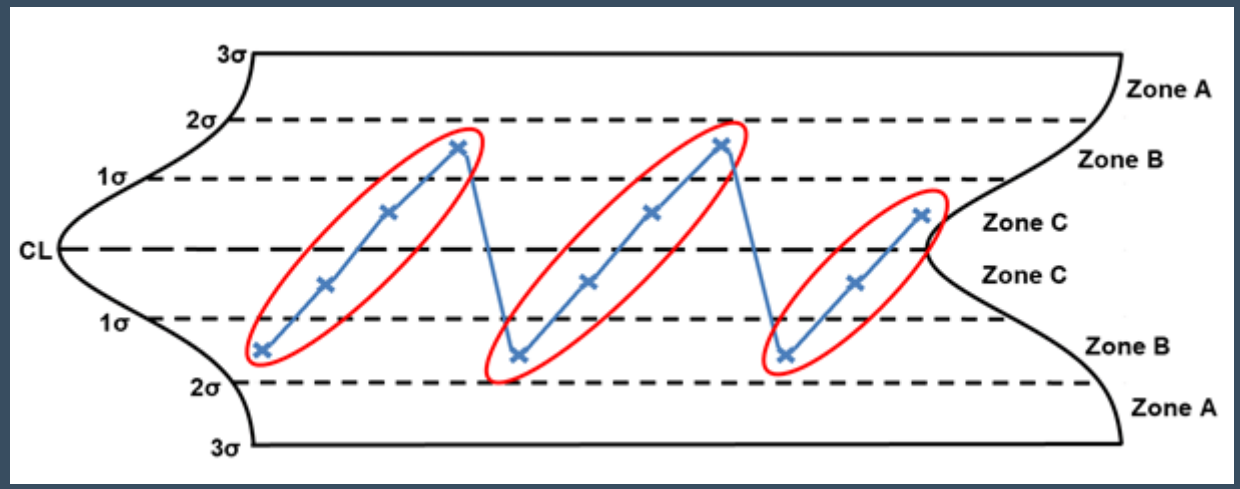
Control Chart Interpretation

Rule 7 – Any noticeable/predictable pattern, cycle, or trend





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What is Standard Work?

- Consists of a simple written or visual description of the best way to perform a particular process or task.
- Describes the only acceptable way to perform the process or task.
- Is expected to be continuously improved.
- Includes the amount of time needed for each task.
- Reduces variation and improves consistency.
- Is needed in all work areas
- May initially be met with resistance by employees.

Benefits of Standard Work

- Patients/Customers receive better value
- Patients/Customers can rely on levels of quality, cost and service
- Costs go down as we eliminate waste in all processes
- Processes are safer
- Processes remain in control
- Sets foundation for continuous improvement
- Help maintain Six Sigma levels of quality

Control Plan Basics

- What has been done to prevent the error
- What has been done to detect it
- What has been done to make the process immune to errors
- How will you know when an error occurs
- What actions take place when you get an error signal
- May be based upon a Failure Modes and Effects Analysis (FMEA)

Control Plan Example

Attribute to be Checked	Controls in Place	How Often	Reaction Plan
Compliance with SEP-1	Random SEP-1 Audits	# per week	Peer Review of Failures
	Order Set Use	Control Chart by Month	OPPE Process
Administration of Antibiotics within 1 hour	Pharmacy distribution reports	Weekly, Monthly, Daily	Apparent Cause Analysis and resolution

How does High Reliability Look and Feel?

Healthcare workers are relentless about their behaviors that create a culture of safety and excellence

The system is resilient and able to adjust to overcome any challenge

Processes reduce variability of patient outcomes and reduce headaches for our caregivers

Patients feel the same care across any location: frictionless, lifetime care with world-class outcomes

How: Create a Resilient System

Situational Awareness

Tiered Huddles: Leadership methods and behaviors

Visual Management

Every Unit/Clinic aligned with OKRs

Preoccupation with Failure

Vigilance to precursor, near-miss events

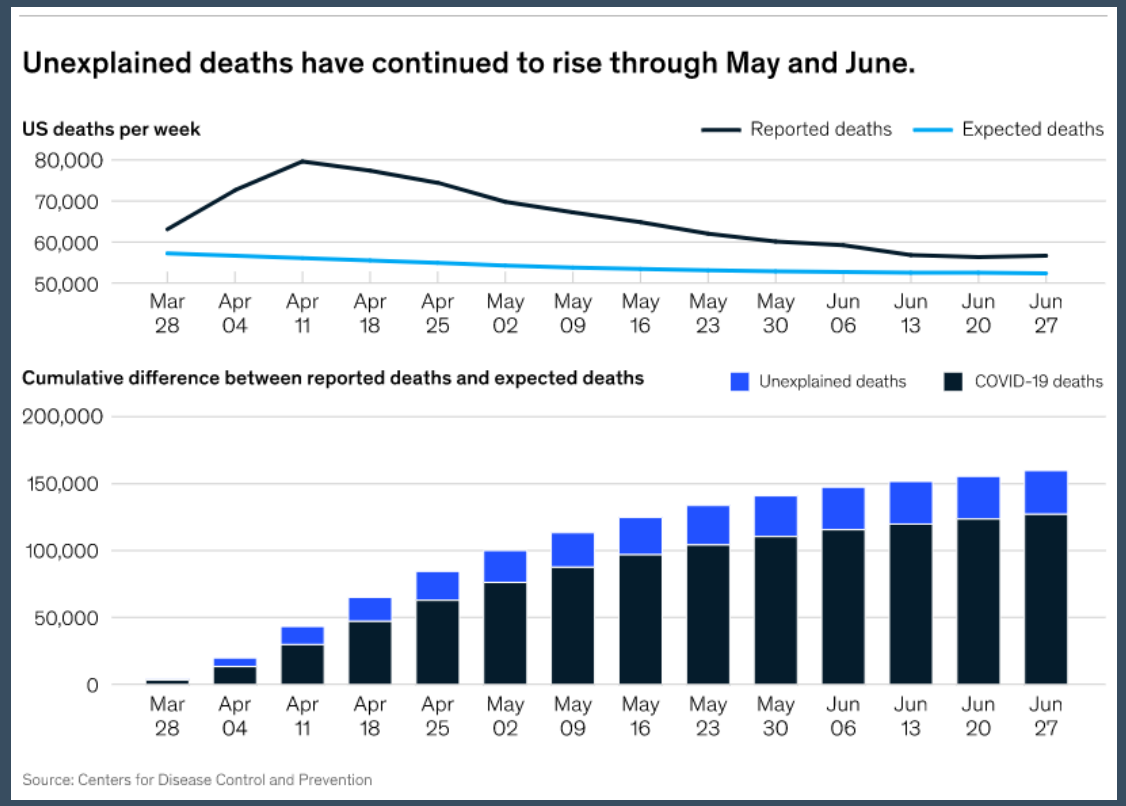
Deference to Expertise

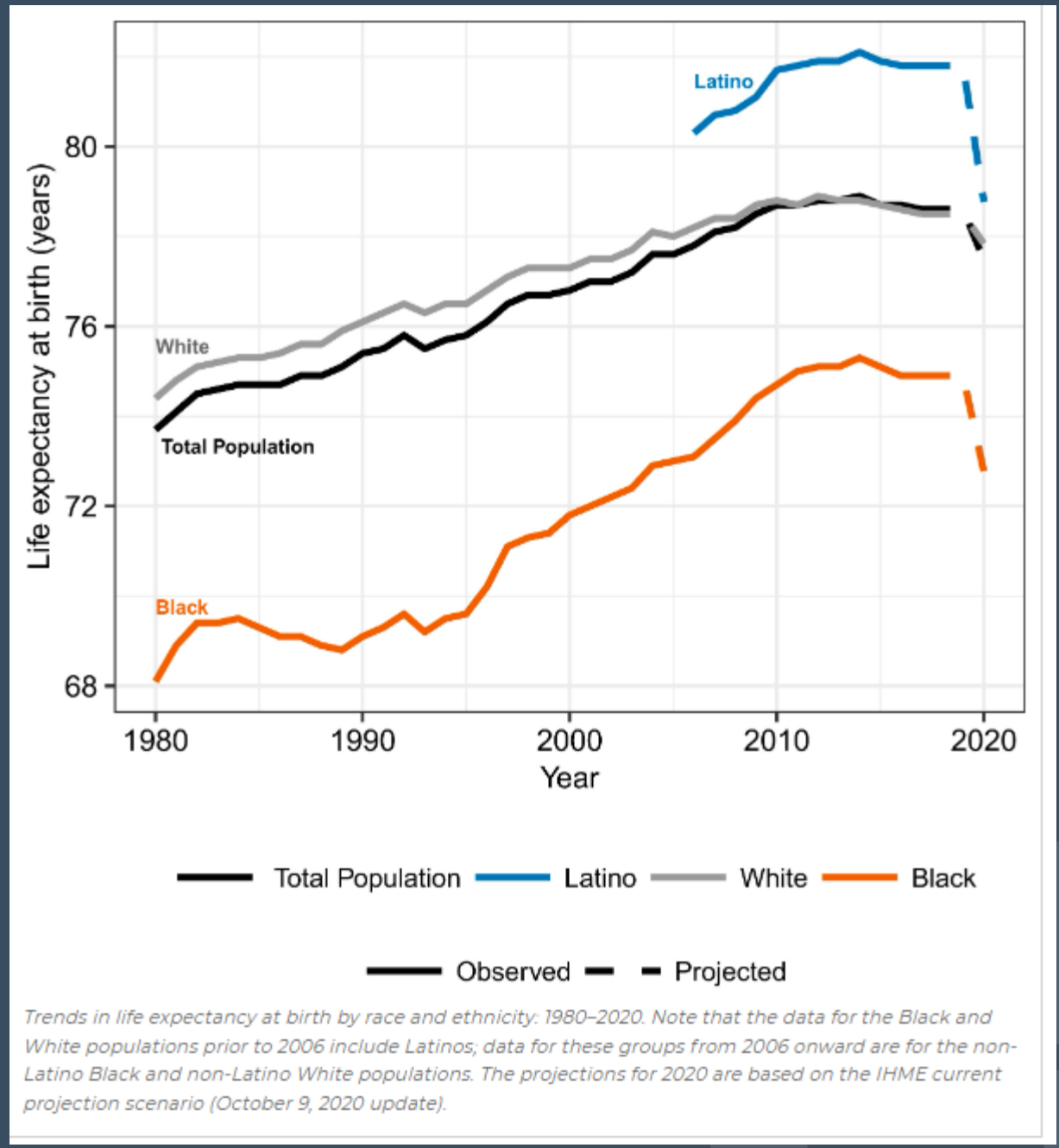
Problem-Solving (SOLVE Program)

Resilient System Design

Patient and Caregiver lens to all decisions

Is Healthcare Reliable?





Cleveland Clinic

Every life deserves world class care.