AHA Team Training

Mindfully Addressing High Reliability's "Robust PI" for Multi-Level, Multi-Organizational, Enterprise-Wide Improvement

October 13, 2021

American Hospital Association™
Advancing Health in America

AHA CENTER FOR HEALTH INNOVATION

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- **Q&A session will be held at the end of the presentation**
  - Written questions are encouraged throughout the presentation
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  - Step 1: Register for a OneLink account
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- **Text SOXDOC to (919) 213-8033 after 1:00 pm ET today – 24-hour window**

In support of improving patient care, the Duke University Health System Department of Clinical Education and Professional Development is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME), to provide continuing education for the health care team.

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American Hospital Association™
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Upcoming Team Training Events

Webinars

- **October 20, 2021 | 12:00 – 1:00 PM CT**

Bonus webinar: “Reimagine Patient and Family Communication with Mobile Technology“ Register here!

- **October 28, 2021 | 12:00 – 1:00 PM CT**

Bonus webinar: “A Team Approach To Improving the Acoustical Environment: How Teams Can Reduce Noise To Support a Healing Environment“ Register here!

- **November 10, 2021 | 12:00 – 1:00 PM CT**

“Advancing Care Conference Sneak Peek: It’s Time to Build Our Escape Fire “ Register here!

Online Community Platform

Join Mighty Network to access exclusive content and connect with your peers to share stories, tools, and content.

Update: Advancing Care Conference Date Announcement

Given the ongoing impact of COVID-19 and as part of the AHA’s continuing efforts to support frontline health care professionals, educators, and leaders, **the inaugural Advancing Care Conference has been rescheduled to March 7-9, 2022 in Chicago**. Registration will reopen on Monday, October 18. Additional details coming soon.

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Today’s Presenters

Elaine J. Huggins RN, MSN, CPHQ, Lean/Six Sigma MBB
Lead Principal Consultant, High Reliability Kaiser Permanente National Program Office: Quality, Safety, Experience, and Health Systems Performance

Pamela J. Leonard, RN, MS, CPPS, CPHQ
Senior Director, Kaiser Permanente National Patient Care Services: Quality, Safety and Care Experience

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Mindfully Addressing High Reliability's "Robust PI":
Multi-Level, Multi-Organizational Enterprise-Wide Improvement

Elaine J. Huggins, RN, MSN, CPHQ, L/SS Master Black Belt
Pamela Leonard, RN, MS, CPPS, CPHQ

October 2021

KAISER PERMANENTE®

40
Hospitals

727
Medical Offices

63,847
Nurses

23,597
Physicians

216,738
Employees

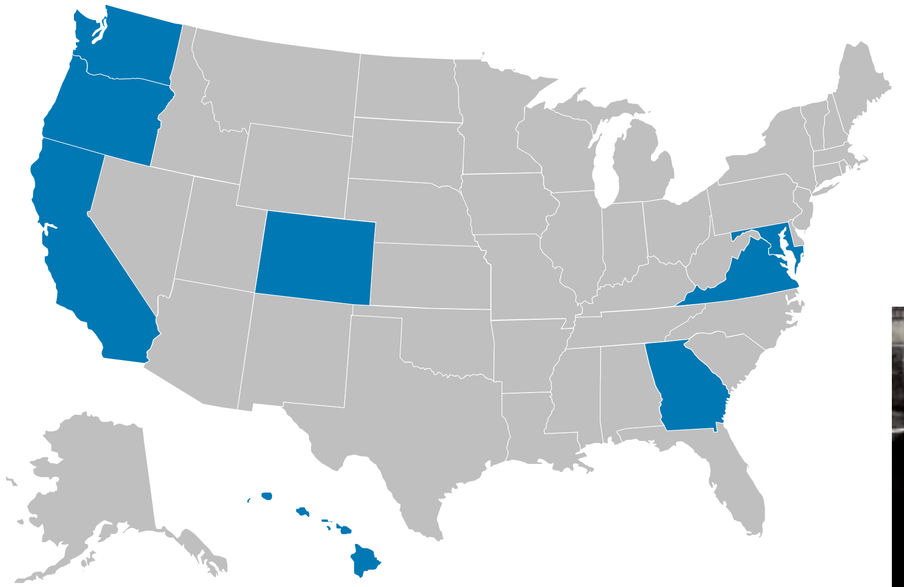
$84.5B
Operating Revenue

12.5M
Members

INTERGRATED HEALTH CARE SYSTEM

Kaiser Foundation Hospitals
Kaiser Foundation Health Plan, Inc.
Permanente Medical Groups

Northern California:	4,299,586
Southern California:	4,535,389
Colorado:	647,155
Georgia:	350,393
Hawaii:	251,659
Mid-Atlantic States (Va., Md., D.C.):	766,331
Northwest (Oregon/Washington):	609,761
Washington:	701,519

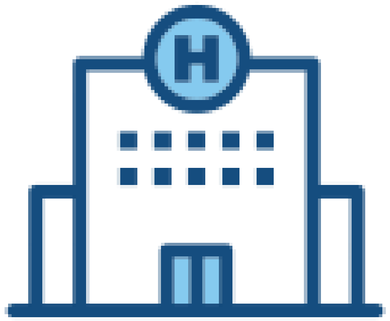


Founded 1945

Todays Objectives: Participants will…

- Identify the 3 prerequisites and 5 principles of High Reliability in organizations.
- Analyze classic 8-step problem solving (LEAN) and how this meets the needs of HRO Robust Process Improvement in a mindful manner.
- Describe the use of cascading A3s in the alignment of key stakeholders that highlights accountability of leadership commitment to no patient harm and supports High Reliability principles across a multi-level, multi-organizational enterprise.
- Consider the potential roadblocks and challenges of multi-level organizational process improvement and various countermeasures that are available.

We began a journey



KP making progress towards achieving many enterprise level hospital patient safety goals

The COVID pandemic happened

We became mindful that we needed the principles of High Reliability more than ever before

Our Focus

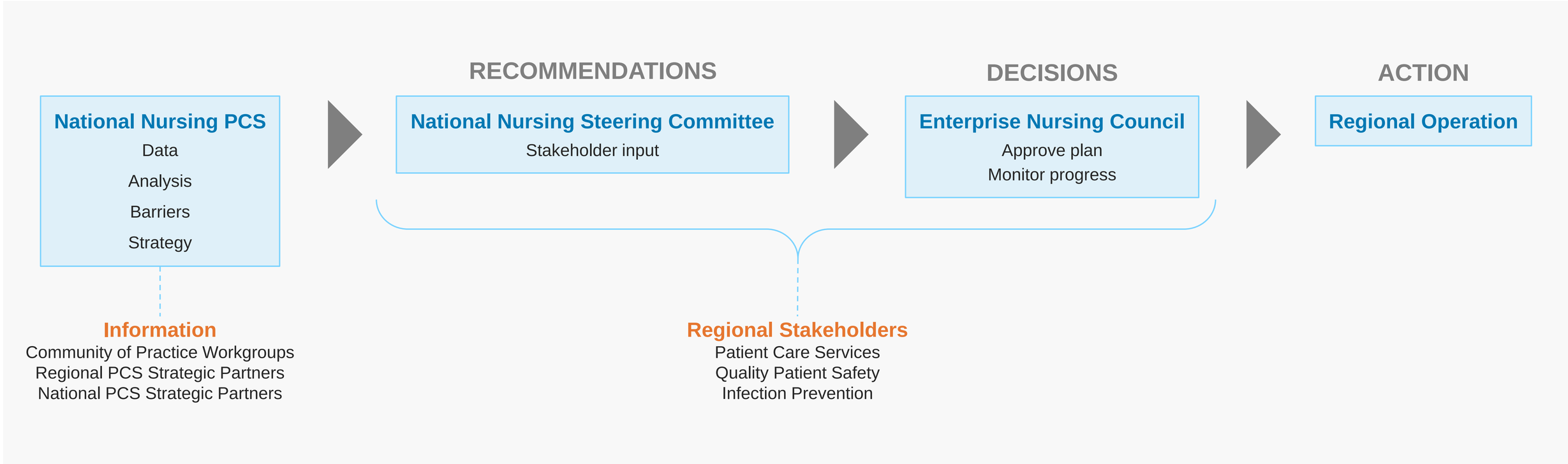
- HAIs:
  - Central Line-Associated Blood Stream Infections (CLABSI)
  - Catheter Associated Urinary Tract Infections (CAUTI)
  - C. Difficile (Cdiff)

- Adverse Event Metrics:
  - Falls with injury – moderate to severe
  - Hospital Acquired Pressure Injury (HAPI)

4
Hospital Markets

40
Hospitals

KP Enterprise System Approach



Defining High Reliability

“We face the intersection of two interrelated trends:

Hospitals house patients who are increasingly vulnerable to harm due to error, and the complexity of the care hospitals now provide increases the likelihood of those errors.” Chassin and Loeb (2011, pg. 563)

They concluded:

That the only way to go forward was to seek “high reliability in health care.”

After a review of the quality journey

They went on to note that while the principles of High Reliability had been defined by Weick and Sutcliffe (2007**), there were 3 prerequisites that needed to be established first, in order to bring forth the principles.**

3 Prerequisites

- **Leadership Engagement**
- **Safety Culture**
- **Robust Process Improvement**

Seminal HRO Diagram based on Chassin & Loeb (2011)

Required Prerequisites		Meanings	Outcome
Leadership's commitment to the ultimate goal of zero patient harm	1.	• ALIGNED AGREEMENT OF THE GOVERNING BODY, typically a board of trustees or directors, senior management, and physician and nurse leaders to ZERO PT HARM • All the constituencies of leadership, both formal and informal, must share the same singular vision of eventually eliminating harms to patients	5 Principles of HRO
Incorporation of a "culture of safety" throughout the organization	2.	• Using the Model of Reason and Hobbs 2003, (Trust, Report, Improve) • Applying the principles of Crew Resource Management to Healthcare (TeamSTEPPS)	
Robust Process Improvement:	3.	• Apply a PI process that systematically attends to the to uncovering all the very **specific causes** of the failures of safety processes • The tools of robust process improvement offer health care the means to implement the "reluctance to simplify" principle of high reliability	

Poll #1 (This is opinion… there is no right answer!)

If I could only implement and spread one Prerequisite at a time, which one would I choose to go first?

Leadership Engagement

Safety Culture

Robust Process Improvement

Seminal HRO Diagram based on Chassin & Loeb (2011 & 2013)

Required Prerequisites	5 Principles (Weick and Sutcliffe 2007)	Outcome

Leadership's commitment to the ultimate goal of zero patient harm

Incorporation of a "culture of safety" throughout the organization

Robust Process Improvement:

1 - PREOCCUPIED WITH FAILURE
- NEVER satisfied that they have not had an accident for many months or years
- always alert to the SMALLEST SIGNAL that a new threat to safety may be developing

2 - RESIST TEMPTATION TO SIMPLIFY observations and experiences of their environment
- Knowing threats to safety can be complex, presenting in MANY DIFFERENT FORMS
- Able to identify the subtle differences among threats

3 - SENSITIVITY TO OPERATIONS
- Recognize the earliest indicators of threats to organizational performance
- Ensure that all workers who are most intimately involved in operations always report any deviations from expected performance (SPEAK UP CULTURE)

4 - COMMITMENT TO RESILIENCE
- Recognize that despite all their best efforts and past safety successes, errors will occur, and safety will be threatened
- "The hallmark of an HRO is not that it is error-free but that errors don't disable it" (Weick and Sutcliffe 2007, 14)

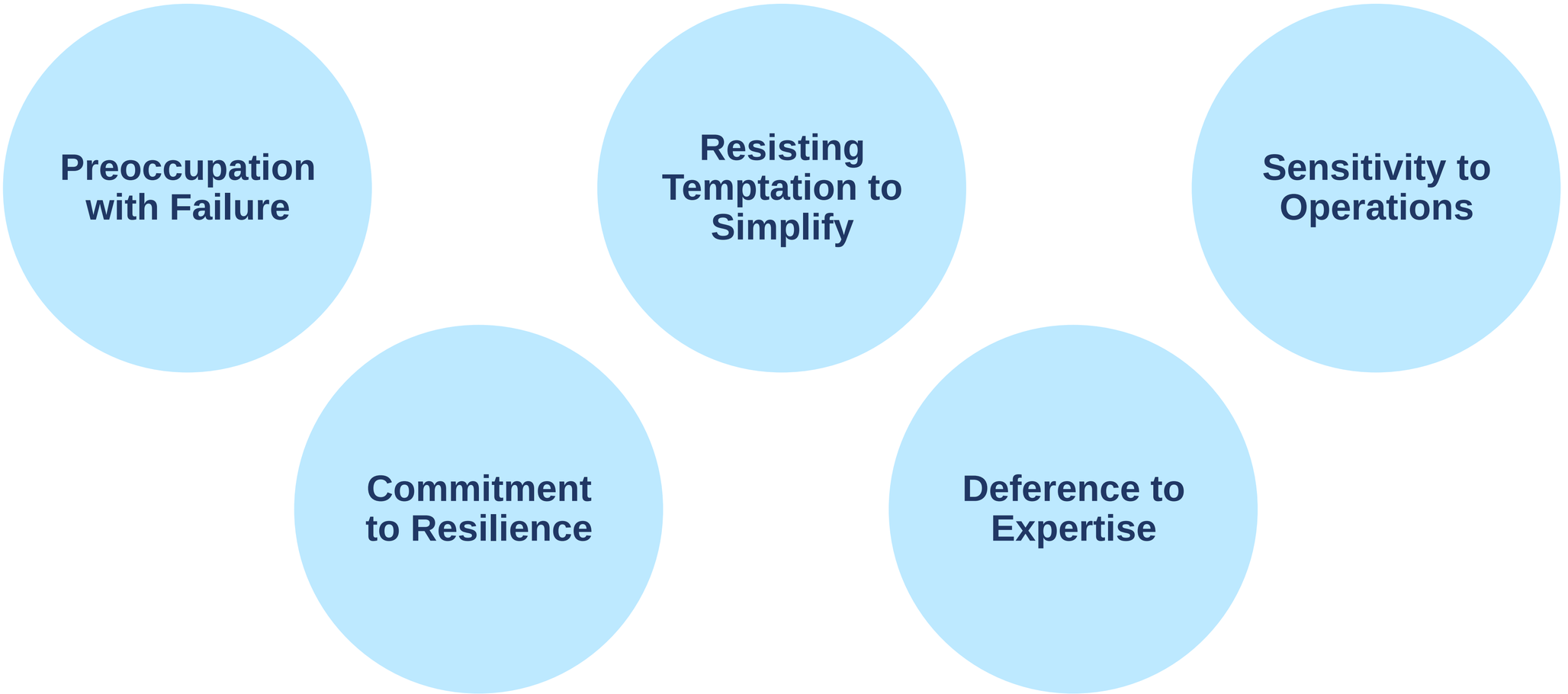
5 - DEFERENCE TO EXPERTISE
- Mechanisms in place to identify the individuals with the greatest expertise relevant to managing the new situation
- Will place decision-making authority in the hands of that person or group

COLLECTIVE MINDFULNESS

Highly Reliable Healthcare Organization

Poll #2 (This is opinion… there is no right answer!)

If I could only implement and spread ONE HRO Principle, which one do I think would have the most impact on decreasing patient harm?



Our HRO Look

“Robust Process Improvement” We needed a proven systematic method that would align enterprise/market/hospital root cause analysis and communication between levels to ensure an enterprise approach to achieve hospital patient safety outcomes

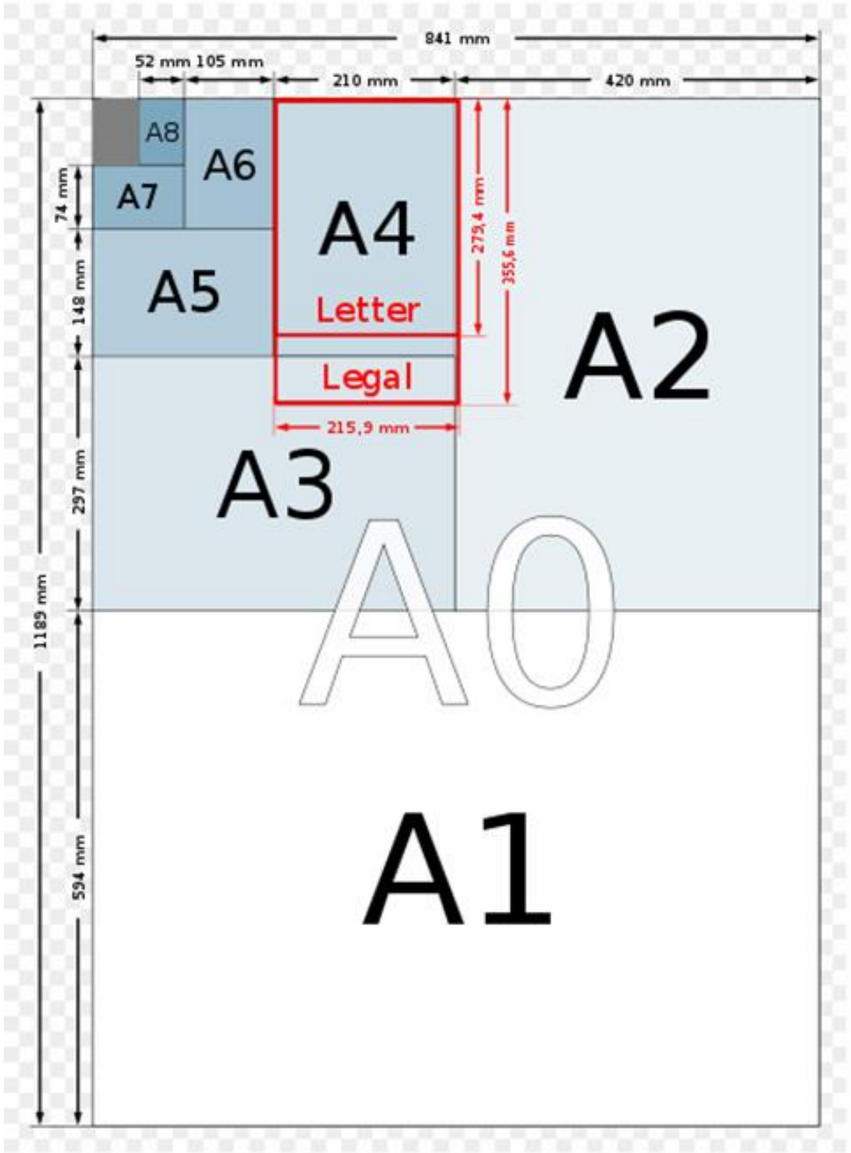
“Resist Temptation to Simplify” Align existing work with market/hospital operational challenges identified with individuated root cause analysis at both market and facility level to ensure congruence between national and market priorities

“Sensitivity to Operations” Support coordination to drive collaboration with data analytics to utilize tools and methods to evaluate ongoing performance to help drive efforts towards established targets. **Allow for** consistent sharing of successful practices between markets.

“Deference to Expertise” Communicate regularly the well-developed and regularly evaluated processes that are performing reliably throughout the enterprise, to improve outcomes as defined by the KP Quality Strategy. **OUR NURSING PARTNERS ARE THE EXPERTS**

Background of the 8-Step Problem Solving and the A3 Template

- Toyota used 8-Step Problem Solving as a method for solving problems based on PDSA
- Their A3 format is a way of communicating solutions concisely
- Documented on a single sheet of A3 metric paper, similar to 11” x 17”
- The Kaiser Permanente Improvement Institute teaches 8-Step Problem Solving



TOYOTA

HRO Prerequisite: Standardized Improvement Structure

3,825
experts trained

3,334
Improvement Advisors

491
Black Belts
virtual delivery with strong demand

The KP Improvement Institute A3 Model for Improvement

Project Name:	**Black Belt:**	**Sponsor Name:**	**Start Date & Last Rev Date:**
Smart Goal:	**Project Background:**		

1. Current State Analysis:
Clarify the Problem / Problem Statement

2. Break Down the Problem / Identify Performance Gaps

3. Set Improvement Target

4. Root Cause Analysis/Assessment [Y=F(x)]:
(Determine Root Causes)

5. Resolution:
Develop Countermeasures

6. Implement Countermeasures

7. Handoff/Sustainability:
Monitor Process and Confirm Results

8. Sustain and Share Success

BLACK BELT	**IMPROVEMENT ADVISOR**
DMAIC Phases	RIM Phases
Define	Assess
Measure/Analyze	Assess
Analyze/Improve	Assess/Identify Solutions to test
Improve	Test/Implement
Control	Implement/Control

Issues / Barriers / Lessons Learned

Used a more basic version that would appeal to operational leads

PDSA—Plan, Do, Study, Act **DMAIC**—Define, Measure, Analyze, Improve, Control

1. Clarify the Problem / Problem Statement

Problem statement includes:

- What is the issue and why is it important? What "pain" are we or our customers experiencing? What is wrong or not working?
- Where is the problem occurring?
- When did it start?
- Who is impacted?
- What is the extent or magnitude of the problem? It can be described as:
  - Deviation from a standard
  - Gap between actual and desired condition or capability
  - Unfulfilled customer or business need
- Why is it important to solve this problem now?
- What is the impact if the problem is not solved now?

In-Scope: Define the boundaries of the initiative/project and what it includes
Out of Scope: Describe what will not be addressed by the initiative/project

TOOLS: Voice of Customer/Business, SIPOC

2. Break Down the Problem / Identify Performance Gaps

Provide supporting data to include MHS metric(s) impacted

- Visualize the problem
- Define defects
- Determine critical inputs and how they go wrong

TOOLS: Go to the Gemba, SIPOC, Detailed Process Map, VSM, Spaghetti Diagram, Data Collection, Constraint/Bottleneck Analysis, Histogram, Takt Time/Rate Analyses, Run Chart, Pareto Chart, Boxplot, Control Chart, %Yield, SQL

3. Set Improvement Target

- SMART: Specific, Measurable, Achievable, Relevant, Time-Bound
- Describe what "Right" looks like
- The desired target should: Do what? By how much? By when?
- What is the source of the target (e.g., HEDIS, NPIC, industry benchmark)?

Measure	Baseline	Target	Target Authority	Data Source	By When

4. Determine Root Causes / Performance Gaps

What are the root causes of the problem?

TOOLS: Brainstorming, 5 Whys, Pareto, Affinity, Fishbone, FMEA

Prioritized Root Causes / Performance Gaps
1.
2.

5. Develop Prioritized Projects / Countermeasures

Develop and prioritize potential projects/countermeasures that address prioritized root causes and/or performance gaps

Include overarching countermeasures such as Quick Wins, Communication Plans, etc.

TOOLS: Brainstorming, Visual Process Controls, Poke Yoke/Mistake Proof, 5S/6S, Remove NVA steps, Streamline, Standardize, Checklists, Templates, Training/Education, SOPs, Control Plans, Dashboards, Process Monitoring and Reporting, FMEA, Communication Plans, Change Management Plans

Prioritized Root Cause/Gap	Project / Countermeasure	External Resources Required?	Comments

6. Implement Projects / Countermeasures

"Who" will do "What" by "When"—Track Status of Actions

TOOLS: Gantt Chart**,** RACI, Implementation Plan

Project / Countermeasure (What)	Action Officer (Who)	Due Date (By When)	Status

7. Monitor Performance and Confirm Results

- How are we performing relative to Steps 1, 2, and 3
- Include run charts with green target line whenever possible
- If we are not meeting targets, do we need to return to Step 4?

TOOLS: Run Chart, Control Chart, Boxplot, Pareto Chart, Audits, Routine Reporting, Control Plan

8. Sustain Success / Transfer Knowledge

Ensure improved performance is maintained

- Document in project repository
- Identify replication opportunities
- Inform stakeholder/process owners of improvement opportunity
- Export tools developed as part of the improvement

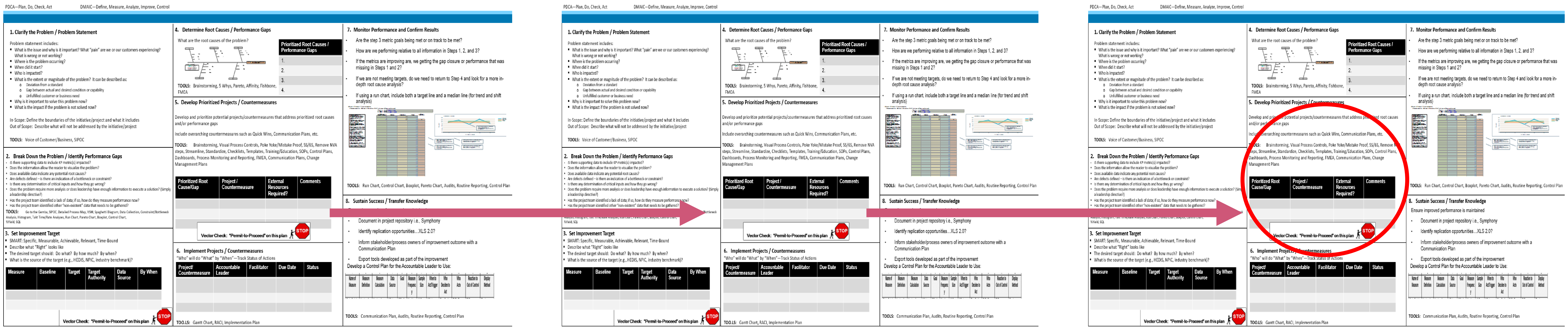
TOOLS: Communication Plan, Audits, Routine Reporting, Control Plan

Both a communication tool and an improvement methodology with different organizational levels

How does your high-level approach translate to an individual physician at one of your ambulatory sites*?:

Parent A3 → **Child A3** → **Grandchild A3**

Enterprise A3 → **Market A3** → **Hospital A3**



Step 1
Clarify the Problem/Write the Problem Statement

Step 2
Breakdown the Problem/Identify Performance Gaps

Considerations:

- What are potential roadblocks and related to problem clarification and performance gap identification?
- How can these be countered?

Problem Statement Development

Problem statement includes (In 5 sentences or less)

- ***What*** is the issue?
- ***Where*** is the problem occurring?
- ***When*** did it start?
- ***Who*** is impacted?
- What is the ***magnitude*** of the problem? It can be described as:
  - Unfulfilled customer or business need
- ***Why*** is it important to solve this problem now?
- ***What is the impact*** if the problem is not solved now? What will happen if the standard isn't met?

In Scope: Define the boundaries of the project

Out of Scope: Define what will not be addressed by the project

Step 1: Challenges and Counters

- Obtain the “right” Enterprise stakeholders/sponsors
- Clearly identify the scope (to avoid scope creep)
- Obtain consensus on the problem (engagement and commitment)
- Form Market teams that represent the people who are working in the problematic processes (stakeholder mapping)
- Support each Market Team in starting their problem solving with a problem statement (an identified mentor for A3 development – develop rapport)

Step 2: Challenges and Counter

- Deep listening – develop rapport
- Be able to clearly communicate the situation in each market – RESIST the TEMPTATION to SIMPLFY
- Build the picture of what is going on in each market

Step 3
Set improvement target

Considerations:

- What are potential roadblocks and related to problem clarification and performance gap identification?
- How can these be countered?

Set Improvement Target

- Are the targets SMART: Specific, Measurable, Achievable, Relevant, Time-Bound
- Does the desired target explain: Do what? By how much? By when?
- What is the source of the target (e.g., HEDIS, Joint Commission based, CDC)
- What is the source of the data (e.g., National Data Base? Local Collection?)

Measure	Baseline	Target	Target Source (Authority)	Data Source	By When
CLABSI SIR	0.82 (Gap of 0.32)	0.50	NHSN	STATIT	Q4 2019
CLABSI SUR	1.15(Gap of 0.15)	1.0	NHSN	STATIT	Q4 2019

Challenges and Counters

- Will this ever end? Established a clear end point.
- What to do about “fear of failure to reach a target?” Set it up that we’ll learn more from the challenges of not reaching the target
- What to do with market variations in targets? Partnership, buy-in
- Discussions about effects of COVID on HAI’s and National Trends

Step 4
Determine Root Causes of the Performance Gaps

Step 5
Develop Prioritized Projects/Countermeasures

Step 6
Implement Countermeasures

Considerations:

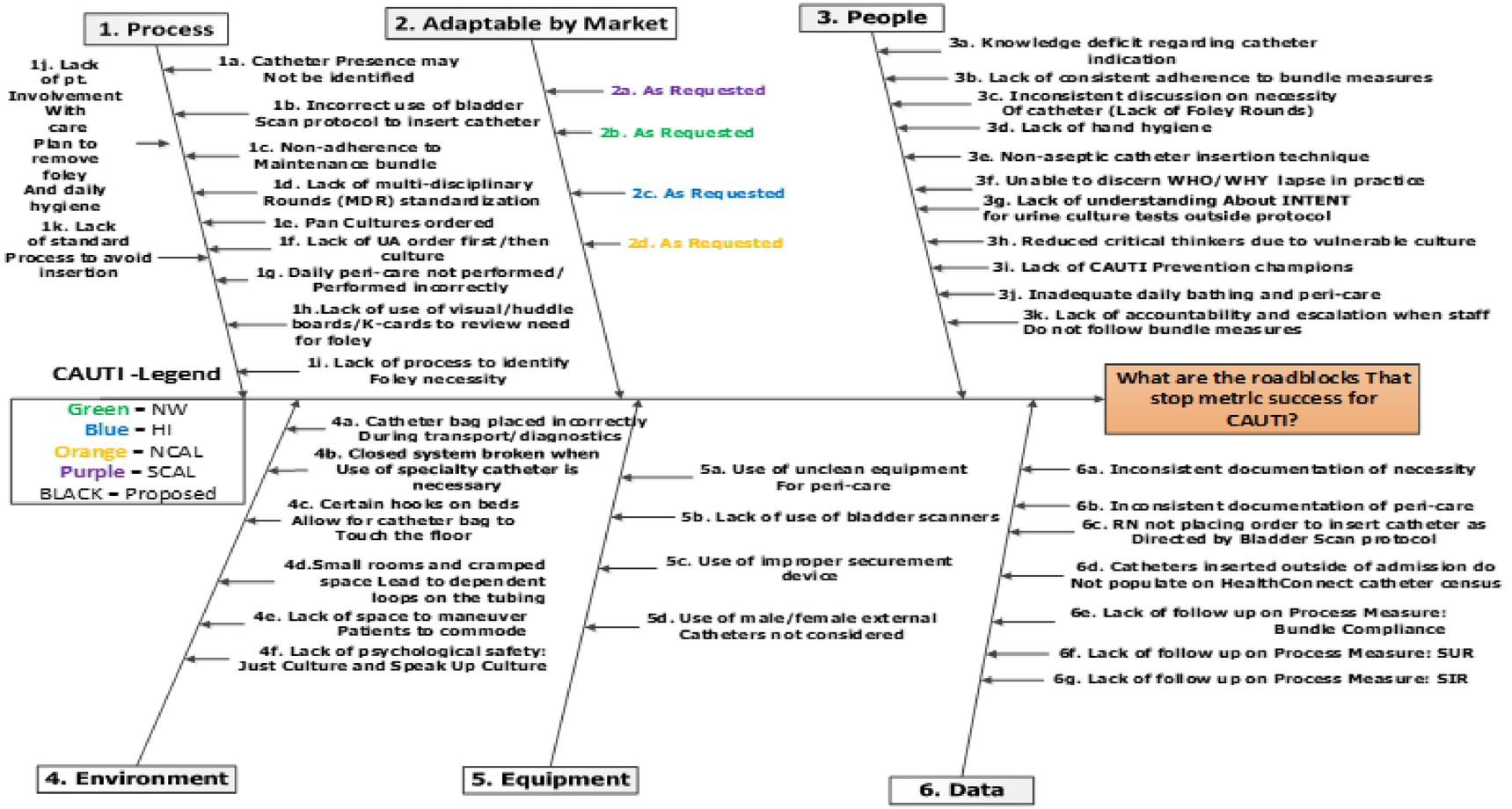
- What are potential roadblocks and related to problem clarification and performance gap identification?
- How can these be countered?

Challenges and Counters

- Let's just FIX IT
- Why prioritize: we need to FIX IT ALL
- Make it fun: MURAL
- Time involved in root cause analysis: Template as much as possible
- Trained IA’s and Black Belts in the market
- Having a central document holder
- Developing rapport with each team

Determine Root Causes of the Performance Gaps Potential Root Causes (in black) and Market Unique Root Causes (in color): CAUTI

Each Organization Can Adapt to Their Needs



Develop Prioritized Projects/Countermeasures

Prioritized Root Cause/Gap	Project / Countermeasure	Comments
3. People: 3b. Consistent adherence to bundle measures	3b. Implement standardized leadership catheter rounds	Educate unit leaders & champions on CAUTI bundle. Some resources deployed to COVID units.
1. Process: 1i. Lack of process to identify foley necessity	1i. Implement huddles	Include patient care techs in team huddles

Implement Projects / Countermeasures

"Who" will do "What" by "When" – Track Status of Actions

Project / Countermeasure (What)	Accountable Leader	Facilitator	Due Date (By When)	Status
3b. Implement standardized leadership catheter rounds	CNE	Quality Consultant	Q3 2021	Leader rounding started on some units-working on spread
1i. Implement RN directed foley catheter removal protocol	CNE	Quality Consultant	Q1 2022	Assembled team w/physician support – working with local informatics team on timeline

Challenges and Counters

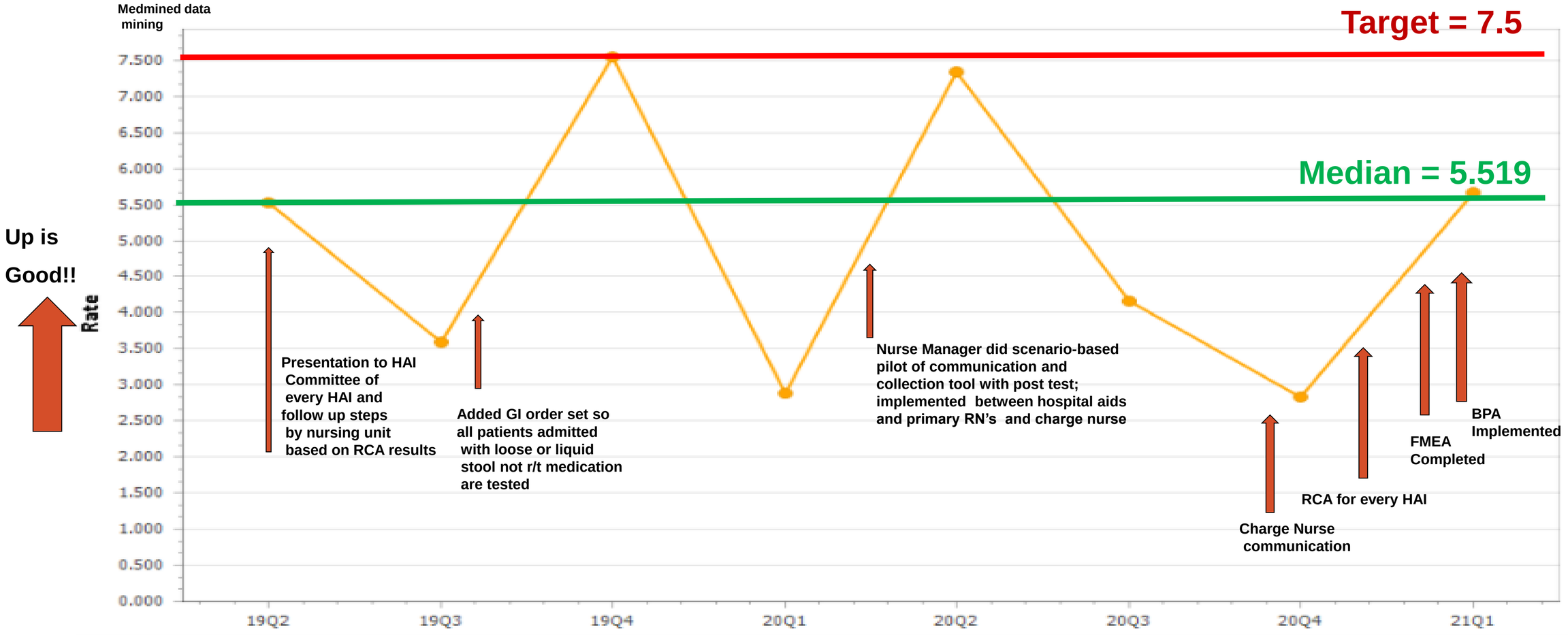
- Having a report-out schedule (all wanted to know “what” and “when”)
- Flexibility in moving implementation dates based on operational needs
- Obtain accountability of who is working with enterprise and who is doing the work regionally
- Use of RACI chart

Step 7
Monitor and Confirm Results

Considerations:

- What are potential roadblocks and related to step 7?
- How can these be countered?

Data Monitor Process and Confirm Results- One visual



Analysis of Improvement

1. Six or more consecutive POINTS either all above or all below median-skip median values(Shift)
2. Five Points all going up or all going down-ignore like values (Trend)
3.Runs above or below median (number of times median crossed +1)
4. Cosmic!

Challenges and Counters

- Keeping the focus
- Maintaining the momentum

Sustain Success and Transfer Knowledge

- Community of Practice
- National Nursing and National Quality forums
- Lunch & Learns
- Inform stakeholder/process owners of improvement outcome with a Communication Plan
- Document in project repository i.e., Symphony or Smart Sheets
- Export tools developed as part of the improvement

Overall Learnings

We are still on the journey- 1st year; expectation of 2 – 3 years for this magnitude of project (data watching)

Recognition: our front-line teams did this work!!

Resilient Staff: Committed to excellence


THANKFUL
for all the
health care heroes!
KAISER PERMANENTE

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Q & A

KAISER PERMANENTE®

HIGH RELIABILITY

PERFORMANCE IMPROVEMENT

THANK YOU FOR YOUR PARTICIPATION!

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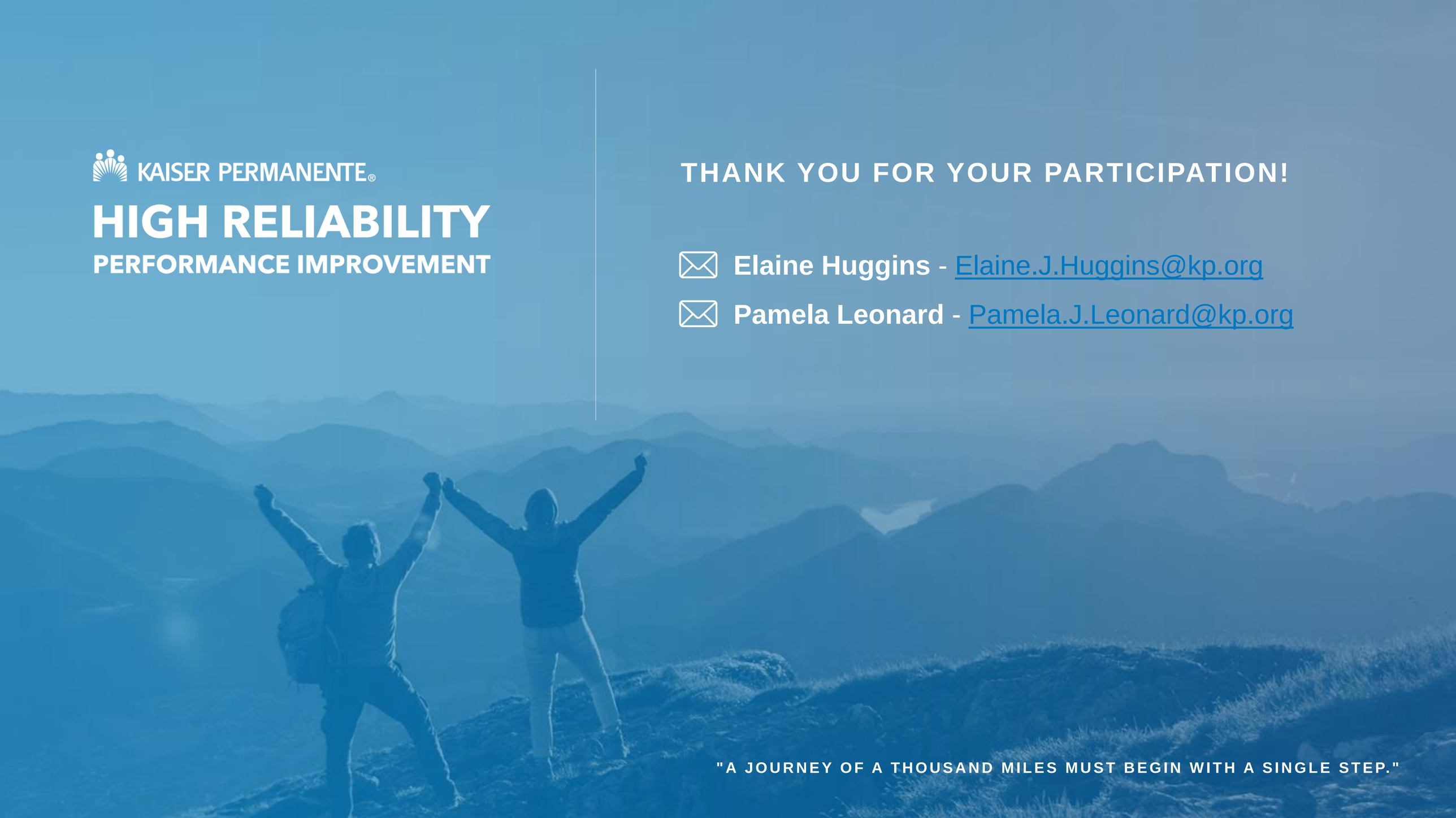

"A JOURNEY OF A THOUSAND MILES MUST BEGIN WITH A SINGLE STEP."

Final Reminders

- **Evaluation**
  - Please complete the evaluation form that will be sent to your email shortly

- **Continuing Education**
  - Create a Duke OneLink account if you have not done so
    - Instructions can be downloaded from the Files pod or your registration confirmation email
  - **Text SOXDOC to (919) 213-8033 within 24 hours**
    - Window to receive CE credit closes at 1:00 pm ET on Thursday, October 14

AHA Team Training

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