A3: A framework for real-time problem solving

TRAVEL FREE CME

8/19/2020

OHSU Performance Excellence System (OPEx)

OHSU

Our Time Today

Learning Objectives:

- Explain the **A3 thinking** as a problem solving methodology
- Summarize the purpose of an A3 template
- Differentiate between the **left** side and **right** side of an A3 template
- Explain the purpose of each section of the A3 template
- Describe some problem solving tools such as 5WHYs

Goal: Help you bring an awareness of Problem Solving Methodology and A3 thinking into your daily work

Why A3 problem solving?

- Have you ever implemented a solution to a problem and see the same problem come up over and over again?
- Have you ever avoided tackling a problem because it seems too big?
- What about coming up and implementing a solution to a large problem that is rejected and not adhered to by the people impacted by it?

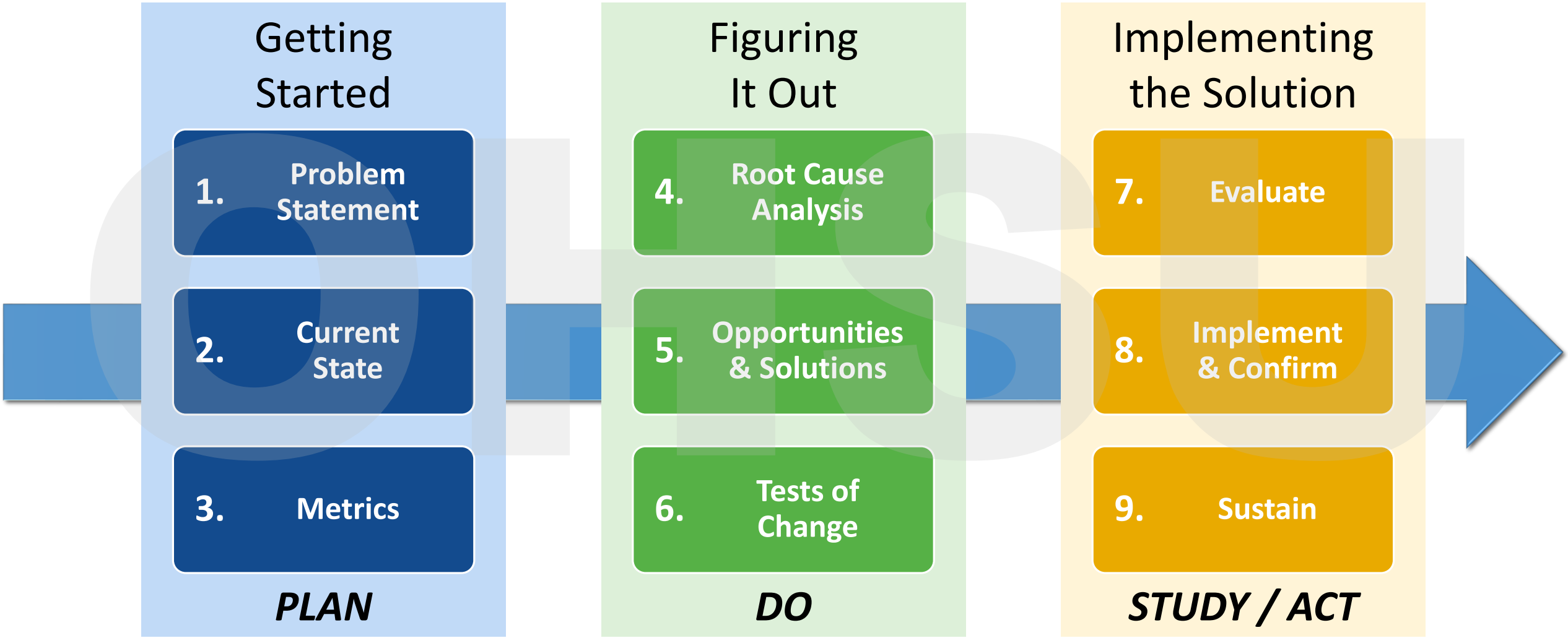
A3 problem solving methodology provides you the framework and thinking you need to get comfortable with problem solving. A3 provides you the guideline to solve problems of any scale and at the same time build team engagement and sustainment for a successful change initiative.

A3 Thinking: Problem Solving Methodology

What is an A3?

- An A3 is a way to solve problems. Its name, in fact comes from the size of paper that it's normally documented on.
- It is rooted in the scientific method: **Plan, Do, Study, Act (PDSA)**
- It is a visual and concise way to lay out an entire plan on one sheet of paper.
- It tells a story, laid out in a way that anyone can understand.
- What is important is not the format, but the process and thinking behind it, and the conversations it facilitates.

Problem Solving Methodology (PDSA cycle)



What does “Good” Problem Solving look like?

	MORE OF	LESS OF
1	Go slow to go fast	Haphazard (or Aimless) approach
2	Understanding root cause	Jump to solutions
3	Data and fact-driven decisions	Intuition and emotion driven decisions
4	Hypothesis-based tests of change (e.g. following the Scientific Method)	Inability to demonstrate/prove why outcomes change
5	Engaging teams	Gathering facts in a conference room
6	Learning and Process define success	Outcome alone defines success

Quiz using Poll tool

- What does the term A3 indicate?
  - The third iteration of this approach to problem solving
  - The size of the paper used (Correct Answer)
  - Alphonse's three rules of problem solving

- What are two elements of "good" problem solving?
  - Learning and process define success (Correct Answer)
  - Implement a solution without doing root cause analysis
  - Hypothesis and testing drive change (Correct Answer)

A3 Thinking & Templates

A3 Problem Solving Methodology

LEFT SIDE

RIGHT SIDE

Tactic Title:

Problem

In scope:

Out of scope:

Background / Current State (why did we choose to work on this?)

Outcome Metric:

Goal (from x to y by when):

Prioritized Root Causes:

1.

2.

3.

4.

Process Owner and Team Members

Interventions and experiments (directly connected to root cause)

ROOT CAUSE	IDEA / INTERVENTION & OWNER	HYPOTHESIS & QUANTIFIABLE IMPACT ON OUTCOME METRIC	DATES OF EXPERIMENT(S)	WHAT HAPPENED & WHAT DID YOU LEARN

Process Metrics:

Target (from x to y by when):

Plan

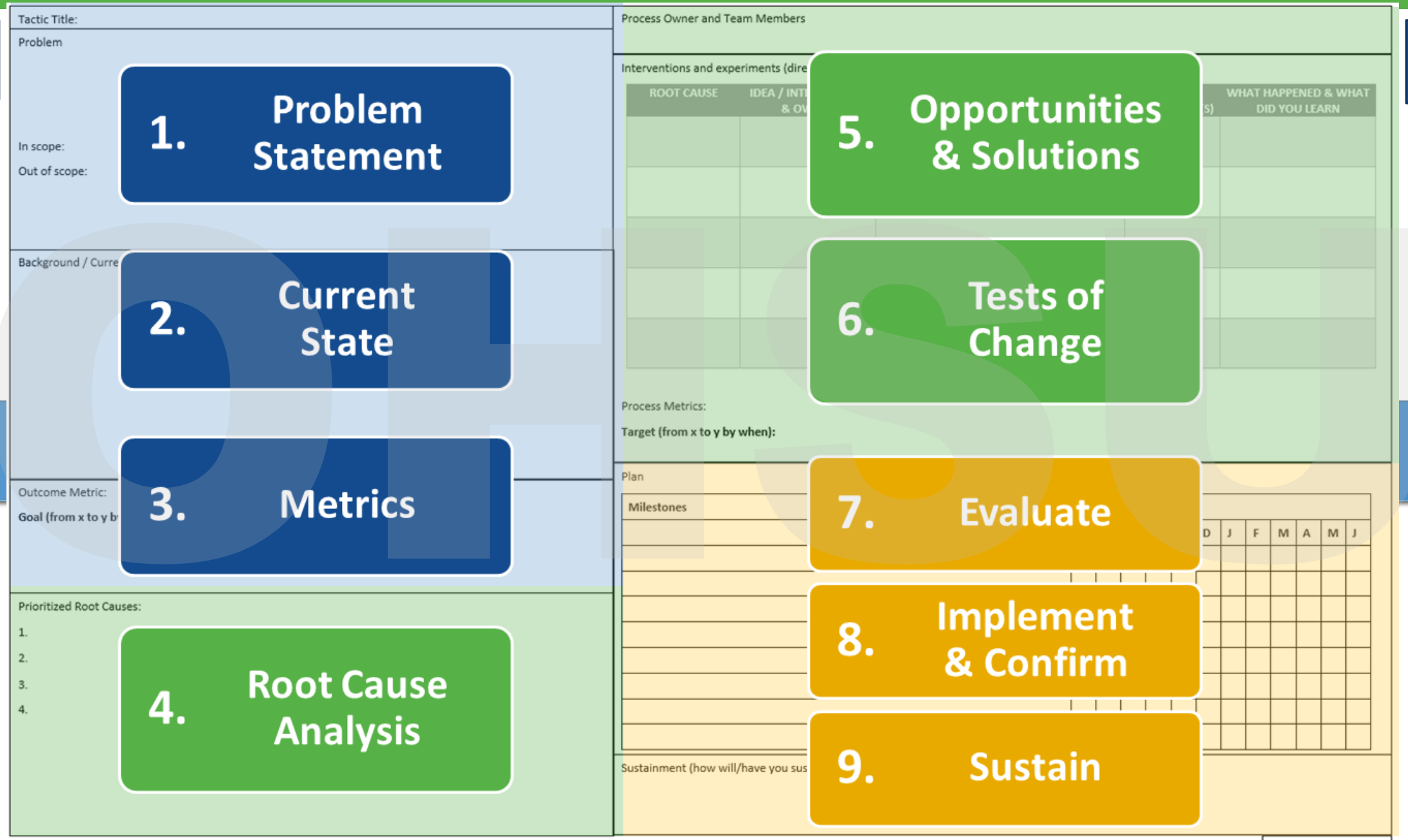
Milestones	Schedule											
	J	A	S	O	N	D	J	F	M	A	M	J

Sustainment (how will/have you sustain the changes?)

A3 Problem Solving Methodology

LEFT SIDE

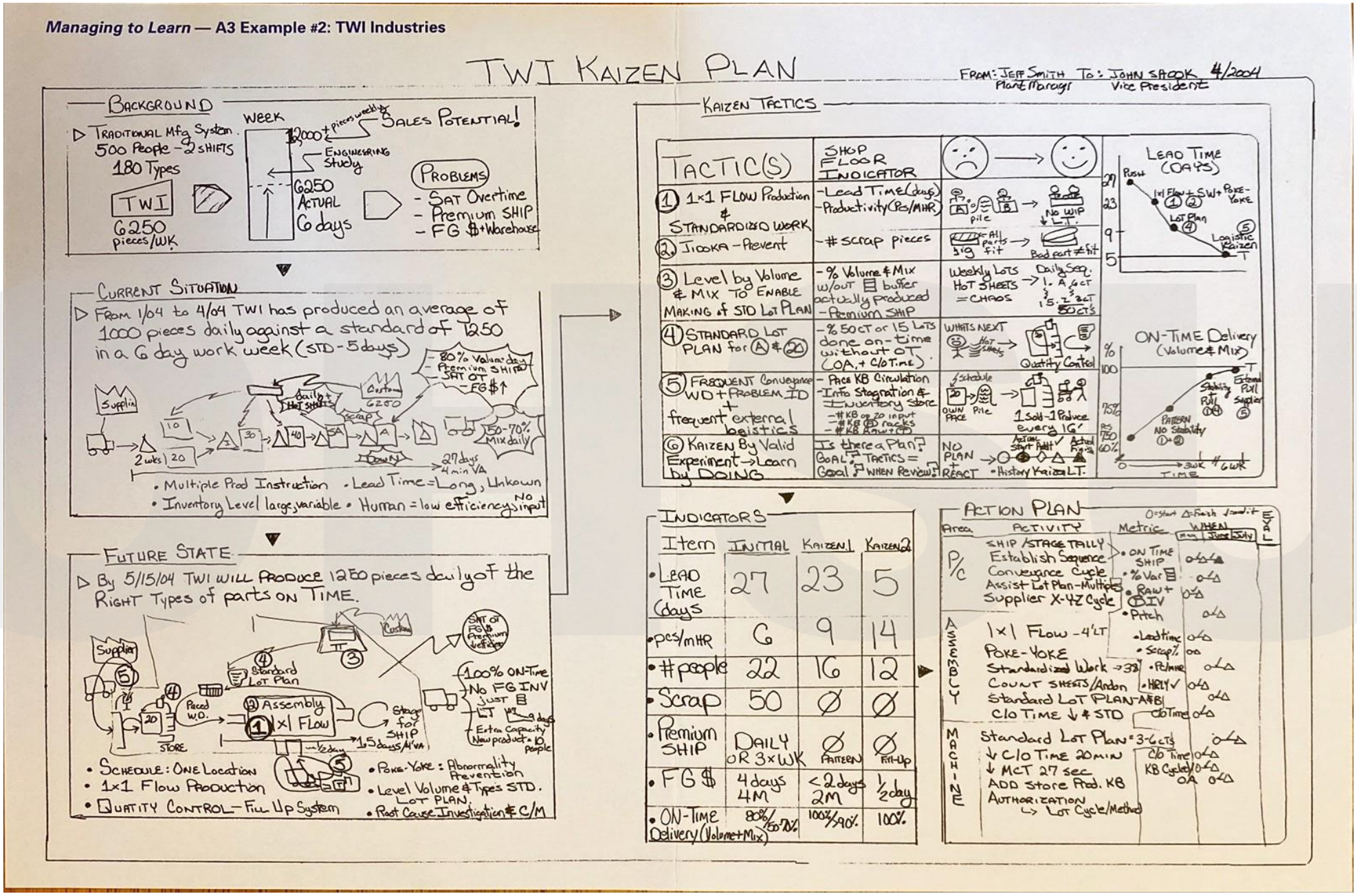
RIGHT SIDE



A3

LEFT SIDE

RIGHT SIDE



Source: Shook, John (2008), *Managing to learn : using the A3 management process to solve problems, gain agreement, mentor and lead,* Cambridge, MA : Lean Enterprise Institute.

A3

TACTIC: Mortality O/E Reduction

Sponsor: Renee Edwards **Process Owner & Team Members:** Coding – Kelly Smith, Debra Tomsen; Documentation – Norm Cohen, Jennifer Grubb; Hospice GIP - Susan Yoder, Jennifer Mensik; Sepsis - Angela Alday
Quality Management: PIC – Dorcas Safly; Quality Specialists – Alicia Sampson (mortality coding and documentation, hospice), Milon Good (sepsis)

LEFT SIDE

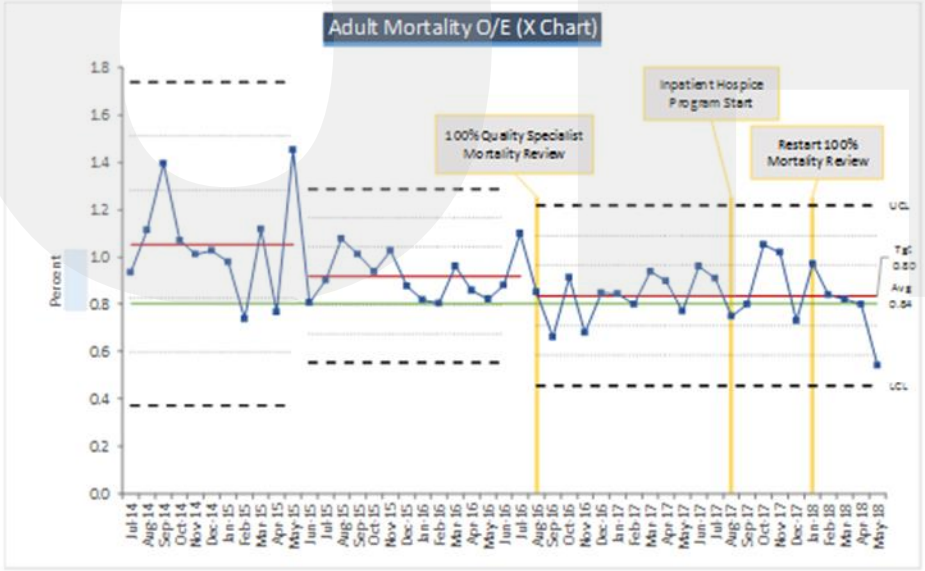
Problem: CESP Goal #6: Rank in the Top 10 on the annual Vizient AMC Quality and Accountability Scorecard. Since Mortality accounts for 25% of the overall score, it is imperative that OHSU perform in the top 25th percentile of Mortality rankings in order to achieve this goal. OHSU is focused on reducing the Mortality Observed/Expected ratio through implementation of targeted interventions to reduce the number of Observed mortalities in addition to improving how we capture anticipated deaths or Expected mortality.

In scope: Adult inpatient mortalities
Out of scope: Pediatric mortalities, outpatient mortalities

Background / Current State For improving quality of care and reducing Observed mortalities, we know that there is an opportunity to identify earlier and consistently treat patients who develop non-Present on Admission (non-POA) Sepsis. There is also an opportunity to maximize utilization of the Hospice GIP program for service lines with high mortality rates.

For increasing the Expected mortality rate, and improving performance metrics in comparison to Vizient peer AMCs, proper clinical documentation and coding is critical for accurately capturing patients risk of mortality in addition to improving revenue and other quality metrics (LOS, CMI, PSIs).

Outcome Metric: Goal (from July 2017 to June 2018 – FY18): Adult Mortality O/E ratio goal of .80
This goal was set based on the Vizient Q&A Scorecard Top 10 rank overall with a specific goal of ranking in the top 25th percentile for Mortality, which was .80 in July 2017.



Prioritized Root Causes: FY18 to date

1. Observed mortalities higher than desired goal (0.80 O/E ratio) in several OHSU/Vizient service lines: General Medicine, Trauma, Oncology, Neurology, Cardiology, General Surgery
2. Need to improve clinical documentation and coding to better inform Expected mortality rate

Interventions and experiments (directly connected to root cause)

ROOT CAUSE	IDEA / INTERVENTION	HYPOTHESIS & QUANTIFIABLE IMPACT ON OUTCOME METRIC	DATES OF EXPERIMENT(S)	WHAT HAPPENED & WHAT DID YOU LEARN
1. **High Observed Mortalities**	Utilize Hospice GIP program for Neurosciences, KCVI service lines; determine centralized ownership and expansion plan	There will be a noticeable reduction in Observed mortalities for services lines utilizing Hospice GIP.	8/1/17 – 9/1/18	Overall observed mortalities have gone down. Hospice GIP utilization will vary by service line and patient population.
2. **High Observed Mortalities**	Engage a workgroup to implement early identification and standardized care protocol of non-POA Sepsis patients; new Epic functionality and implementation of GE tile for monitoring	There will be a statistically significant reduction in non-POA sepsis mortalities.	4/1/17 – 11/30/18	
3. **Improve Expected risk of mortality**	1 FTE Coding Resource for 100% Mortality Coding Reviews	There will be a statistically significant increase in Expected mortality with maximization of billing codes.	1/1/18 - ongoing	

Process Metric(s):

1. Track monthly percent of mortalities with enrollment of patients into Hospice GIP program by hospice capable unit/service line.
2. Track monthly count of Observed non-POA sepsis mortalities by unit/service line.
3. Track average percent of Mortality Coder reviews with requests for coding changes, and percent increase in risk of mortality.

Milestones	Schedule											
	J	A	S	O	N	D	J	F	M	A	M	J
Transition ownership of Hospice GIP program to Care Management	■	■										
Evaluate Hospice GIP program and determine plan for expansion	■	■	■									
Engage workgroup to develop and implement non-POA Sepsis response protocol	■	■	■	■	■							
Implementation of Mission Control GE Tile for Sepsis monitoring	■	■	■	■	■							
Quarterly monitoring of 100% coding review effectiveness		■			■			■			■	

Sustainment (how will/have you sustain the changes?)

Implementation of process specific Standard Work and utilization of Huddles and Daily Management Systems.

RIGHT SIDE

Rev. 1; 7/16/18

A3 – The LEFT side

Project Title:
Interdisciplinary team members, titles:

Problem

- Here you should see a problem, not a solution.
- The customer (patients) should be clearly represented.
- The scope should be narrow enough to feel feasible.

- How does this problem impact patients (customers)?
- How hard was it to define your scope for this effort?
- Is your team likely to be able to impact this problem?

Background (why we are working on this):

Current

- Here you understand how big the problem is, what has been tried, and why it matters.
- You may see baseline data.
- You should see a visual of the current state (before any improvement efforts)

- Why did we choose this NOW?
- What have you done to understand the PROCESS of your current state?
- Has anyone observed the work?
- Who is on your improvement team who does this work?

Outcome

- This section tells you what success looks like. It should be a measure of what matters to the customer.

- Will we be able to measure this over time (run chart)?

Problem

- These words should help you understand WHY the broken parts of our system are happening.
- Teams can't always take on every root cause. Ideally they will be prioritized.

- Were these root causes identified by observing the actual process?
- How confident are you that fixing these root causes will fix your problem?

A3 – The RIGHT side

Project Title:
Interdisciplinary team members, titles:

Future state visual/drawing:

- Here you should see some version of a better system.
- Not all root causes need to be fixed, but some should.
- The scope should be narrow enough to feel feasible.

- How hard will it be to get to this future state?
- What do you anticipate will be the biggest barriers?
- Why do patients want this future state?

At least 2 tests of Change:

Root Cause (#)	Idea/Intervention	Hypothesis about impact on outcome metric	Dates of experiment	What happened? What did you learn?

- This is a crucial section which should help you understand how each improvement effort (experiment) connects to the root causes, and then to the outcome.

- How did you generate your ideas to test?
- Can you explain how idea X connects to the root cause?
- What surprised you about this experiment?
- Did you have any failures we can all learn from?

Process metric target (from X to Y by when):

- A process metric measures whether or not we are DOING the things we think will improve our outcomes.
- Goal should be measurable.

- What will your system be to collect process data?
- If you are reliable to this process metric, how do you think it will impact your outcome metric?

Sustainment:

- How will we maintain success?
- If we have to rely on the memory and good will of people, we have to keep measuring our behavior.

- Would it be acceptable if a year from now, you were back where you started? If not, what is your plan?

Case History

- Norm is a 46 year old male who is checking in for his clinic appointment this morning with Dr. Malone
- Carla (PAS) enters Epic to check Norm in for his appointment only to find that his appointment is actually in two days, not today
- Norm produces a confirmation letter from OHSU confirming his appointment for this morning
- Clinic supervisor Rebecca contacts Dr. Malone to request he see Norm, but Dr. Malone is unavailable today
- Dr. Boyd, another physician in the clinic, takes 20 minutes to respond to pages from Rebecca before confirming that he could see Norm this afternoon
- Norm appears frustrated. He has driven five hours today to see Dr. Malone, and does not want to reschedule or see Dr. Boyd instead

Exercise: What is the problem?

Poll (What is the problem?)

In a short sentence, tell me **what is the problem?**

A. Poor communication between Carla (PAS), Rebecca (supervisor) and Dr. Malone

B. Norm (patient) didn't receive and/or read the second letter with an updated date and time of appointment with Dr. Malone

C. Norm (patient) is present for an appointment and Dr. Malone is not (Correct Answer)

D. The clinic do not have telemedicine option for their patients

Breaking Down the Problem

1. Break down the big vague problem into smaller, workable ones
   - ✘ Not focusing on Why or How yet

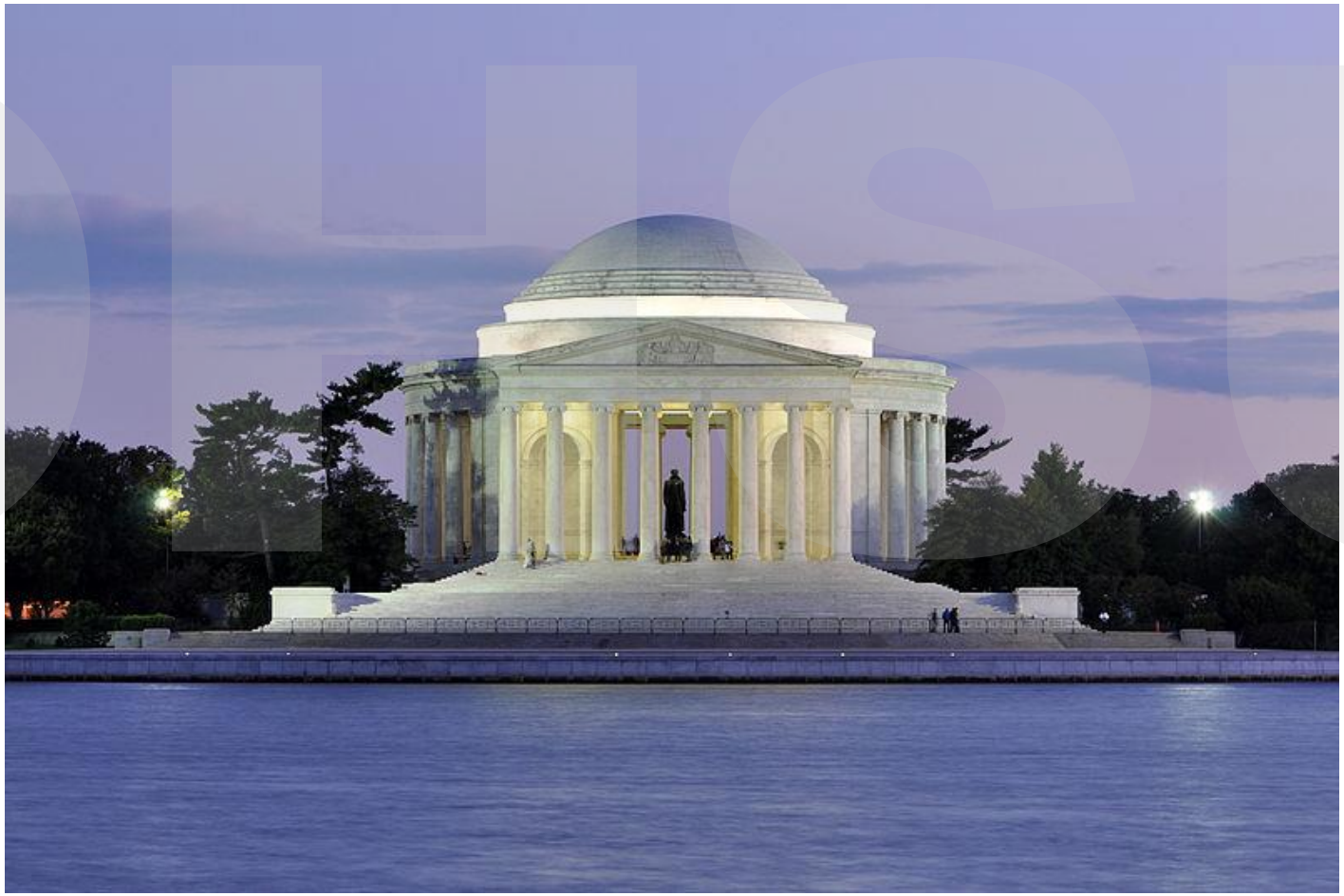
Who	What
• All roles? • All patient types?	• All appointment types? • All procedures? • Only expensive items?
When	**Where**
• All shifts? • All days? • Only the first time of the day? • Only when certain events occur in order?	• All locations/units? • Every room?

2. Use data to help determine areas of focus

Is it specific?
Based on what the customer values?
Is it focused on the problem only….not solution(s)?

5 Whys and the Jefferson Memorial

Problem: Jefferson Memorial stone was crumbling



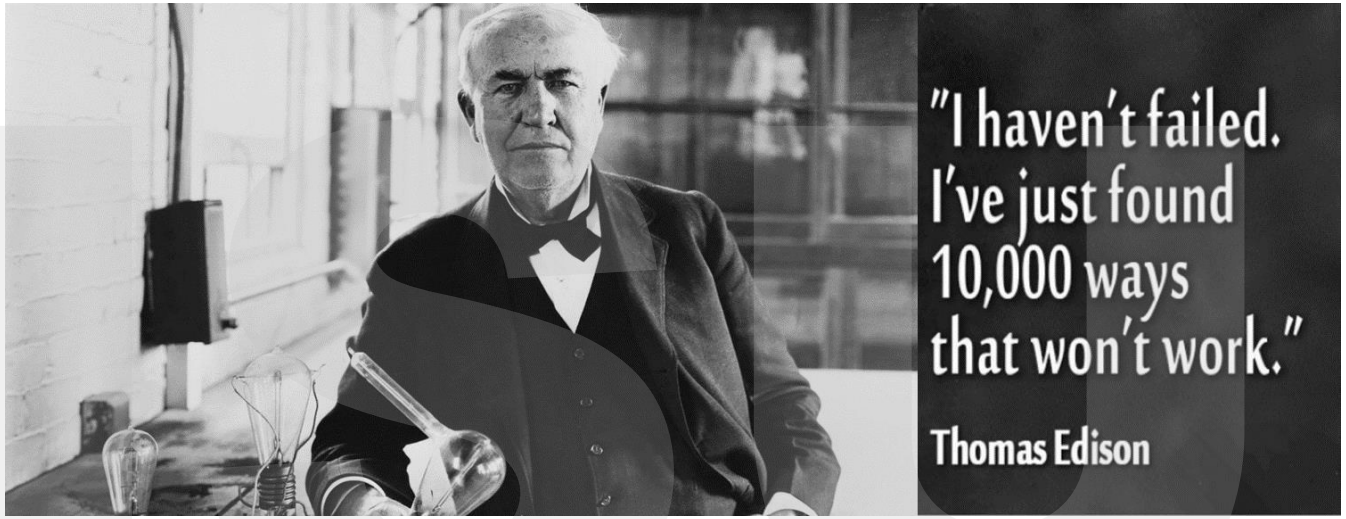
5 Whys and the Jefferson Memorial

Problem: Jefferson Memorial stone was crumbling

1. **Why?** Too much cleaning
2. **Why?** Too much bird droppings
3. **Why?** Lots of birds because lots of spiders
4. **Why?** Lots of spiders because lots of midges
5. **Why?** Midges come out at dusk and were attracted to lights that turned on at that time
6. **Solution:** Turn lights on 1 hour after dusk, when there are 90% fewer midges

Tests of Change

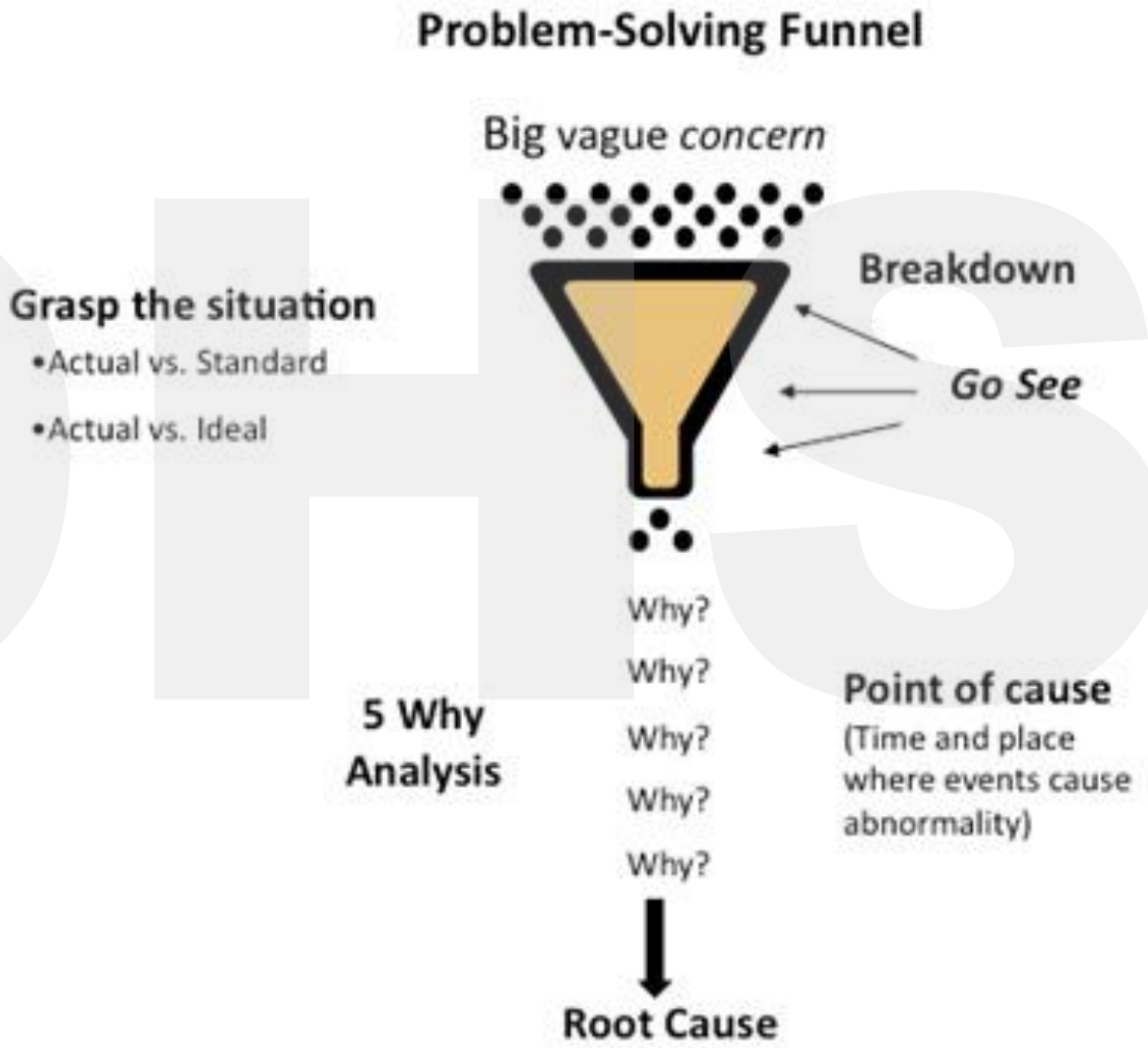
Gary Larson's *The Far Side*
via Google Images



Takeaways:

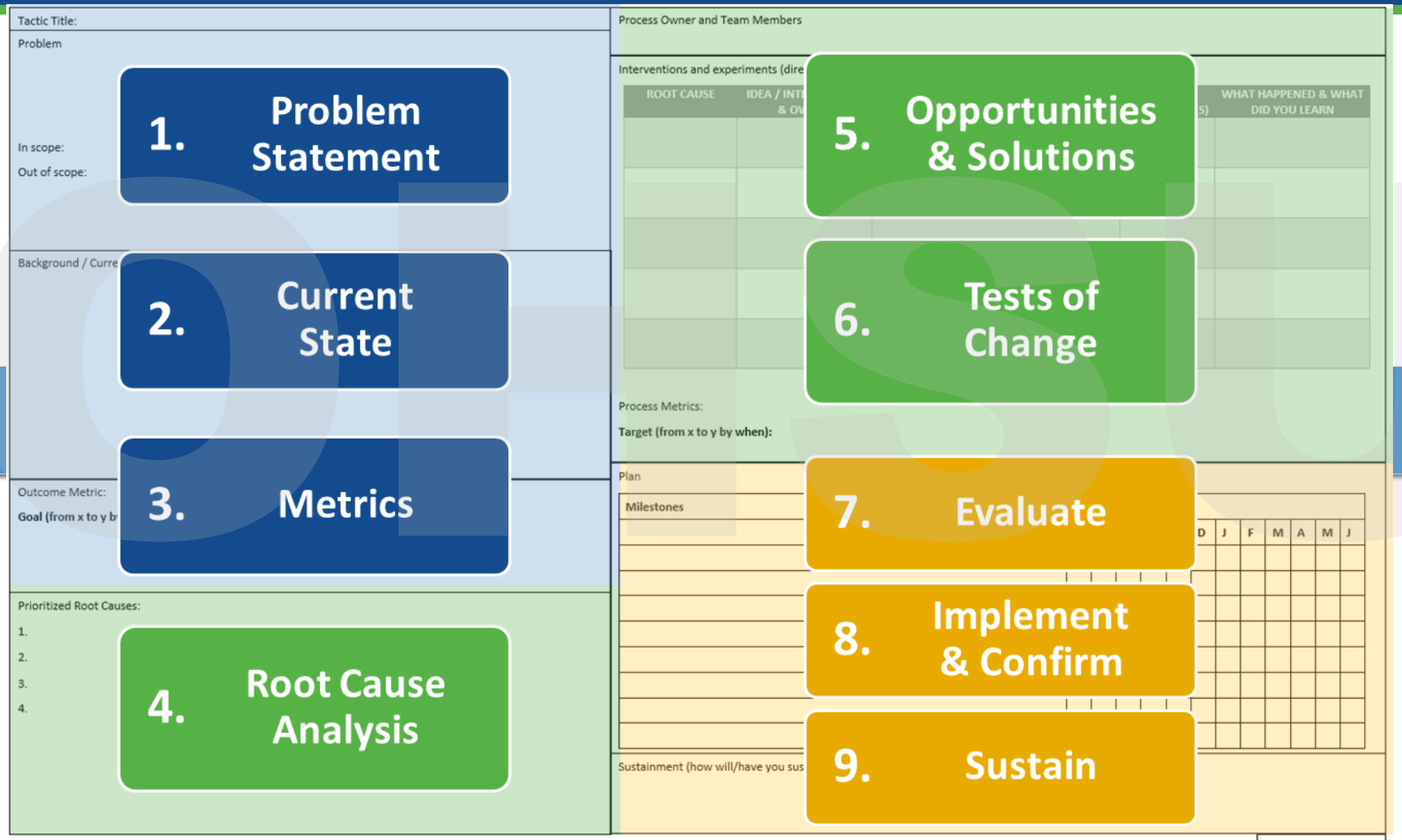
- Fail early. Fail fast and learn
- Consider impact on cost and safety
- Consider impact on problem
- Easy wins by tackling low hanging fruits

Look at all the work you've done!



Experiments conducted

A3 Problem Solving Methodology



https://bridge.ohsu.edu/health/opex/priorities/Documents/Tactical A3 Template.docx

Rev. Date:

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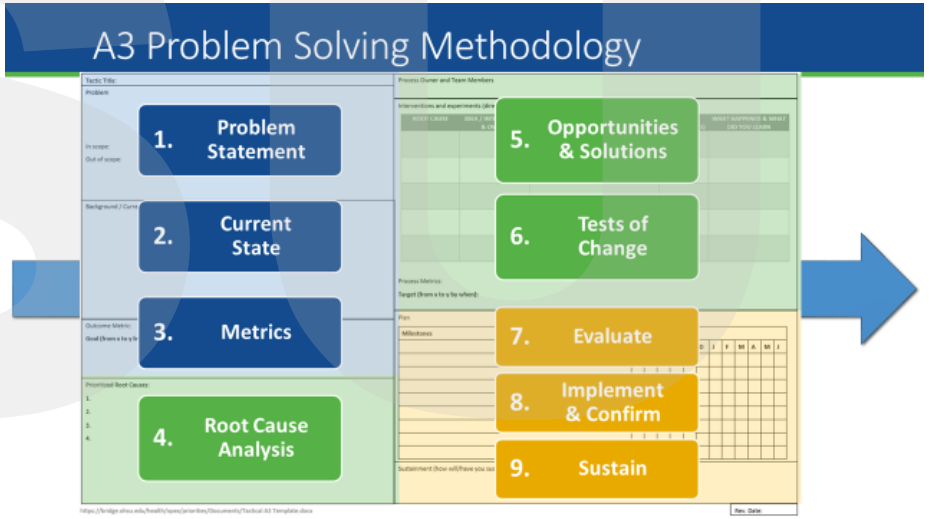
Our Time Today

Learning Objectives

- Explained the **A3 thinking** as a problem solving methodology
  - An approach to problem solving rooted in the scientific method: **Plan, Do, Study, Act (PDSA)**
- Summarized the purpose of an A3 Template
  - Visual and concise way to lay out an entire plan on one sheet of paper
  - Tells a story, laid out in a way that anyone can understand.
- Differentiated between the **left** side and **right** side of an A3 template
  - Left side: Understand the problem
  - Right side: Will our plan address root cause? Have we gained agreement?

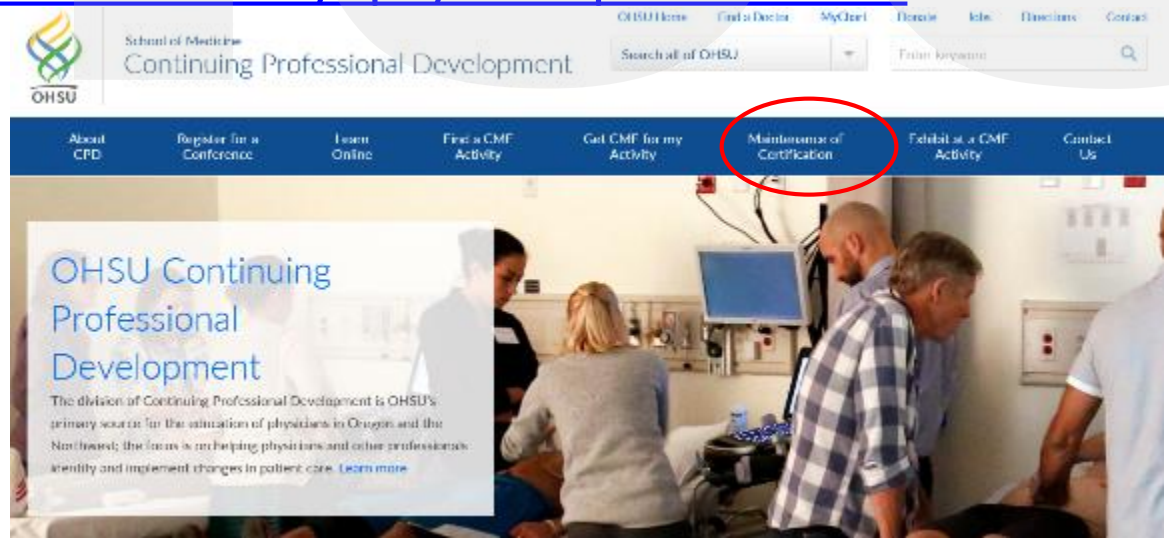


Goal: Help you bring an awareness of Problem Solving Methodology and A3 thinking into your daily work

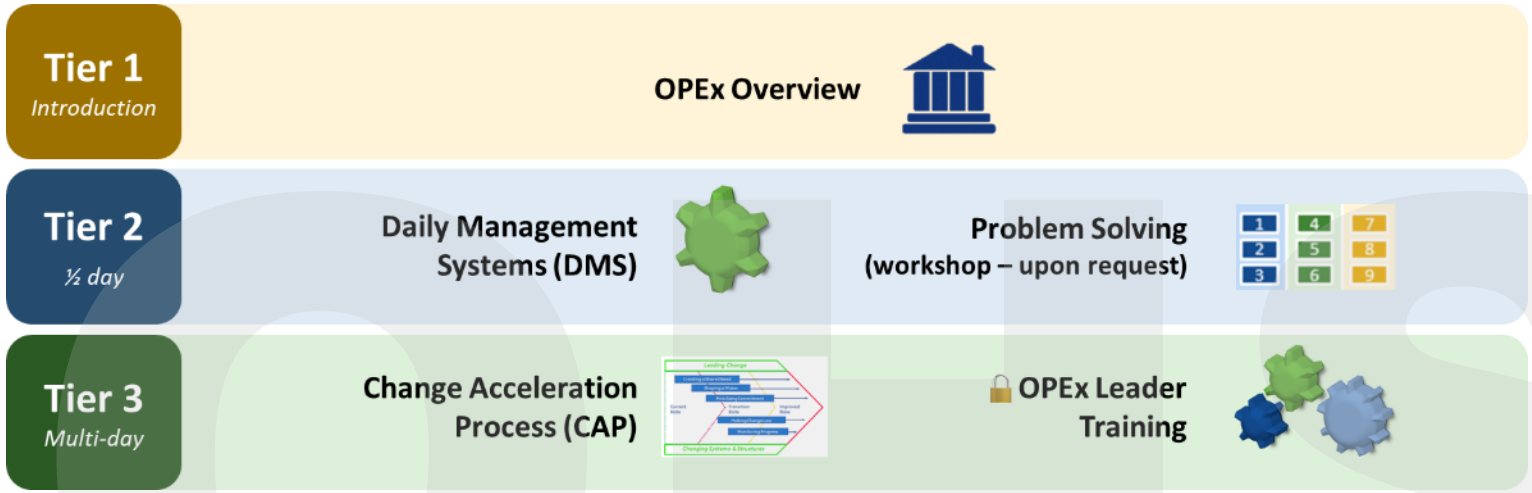
A3 Problem Solving - Opportunities for MOC IV Credit

- The School of Medicine Office of Continuing Professional Development (CPD) can offer Maintenance of Certification Part IV Credit for qualifying quality improvement work.
- This offer is open to all board certified physicians and physician assistants through the ABMS Multi-Specialty Portfolio Program™ (MSPP).
- If you have existing QI work or QI work in development, check out the Maintenance of Certification portion of the CPD website for more detail.

https://www.ohsu.edu/school-of-medicine/cpd/moc-part-iv-ohsu



Interested in more OPEx?



Sign up for more classes on Compass

- Find introductory information and tools on the OPEx O2 site https://o2.ohsu.edu/opex/
- Visit the OPEx Bridge site https://bridge.ohsu.edu/health/opex/SitePages/Home.aspx
- Shook, John (2008), *Managing to learn : using the A3 management process to solve problems, gain agreement, mentor and lead,* Cambridge, MA : Lean Enterprise Institute.

- Ask your manager how you can get involved
- Attend Area Readiness Huddles and Improvement Rounds
- Tour unit/clinic visual boards

Thank you!