

# Improvement Academy Day 2 – Leading Change

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Institute for Healthcare Quality,  
Safety and Efficiency

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

# Feedback for next time

Revamp CM to step 7 morph into resistance

Scarf- apply to life, kids

Diffusion innov get rid of

Example- frame it better so they don't feel badly for data side of it, frame final presentation as final check in

Uexcel example

January- deeper in theory and no UExcel, more info on data with run charts and pivot charts



# Agenda

- 1 Team Updates
  - 2 Return to DMAIC
  - 3 An Approach to Data in QI
  - 4 Change Management
- LUNCH —————
- 5 Embracing Resistance - SCARF Model
  - 6 Creating a Great Presentation



# Team Updates - Key Realizations

What have you learned about  
your problem since the last  
session?



# Return to DMAIC

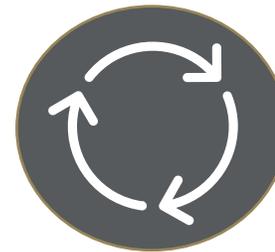
Define, Measure, Analyze, Improve, Control



Understand your  
problem



Fix it



Sustain



## Define

- Problem Statement
- Voice of Customer

## Measure

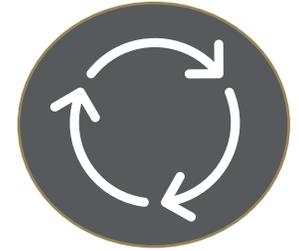
- Gemba
- Process Map
- Identify Process, Outcome, Balancing

## Analyze

- Affinity Diagram – Identify Root Causes
- Pareto – Rank Root Causes



## *D, M, A - SMART AIM*



### Improve

- Identify Key Targets for Intervention from Pareto Chart
- Design Interventions using Positive Deviance, Pre-Mortem

### Control

- Sustainability Plan



Define, Measure, Analyze,



Understand your  
problem



# The Problem Statement

DO you have a problem?

What is your problem?

What is the scope?

# Define the problem



Please write down your problem statement and reflect on your status in Measure / Analyze phase.



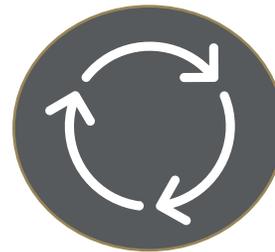
Define, Measure, Analyze, Improve, Control



Understand your  
problem



Fix it



Sustain



# An Approach to Data in QI





“In God we trust. All others must bring data.”

- W. Edwards Deming



“The goal is to turn data into information, and information into insight.”

- Carly Fiorina, former executive, president, and chair of Hewlett-Packard Co.



Matter to Patients  
(or stakeholders)

## OUTCOME

- Patient Satisfaction
- LOS
- Readmission Rate
- Adverse Events

Can act as proxy for  
outcomes

## PROCESS

- Use of checklists
- Lab orders

## STRUCTURE

- Order Sets
- Medications
- Hand sanitizer

I  
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T  
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S

BALANCE





Outcome Measure - “Set it...and forget it!”



Focus on the process, NOT the results. Take one step at a time. You don't climb a mountain by simply looking at the top.



How do you know your intervention is  
*happening?*  
*ie process measures*



# #squadgoals

- AIM: By 6/1/22, we aim to increase percentage of BMT chemotherapy admissions by 1200, from 4.2% to 60%.
- How: transform chemotherapy admission process
- Vision: Cancer sucks and chemo is scary. We owe it to our patients to try to make the process of receiving treatment as reliable, efficient, and pleasant as possible.



# Breakout:

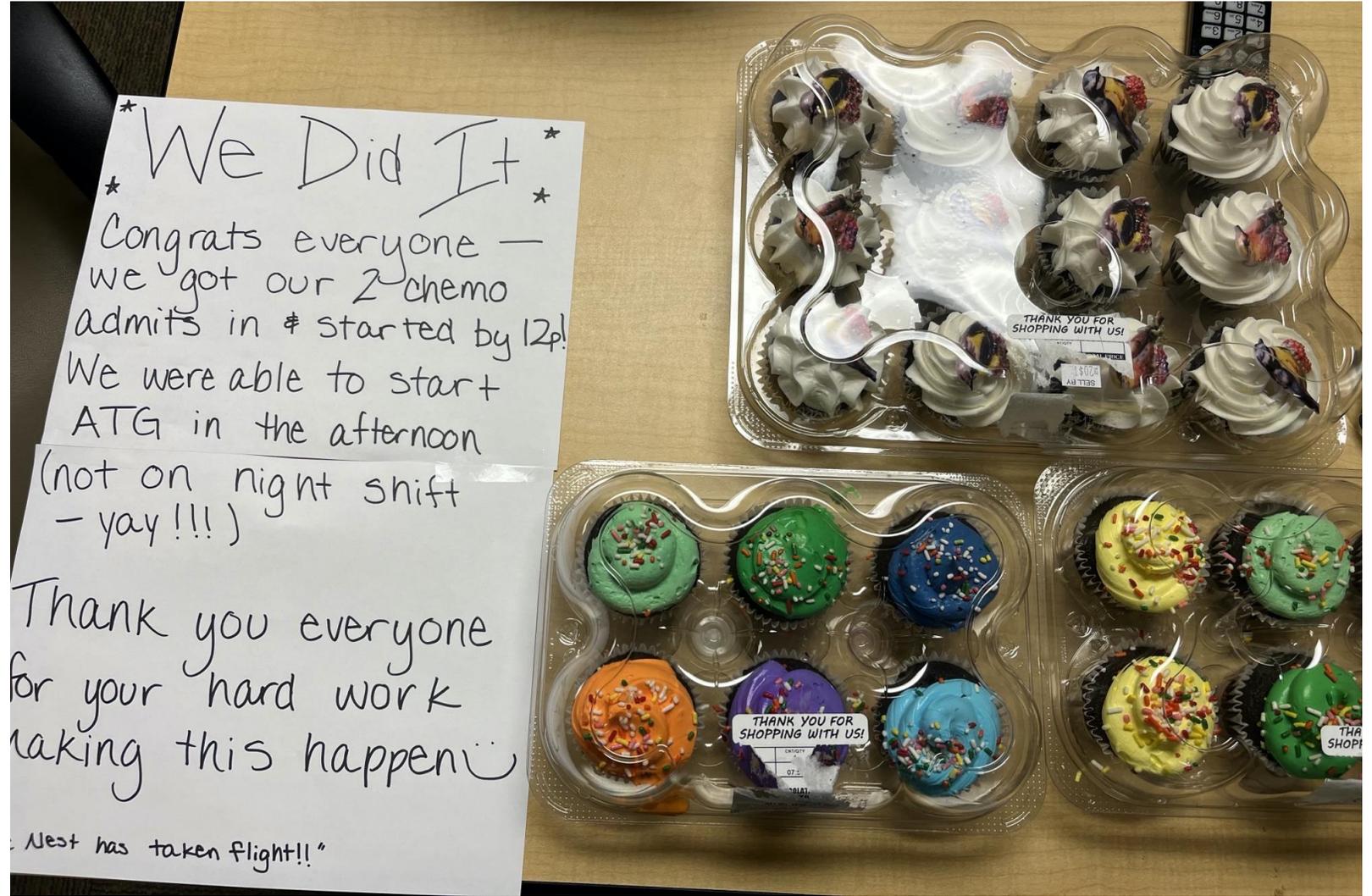
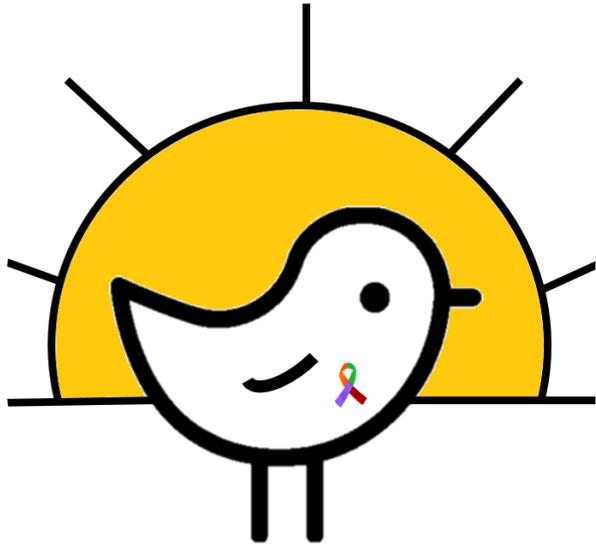


What are your process or structural metrics?

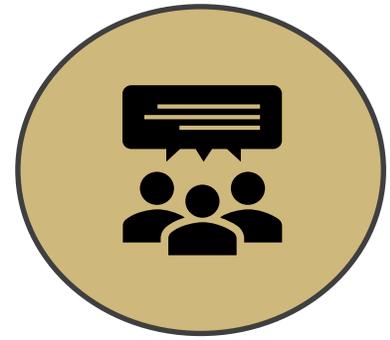
15 minutes

How do you know your intervention is  
working?  
*outcome measures*





# Breakout:

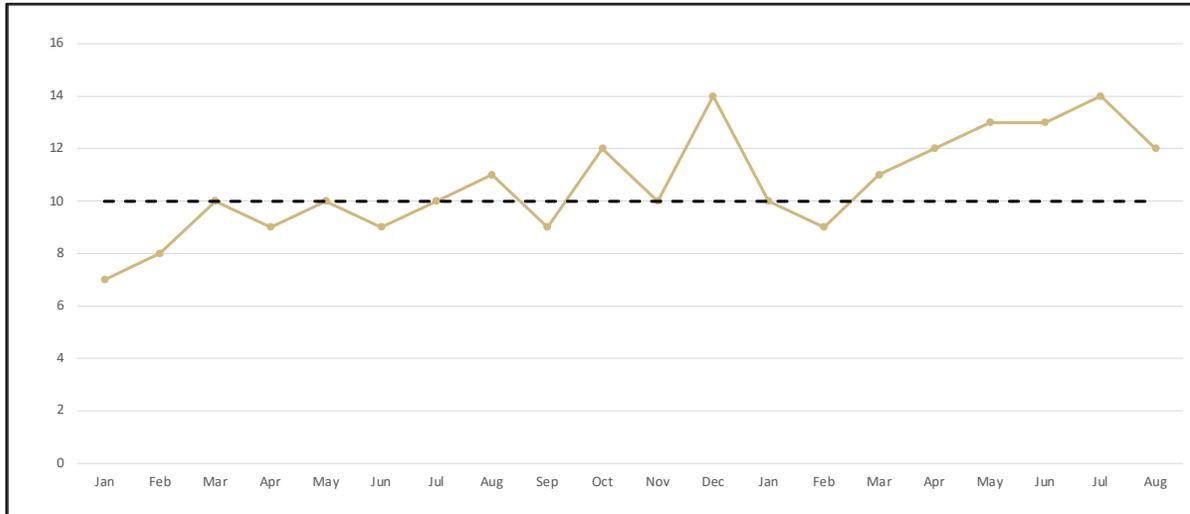


What are your outcome metrics?

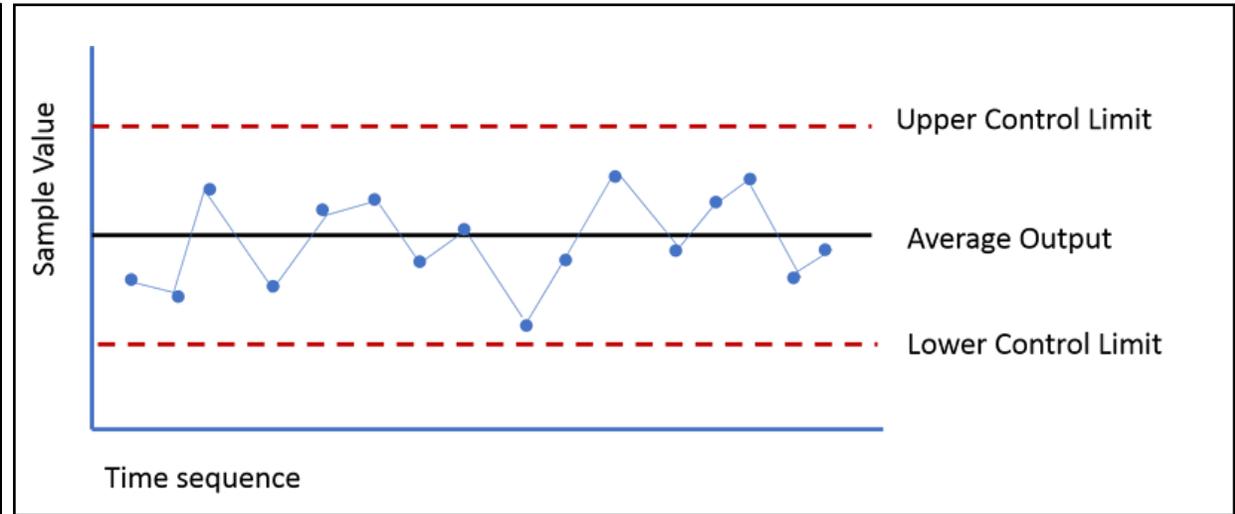
15 minutes



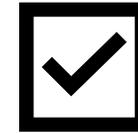
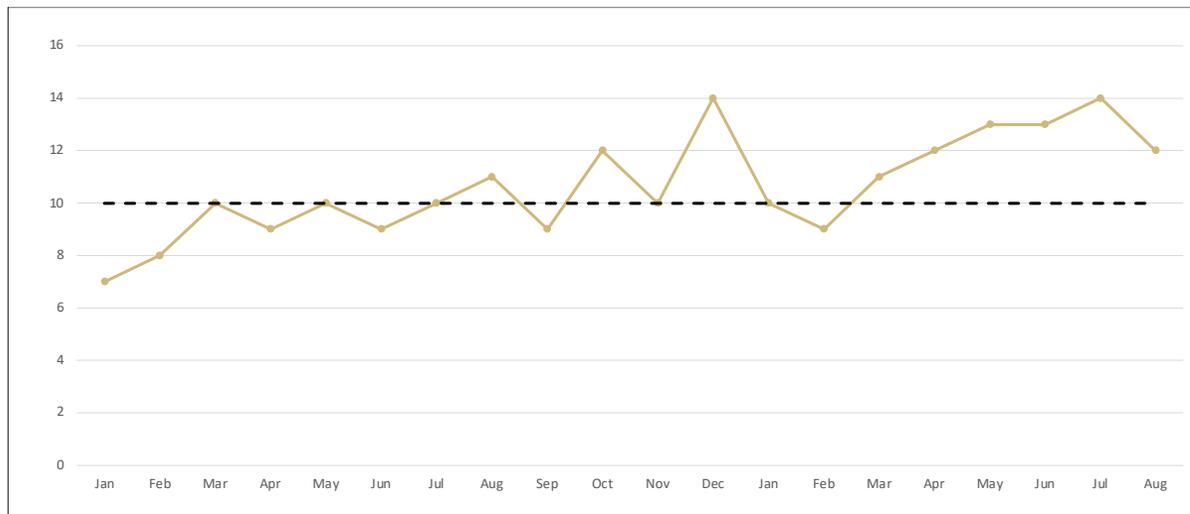
# Run Chart



# SPC Chart



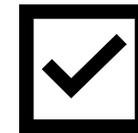
# Run Chart



Easy to construct

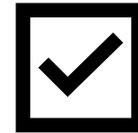
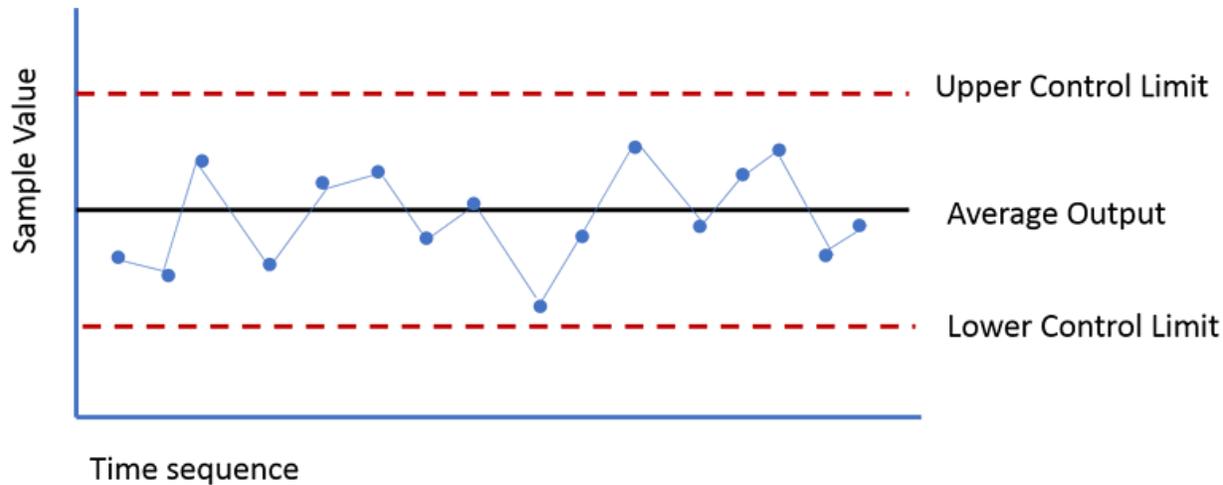


Easy to interpret  
(no advanced stats required)



Assess the impact of  
process changes  
(AKA something  
happened)

# Statistical Process Control (SPC) Chart



Make informed decisions about which processes to leave alone and which to subject to an improvement cycle.



Predict future performance if the system is stable and in control.



Easy to construct





Data Collection Tips

# Conceptual vs Operational definitions

- Conceptual is *what* you are going to measure
- Operational is *how*

**Daily order of CBCs and  
BMPs on inpatients  
ordered by residents**

**Number of CBCs**

**+**

**Number BMPs on inpatients  
ordered by day team  
residents between 1200am –  
1159pm**

---

**Total medicine team census  
per day**



Variable name label	Data type	Definition/ purpose	Possible values	Restrictions/ checks
<b>Patient information</b>				
Gender	Categorical	Male or female	M or F	Must be M or F
Age	Numerical	Age in years to nearest year	1–110 years	Must be a whole number
Height	Numerical	Height in centimetres	0–300cm	Measure to one decimal point
Weight	Numerical	Weight in kilograms	0–250kg	Measure to one decimal point
<b>Operation</b>				
Operation	Description	Name of operation	Text (refer checklist)	Must be from checklist
Surgeon	Description	Surname and first initial	Text (refer checklist)	Must be from checklist
Duration	Numerical	Duration of operation from full anaesthesia in hours and minutes	Hours	To one decimal point
<b>Antibiotics administered</b>				
Antibiotic	Description	Full generic name of antibiotic	Text (refer checklist)	Must be from checklist
Dose	Numerical	Dose of antibiotic in milligrams	Any	Must be a whole number
Number of doses	Numerical	Number of doses of antibiotic given	0–10	Must be a whole number
Frequency	Numerical	Number of doses ordered per 24-hour period	0–6	Must be a whole number
<b>Qualitative data</b>				
Barriers to change	Description	Barriers identified in interviews	Text	Up to 100 characters

## DATA DICTIONARY

- Repository of all your data points
- Provides a detailed description of each data point including:
  - Definition
  - Source
  - Other notes
- Built over-time as you get more data
- Especially helpful for EHR data





	A	B	C	D	E	F
1	Date	Item	Sales Rep	Quantity	Price	Commission
2	01-07-2018	Projector	Bob	13	150	11%
3	01-07-2018	White Board	Mark	8	40	9%
4	02-07-2018	White Board	Stacey	7	40	7%
5	03-07-2018	White Board	Mark	18	40	8%
6	05-07-2018	Office Chair	Stacey	19	230	6%
7	05-07-2018	Projector	John	4	150	10%
8	08-07-2018	Printer	Bob	9	80	6%
9	10-07-2018	Printer	Laura	16	80	2%
10	10-07-2018	Office Chair	Mark	15	230	9%
11	10-07-2018	Diary	Bob	15	16	1%
12	10-07-2018	Office Chair	John	7	230	2%
13	13-07-2018	Diary	Laura	23	16	11%
14	17-07-2018	White Board	Bob	20	40	5%
15	17-07-2018	Office Chair	Mark	9	230	3%
16	20-07-2018	White Board	Stacey	23	40	6%
17	20-07-2018	White Board	Stacey	4	40	5%

1. ORGANIZE by columns
2. DON'T use color coding
3. Set up BEFORE you start collecting data





“Those who are victorious plan effectively and change decisively. They are like a great river that maintains its course but adjusts its flow.”

Sun Tzu, The Art of War, 5th century BC





“Doveryai, no proveryai.” (Trust, but verify)

A Russian proverb

- Ronald Reagan, United States President 1981 – 1989
- Susan Massie, Russian Scholar





“A minimum put to good use is enough for anything.”

Jules Verne, *Around the World in Eighty Days*



# What is Data?

***Epic***



# Data Collection Plan (Miro template)

Key Question	Data Element Name	Operational Definition	Parameters	Source	Who	Frequency
What is the length of stay?	Length of stay (LOS)	LOS = Admit time to Discharge time	• Date range: 1/1/2020 - 12/31/2020 • One listed for every patient by CSN • Format: time in hours	EHR -- ADT	Which team member is in charge of collecting?	Monthly data pull, 1st of month



# Breakout: Create a Data Plan



Discuss your Data Collection Plan with your coach.  
What information are you missing?  
Are data collection roles assigned?

15 minutes



**BREAK-TIME**

# Change Management

# How to Get People to Follow



You've designed the PERFECT Intervention.

What next?



Make Others Jump (Change).

# Change Lessons

1. People (generally) dislike change.
2. Change is hard.
3. “Good enough” is the enemy of great.



# Change Lesson 1

People (generally) dislike change.



Romania: June, 2008



# Re-electing a Dead Mayor

Why would someone vote for a dead person?

“I know he died, but . . . I didn't want a change.”



# Change Lesson 1

People (generally) dislike change.



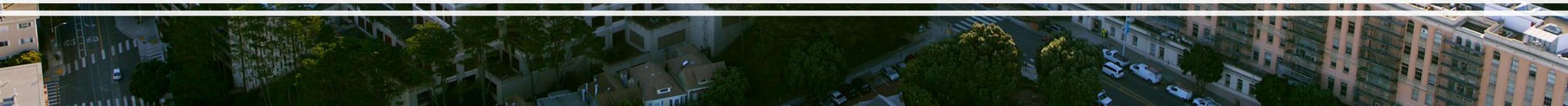
# Change Lesson 2

Change is hard.



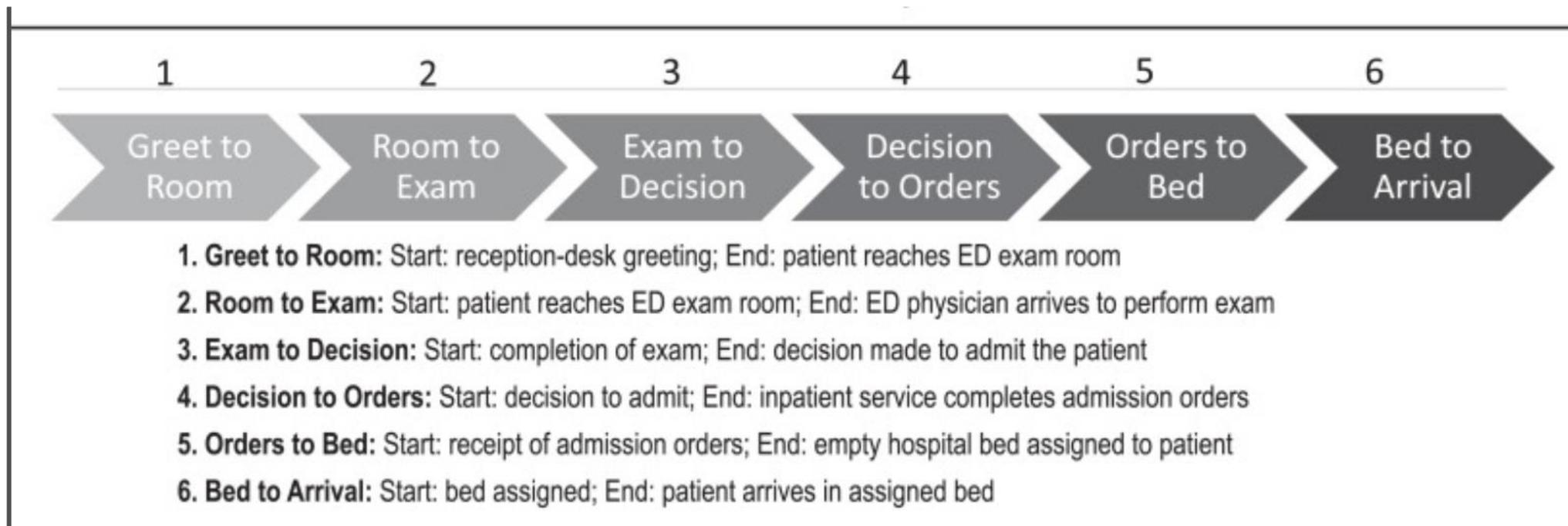


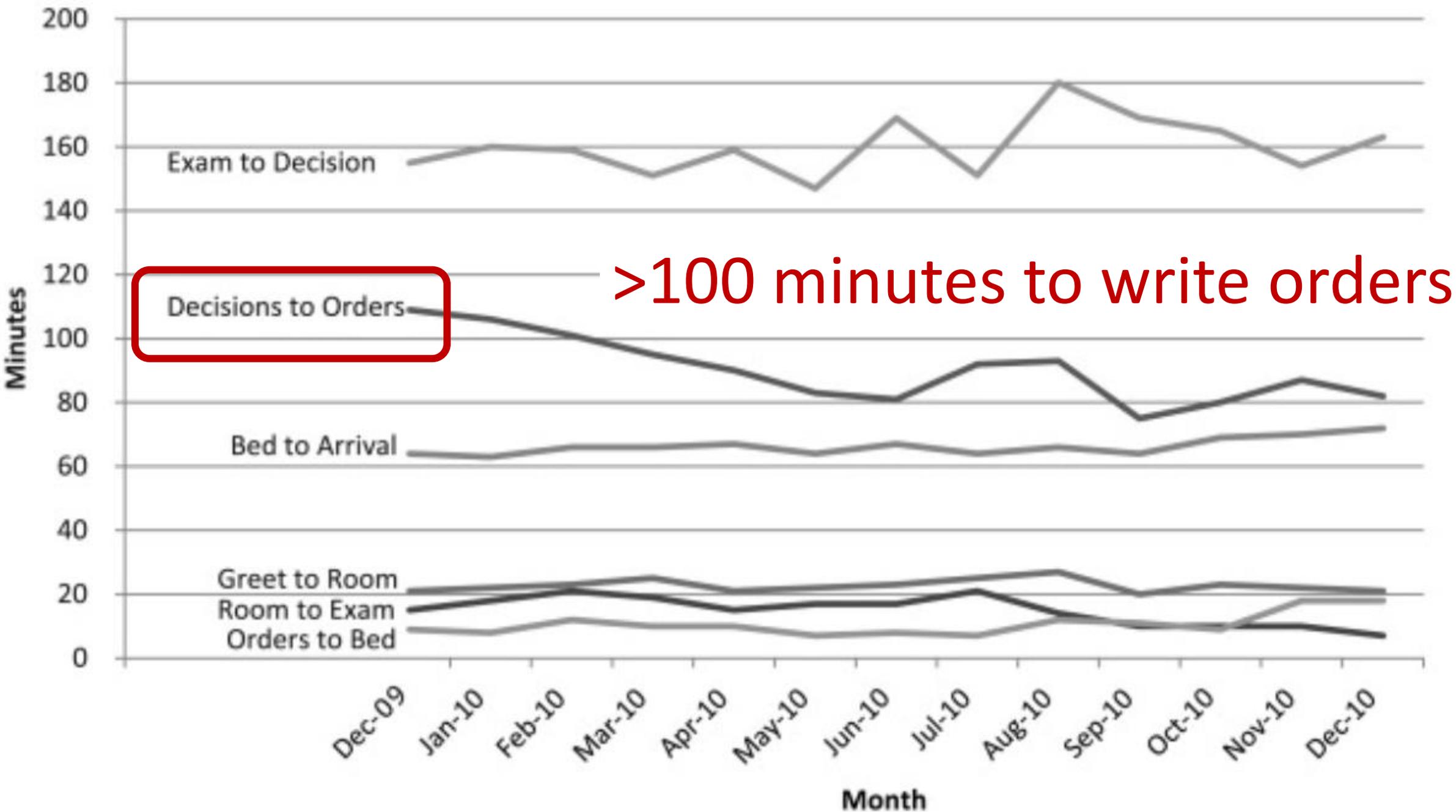
Door – to – Floor



# Door – to – Floor

The Problem: > 400 minutes to get a hospital bed





>100 minutes to write orders

# The Intervention

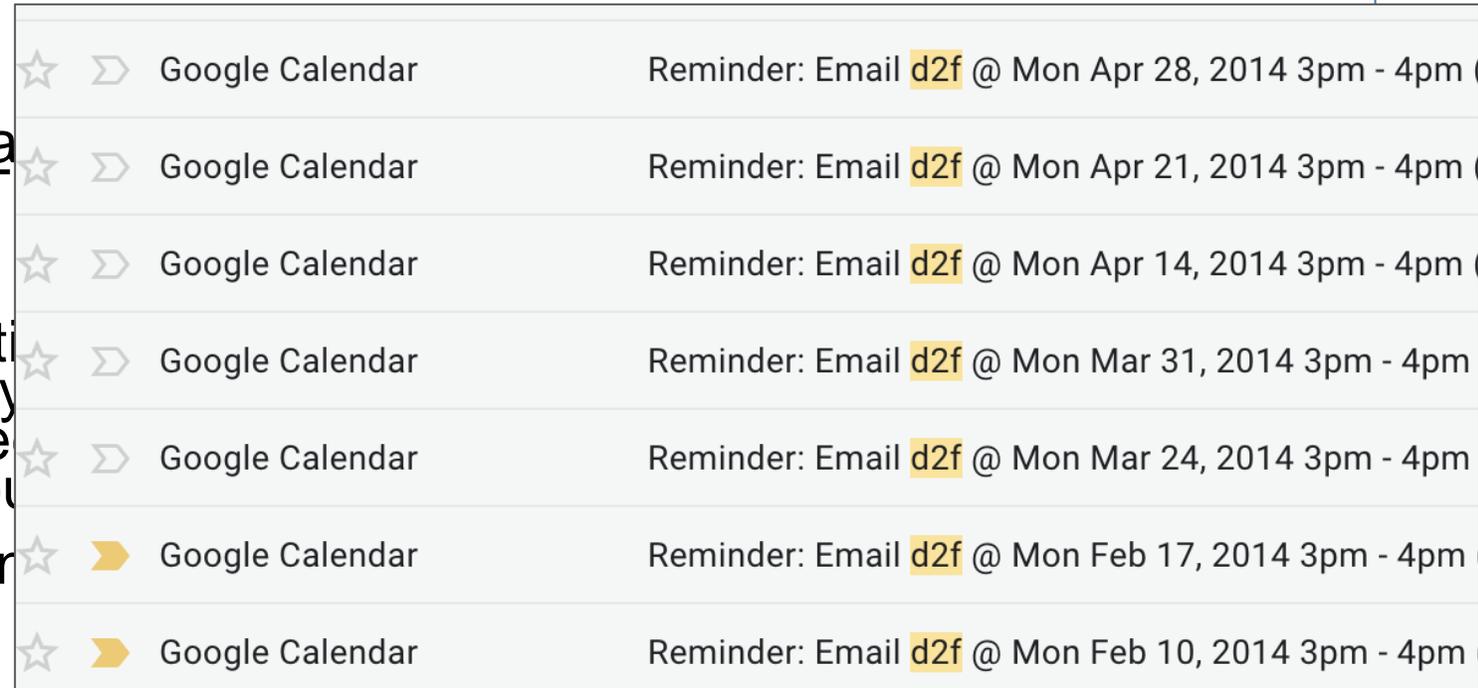
Dear Providers,

As you know, patients stay for a long time and are waiting for a hospital bed. This is a problem for our patients and our staff.

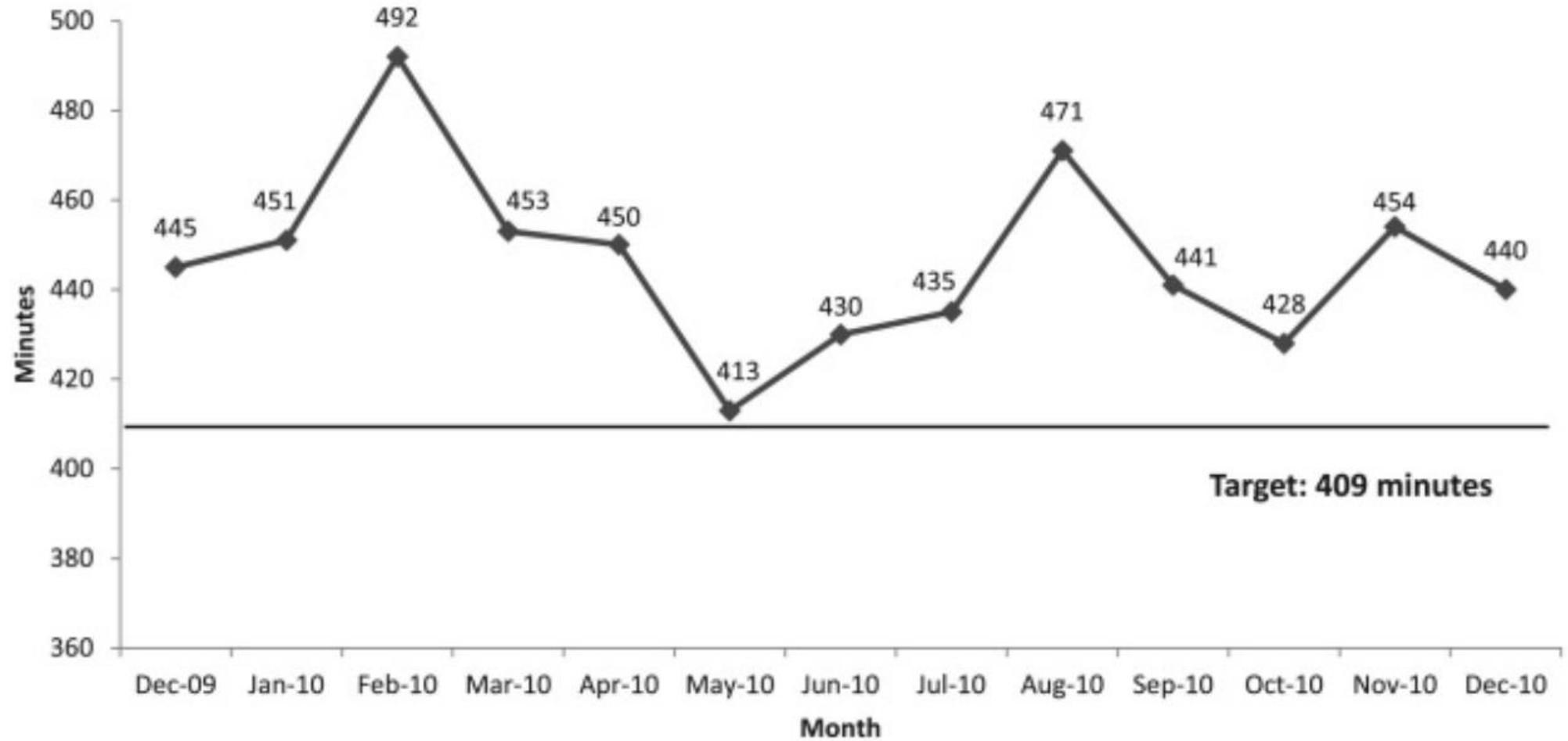
We know that most of the wait time is due to the result, we are so excited to tell you about our abbreviated order set! We expect this will be allowing your patient to move out of the hospital faster.

Please see the attached version for all future admissions.

We appreciate your support and participation in this improvement project!



# Result: NO CHANGE





Why didn't the providers change their behavior?

What was wrong with this approach to leading change?

# The Intervention

Dear Providers,

As you know, patients stay for a very long time in the Emergency Room while they are waiting for a hospital bed. This takes an average of 6-7 hours per patient!

We know that most of the wait time is due to a delay in our admission orders. As a result, we are so excited to tell you about an intervention to address this – a new, abbreviated order set! We expect this will only take you 2-3 minutes to complete, allowing your patient to move out of the ED!

Please see the attached version of the order set, which you can print out and use for all future admissions.

We appreciate your support and participation in this improvement project!



# Why didn't providers change their behavior?

"I thought it would be better for patients to stay in the ER until the treatment plan started working, so they were more stable when they arrived on the floor."

"Why should I do two order sets when I can do one?"

"It didn't make sense to go back to my email to print the order set each time."

"I always write my orders quickly."

# Change Lesson 2

Change is hard.



# Change Lesson 3

“Good enough” is the enemy of great.





**SEARS**



# Apple Inc. Stock Price

+156.47 (223,521.43%) ↑ all time

Apr 27, 3:41 PM EDT • Disclaimer

1D | 5D | 1M | 6M | YTD | 1Y | 5Y



# Sears Holding Corp. Stock Price

-10.14 (-99.22%) ↓ past 5 years

Apr 27, 2:42 PM EDT • Disclaimer

1D | 5D | 1M | 6M | YTD | 1Y | **5Y** | Max





"We were good enough."

Are you – good enough?



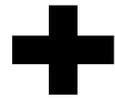
# Change Lesson 3

“Good enough” is the enemy of great.

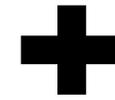
Human preference for complacency over transformation



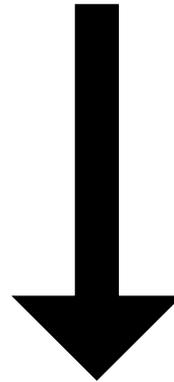
People dislike  
change.



Change is  
hard



Good Enough



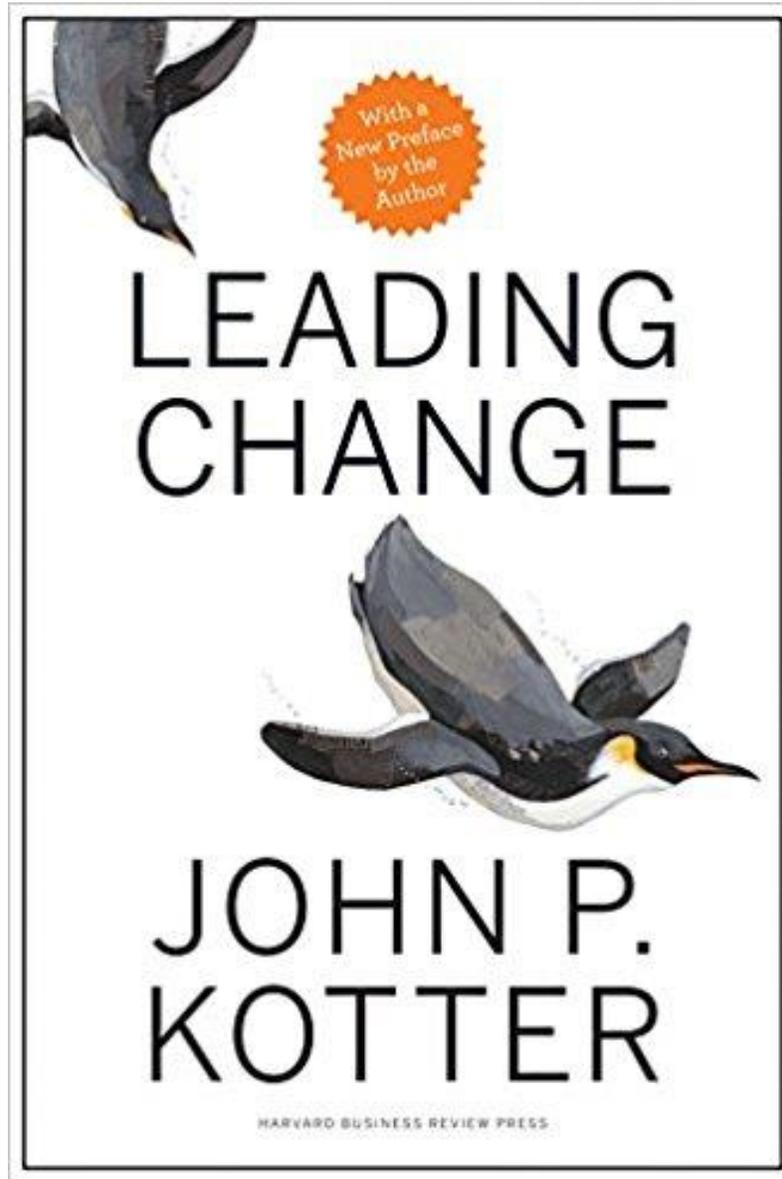
NO  
CHANGE

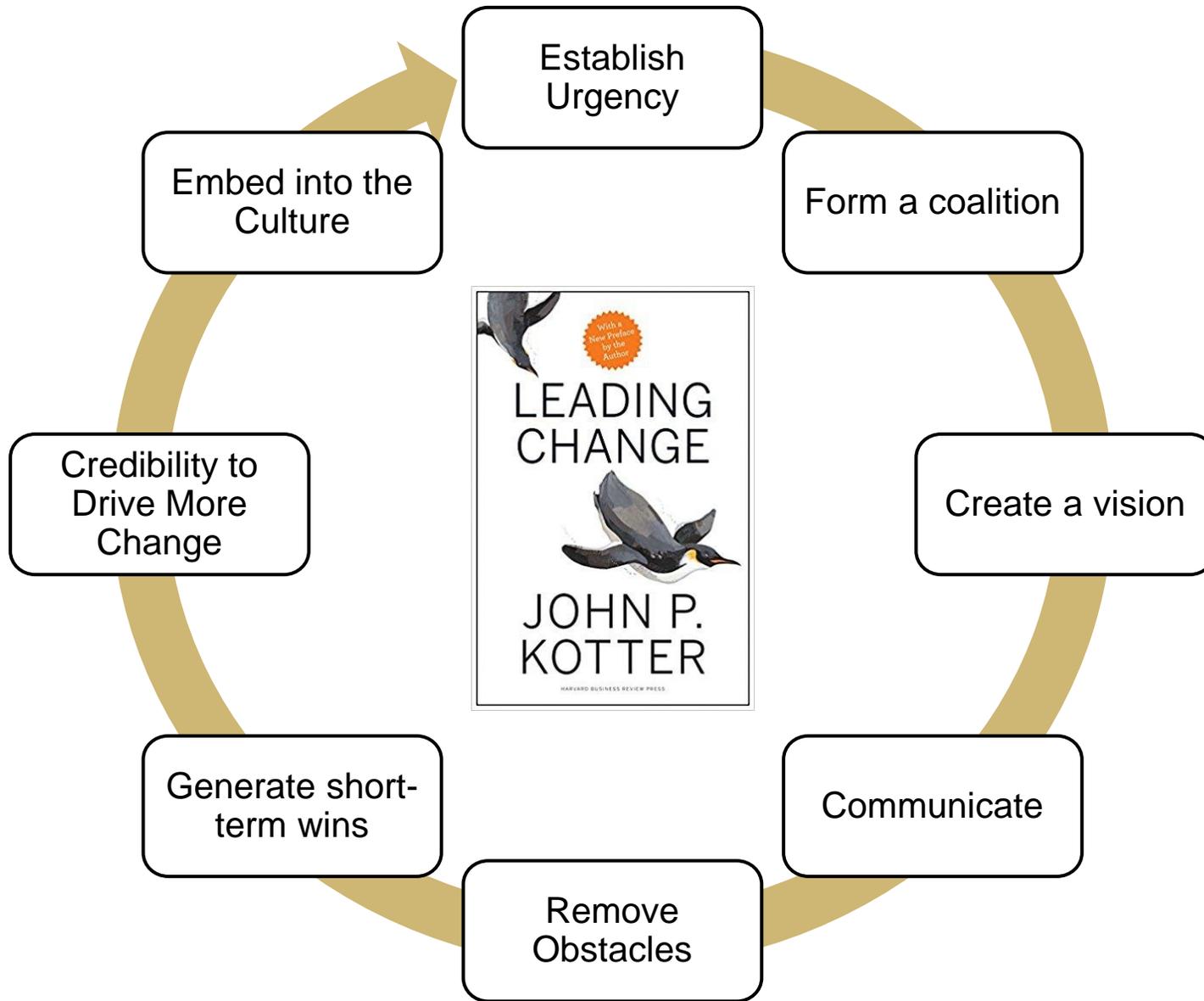




**BREAK-TIME**







# Establish Urgency



Establish  
Urgency



# Establish Urgency – What motivates you?



# Establish Urgency



1.0 - Survival

2.0 - Extrinsic Motivation: reward, punishment

3.0 - Intrinsic Motivation

*Burning Aspiration*



NEW YORK TIMES BESTSELLER

“Provocative and fascinating.” —MALCOLM GLADWELL

Daniel H. Pink

author of *A Whole New Mind*

DRIVE

The Surprising Truth  
About What Motivates Us

Establish  
Urgency

AUTONOMY

MASTERY

PURPOSE

PLAY

CONNECTION





University of Colorado **Anschutz Medical Campus**

| **IHQSE**

# Breakout - Urgency:



What is your burning platform / aspiration for project work?

10 minutes



Patients wait a long time....

Patients are harmed when their primary team is not close to them...

We have the **LONGEST** wait time in the entire state...



# Form a Guiding Coalition





Footloose, 1984

## **Who - Anyone impacted by your work**

- Various levels of organization
- Interprofessional
- Patients

## **Why - Gathering crucial input**

- Gaining more resources
- Building Trust
- Planning ahead

# Breakout:



## Who is your guiding coalition?

*Consider anyone impacted, all professions and levels of leadership*



# Create a Vision



Create a  
Vision

The Amazon logo, featuring the word "amazon" in a bold, lowercase, black sans-serif font. Below the text is a curved orange arrow that starts under the letter 'a' and points to the right, ending under the letter 'z'.

**Earth's most customer  
centric company.**

The Alzheimer's Association logo, featuring the word "alzheimer's" in a purple, lowercase, sans-serif font. To the right of the word is a stylized purple icon of a brain with a white outline. Below this is the word "association" in the same purple font, followed by a registered trademark symbol (®).

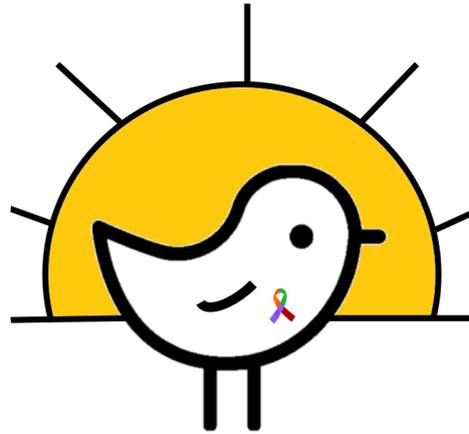
**A world without  
Alzheimer's disease.**

The Target Zero logo, featuring a stylized blue human figure with arms raised, holding three colorful circles (red, yellow, and orange) above its head. To the right of the figure are four small red circles in a horizontal line. Below these elements is the text "TARGETZERO" in a bold, black, uppercase font, with "TARGET" in black and "ZERO" in red. Underneath that is the tagline "ELIMINATING PREVENTABLE HARM" in a smaller, black, uppercase font. At the bottom of the logo is the text "Children's Hospital Colorado" in a blue, sans-serif font.

**Eliminate all  
preventable harm.**



Cancer sucks and chemo is scary. We owe it to our patients to try to make the process of receiving treatment as reliable, efficient, and pleasant as possible.



# Breakout:



What is your vision?

What does the future look like if you achieve success?



# Communicate



**CHANGE**  
WE CAN BELIEVE IN

Communicate



# How much?

# 7 x 7

*Hundreds..*

☆	➤	Google Calendar	Reminder: Email d2f @ Mon Apr 28, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Apr 21, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Apr 14, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Mar 31, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Mar 24, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Feb 17, 2014 3pm - 4pm
☆	➤	Google Calendar	Reminder: Email d2f @ Mon Feb 10, 2014 3pm - 4pm



# Breakout:



## Brainstorm -

- 3 (boring) ways you will communicate
- 3 creative, interesting ways you will communicate



# Wean – er of the Month Party



# Remove Obstacles



Remove  
Obstacles



ED Provider: 'Admit to Medicine'



# Generate Short-Term Wins



The image features four cupcakes in a row on a pink surface. Each cupcake has a swirl of light blue frosting and is topped with a ring of multi-colored sprinkles. A white rounded rectangle with a black border is overlaid on the left side of the image, containing the text "Short Term Wins".

**Short Term  
Wins**

# Celebrating our Wins



Use Credibility to  
Drive More Change



# MEET THE TEAM



## EMILY GOTTENBORG, MD

IHQSE Faculty  
University of Colorado,  
Division of Hospital Medicine

*The Joint Commission Journal on Quality and Patient Safety*

**Operations Management**

“Not So Fast!” The Complexity of Attempting to Decrease Door-to-Floor Time for Emergency Department Admissions



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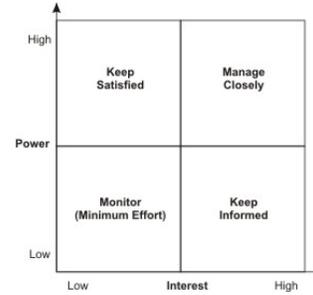
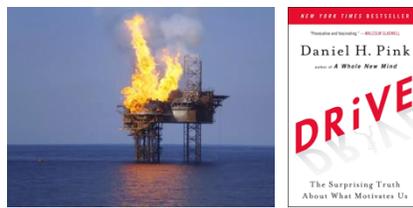
**IHQSE**

Embed it in the Culture



# Culture Change





Establish Urgency

Form a coalition

Create a vision

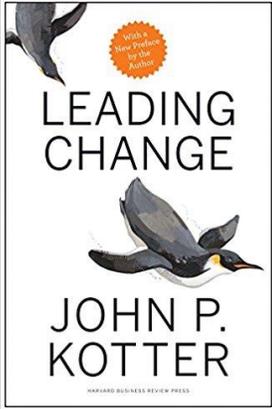
Communicate

Remove Obstacles

Generate short-term wins

Credibility to Drive More Change

Embed into the Culture



**MEET THE TEAM**



**EMILY GOTTENBORG, MD**  
IHQSE Faculty  
University of Colorado,  
Division of Hospital Medicine

SCHOOL OF MEDICINE  
Institute for Healthcare Quality, Safety & Efficiency  
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

# When you are struggling...

Ensure you have an urgency (Step 1)

Return to the 8 steps of change to see where you are failing

Consult your Change Management Playbook to make a plan



“Change is not mandatory. But neither is survival.”



W. Edwards Deming





**BREAK-TIME**

# Managing Resistance

## SCARF Model of Social Behavior



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# Resistance Reflection

Recall a time when you asked people to make a change and encountered resistance OR, when you feel yourself resisting.

How did this manifest?

How did it feel?

What drove that resistance?





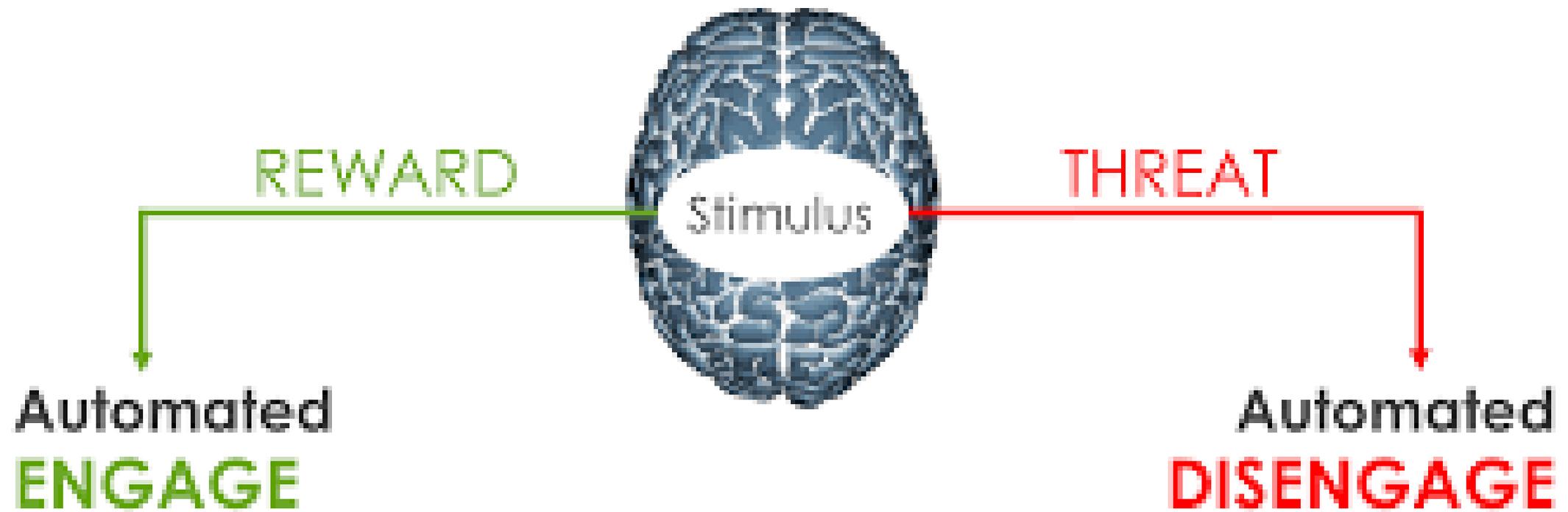
## Negative & Disruptive Behaviors

# Embrace Resistance

If I viewed resistance as feedback,  
what could I learn about how to refine  
the change effort?

What may be driving the resistance?





# SCARF Model: Reaction to rewards and threats

**Status**

**Certainty**

**Autonomy**

**Relatedness**

**Fairness**



# Status

- Early stakeholder engagement
- Celebrate aspects of past
- Overinvest in competency building

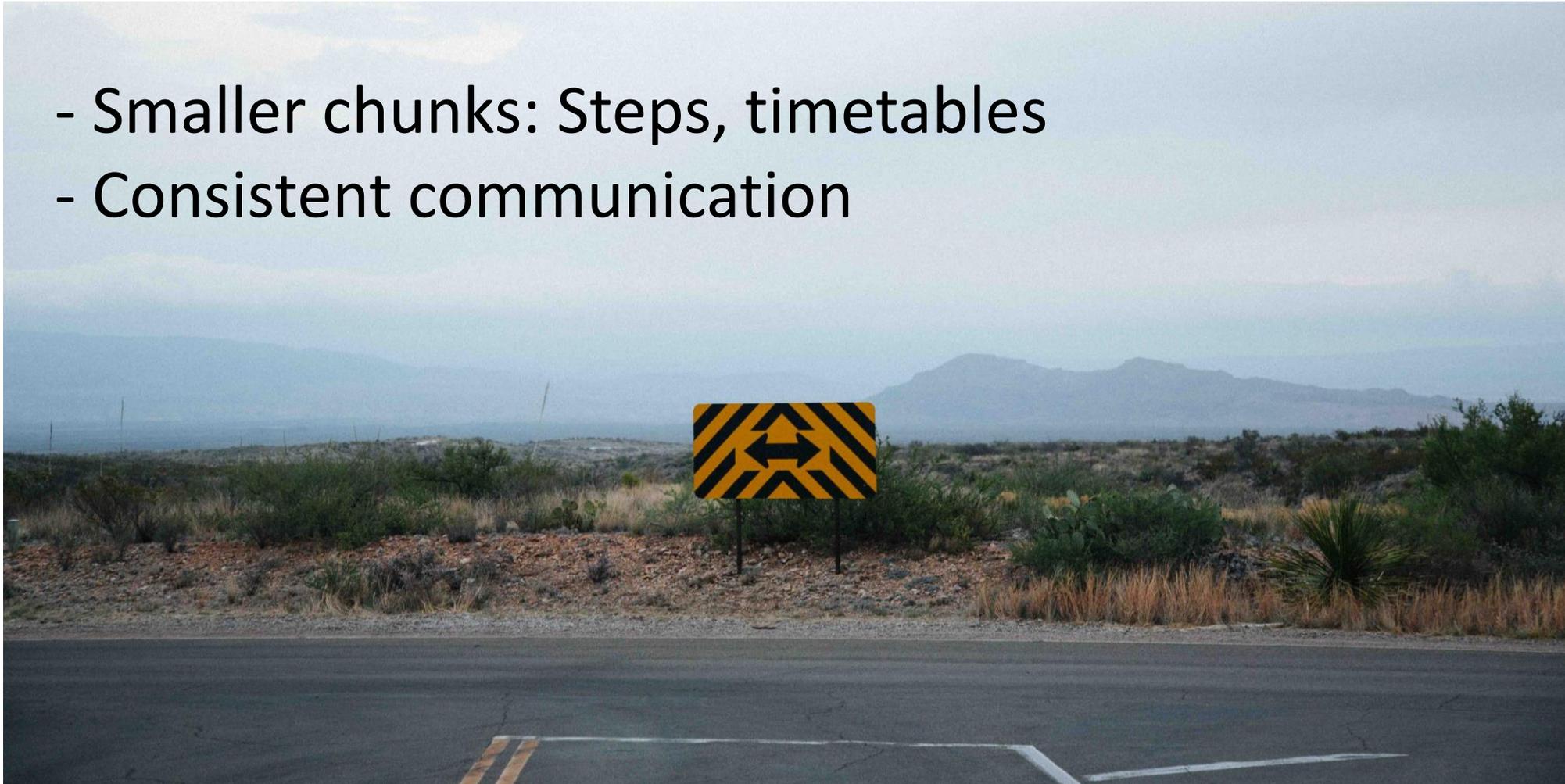


By Frits Ahlefeldt



# Certainty

- Smaller chunks: Steps, timetables
- Consistent communication



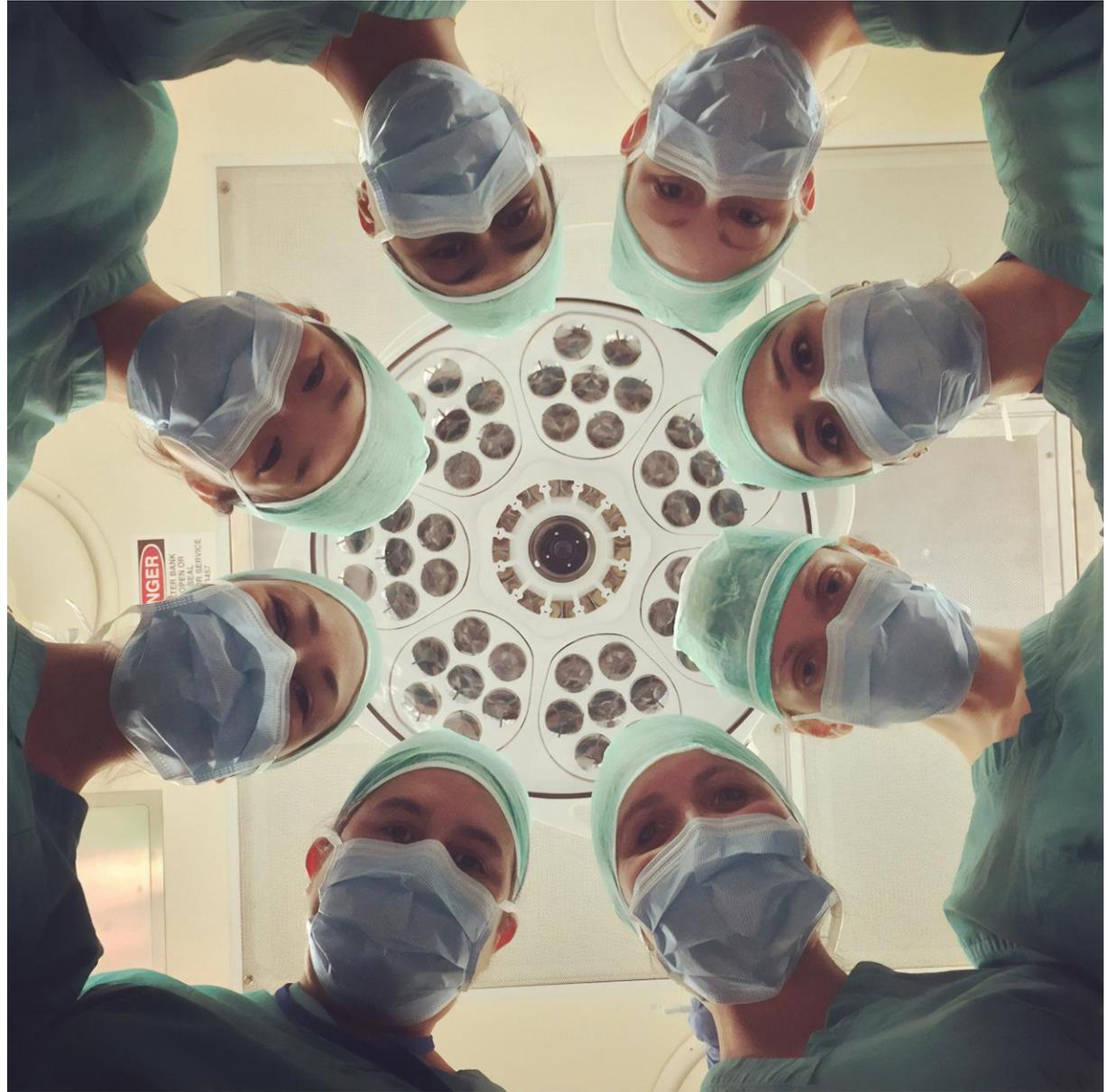
# Autonomy

- Provide choices or options



# Relatedness

- Shared goal creation
- Avoiding 'Us' versus 'Them' mentality



# Fairness

- Transparency



# The Power of SCARF

1. Recognize resistance is happening.
2. Name the source of resistance.
3. Address it.

*OR*

4. Pivot – provide SCARF reward



# SCARF in Action

Colleague writing emails, disrupting meetings around new admitting schedule.

“I hear that you’re worried your day will become less predictable (uncertainty).”

“Let’s make a plan to ensure you sign out to cross-cover at 4PM.”

Or.. “This new role will help build your visibility as a leader.”

Resistance!

Uncertainty

Address Uncertainty

Pivot - Address Status





# Resistance Identification and Action

What resistance (are you / will you) encounter in your project work?  
Consider Status, Certainty, Autonomy, Relatedness, Fairness

How may you manage the SCARF threat?

Name it.

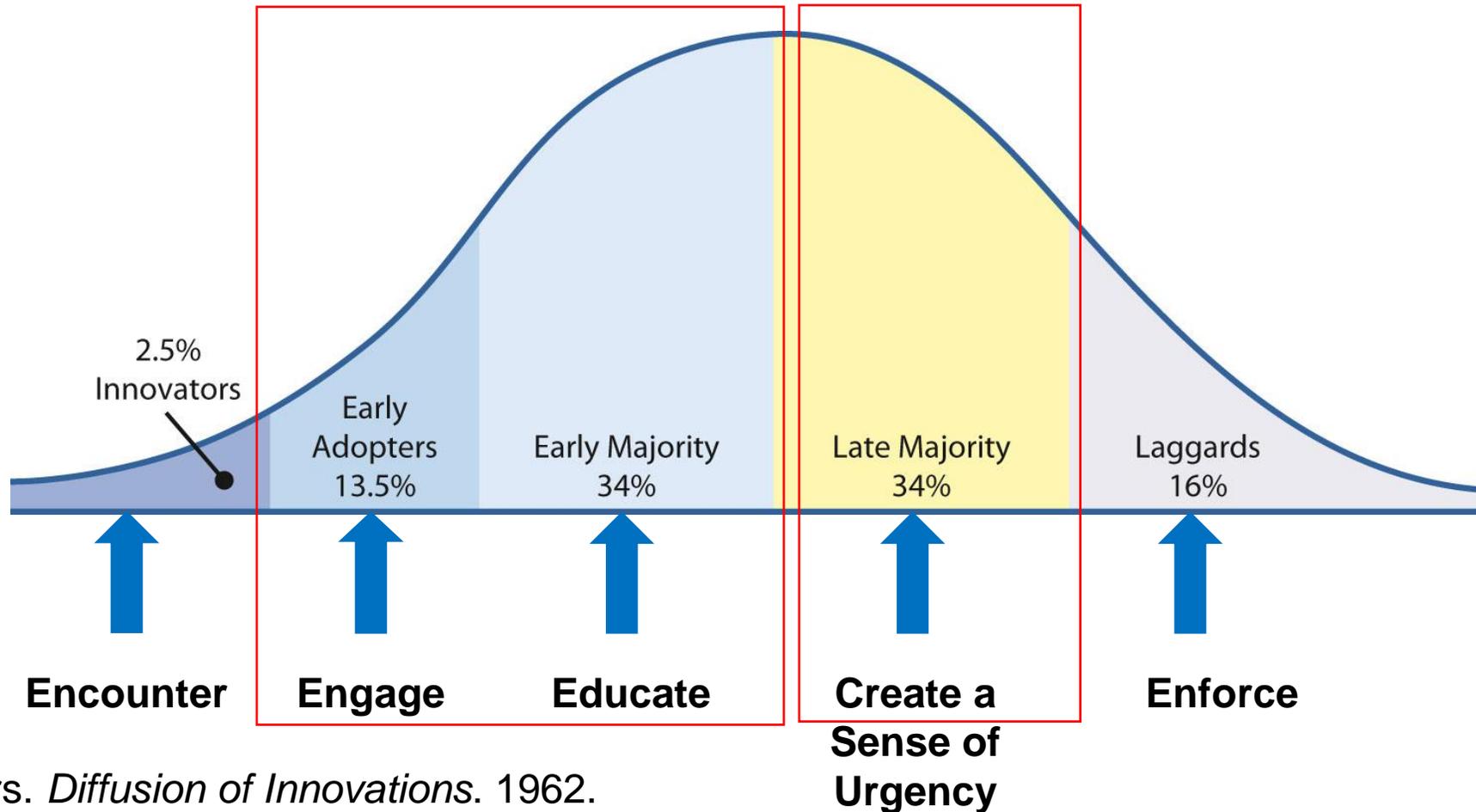
Address it.

Or, Pivot.



# Spreading Change

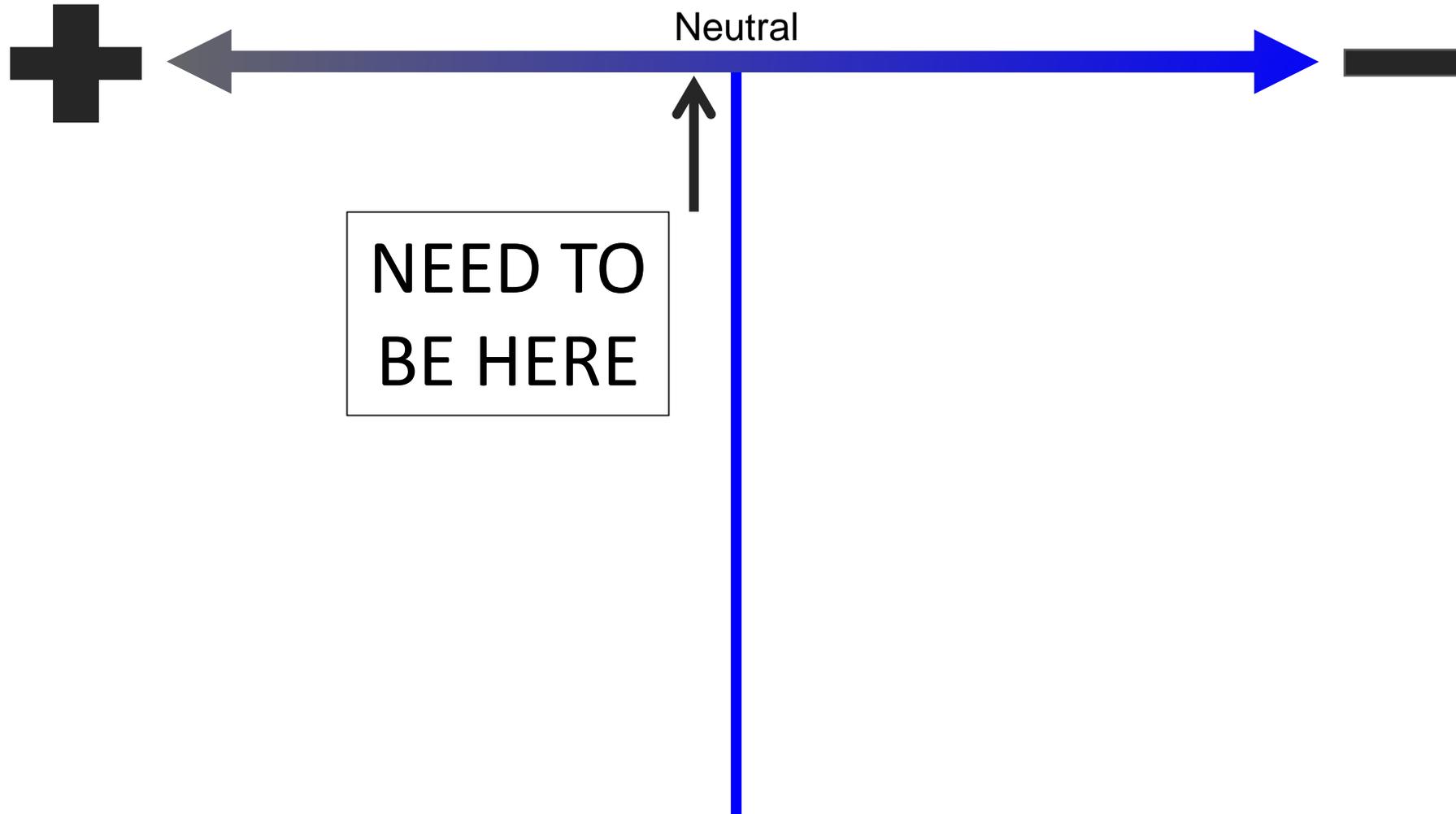
## Recognizing Diverse Needs & Responses



Everett Rogers. *Diffusion of Innovations*. 1962.



# When Your Feel/Hear Skepticism . . .





# Summary

---

Understand Diffusion of Innovation theory  
Identify why resistance occurs: SCARF Model  
Apply strategies to manage SCARF resistance





# Resistance Action Plan

What resistance (are you / will you) encounter in your project work?

Name it.

Address it.

Or, Pivot.



# How to Create a Great Presentation







Clear message



Strong Start



Visuals support  
message



Strong closing



Clear message



Strong Start

Click to add text



Visuals support  
message



Strong closing

**WHAT IS YOUR "ASK"?**



# START

HOW GREAT LEADERS INSPIRE  
EVERYONE TO TAKE ACTION

# WITH

SIMON SINEK

*New York Times* bestselling author of *Leaders Eat Last* and *Together Is Better*

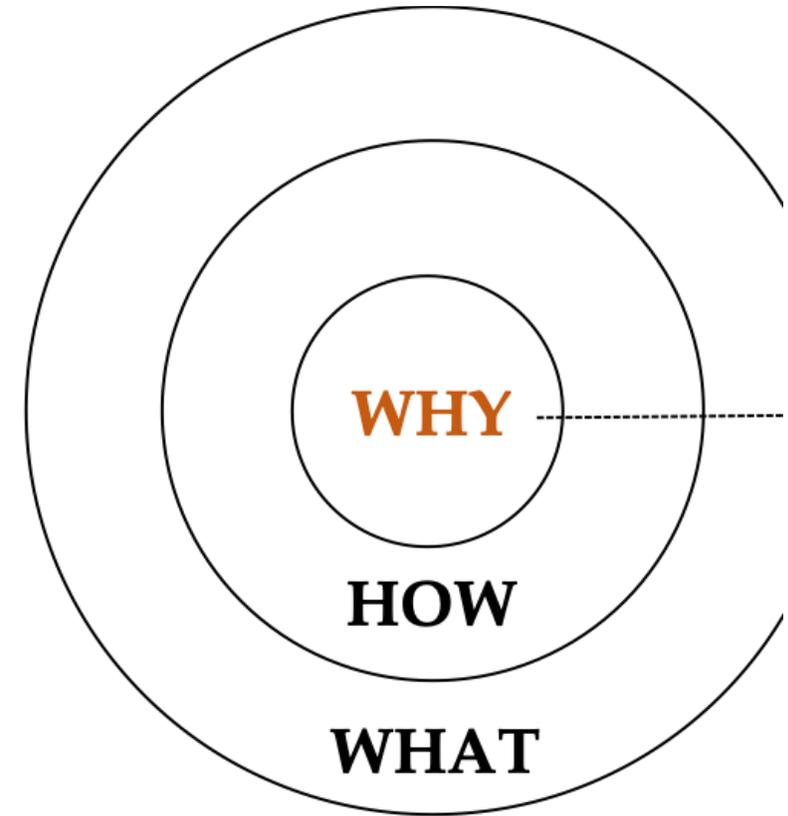
# WHY

MORE THAN  
ONE MILLION  
COPIES SOLD

**WHY:** The purpose, cause or belief behind what you are doing.

**HOW:** The actions taken to realize the WHY

**WHAT:** The product, service or job function. Provides tangible proof of your purpose.









Clear message



Strong Start



Visuals support  
message



Strong closing

**TELL A STORY!**





- Engages the listener.
- Actively puts them in a position to be empathetic.
- Improves retention.



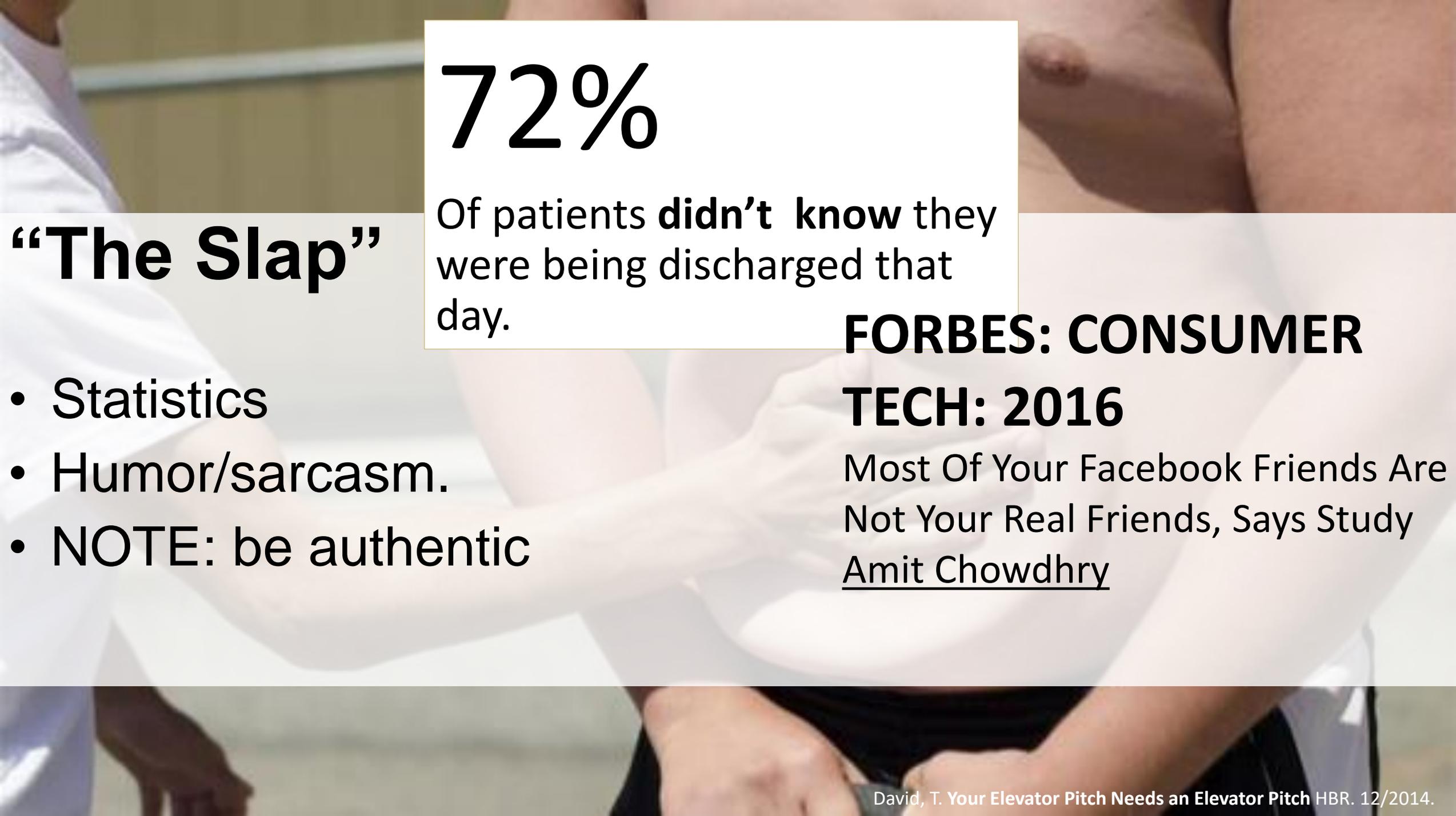
# Why We Need More Nurses

- The Case of Mr. Smith
- 80 year old caucasian male with COVID
- History
- One day was not doing so well clinically and was recognized by a nurse
- Survived to leave the hospital after >200 days









72%

Of patients **didn't know** they were being discharged that day.

## “The Slap”

- Statistics
- Humor/sarcasm.
- NOTE: be authentic

**FORBES: CONSUMER  
TECH: 2016**

Most Of Your Facebook Friends Are Not Your Real Friends, Says Study  
[Amit Chowdhry](#)





Clear message



Strong Start



Visuals support  
message



Strong closing

**Follow multi-media design principles**



**Avoid Brain  
Burnup**



# Avoid Brain Burnup

- Keep it simple
- Use a photo
- What words could you replace?



# Bullet Points

**1-7-7**

# In 2009, the AME started with

## People



1 Leader

19 Members

## Programs

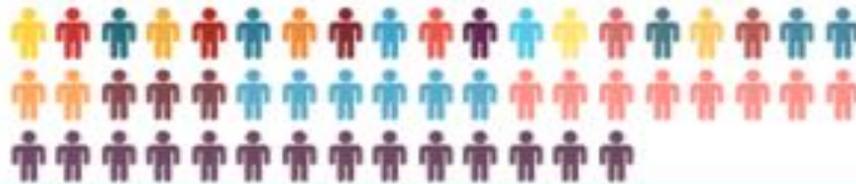


Faculty Development Sessions



# In 2014, the AME has

55  
members



*across*

22  
departments



1



Director of AME

5



Program Directors or  
Assistant Directors

2



Administrative  
Assistants

1



Research Assistant

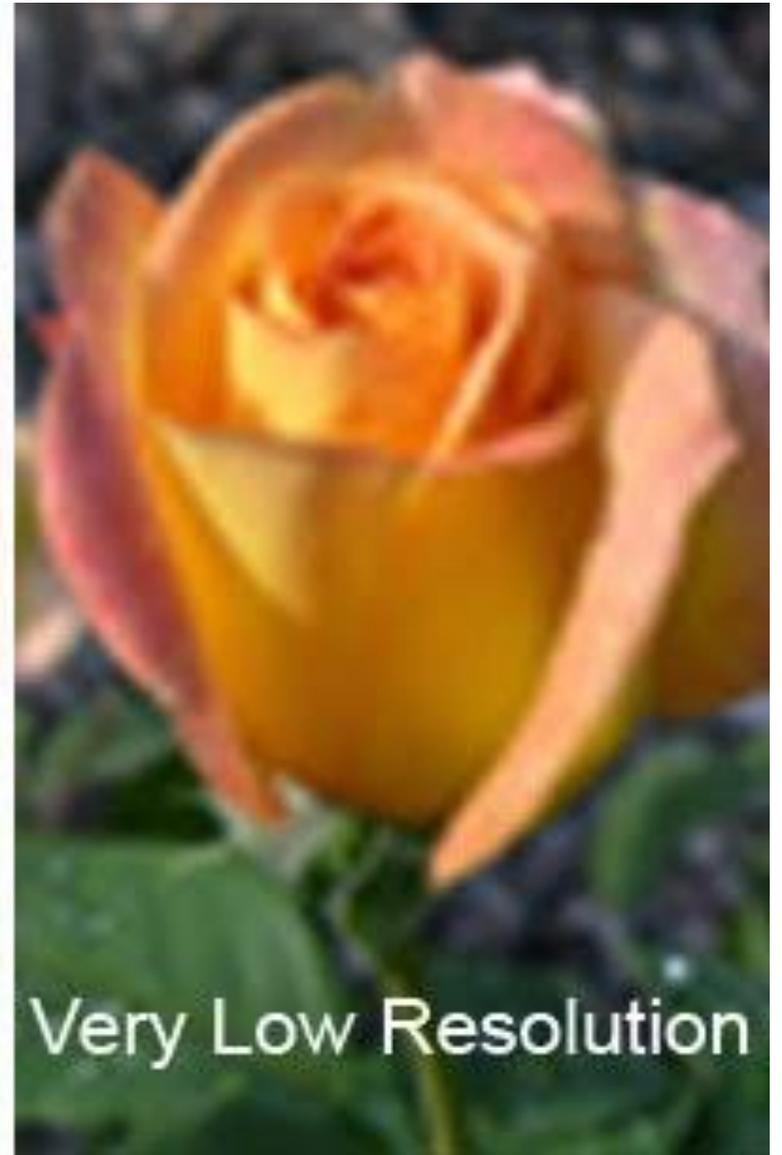




High Resolution



Low Resolution



Very Low Resolution





**Mortality  
rate soars  
in town of  
Bayton!**





Clear message



Strong Start



Visuals support  
message



Strong closing

**Synthesize and....  
Make your ask again**





# IN SUMMARY



Clear message



Strong Start

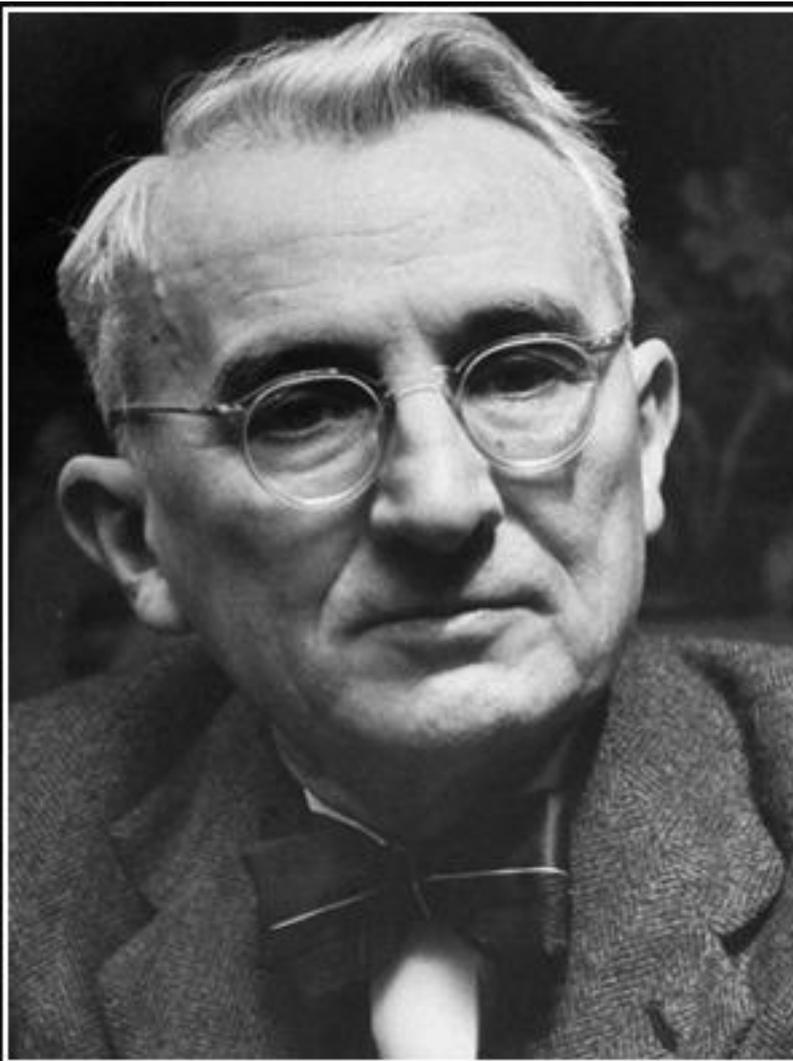


Visuals support  
message



Strong closing





Tell the audience what you're going to say, say it; then tell them what you've said.

— Dale Carnegie —

AZ QUOTES



# Example Presentation

# UCH CTICU Team S.O.A.R.

## Team Members

Caitlin Blaine, PA-C  
Mikita Fuchita, MD  
Alexis Keyworth, PA-C  
Blake Primi, MD

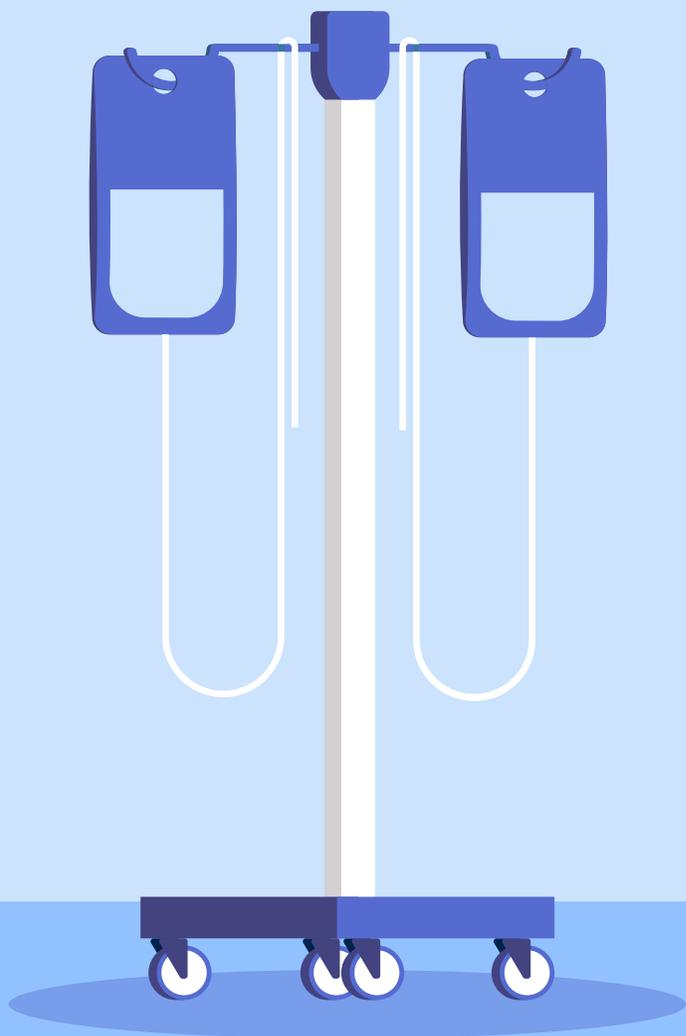
## Advisor

Laura Rosenthal, DNP





SEDATION OFF AWAKE REHABILITATE



# About Our Project

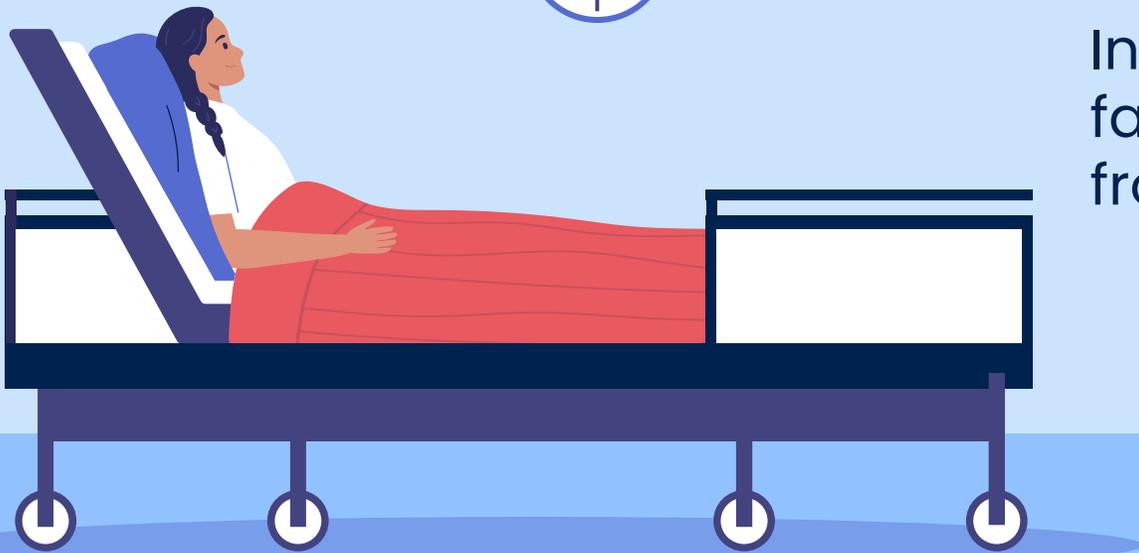
**Aim #1 – Avoid deep sedation and promote wakefulness (non-fast-track patients)**

Increase the proportion of mechanically ventilated patients in the CTICU achieving a median RASS of -1 or 0 from 32% to >80% by December 2022.

# About Our Project

## Aim #2 – Early extubation (fast-track patients)

Increase early extubation (< 6 hours) of fast-track patients after cardiac surgery from 74% to >90% by December 2022.



# Perils of Deep Sedation



## Death

11 to 24% increase in mortality<sup>1</sup>



## Immobility-Acquired Weakness

48-96% experience myopathy up to 2 years following discharge<sup>3</sup>



## Delirium

50% increase in rates of delirium<sup>2</sup>



## Cognitive Impairment\*

78% at hospital discharge  
46% 1 year after discharge  
25% 6 years after discharge<sup>4</sup>



## Psych Disturbance

Anxiety, Depression, PTSD present at 2- and 5-year follow-up<sup>3</sup>



1. Shehabi et al, AJRCCM (2012)

2. Seiber et al, Mayo Clin Proc (2010)

3. Herridge et al, AJRCCM (2014)

4. Wergin et al, CCJM (2012)

# Deep Sedation is Expensive



Delirium **increases**  
healthcare costs by **40%**<sup>1</sup>



Minimizing sedation  
**decreases:**<sup>3</sup>

Immobility-acquired  
weakness **increases**  
healthcare costs by  
**30.5%**<sup>2</sup>

Time on vent by **2.4 days** → **\$1,500 / day**<sup>4</sup>  
ICU LOS by **3.0 days** → **\$4,300 / day**<sup>5</sup>  
Hospital LOS by **6.3 days** → **\$2,600 / day**<sup>6</sup>



1. Pisani et al, AIM (2007)

2. Hermans et al, CCM (2015)

3. Klompas et al, AJRCCM (2015)

4. Dasta et al, CCM (2005)

5. Halpern et al, CCM (2017)

6. AHA Annual Survey (2020)

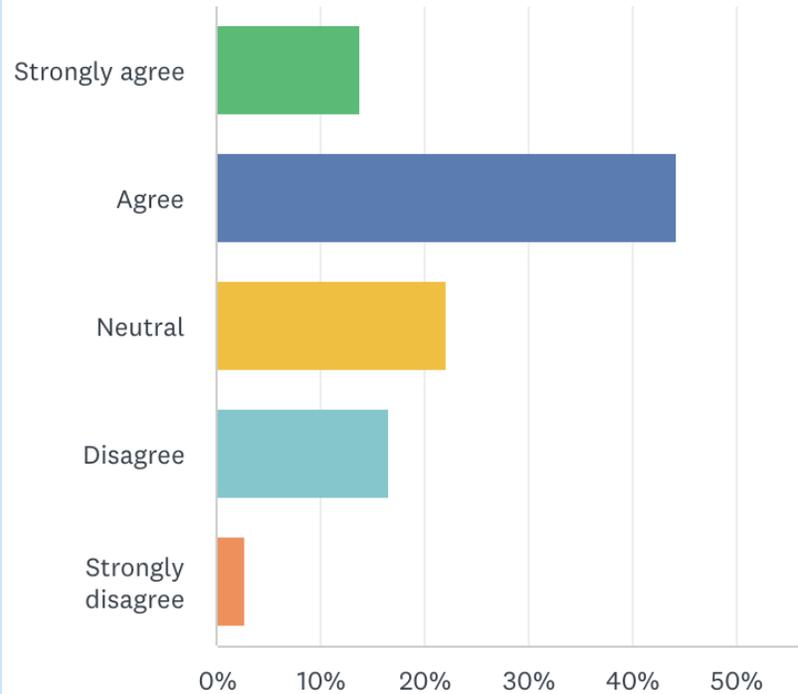
# Formative Evaluation



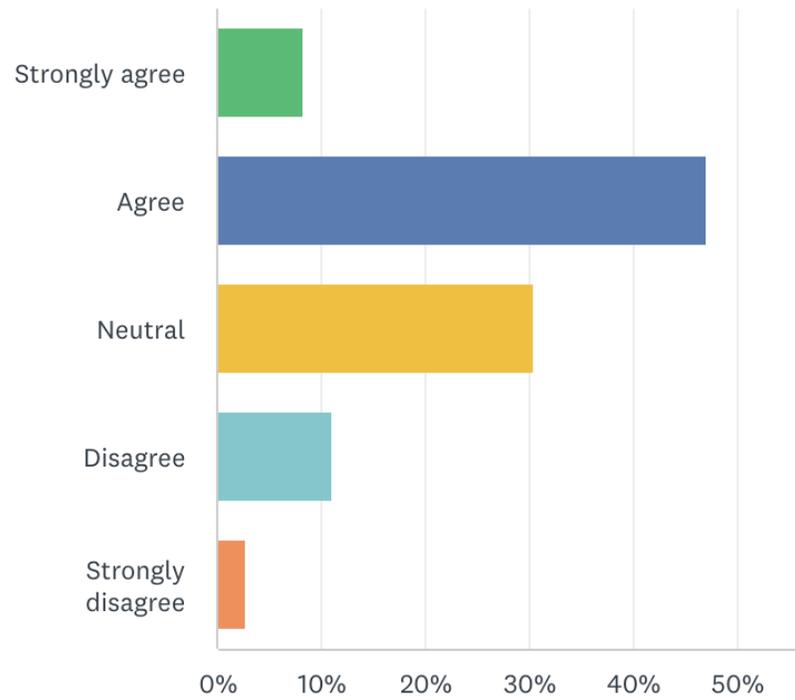
# Survey on Sedation Practices

## Results of RN/CNA responses

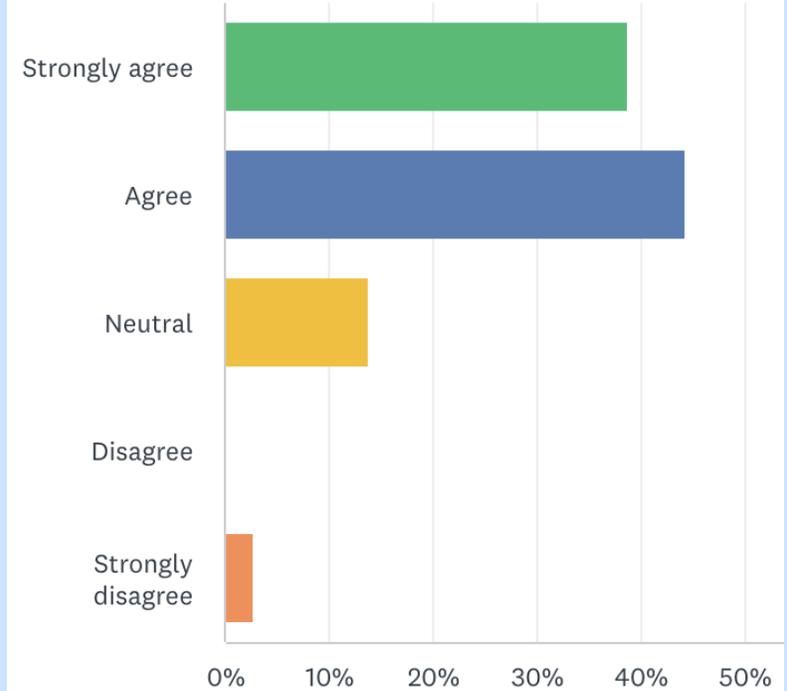
Q1. Sedating mechanically ventilated patients is **necessary** for patient comfort.



Q5. Being awake and alert on the ventilator is **uncomfortable** for patients.



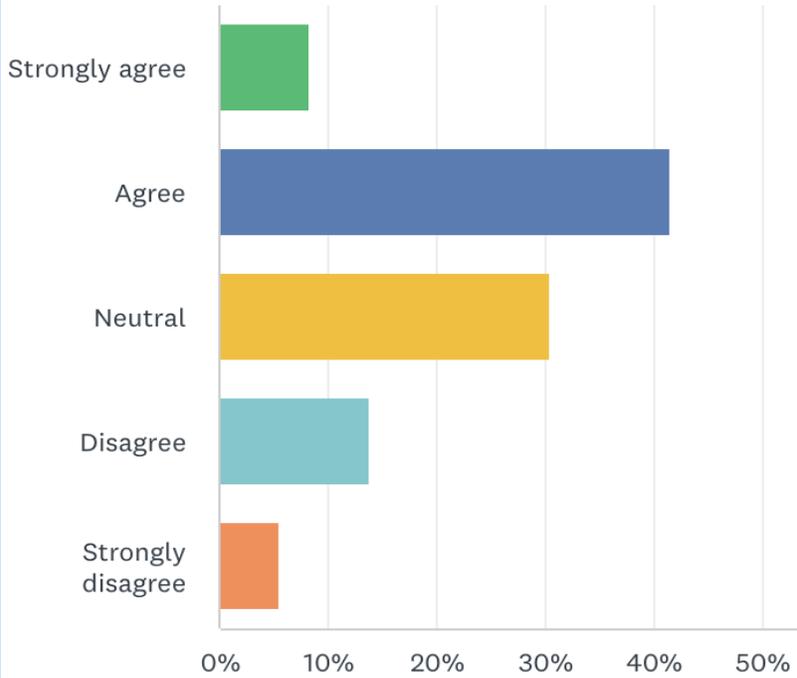
Q7. I would **prefer to be sedated** if I were mechanically ventilated.



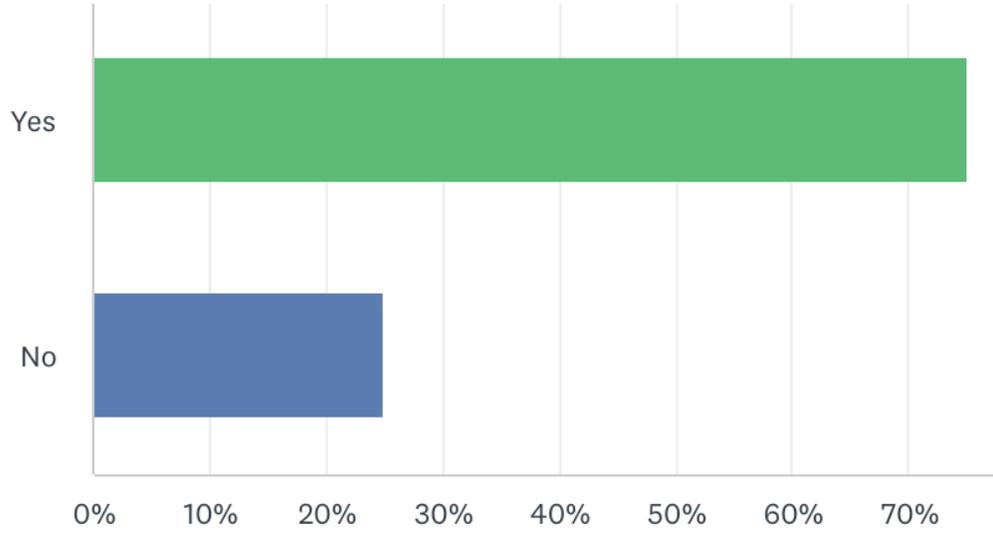
# Survey on Sedation Practices

## Results of RN/CNA responses

Q20. Sedation can decrease the risk of anxiety, depression, and PTSD



Q23. I have heard of post-intensive care syndrome (PICS).



# Interviews and Focus Groups



## SUMMARY KEYWORDS

Sedation, patient, ventilator, people, precedents, practice, nurses, day, ICU, wean, bedside, unit, educating, opportunity, fentanyl, add, mentioned, shift, PT, OT, trauma surgeons

## SPEAKERS

Mikita Fuchita, Intensivist A

### Mikita Fuchita 00:00

Cool. So the purpose of this interview is just to try to understand what we do for sedation management and patients on the ventilator. Because what we noticed is that, especially someone who's needs to be intubated for longer than the initial post op period, they tend to be on some sort of sedation sometimes have issues, we need sedation, and eventually have delirium. And that makes it even harder for us to wean sedation. So the first question is like to ask you, how you consider our sedation practices like that. That's kind of describing what we do for each patient. And how you make decisions on which patients might require sedation. Or from a physiologic standpoint, versus someone that you think are more appropriate to be on less sedation or off sedation?

### Intensivist A 01:02

Like my individual practice, or like our practices,

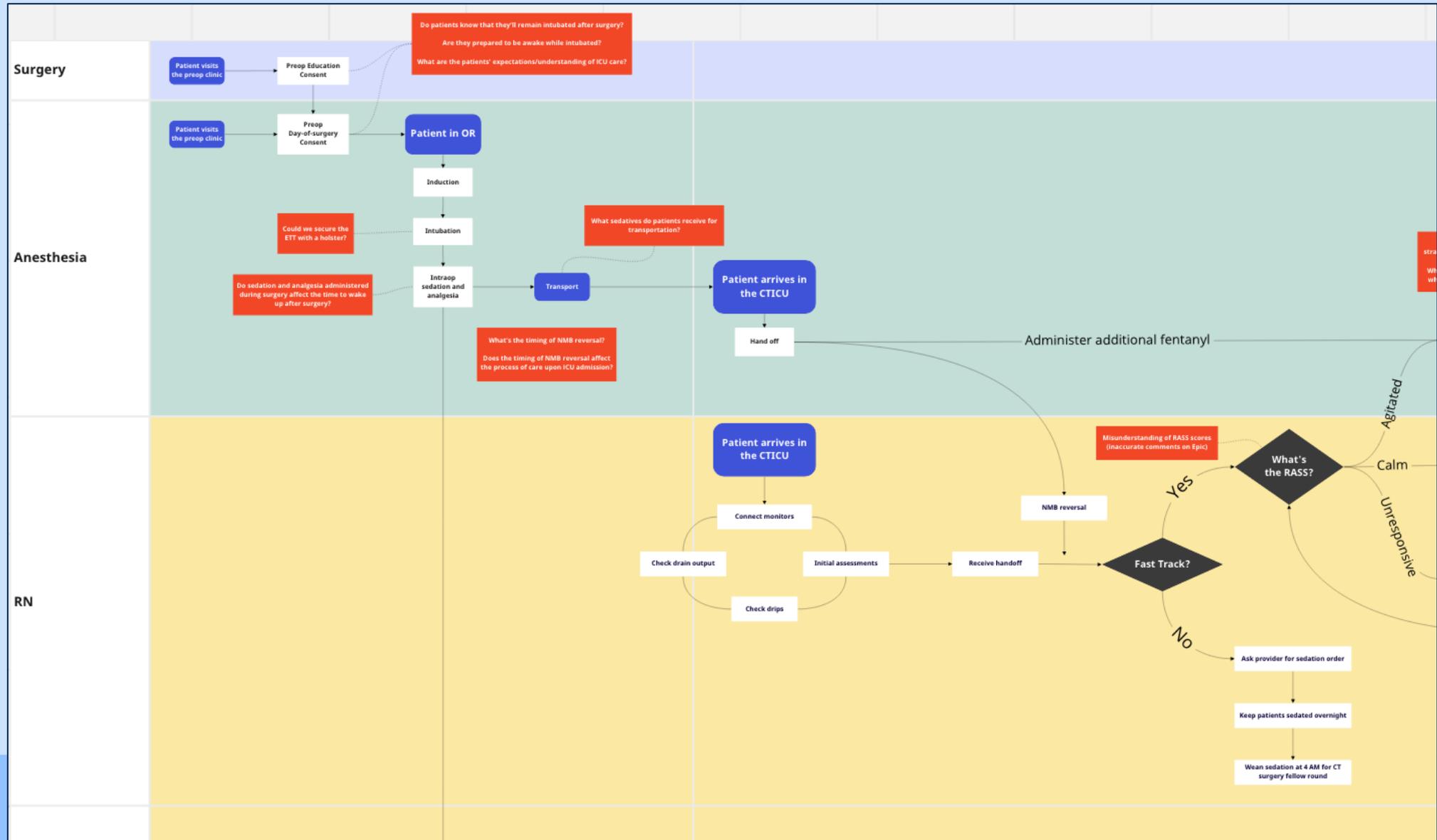
### Mikita Fuchita 01:05

~~the~~ both Yeah, yeah.

### Intensivist A 01:07

I didn't get as a unit. I feel like we're probably somewhere in the middle of the bell curve. I don't I don't know if there's numbers to back that up or not. But I feel like we're probably pretty down the middle in terms of sedation, I don't think at least I think as a group, we tend to practice pretty similarly to from each other, which is good. Because it kind of keeps things consistent week in week out. So that would be my sense, without looking at objective data is that we're somewhere in the middle, you tend to use

# Process Mapping (ongoing)



# Top 3 Barriers / Targets for Improvement

01

## Staff perception of sedation

Many nurses think deep sedation is both necessary and compassionate

02

## Lack of appreciation and recognition

Many nurses felt unappreciated when they did go “above and beyond”

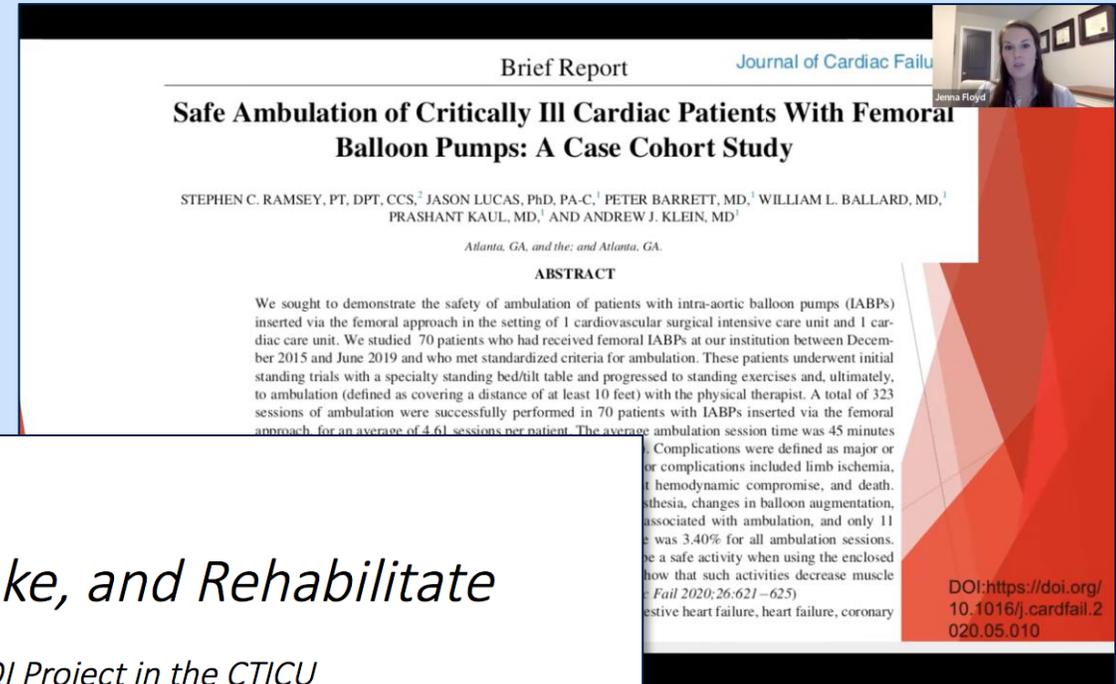
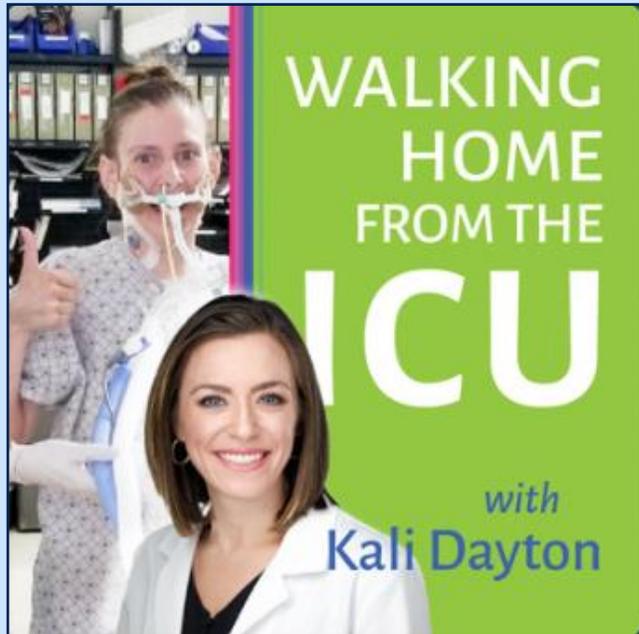
03

## Lack of standardized protocols

There is wide practice variations on how providers and nurses approach sedation



# Interventions: Webinars, Presentations



## *Sedation Off, Awake, and Rehabilitate*

*Multidisciplinary QI Project in the CTICU*

June 14<sup>th</sup> RN Staff Meeting

### Team Members

RN: Nikki Stake, Katie Morfin

APP: Caitlin Blaine, Alexis Keyworth

RT: Neall Watson, Shawnee Marino

PT: Kyle Ridgeway, Chris White

Physician: Mikita Fuchita, Blake Primi, Breandan Sullivan

# Interventions: Recognition

## Nominee for the next "Wean"er of the month!



Blaine, Caitlin

To: Pratt, Erica K; Brown, Jennie S; Mickey, Catherine <Catherine.Mickey@uchealth.org>; Fuchita, Mikita; Keyworth, Alexis; Primi, Blake  
Cc: Schneider, Stephanie; Myers, Barry; Swiderski, Audrey; Alber, Sarah



Mon 8/15/2022 3:58 PM

Good afternoon colleagues,

I would like to officially nominate Audrey Swiderski as our next "wean"er of the month! Audrey was on ECMO, but remains intubated since 8/10 on a PEEP of 12. Overnight, the patient was on propofol 10 mg. On morning rounds, Audrey stated she wanted to get him off sedation and sitting at side of bed by the end of the day. Thank you to Audrey for her calm thanks to Audrey's reorientation and bedside manner despite remaining on the vent, and should include Steph, Barry, and Sarah Alber for making this happen alongside Audrey!

Caitlin Blaine, MSHS, PA-C  
Lead APP, Cardiothoracic ICU  
Department of Surgery  
University of Colorado, Anschutz Medical Campus  
She/Her/Hers

## Nursing kudos for SOAR project

You forwarded this message on Tue 6/21/2022 5:23 PM



Forbes, Margaret

To: Blaine, Caitlin; Keyworth, Alexis; Fuchita, Mikita

Hi team,

Wanted to give a shout out to Erin Dillard and Michelle Bochenek, two of our CTICU RNs. They've been caring for our postop BOLT here in the unit who is still vent dependent on her trach at this point. They both got her up, out of bed and walking with RT and PT, despite her vent dependence.



Tue 6/21/2022 12:06 PM

## Mobilizing on ECMO and the vent! Kudos for our staff

You forwarded this message on Fri 8/12/2022 4:14 PM



Forbes, Margaret

To: Blaine, Caitlin; Pratt, Erica K; uch-cticuchargenurses@uchealth.org  
Cc: Fuchita, Mikita

Jenny (PT), Hailey (OT), Nachell (RN), Gail (Resource RN) and Shawnee (RN) worked as a team to minimize it enough to get her to participate in getting up.

It would be so easy to say that it isn't safe to move and work with a patient on ECMO and the vent to the tilt table. She did a fantastic job, tolerated it well, and it boomed.

Huge kudos to the team that worked to make it happen.

-Mags



Thu 8/4/2022 3:56 PM

## Thank you for your great care (Patient in 234)



Fuchita, Mikita

To: taylor.cuccaro@uchealth.org <Taylor.Cuccaro@uchealth.org>

Cc: Blaine, Caitlin; Keyworth, Alexis; Primi, Blake; Stake, Nikki; Morfin, Kathryn <kathryn.morfin@uchealth.org>; Rosenthal, Laura D

Dear Taylor,

On behalf of the sedation and early mobility QI team in the CTICU, I want to thank you for the great care you provided to the patient in 234 when our time on service overlapped. You were open-minded and willing to try something different from our current routine—minimizing sedation, turning off the drips, ambulating while on the vent, and being the impetus to make all those happen. What you did are proven to help patients in the ICU; you reduced the risks of death, anxiety, depression, PTSD, and functional dependence and helped improve the patient's quality of life after ICU survival.



Tue 5/3/2022 3:06 PM

# Interventions: Gamification



## CTICU Team SOAR Presents the "Wean"er of the Month August 2022



Join us in celebrating **Nachell Sanfilippo, RN!**

Early this month, Nachell and our amazing bedside staff successfully mobilized an intubated patient WHILE still on fem-fem VA-ECMO! Wow!!

Here is the rest of the crew that made it happen! Gail (RN), Mags (APP), Jenny (PT), Hailey (OT), Shawnee (RT), Neall (RT)



“ WEAN that sedation so you can mobilize your patients!! Mobilization is a proven, lifesaving intervention, baby. ”

What's up next?

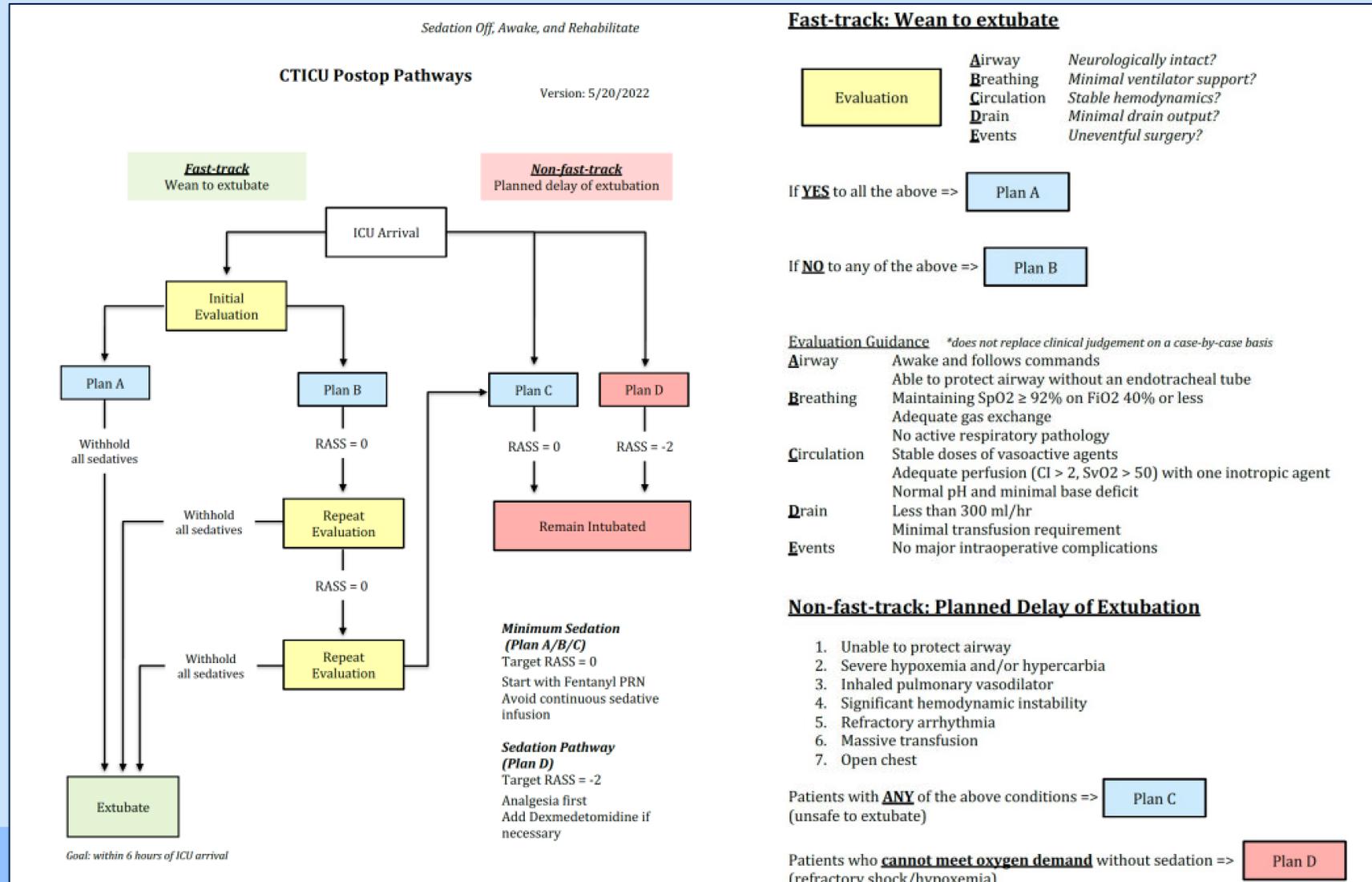


uchealth

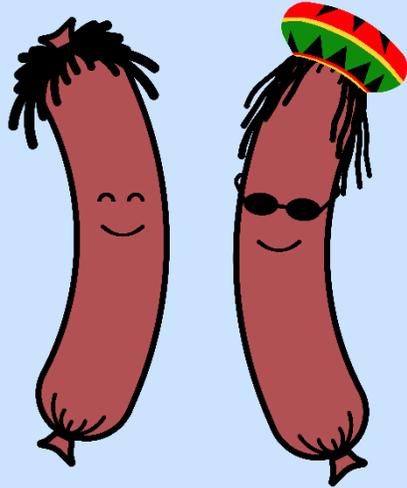


- Tuesday, August 16th @ 1:00-1:30 PM  
Webinar: "You Want Me to Mobilize What??" by Jenna Hightower, PT
- Thursday, September 1st @ noon-1:00 PM  
Critical Care Grand Round by Dr. Wes Ely (Critical Illness, Brain Dysfunction, and Survivorship Center, Nashville, TN)

# Interventions: Pathway Development



# Coming Up Next



"Wean"er Party!



Sedation Data Dashboard



Post-intervention  
survey analysis



# Best Clinical Science Poster - 6<sup>th</sup> Annual Anesthesiology Research Conference at AMC



## Clinician Perspectives on Sedation in the Cardiothoracic ICU: A Multidisciplinary Survey



Blake Primi, MD<sup>1</sup>; Mikita Fuchita, MD<sup>1</sup>; Caitlin Blaine, PA-C<sup>2</sup>; Alexis Keyworth, PA-C<sup>2</sup>; Nikki Stake, RN<sup>3</sup>; Kathryn Morfin, RN<sup>3</sup>; Kyle Ridgeway, PT, DPT<sup>3</sup>; Neall Watson, RRT<sup>3</sup>; Laura Rosenthal, DNP<sup>4</sup>; Breandan Sullivan, MD<sup>1</sup>

<sup>1</sup>Department of Anesthesiology, University of Colorado Anschutz Medical Campus, Aurora, Colorado; <sup>2</sup>Department of Surgery, University of Colorado Anschutz Medical Campus, Aurora, Colorado; <sup>3</sup>University of Colorado Hospital, Aurora, Colorado; <sup>4</sup>College of Nursing, University of Colorado Anschutz Medical Campus, Aurora, Colorado

### Background

**Deep sedation** increases the risks of adverse outcomes among mechanically ventilated patients in the intensive care unit (ICU).<sup>1,4</sup>

Clinicians working in the Cardiothoracic ICU at the University of Colorado Hospital raised concerns that **compliance with sedation minimization is low**.

### Methods

We conducted a **28-item online survey** of Cardiothoracic ICU clinicians across all disciplines to better understand the mental models and behaviors related to sedation practices in the Cardiothoracic ICU.

Respondents were asked to choose their level of agreement with statements regarding their **beliefs, attitudes, and practice patterns related to sedation** of mechanically ventilated patients on a five-point Likert scale. All responses were kept anonymous.

The survey also asked whether the clinician had listened to the **“Walking Home from the ICU” podcast**, an exceptional education resource on ICU sedation and early mobilization.

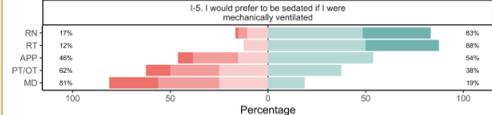
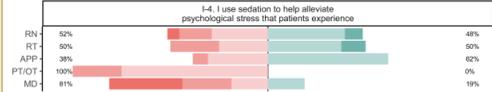
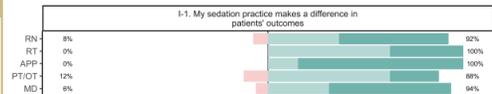
### Results (1)

Overall, 111 out of 138 clinicians (80%) responded to the survey. Nineteen out of 111 respondents (17%) had listened to the Walking Home from the ICU podcast.

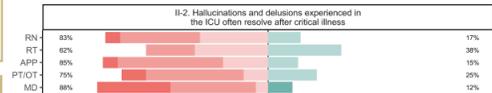
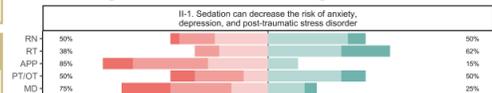
Respondents n (%)

Podcast listeners

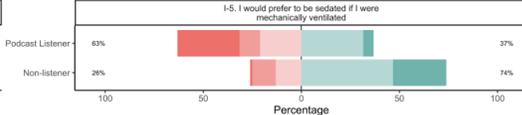
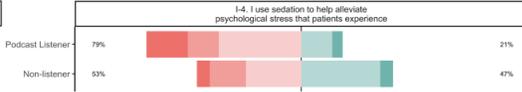
### Beliefs and Attitudes Towards Sedation of Intubated Patients



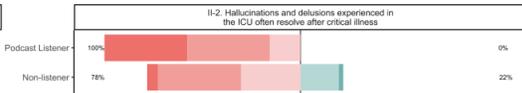
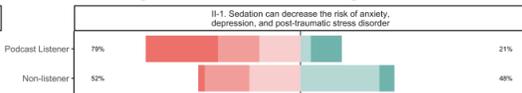
### Knowledge and Practices when Caring for Intubated Patients



### Beliefs and Attitudes Towards Sedation of Intubated Patients



### Knowledge and Practices when Caring for Intubated Patients



### Results (2)

Beliefs, attitudes, knowledge, and practice patterns regarding sedation of mechanically ventilated patients **varied significantly by disciplines** in the Cardiothoracic ICU.

Exposure to the **“Walking Home from the ICU” podcast** was associated with response patterns **more consistent with the best practices** described in the literature.

### Discussion

We found that **misconceptions** regarding sedation and mobilization were present in **all surveyed staff members** to varying degrees, but clinicians who were **exposed to the podcast reported beliefs and knowledge that were aligned with the evidence-based practices**.

These findings suggest that **attitudes and practices related to ICU sedation and mobilization may be modifiable** through the podcast or other educational interventions.

### References

- Mart MF, et al. ICU Survivorship-The Relationship of Delirium, Sedation, Dementia, and Acquired Weakness. *Crit Care Med*. Aug 1 2021;49(8):1227-1240.
- Shehabi Y, et al. Sedation depth and long-term mortality in mechanically ventilated critically ill adults: a prospective longitudinal multicentre cohort study. *Intensive Care Med*. May 2013;39(5):910-8.
- Schaller SJ, et al. Early, goal-directed mobilisation in the surgical intensive care unit: a randomised controlled trial. *Lancet*. Oct 1 2016;388(10052):1377-1388.
- Pun BT, et al. Caring for Critically Ill Patients with the ABCDEF Bundle: Results of the ICU Liberation Collaborative in Over 15,000 Adults. *Crit Care Med*. Jan 2019;47(1):3-14.

### Acknowledgments

# Thank You!

## Team members

Catherine Mickey  
Nikki Stake  
Katie Morfin  
Neill Watson  
Shawnee Marino  
Kyle Ridgeway  
Chris White  
Lisa Dufficy

PharmD students  
Dorothy Agyemang  
Tiffany Tran

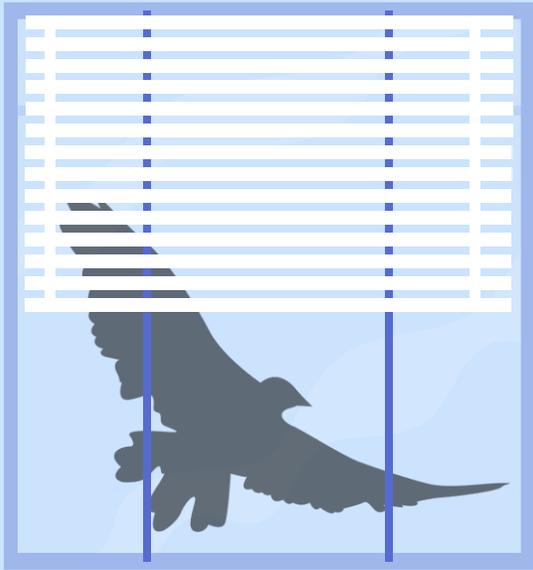
## Leadership

Breandan Sullivan  
David Fullerton  
Erica Pratt  
Jennie Brown  
Mark Mikkelsen  
Mandy Moore

## Advisors

Jeff Glasheen  
Gina Whitney  
Adit Ginde

**And all the amazing  
ICU staff in the  
CTICU!**



# Questions?



<https://beautiful.ai/> Nice for ideas for slide designs, a little clunky for actually making slides

<https://venngage.com> Great for infographics

<https://unsplash.com/> Free photos that you do not need permission to use

<https://thenounproject.com/> Decent place for finding icons. Free downloads are typically black only, but this can be modified in

PowerPoint



# In Summary

Use DMAIC Framework to Understand your Problem

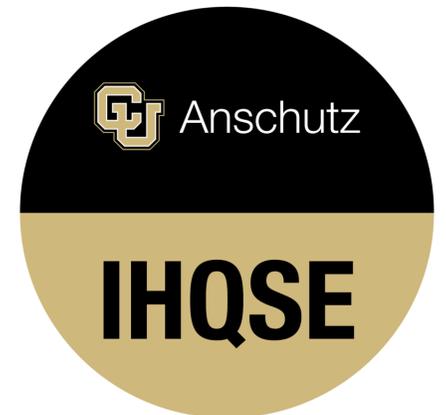
Use tools for Improvement to identify high impact changes

Leading Change requires an understanding of the 8 Steps of Change, an Approach to Addressing Resistance, and Effective Presentation Skills



# Action Plan

1. Meetings every 2 – 3 weeks
2. Building your team (who else needs to be engaged)
3. Where are you in DMAIC?
  - Ensure Problem Statement, Sense of Urgency
4. Timeline for Success
5. Presentation to Stakeholders - April



# Timeline for UExcel Improvement Academy Participants

## Months 1-2: Apply and Selected for IA

- Complete 2-day program
- Meet with your Coach 1-2x
- Ensure Sense of Urgency.
- Identify other team members / Guiding Coalition

## Month 3: Define & Scope

- Engage in 'Define' stage work
- Complete Voice of the Customer
- Research the Problem Background
  - o Literature search to understand best practices
  - o Metrics or Goals of institution, unit, or national level
- Create a concise Problem Statement

## Month 4: Measure & Analyze

- Identify what process you will map out
- Identify your process and outcome metrics – complete your Data Plan
- Plan for an event to understand Root causes (Affinity Diagram)
  - o Who should attend?
  - o What format (virtual, live, whiteboard, etc)?
  - o When? Set a date.

## Month 5: Measure & Analyze, Continued

- Complete Process Map
- Complete Affinity Diagram Event
- Identify pain points of the current state by analyzing:
  - o Process map
  - o Affinity diagram
  - o Review of VOC



# Session Evaluation





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Quality, Safety and  
Efficiency



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