Quality and Safety Academy

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

Fellow Series | Session 2: QI + Change Management

SCHOOL OF MEDICINE

Graduate Medical Education

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

IHQSE

Agenda

1. Introduction of Faculty
2. Intro QI

BREAK

3. Change Management


zoom

Quality and Safety Academy
UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

Fellow Series

Foundations of Patient Safety

QI Basics for Project Work + Change Management

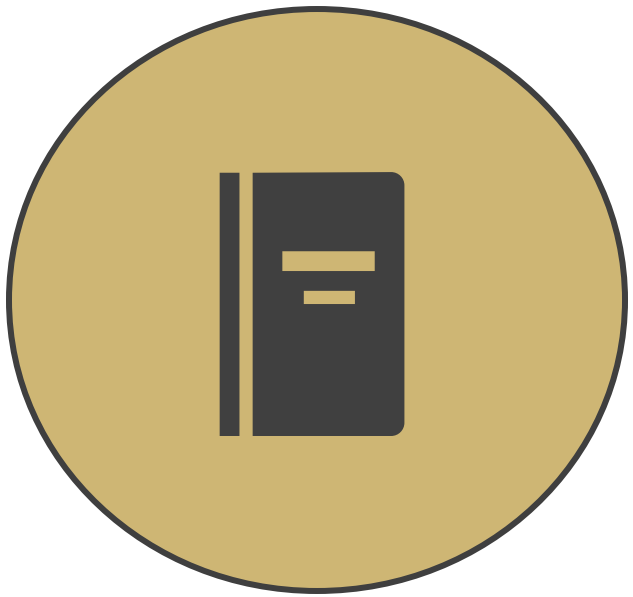
Making QI Academic

No Disclosures

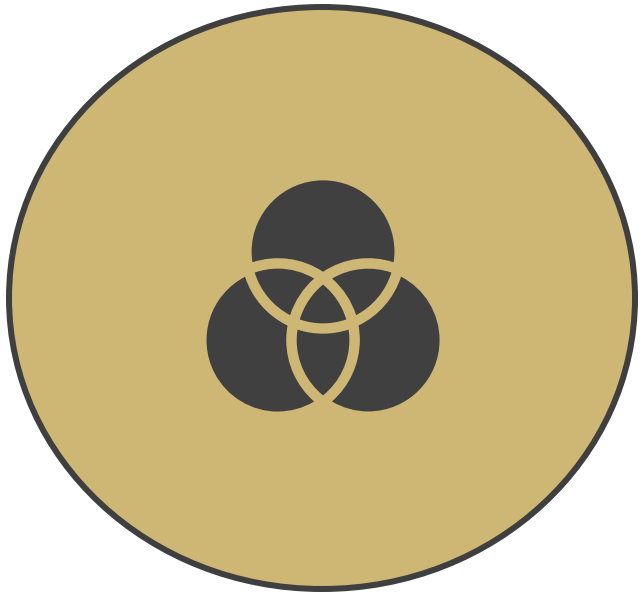
Adapted with permission from: Patrick Kneeland, MD and Stephanie Eldred, MD

Quality Improvement

AGENDA

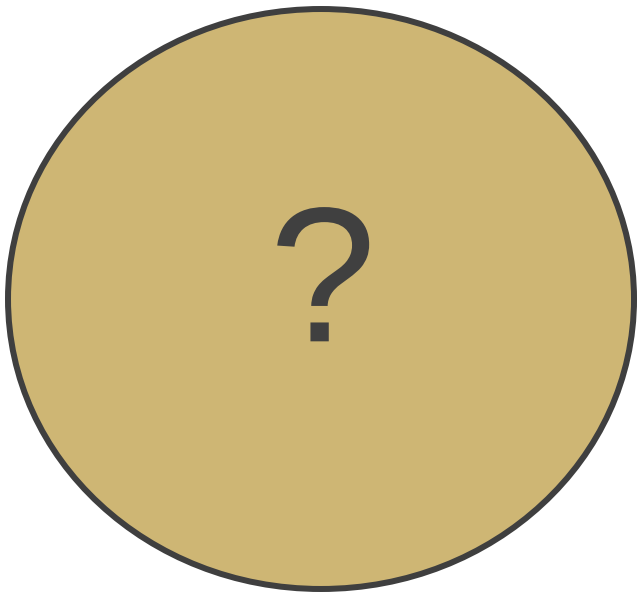


Definitions



QI Models

6-Steps



Questions

Learning Objectives

1. Define Quality Improvement
2. Evaluate a problem or project using the value equation.
3. Recognize different QI models and describe the underlying theory.
4. List and apply the six-steps for successful QI project.

QI = Quality Improvement

Systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups.


Quality
Safety
Experience
VALUE =
Cost


CONVERSE
ALL STAR

Learning Health System

"Science, informatics, incentives, and culture are **aligned for continuous improvement and innovation**, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience."

Institute of Medicine 2015

Models of Quality Improvement

PDSA/Model for Improvement

Six sigma

Lean

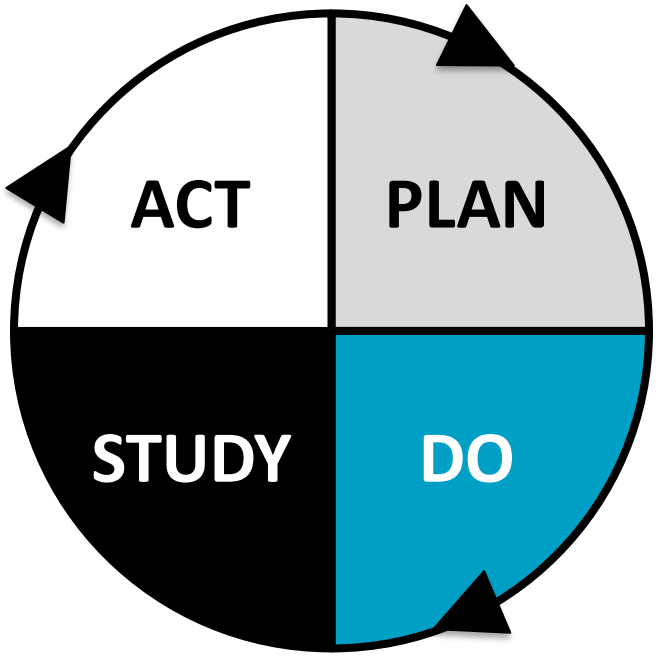
Institute *for* Healthcare Improvement

Model for Improvement

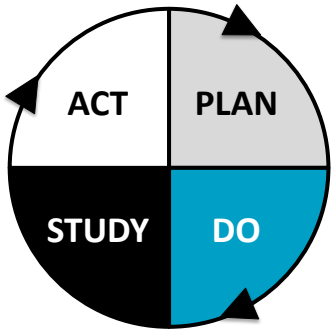
What are we trying to accomplish?

How will we know that change is an improvement?

What changes can we make that will result in an improvement?

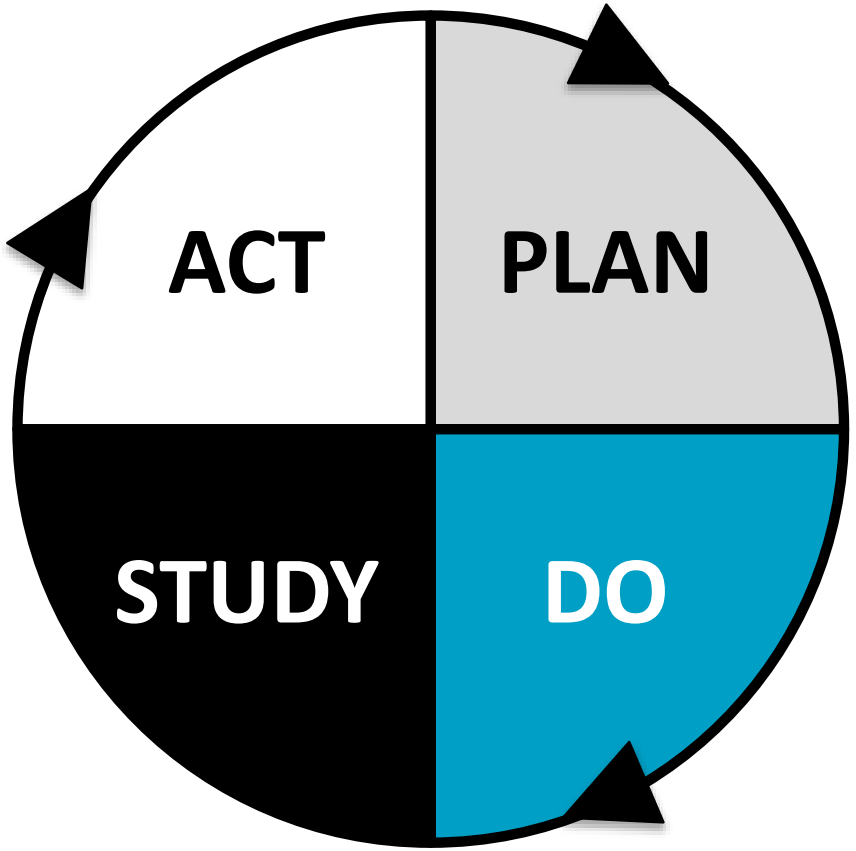


Institute *for* Healthcare Improvement



Plan: identify your problem, analyze contributing factors, and determine an intervention

DEFINE YOUR PROBLEM FIRST !!!



Repeat as necessary to achieve goal/stability.


lean

Six Sigma

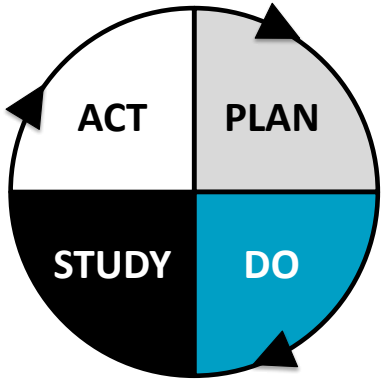
"six" standard deviations from mean
(error rate of one per 3.4 per million)

DMAIC: for **existing** processes falling below current standards

define, measure, analyze, improve, control

DMADV: used to develop **new** process or products

define, measure, analyze, design, verify



Lean

Maximize value through minimizing waste.

Kaizen

Eight Forms of Waste in Healthcare

Underutilization

Inventory

Motion

Defects

Transportation

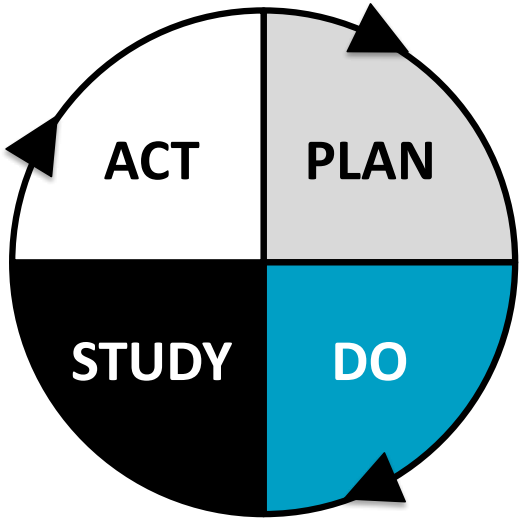
Waiting

Extra Processing

Overproduction

Photo Credit: *A3 Solutions • What We Do*. (2018). *A3 Healthcare Solutions*. Retrieved 7 April 2018, from http://www.a3healthcare.com/training-and-certification

Scientific Method



Six Steps for a Successful QI Project

1. Understand the problem.
2. Identify areas that can be improved.
3. Decide how you will measure progress.
4. Explicitly state your goals (SMART)
5. Implement and measure small tests of change.
6. Build upon success and sustain the process.

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George: 69-Year-old man presents with acute onset chest pain.

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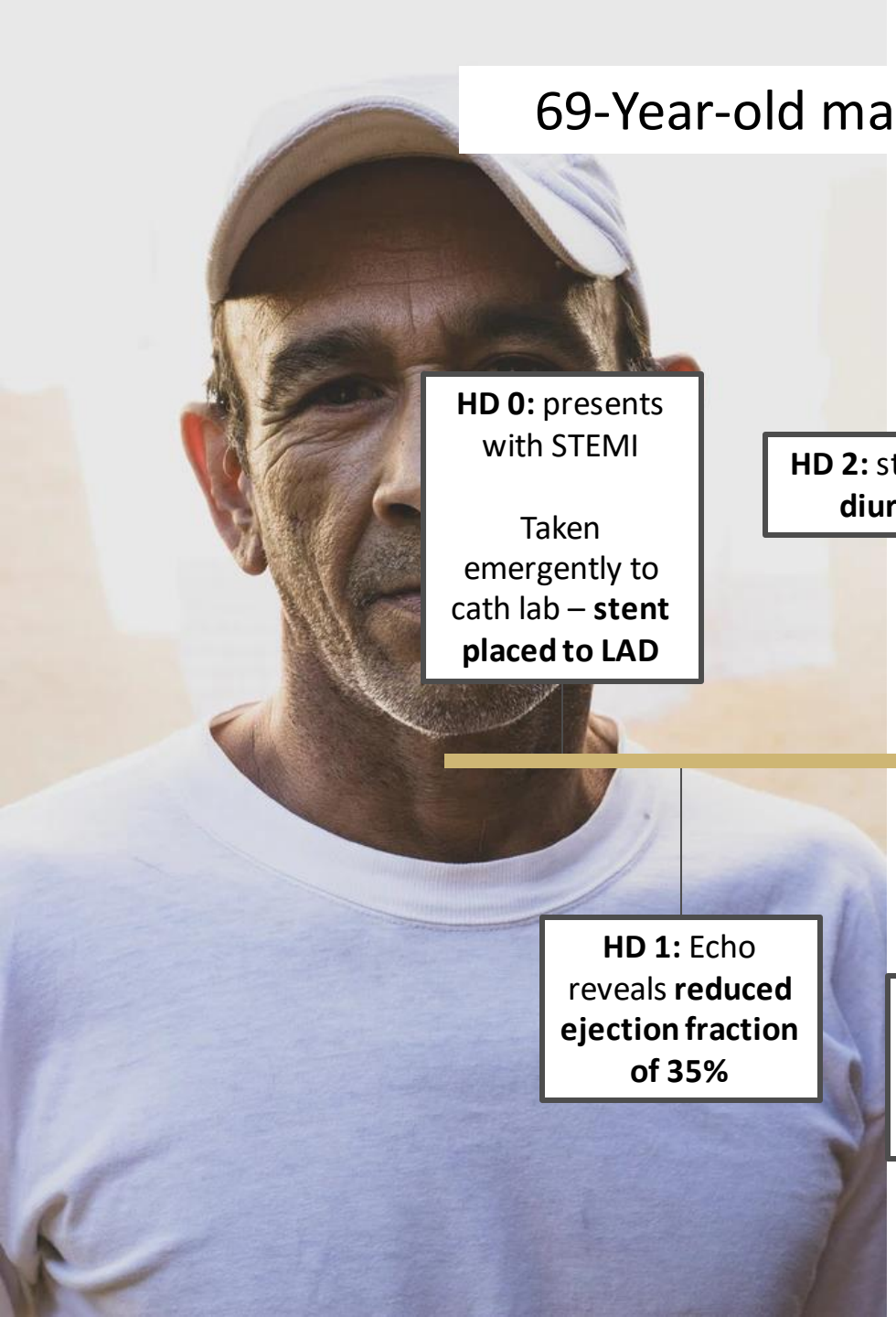

HD 0: presents with STEMI

Taken emergently to cath lab – **stent placed to LAD**

HD 1: Echo reveals **reduced ejection fraction of 35%**

HD 2: started on **diuretics**

HD 4: doing-well, preparing for hospital discharge

HD 5: discharged home on **5 new medications**

Instructed to **"follow-up"** with Cardiology

On admission: critical hypokalemia to **1.8**

2 weeks later: found down at home suffering **cardiac arrest.**

Prolonged hospitalization but eventually discharged to SNF for rehab therapy.

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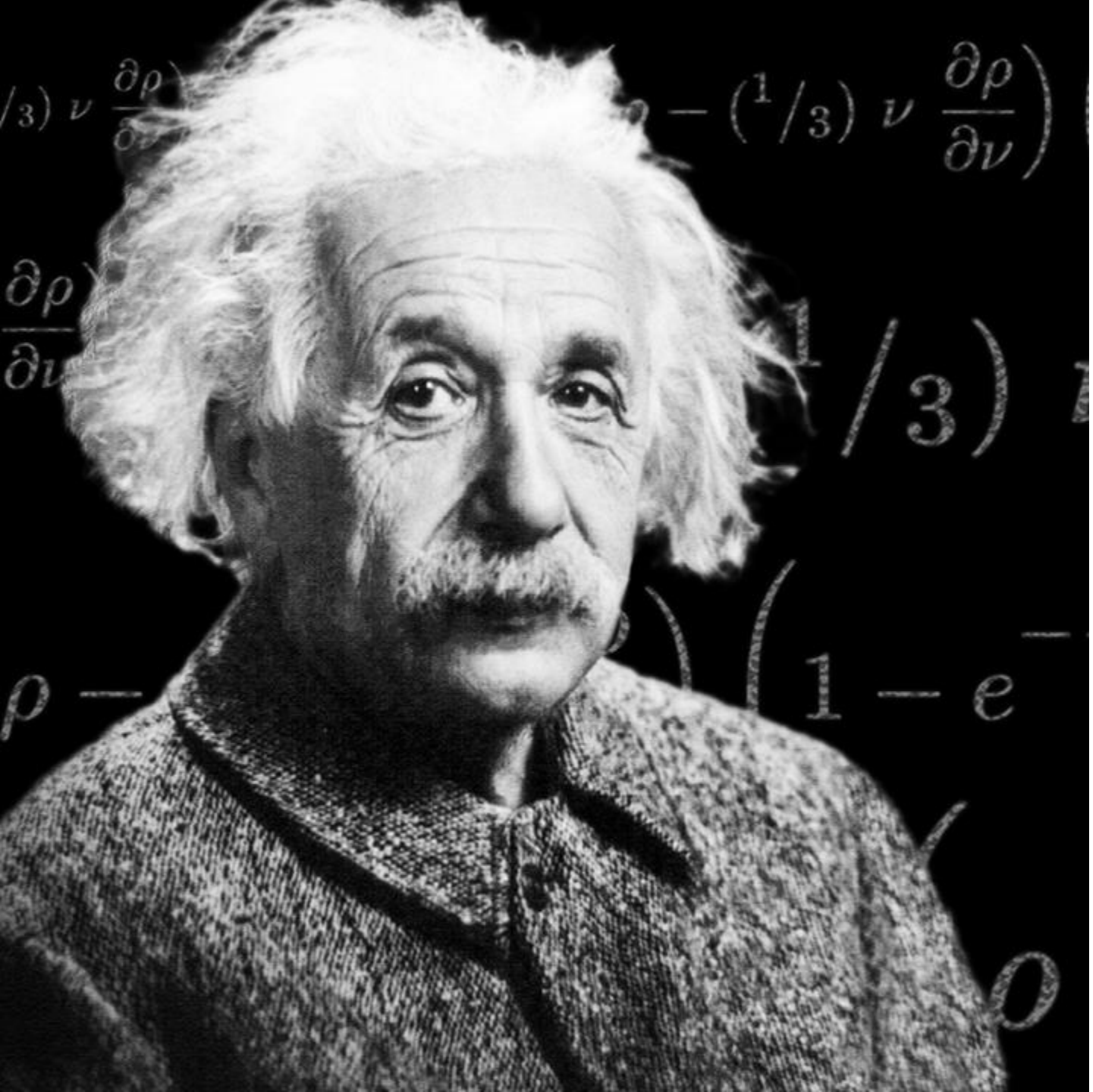

"If I had an hour to solve a problem, I'd spend 55 minutes thinking about the problem and five minutes thinking about solutions."

Six Steps for a Successful QI Project

DEFINE YOUR PROBLEM FIRST !!!

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DEFINE YOUR PROBLEM FIRST !!!

Who is affected?

What is the scale?

Are there guidelines to refer to?

DESCRIPTIVE STATISTICS

1) Frequency: Count, Percent, Frequency

Vaccination rates CAUTIs Wrong-site surgeries

2) Central Tendency: Mean, Median, and Mode

Mean and median length-of-stay

3) Dispersion/Variation: Range, Variance, Std. Deviation

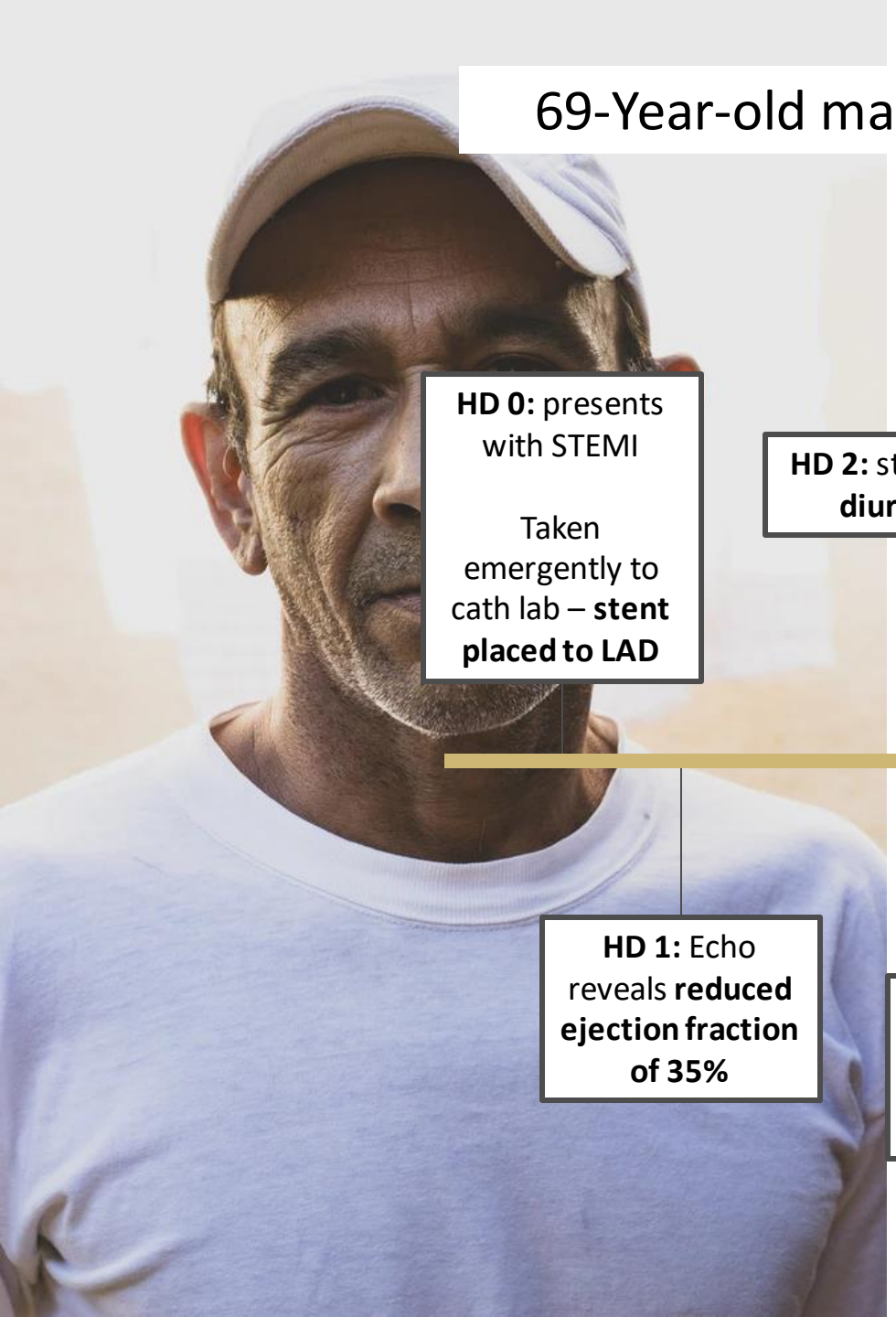
a1c measures in a clinic population

4) Position: Percentile Ranks, Quartile Ranks

vizient.

BEST HOSPITALS U.S.News & WORLD REPORT 2019-20

69-Year-old man presents with acute onset chest pain.



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Prolonged hospitalization but eventually discharged to SNF for rehab therapy.

69-Year-old man presents with acute onset chest pain.

It is recommended that patients who suffered an acute myocardial infarction have follow up in 7-days.

Society of Hospital Medicine (SHM) ACS Discharge & Transitions Workgroup

In the past 4 months, 1/38 (2%) patients with AMI were scheduled and seen within one week of discharge.

The average duration of time from discharge to first appointment is 18.9 days.


BEGIN.

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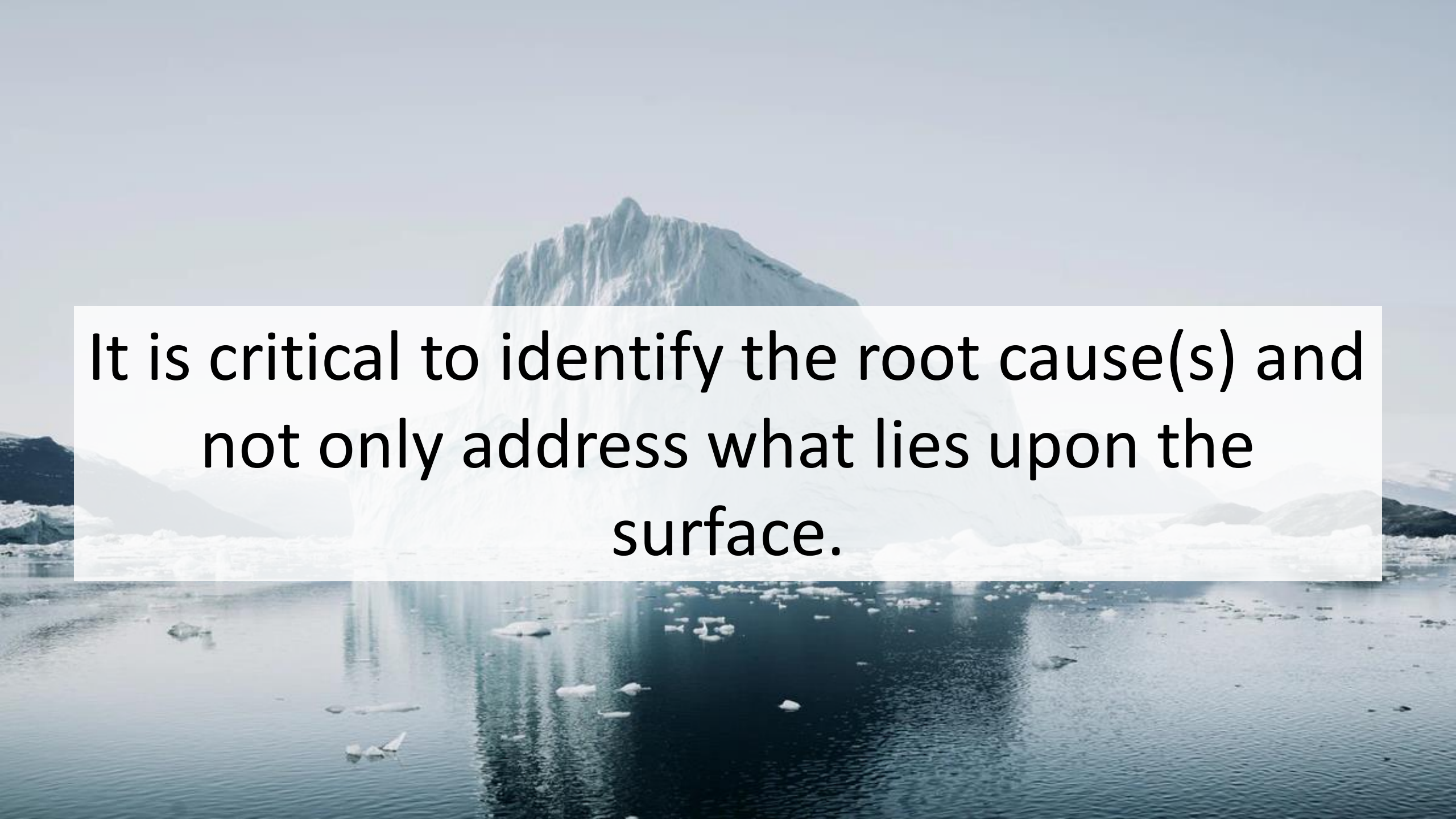


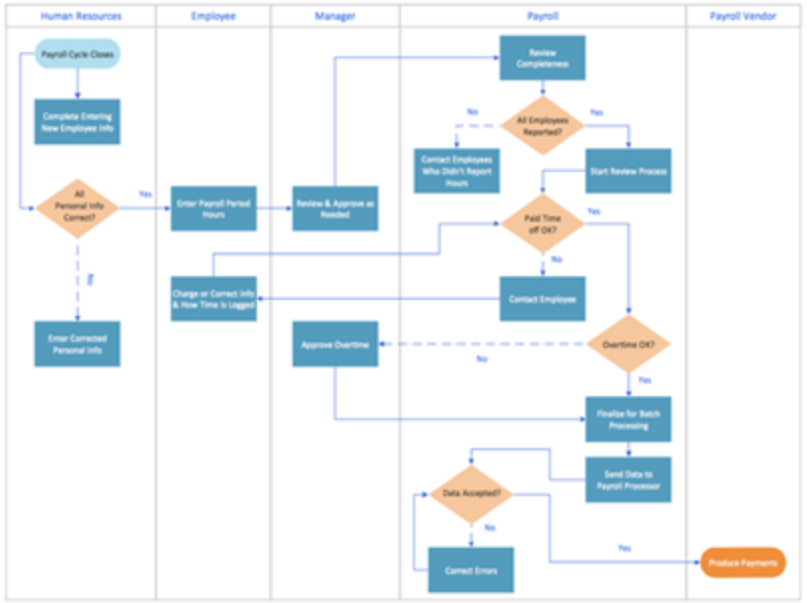
It is critical to identify the root cause(s) and not only address what lies upon the surface.

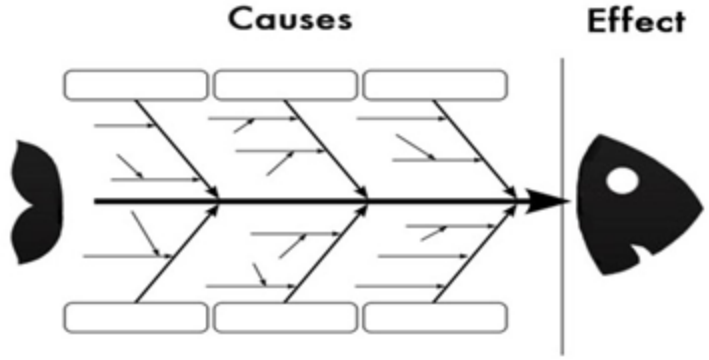
QI Tools

Gemba

現場

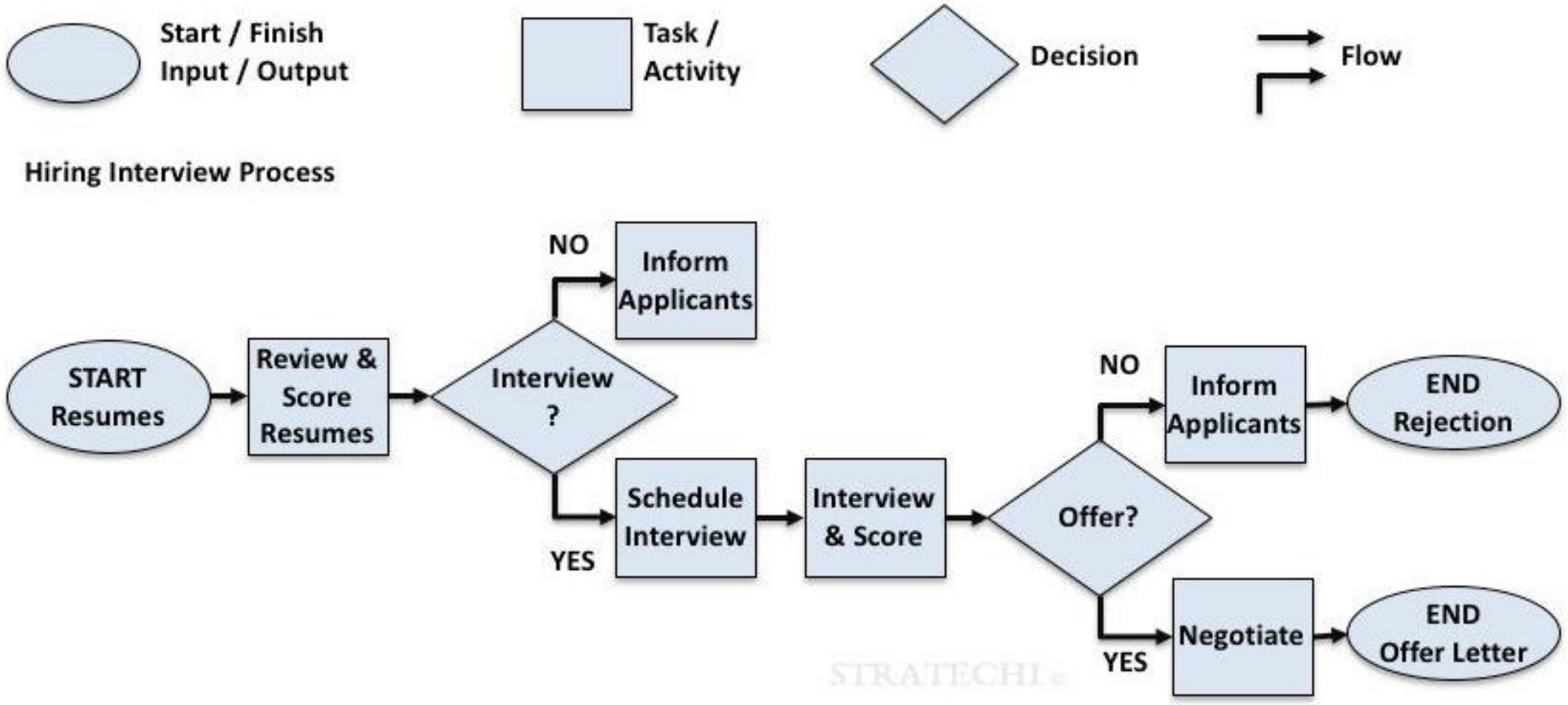
Go See.
Ask Why?
Show Respect.



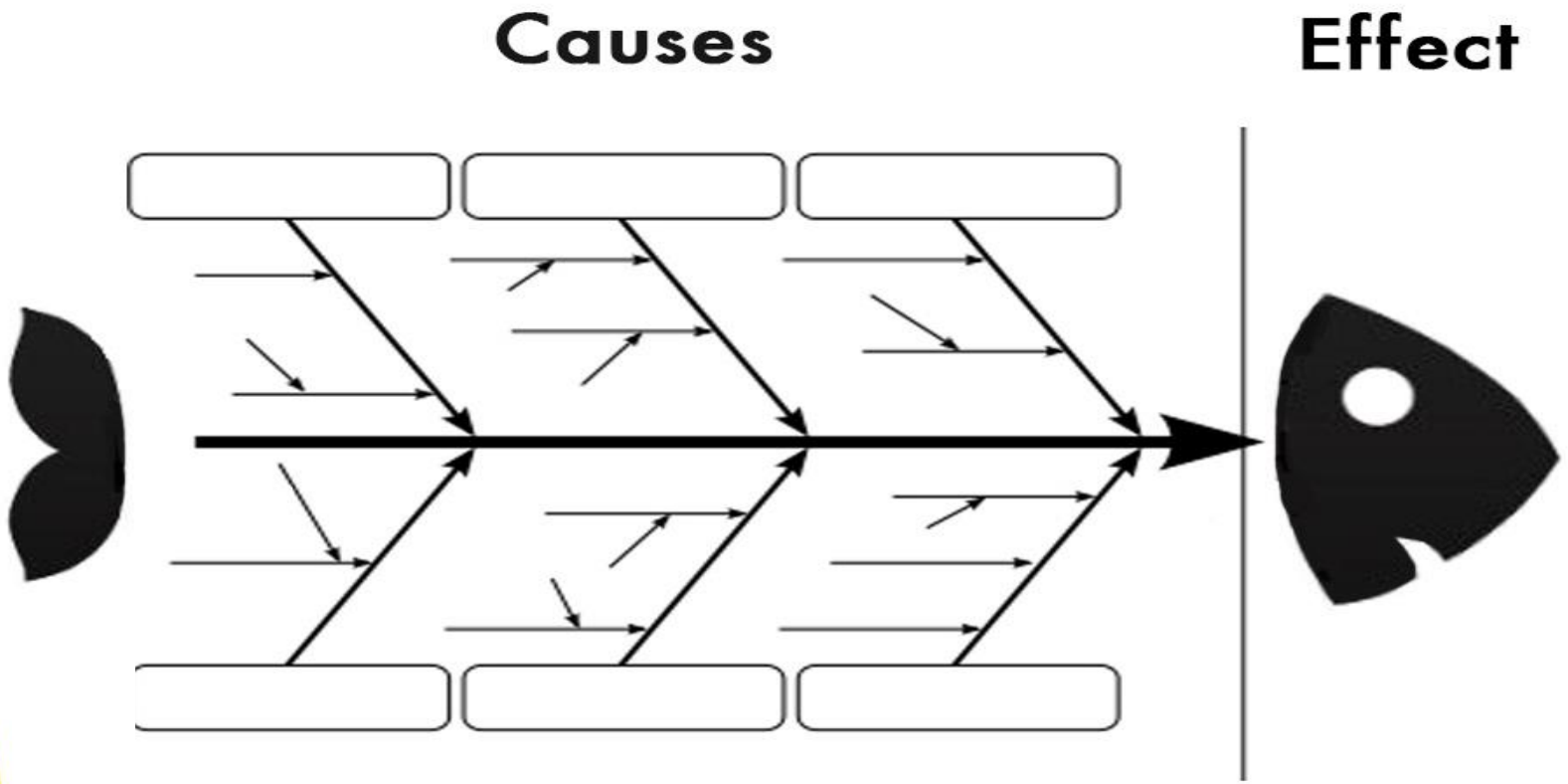


Gemba　現場

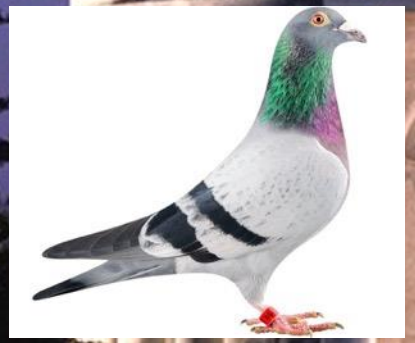
Process Map

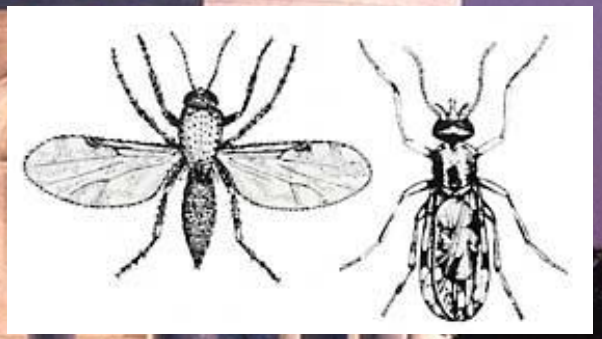


Fishbone “Ishikawa” Diagram



Five Why's





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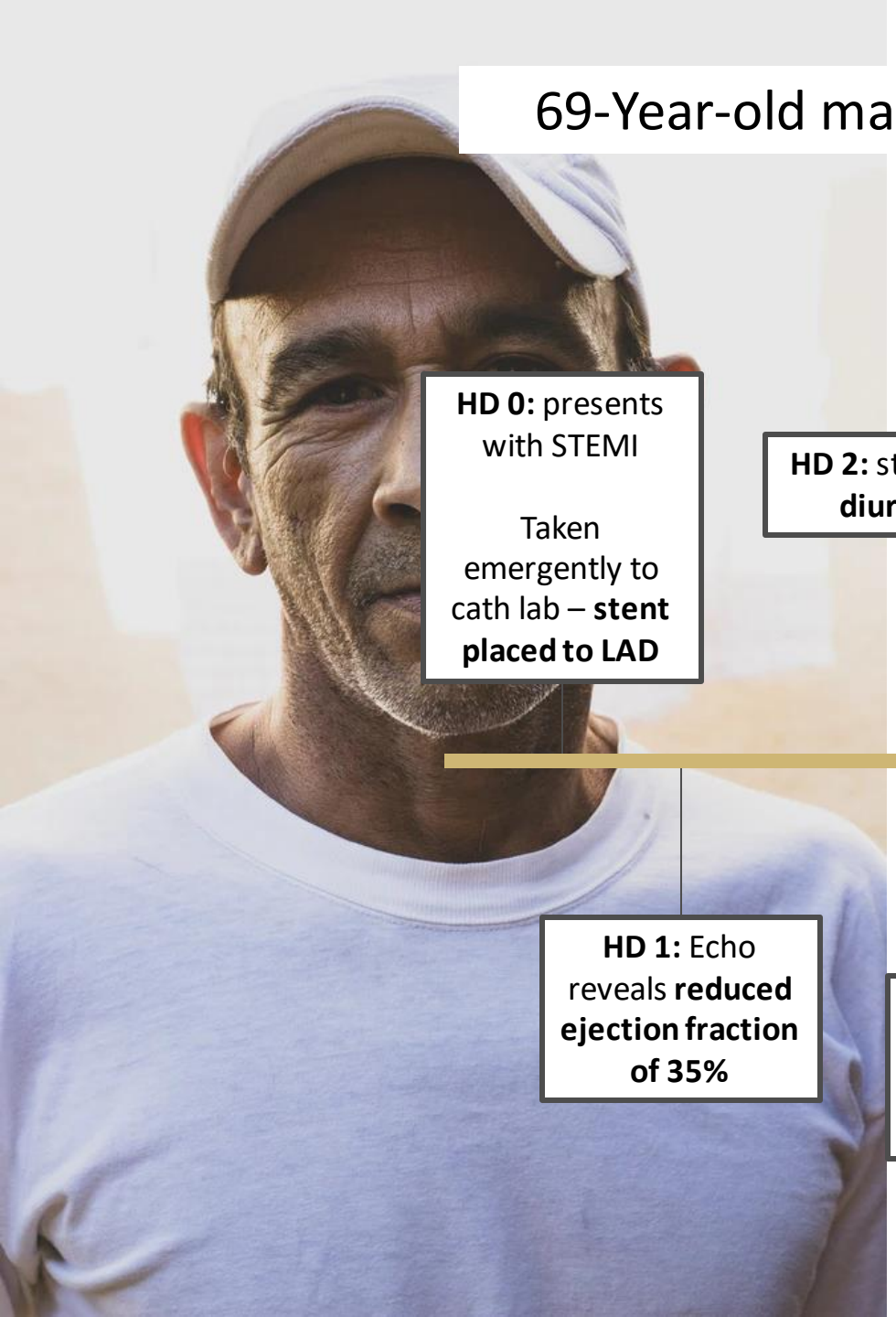

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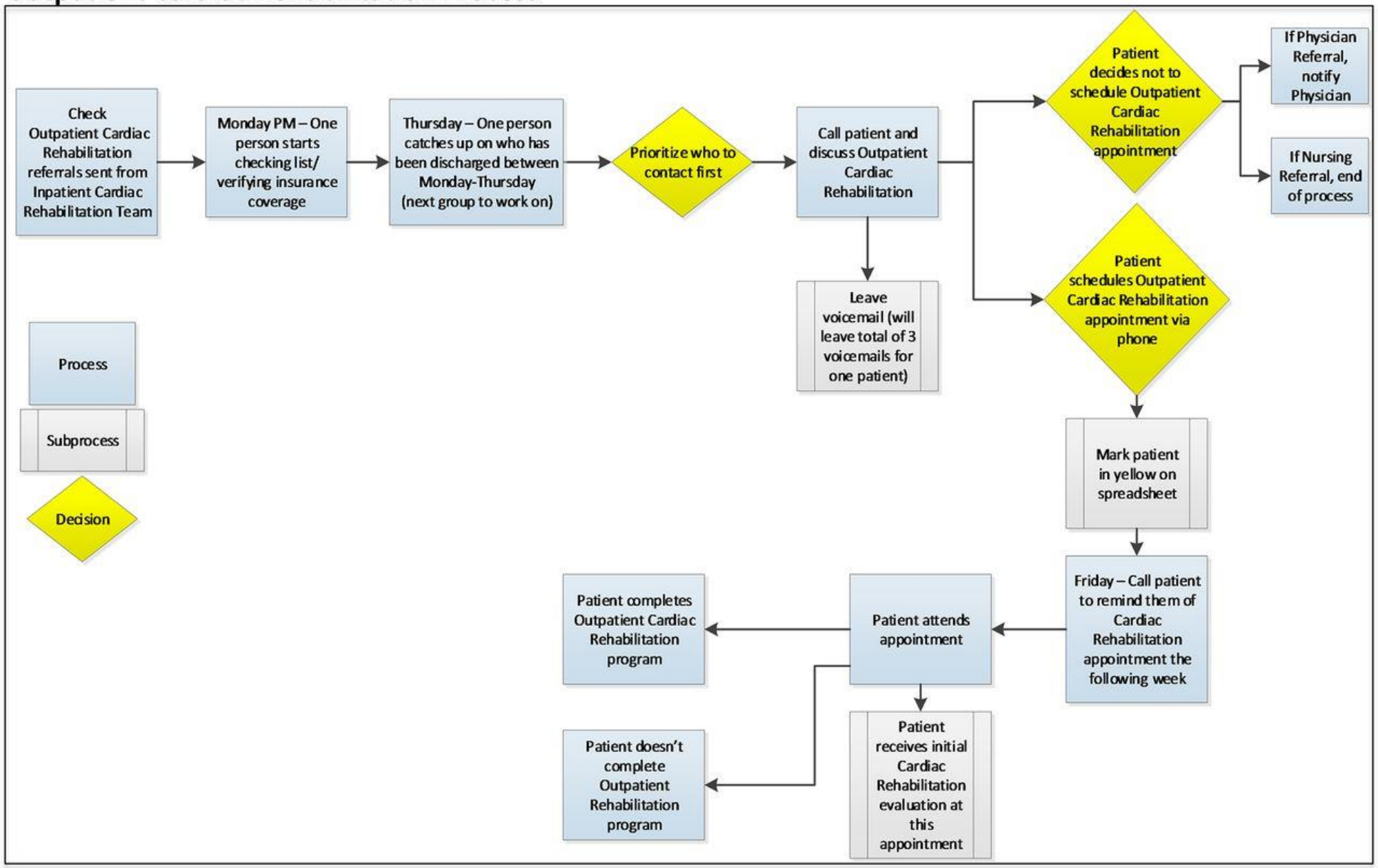
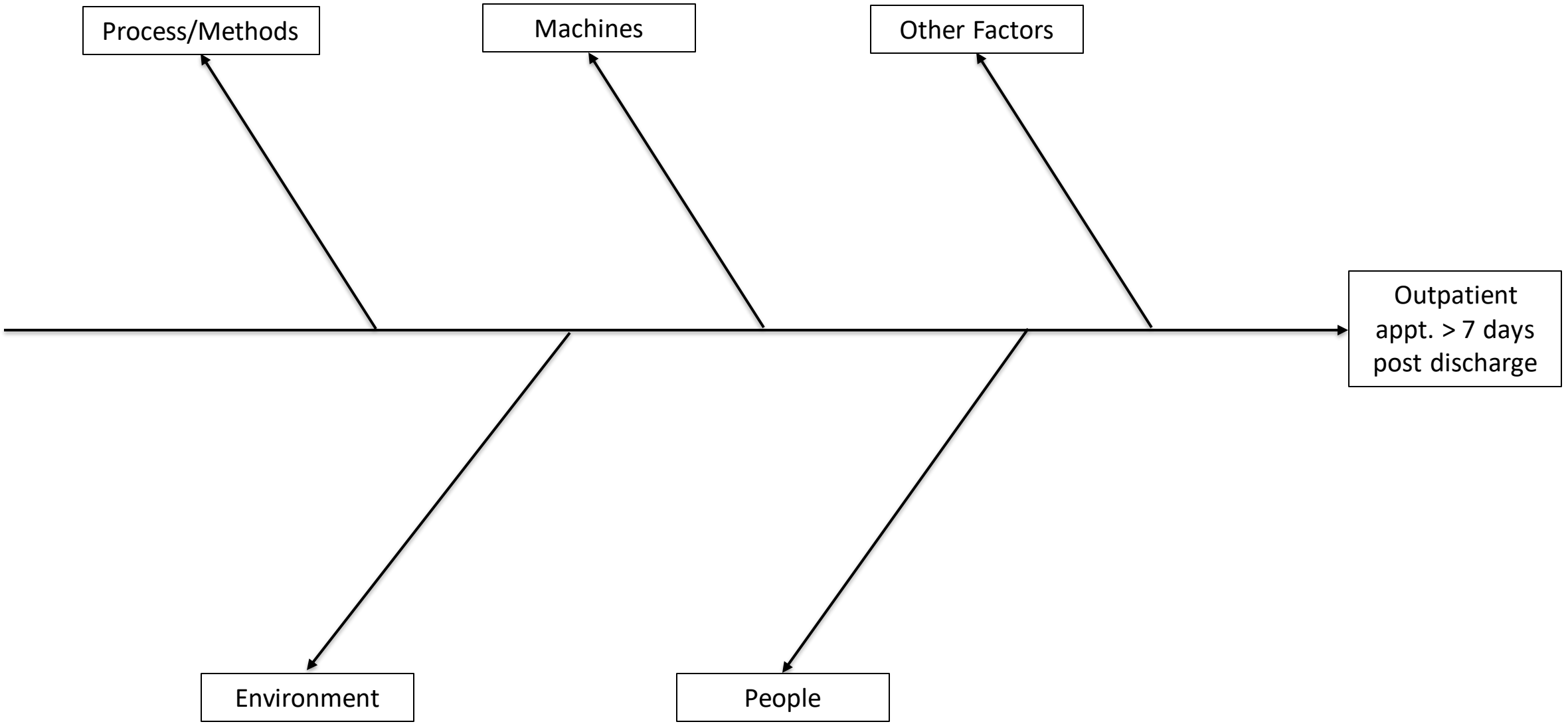
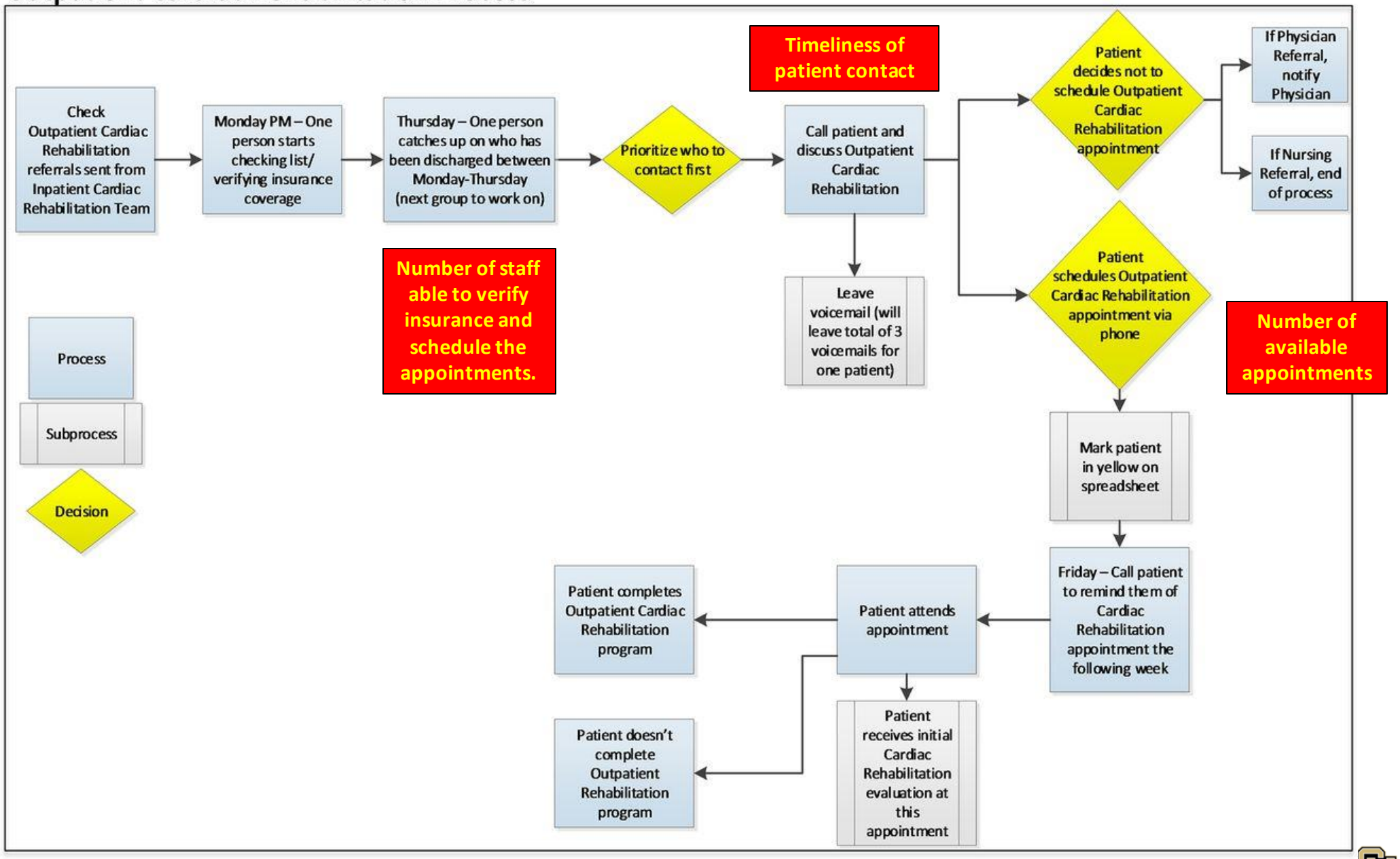
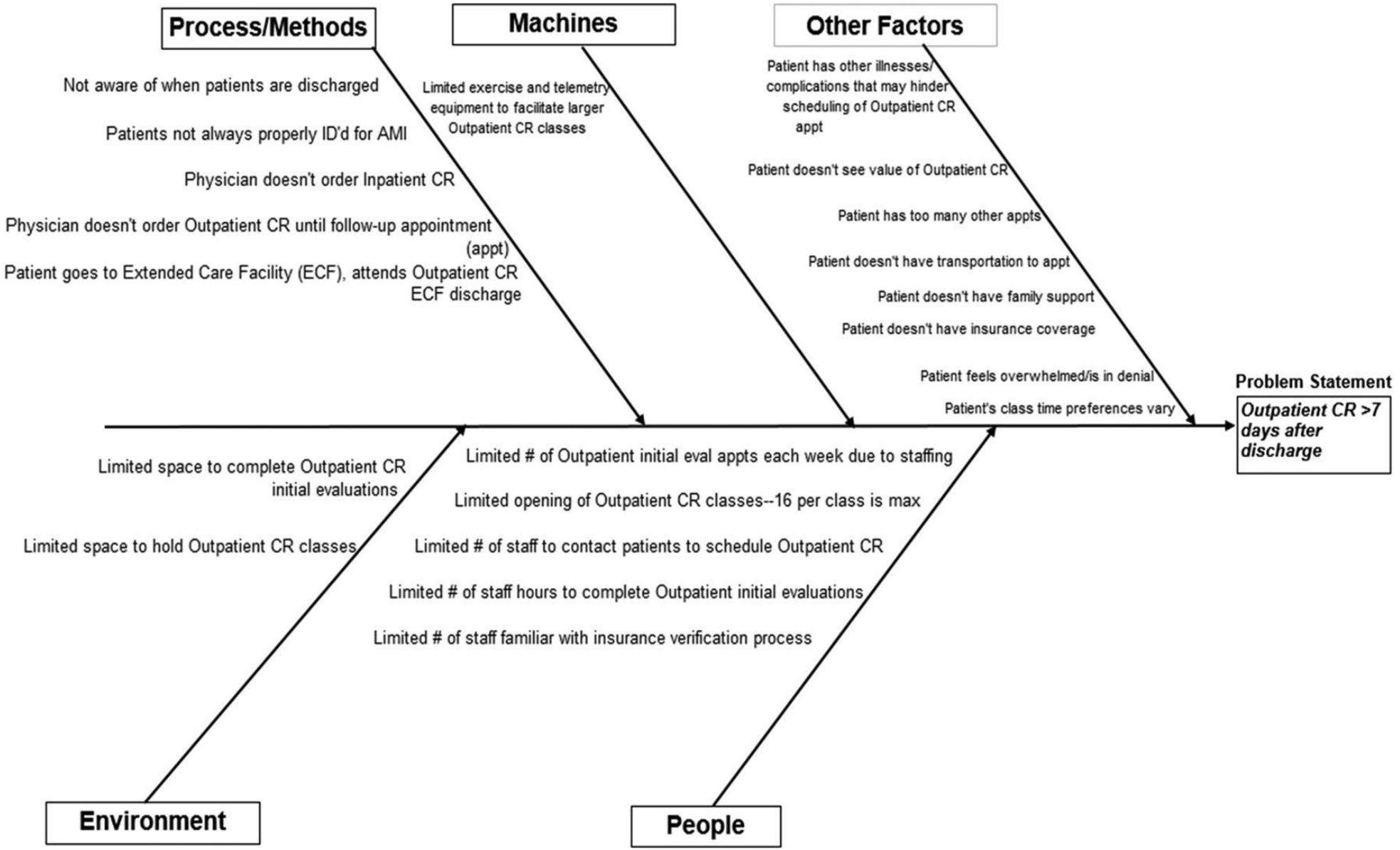
Outpatient Cardiac Rehabilitation Process




Process/Methods
Machines
Other Factors
Outpatient appt. > 7 days post discharge
Environment
People

Outpatient Cardiac Rehabilitation Process




Process/Methods
Not aware of when patients are discharged
Patients not always properly ID'd for AMI
Physician doesn't order Inpatient CR
Physician doesn't order Outpatient CR until follow-up appointment (appt)
Patient goes to Extended Care Facility (ECF), attends Outpatient CR ECF discharge
Machines
Limited exercise and telemetry equipment to facilitate larger Outpatient CR classes
Other Factors
Patient has other illnesses/ complications that may hinder scheduling of Outpatient CR appt
Patient doesn't see value of Outpatient CR
Patient has too many other appts
Patient doesn't have transportation to appt
Patient doesn't have family support
Patient doesn't have insurance coverage
Patient feels overwhelmed/is in denial
Patient's class time preferences vary
Problem Statement
Outpatient CR >7 days after discharge
Limited space to complete Outpatient CR initial evaluations
Limited space to hold Outpatient CR classes
Limited # of Outpatient initial eval appts each week due to staffing
Limited opening of Outpatient CR classes--16 per class is max
Limited # of staff to contact patients to schedule Outpatient CR
Limited # of staff hours to complete Outpatient initial evaluations
Limited # of staff familiar with insurance verification process
Environment
People


BEGIN.

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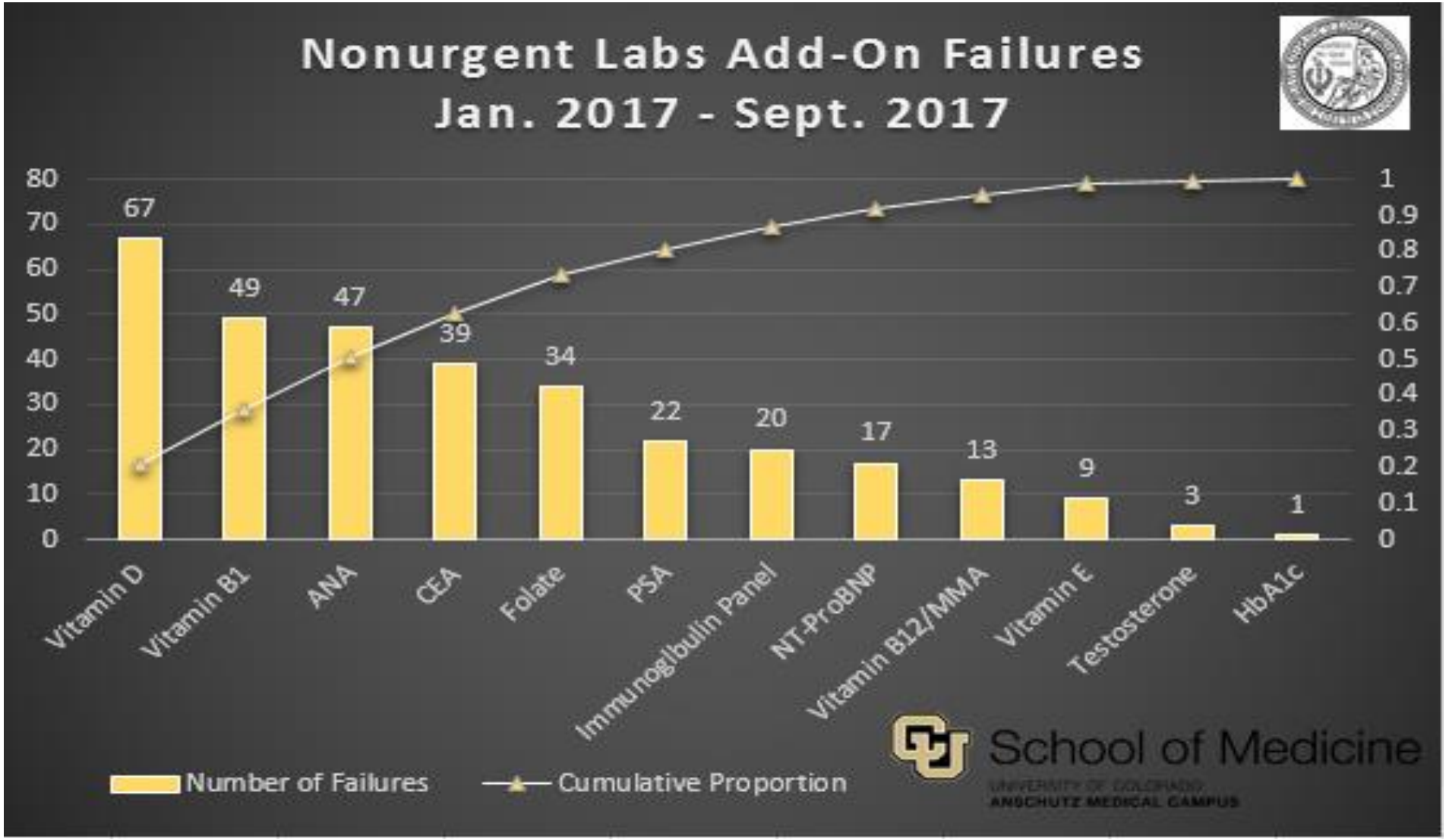
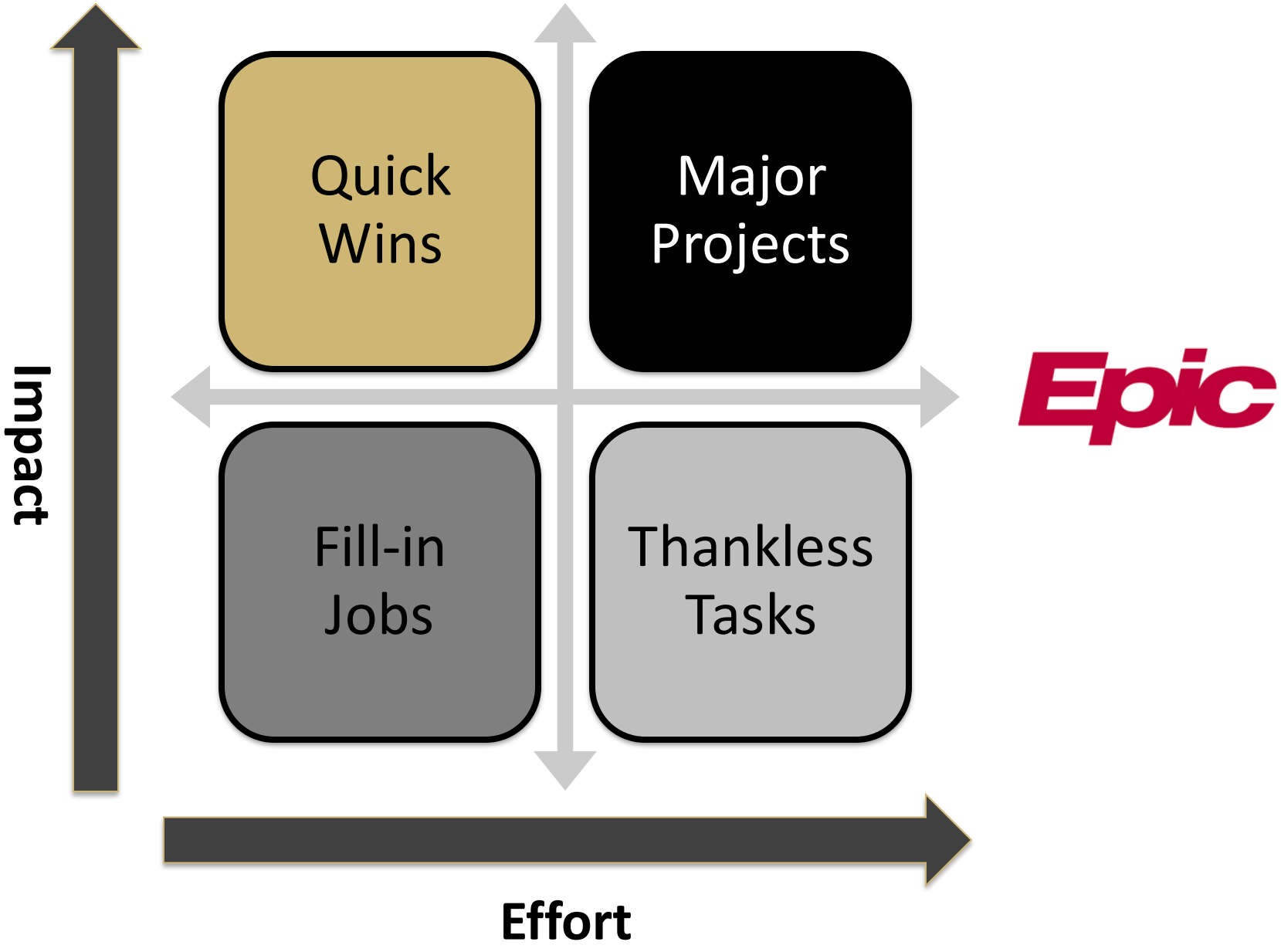
Pareto Chart



Action Priority Matrix



Epic

Impact

Q Wins

Timeliness of patient contact

Major

Number of available appointments

Number of staff able to verify insurance and schedule the appointments.

Fill-in Jobs

Thankless Tasks

Effort

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Matter to Patients

OUTCOME

- Patient Satisfaction
- LOS
- Readmission Rate
- Throughput
- Adverse Events

Can act as proxy for outcomes

PROCESS

- Use of checklists
- Patient Centered Rounds
- Lab orders

STRUCTURE

- Order Sets
- Regionalized
- Nurse:Patient ratio
- Discharge navigators

INTERVENTIONS

BALANCE

PRO TIP = see if someone else is tracking your data

AVOID manual chart review!!!

69-Year-old man presents with acute onset chest pain.

OUTCOME

PROCESS

STRUCTURE

69-Year-old man presents with acute onset chest pain.

OUTCOME

- Readmission rate
- 30/60/90 day mortality

PROCESS

- Outpatient appt. w/in 7 days of discharge
- Number of patients contacted
- Referrals placed before d/c

STRUCTURE

- Number of appointments
- Number of staff trained to verify insurance

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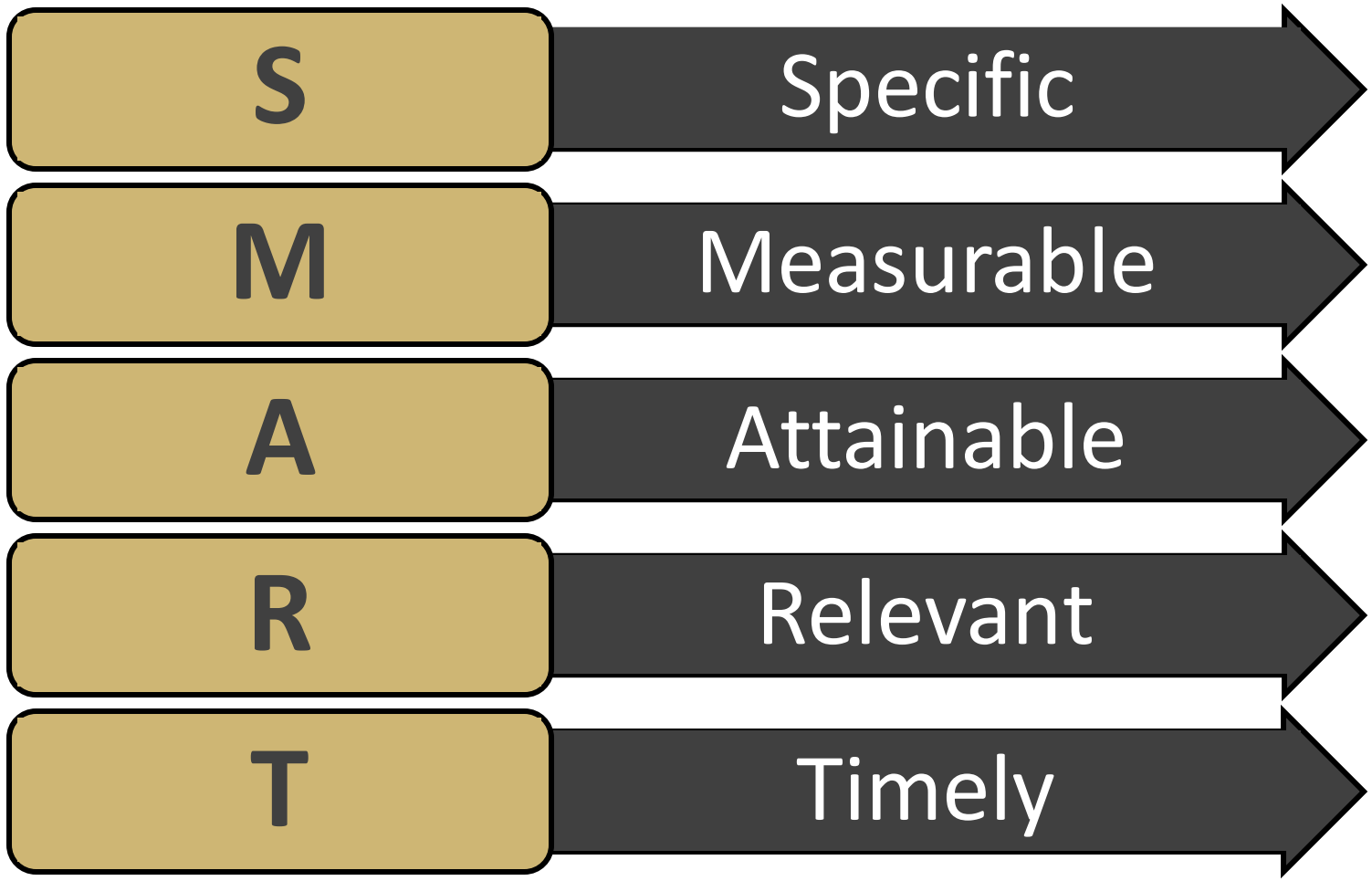
AIM Statement



“I want to be a better skier.”

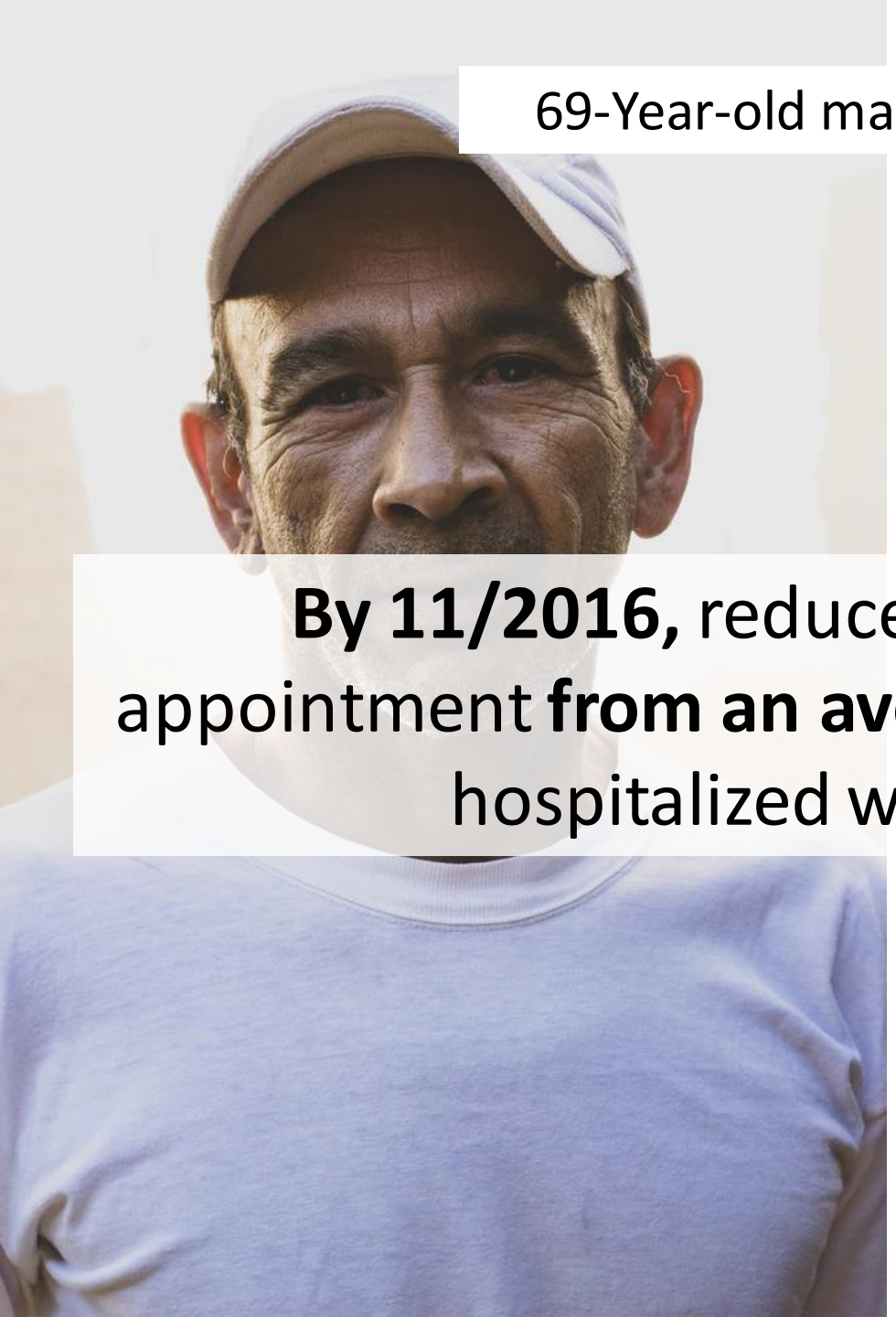
“By the end of the 19/20 season, I will be able to make it down a double-black diamond slope without falling.”

69-Year-old man presents with acute onset chest pain.

S	Specific
M	Measurable
A	Attainable
R	Relevant
T	Timely

69-Year-old man presents with acute onset chest pain.

Improve time to initial cardiac rehabilitation appointment for patients hospitalized with acute myocardial infarction.



69-Year-old man presents with acute onset chest pain.

By 11/2016, reduce time to initial cardiac rehabilitation appointment **from an average of 18.9 days to < 7 days** for patients hospitalized with acute myocardial infarction.


BEGIN.

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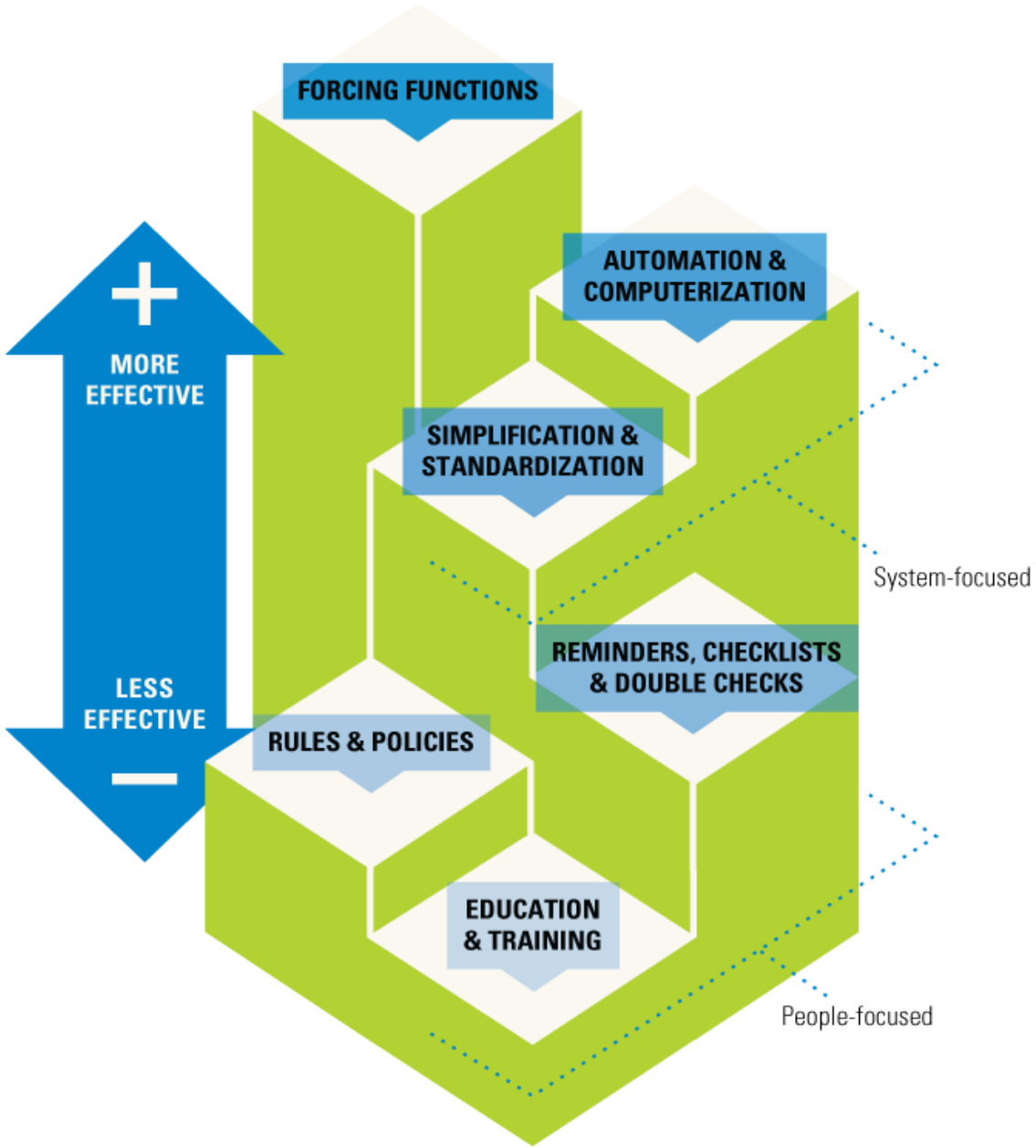
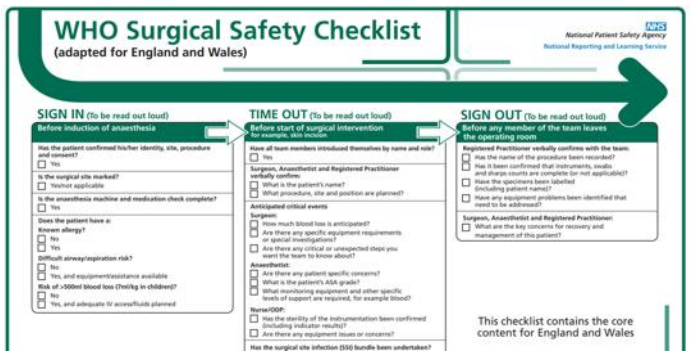
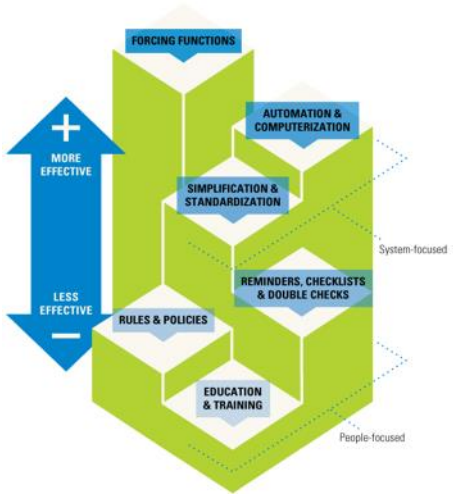
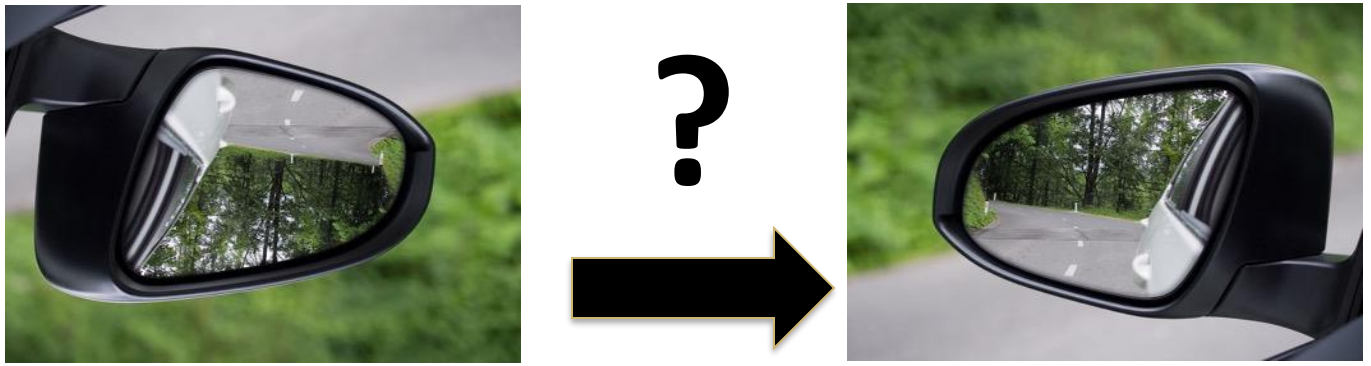
The Hierarchy of Intervention Effectiveness






FORCING FUNCTIONS
AUTOMATION & COMPUTERIZATION
SIMPLIFICATION & STANDARDIZATION
REMINDERS, CHECKLISTS & DOUBLE CHECKS
RULES & POLICIES
EDUCATION & TRAINING
MORE EFFECTIVE
LESS EFFECTIVE
System-focused
People-focused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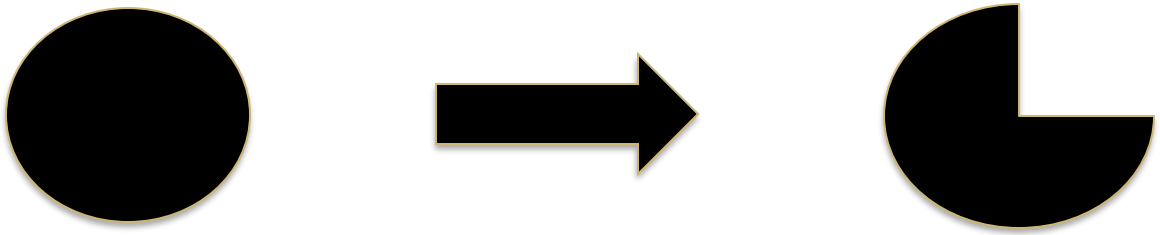
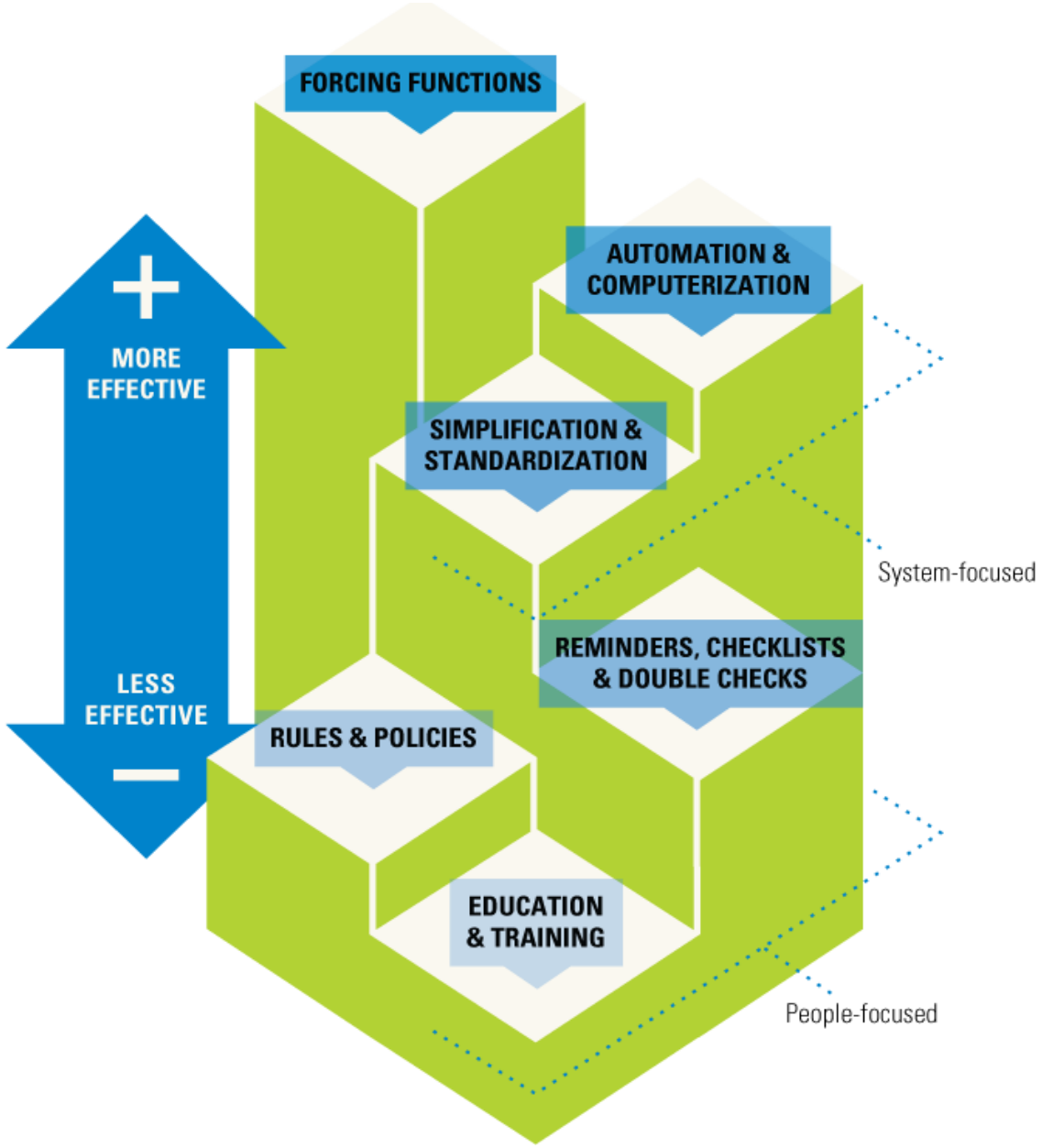


Step 5: Create effective, reliable improvements

69-Year-old man presents with acute onset chest pain.



69-Year-old man presents with acute onset chest pain.

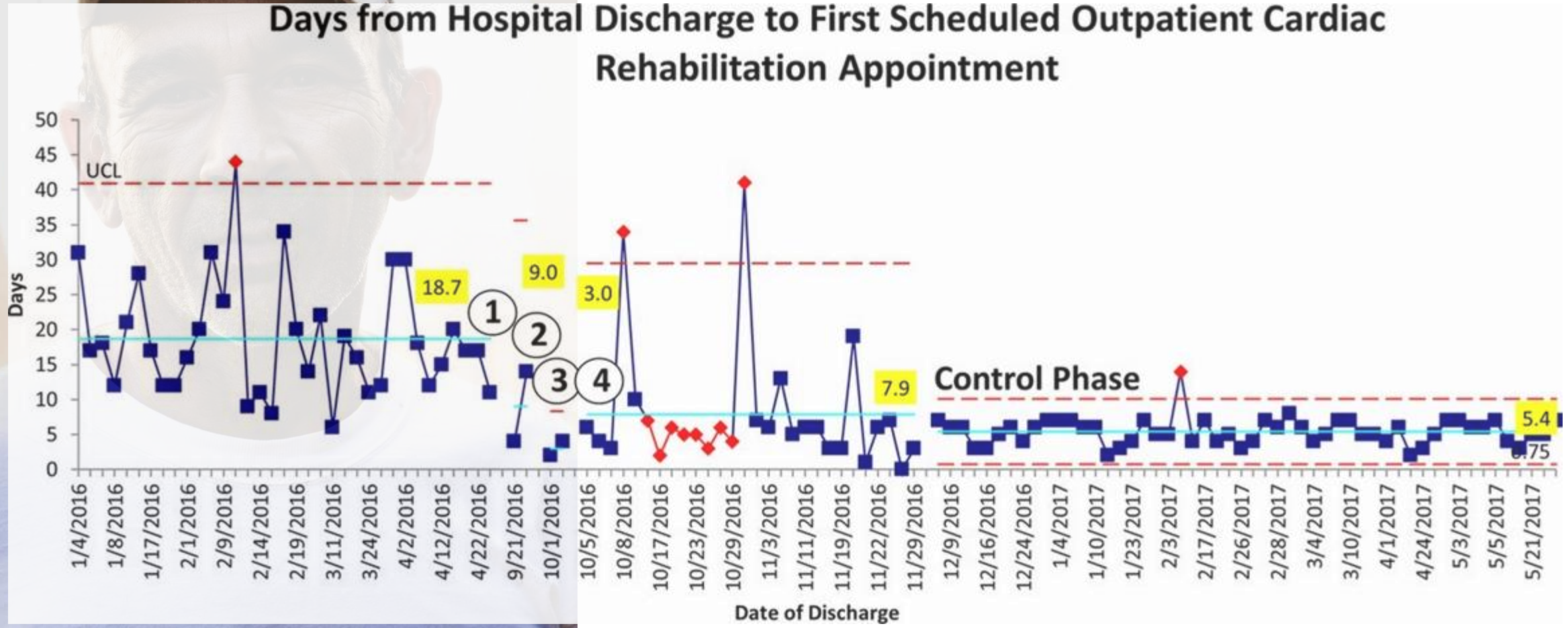
1) Add additional appointment slots.

2) Cross-train schedulers.

3) Cross-train insurance verification.

4) Schedule appointment prior to hospital discharge.

69-Year-old man presents with acute onset chest pain.



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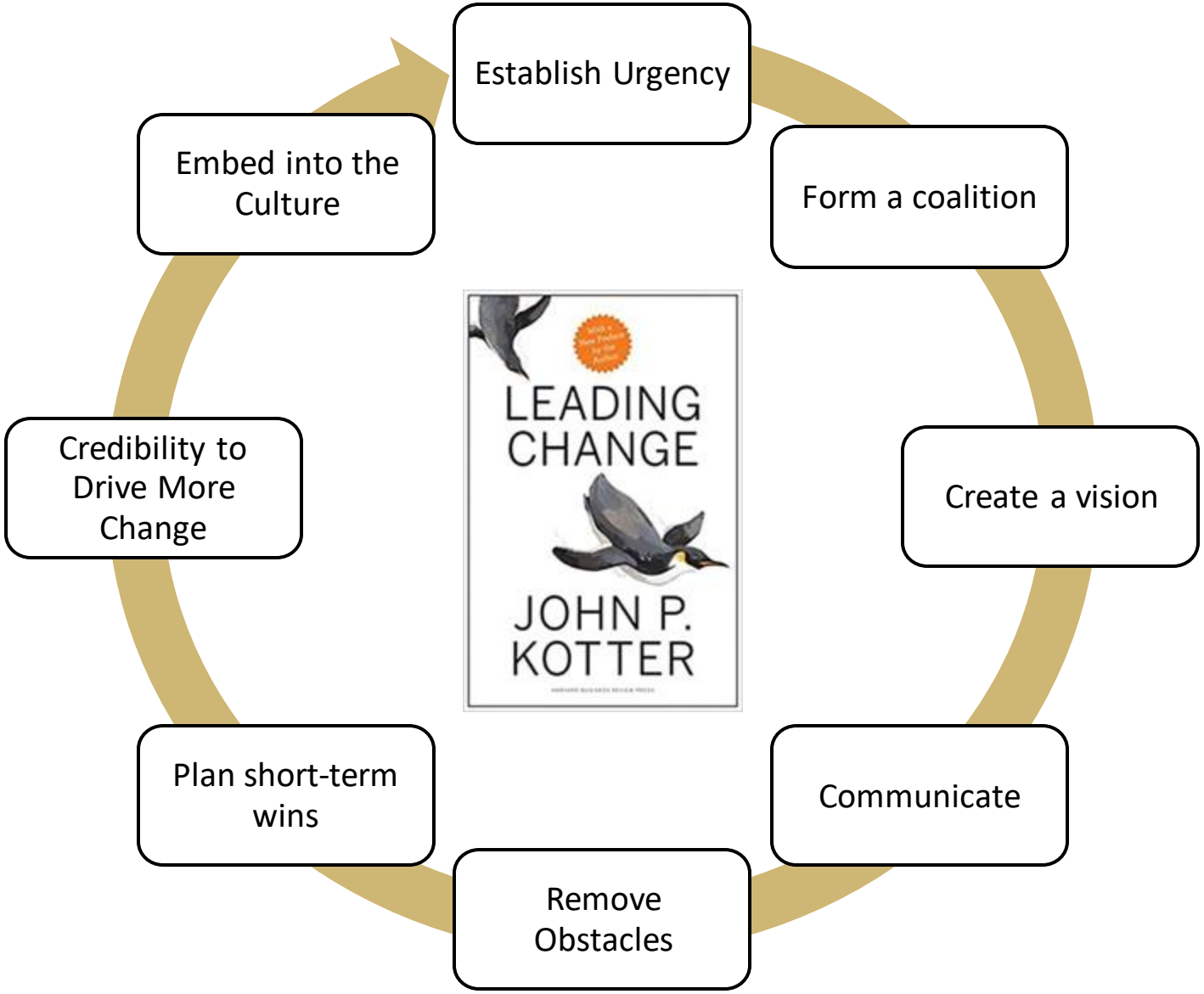
Establish Urgency
Form a coalition
Create a vision
Communicate
Remove Obstacles
Plan short-term wins
Credibility to Drive More Change
Embed into the Culture
LEADING CHANGE
JOHN P. KOTTER

What we have learned…

QI = Systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups.

DEFINE YOUR PROBLEM FIRST !!!

4. Explicitly state your goals (SMART)
5. Implement and measure small tests of change.
6. Build upon success and sustain the process.

- Outcomes
- Balance

- Process Map
- Pareto