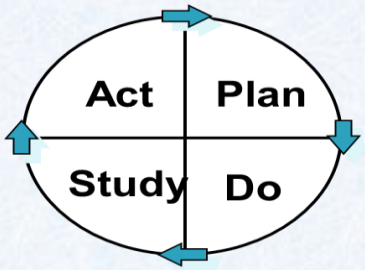

QI Methods

Methods, Aims, and Tools: What the Instructor Needs to Know

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Disclosures

University of California grant, office of the President, Center for Health Quality and Innovations: Improving discharges

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I made up #2…and so can you

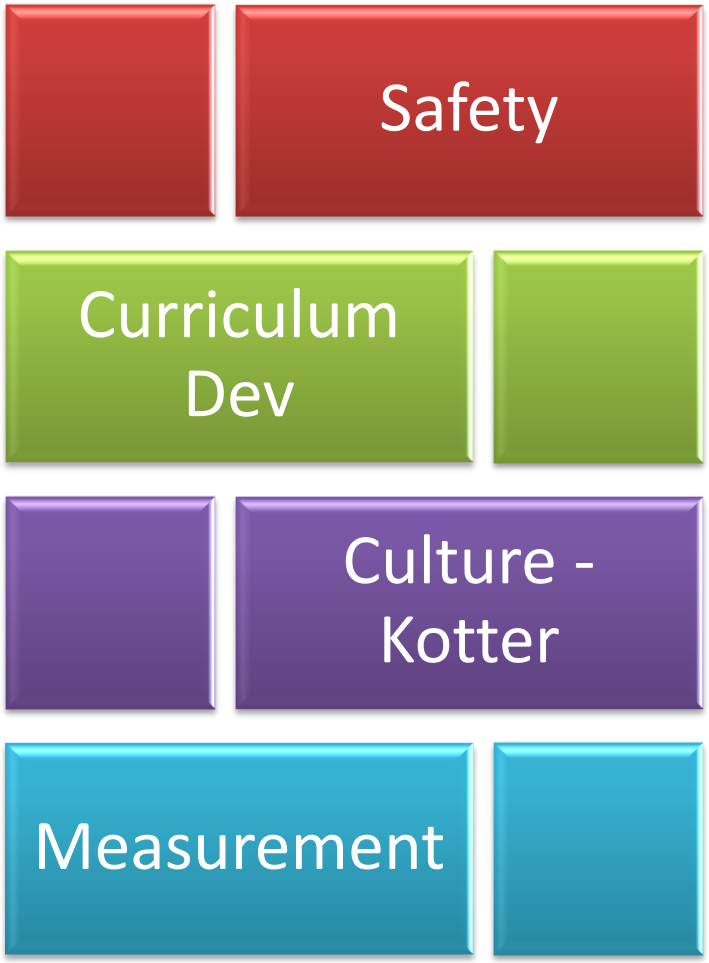
Objectives

- Describe the importance of defining a QI strategy prior to engaging in or teaching QI

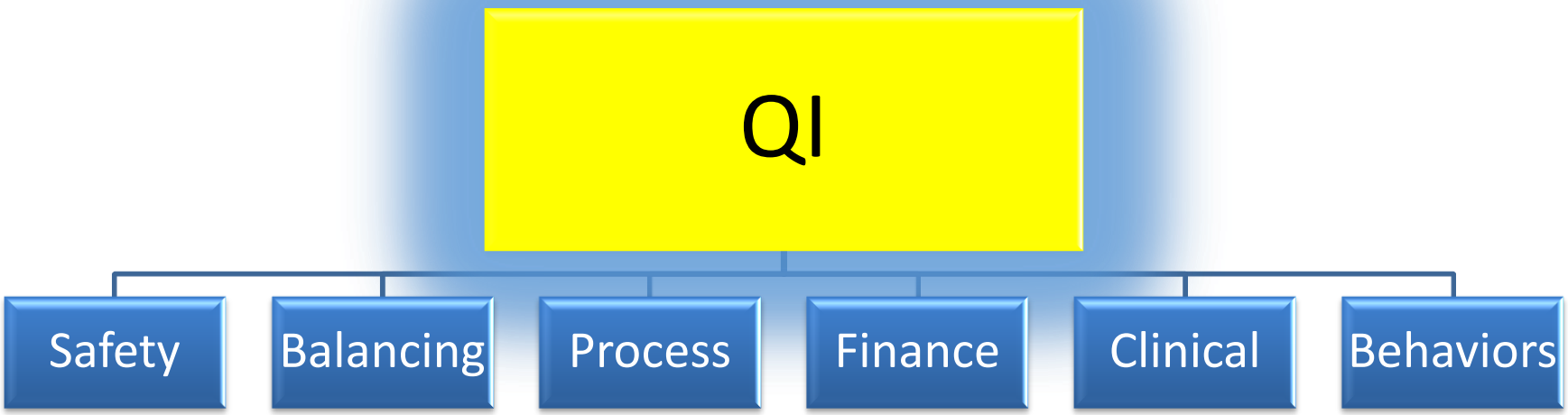
- Compare and contrast the two commonly used QI methods and explain the value of each

- Demonstrate basic skills in educating learners on the use and creation of a SMART aim

Where are we now?



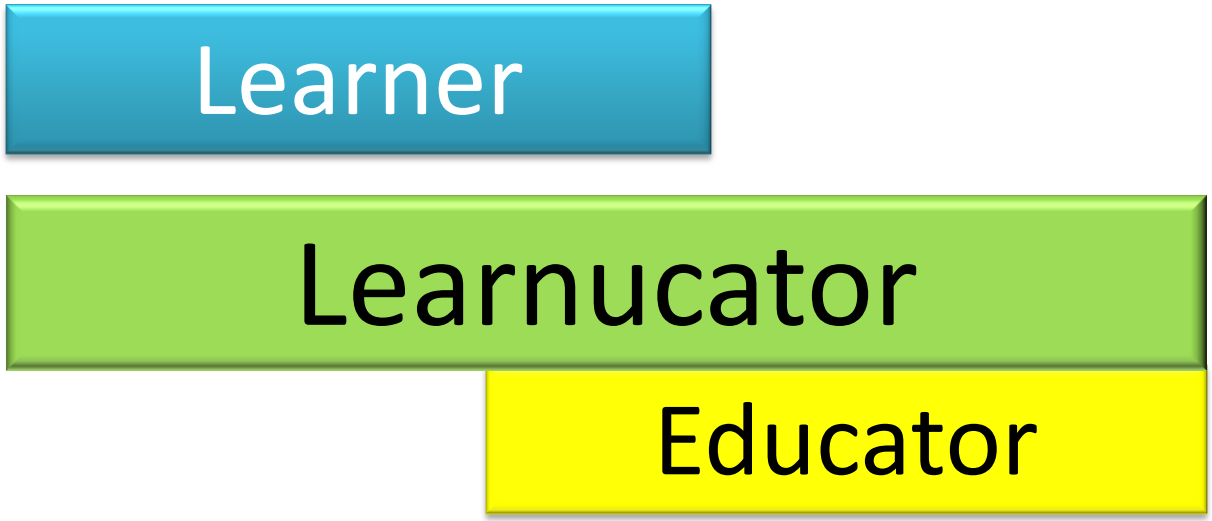
What is Quality?



What about the learners project?

VIDEO

The Learnucator




SOLUTION
STRATEGY
PLAN
EFFORT

What is our QI strategy?

1. Ideas - prioritization
2. Core concepts
3. Global aim
4. Models for improvement - PDSA and DMAIC methods – SMART aim, use of QI tools, metric choices
5. Team
6. Project management – DO, STUDY, ACT
7. Sustainability

1. Ideas - Potential Projects are Everywhere

- Periop CV Risk Stratification
- Periop antibiotics
- Patient Flow through hospital
- Reconciling med lists
- Diabetes control
- VAP
- Hand Washing
- Wrong Site Surgery Prevention
- Bar Coding
- Handoffs
- Reducing lab/procedure waste
- HACs

- Patient Engagement
- Enhance hospital reimbursement through better documentation
- VP shunt outcomes
- Early enteral nutrition
- Anything Choosing Wisely
- Analgesics in Acute Abdomen
- Hospice/palliative care issues
- Pressure support in respiratory disease – risk assessment
- Equity in time to OR for “X”

How do we prioritize?

If there is…	Consider also…
High volume, risk, cost	
Potential to reduce variation	
Interest and involvement	
External competitive drivers	
Feasibility of potential solution	

How do we prioritize?

If there is…	Consider also…
High volume, risk, cost	*Safety, LOS and resource use
Potential to reduce variation	*Implementation Gap *Local variability
Interest and involvement	* Scope and importance of problem * Level of evidence for potential solution
External competitive drivers	*Regulatory Agency / Institutional priorities
Feasibility of potential solution	*Cost, time *Resources, potential partners

2. Core Concepts

Vague, Strategic, Conceptual

CURE DISEASE

HELP PATIENTS

3. Global aim

Vague, Strategic, Conceptual

GLOBAL AIM

CURE DISEASE

Change Concepts to *Change Ideas*

Vague, Strategic, Conceptual

GLOBAL AIM

Improve decision support for providers

,

Change Concepts to *Change Ideas*

Vague, Strategic, Conceptual

GLOBAL AIM

Improve decision support for providers

Embed evidence-based guidelines in the EMR

Change Concepts to *Change Ideas*

Vague, Strategic, Conceptual

GLOBAL AIM

Improve decision support for providers

↓

Embed evidence-based guidelines in the care delivery system

↓

Use easily accessible flow sheets to embed guidelines for meds and treatment into an order set

↓

Change Concepts to *Change Ideas*

Vague, Strategic, Conceptual

GLOBAL AIM

Improve decision support for providers

↓

Embed evidence-based guidelines in the care delivery system

↓

Use easily accessible flow sheets to embed guidelines for meds and treatment into daily practice

↓

Use a flow sheet for 2 patients

Change Concepts to *Change Ideas*

Vague, Strategic, Conceptual

GLOBAL AIM

Specific Ideas,

Actionable results

SMART AIM

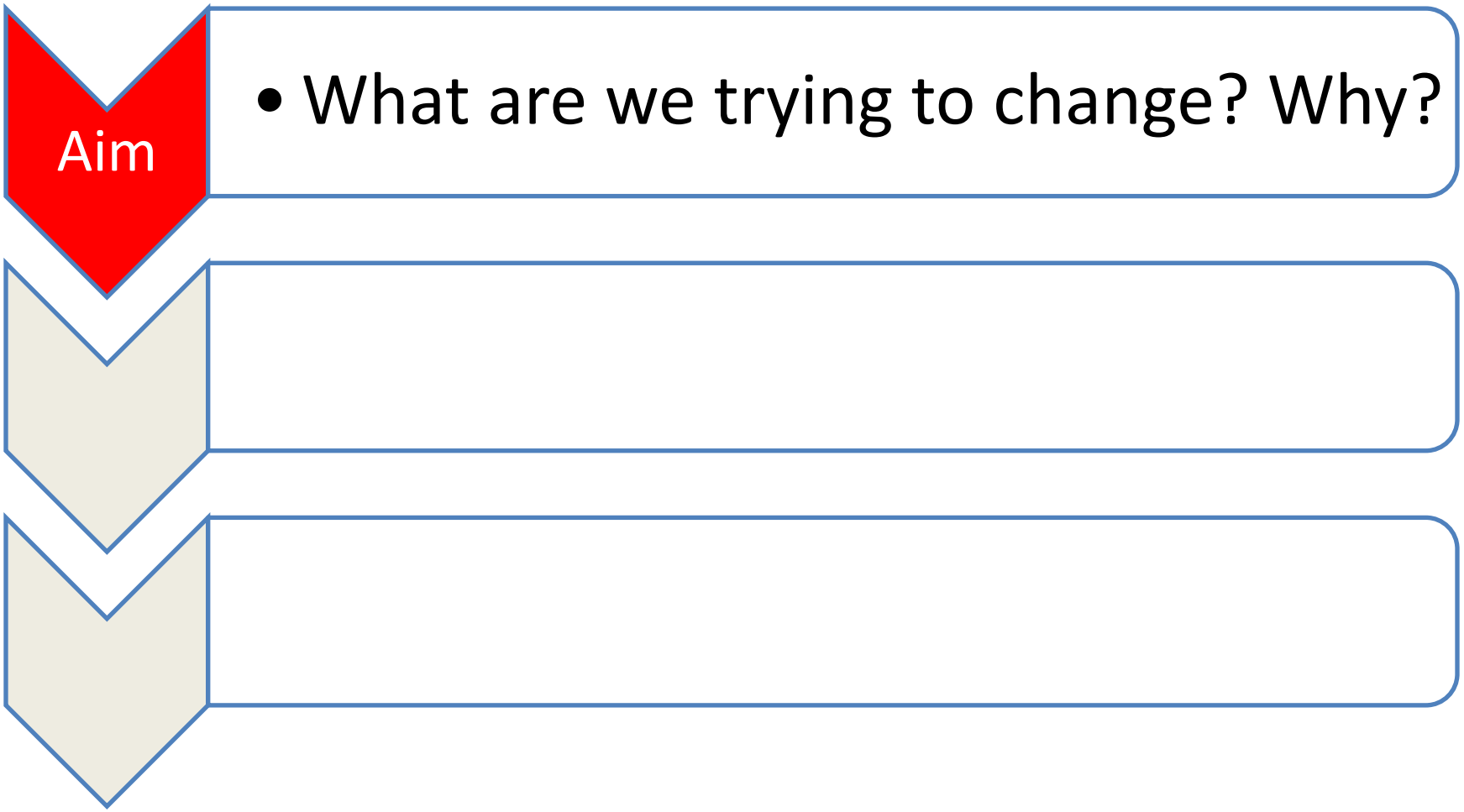
Improve decision support for providers

Embed evidence-based guidelines in the care delivery system

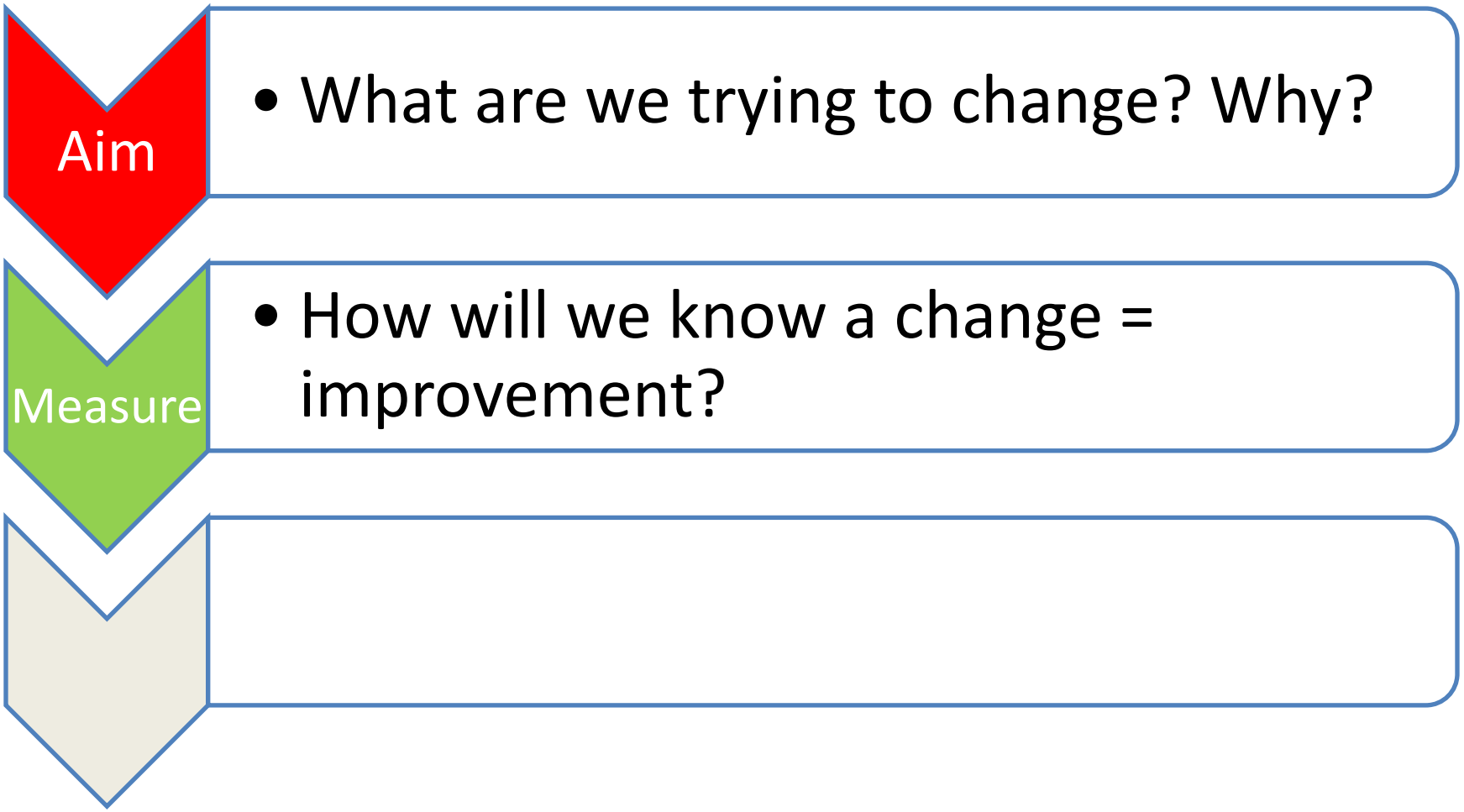
Use easily accessible flow sheets to embed guidelines for meds and treatment into daily practice

Use a flow sheet for 2 patients

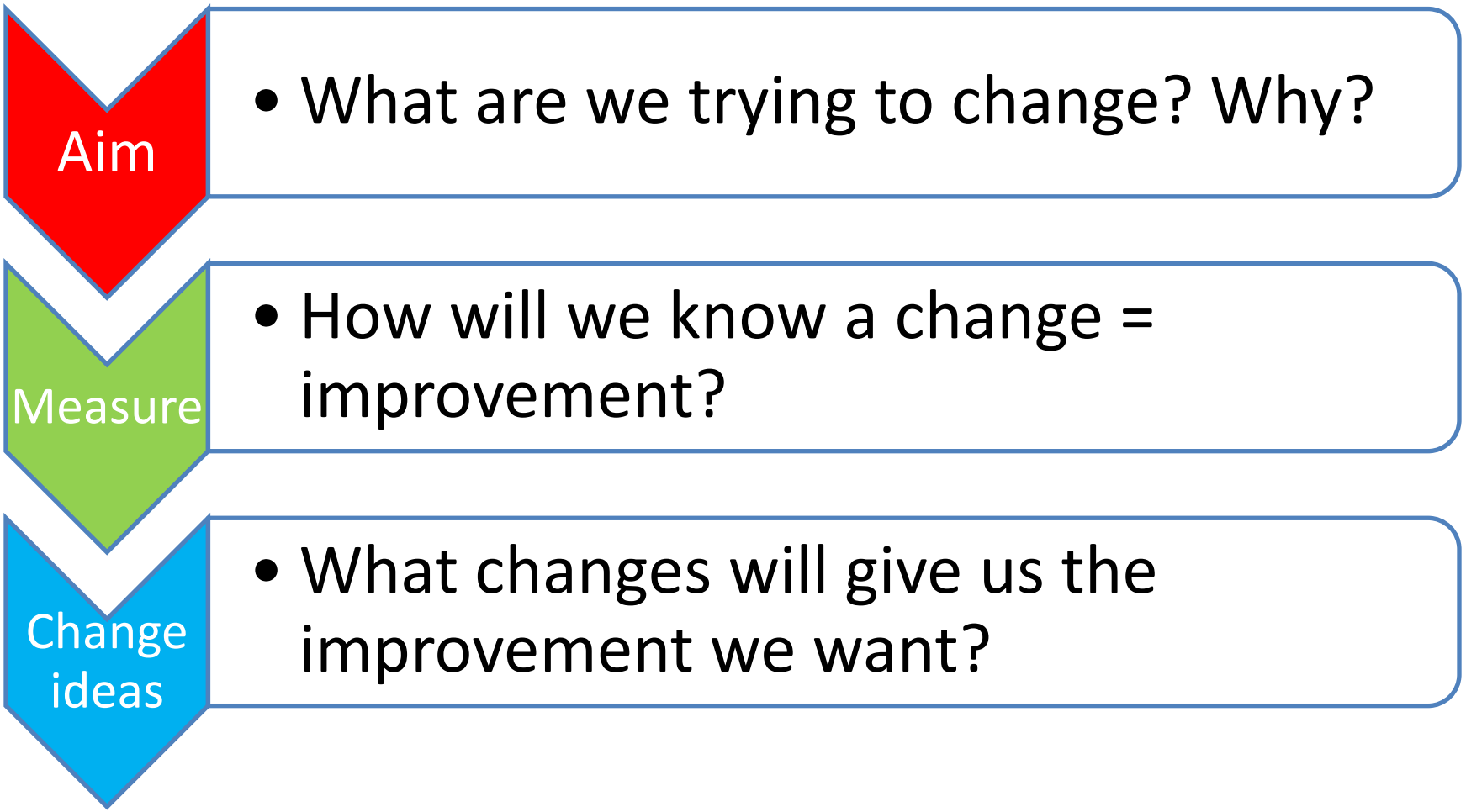
4. Model for Improvement



Model for Improvement



Model for Improvement



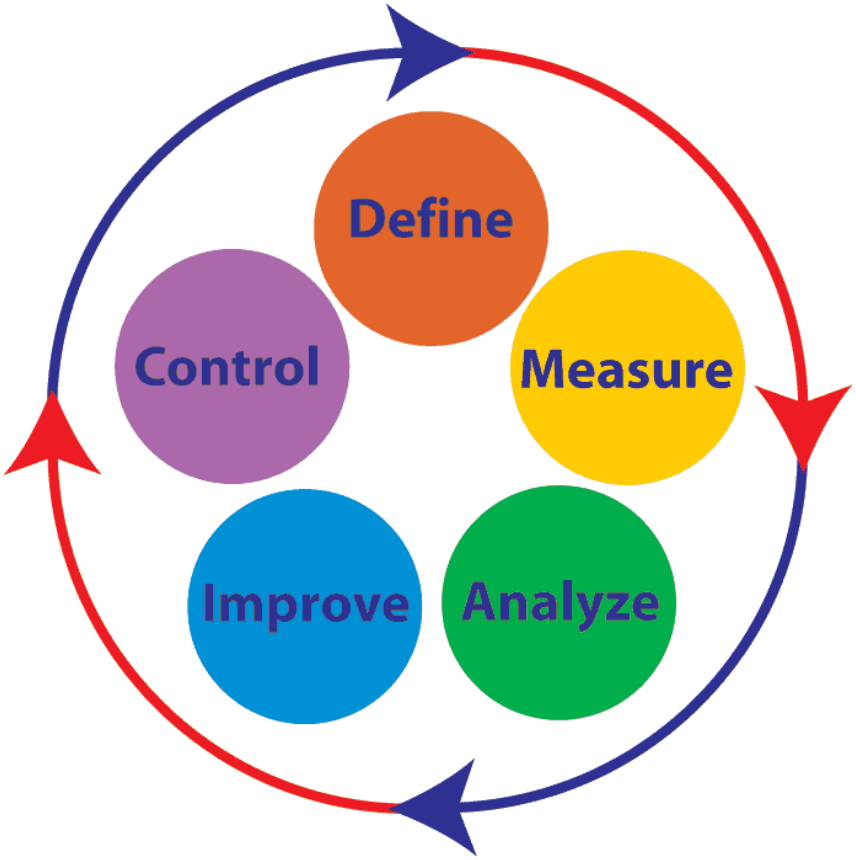
QI Method #1: Lean

"I've identified our productivity problem. We installed faster computers, but we forgot to install faster computer operators."

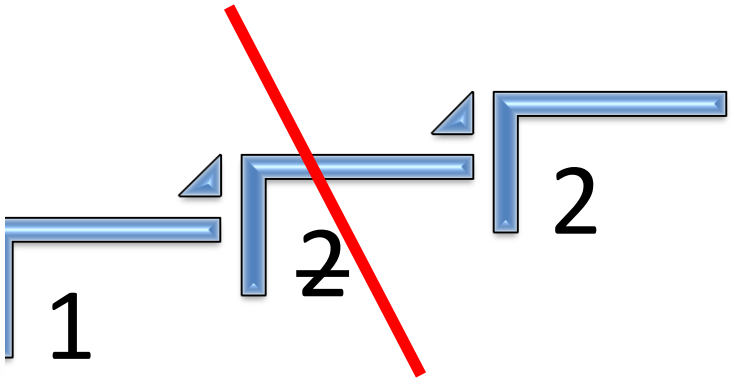
QI Method #1: Lean…

- General Principles
  - Solicit opinion of **frontline staff**
  - Look for value from the **patient's** perspective
  - Go to the frontline: observe the work; **flowchart the process**
  - **Eliminate steps** that the patient would not find valuable ("waste")

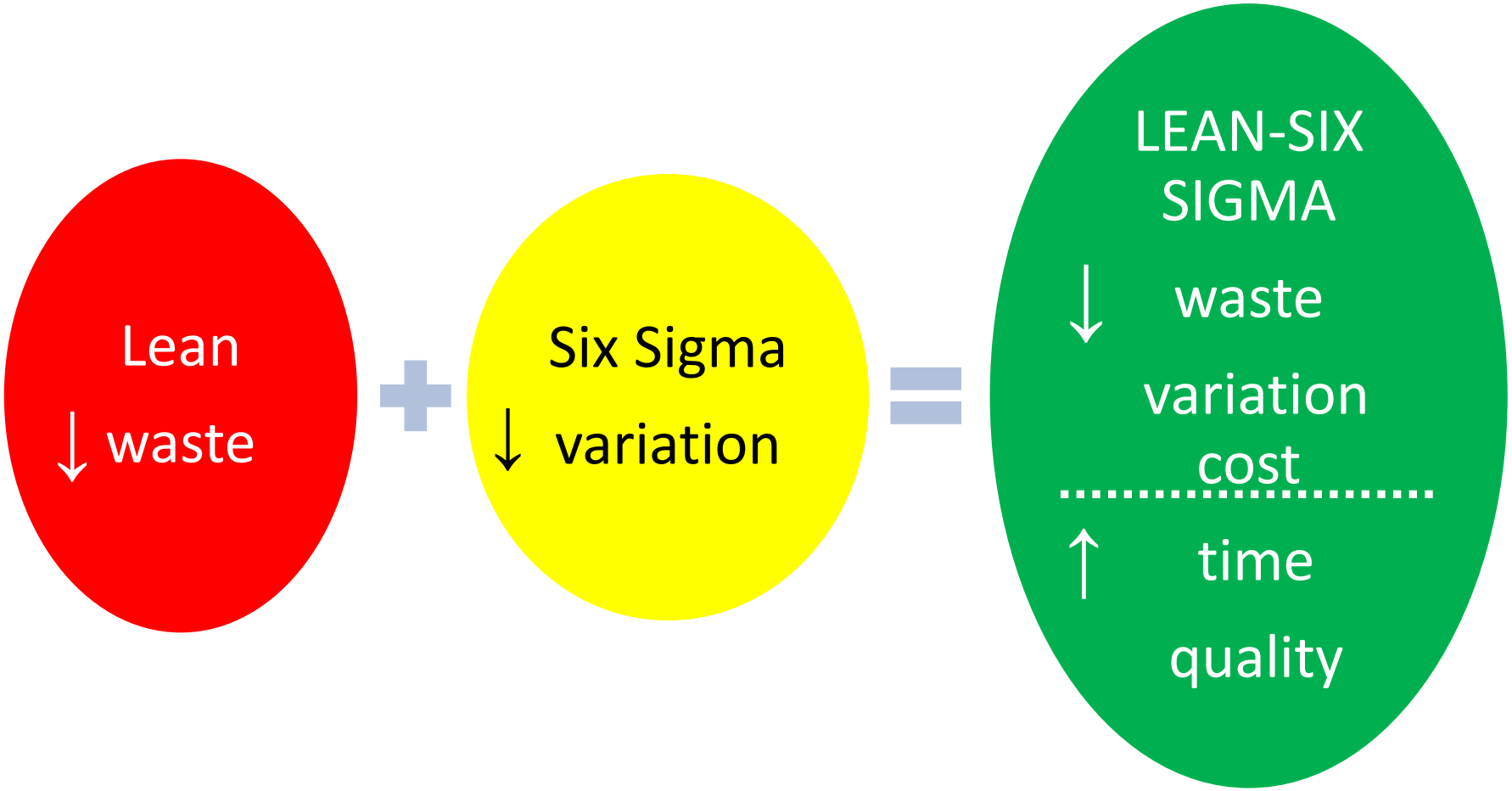
QI Method #1:”Six Sigma”



QI Method #1: Lean and "Six Sigma"

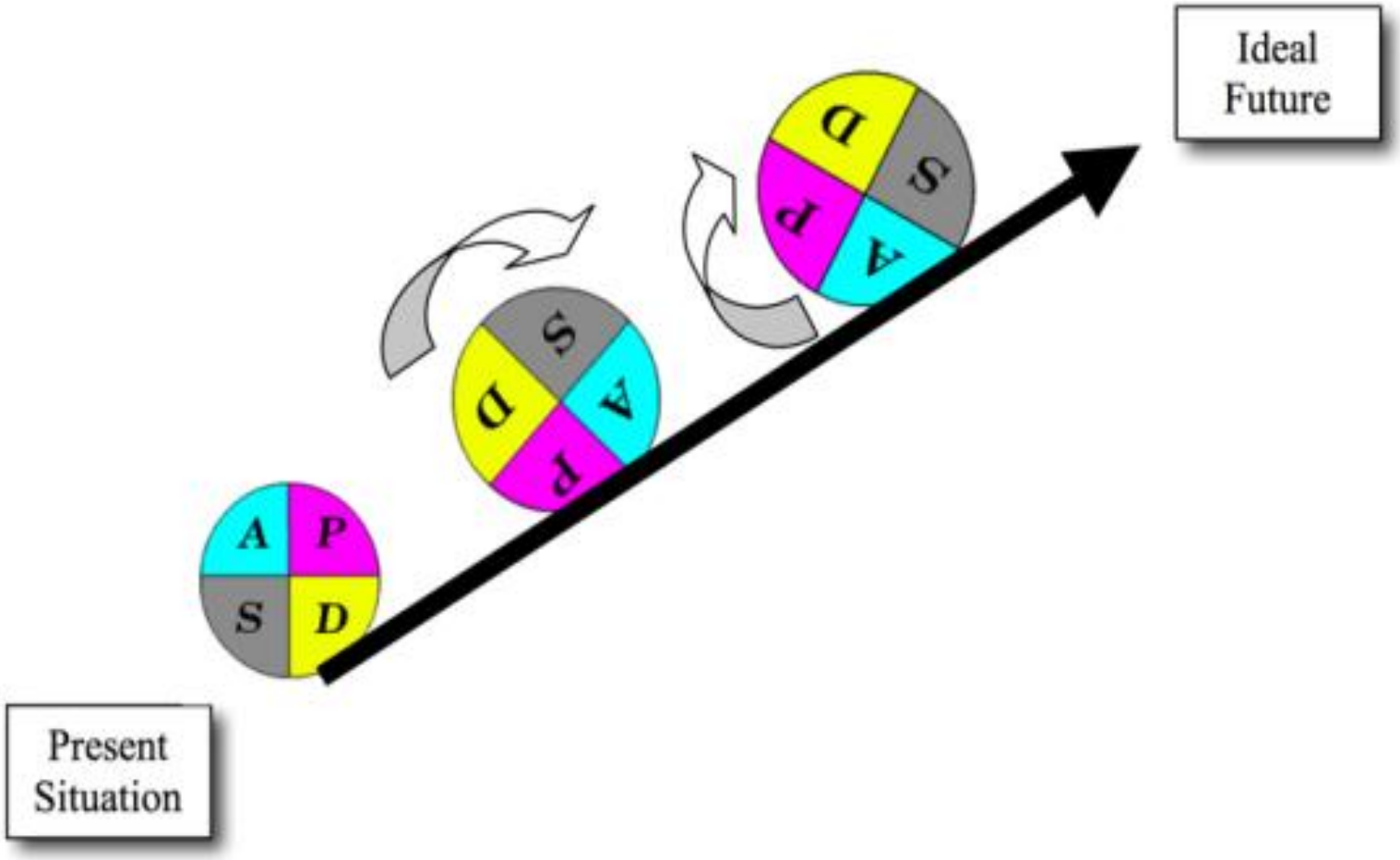


QI Method #1: Lean and "Six Sigma"



Waste: anything that does not add value
Eliminated waste: by definition adds time

QI Method #2: PDSA



Features of Good Aim Statements

- **S**pecific
- **M**easurable
- **A**ggressive yet **A**chievable
- **R**elevant
- **T**ime-bound

Keystone: the SMART aim

- List the aim
- Ask “**why**” three times
- Ask “**how**” three times
- Look at the new aim statements
- Pick the best one

Sample Aim Statements:

- Treatment

  Within the next 6 months, 80% of post-op craniofacial abscess patients will have antibiotic regimens changed based on antibiotic sensitivities within two hours of the laboratory report

- Prevention

  Within the next 6 months 95% of asthmatic patients will be discharged on appropriate steroid therapy

Exercise: The SMART aim

Exercise: The SMART aim

What is wrong? Could improve?

Anchoring concepts

1. Global aim: general enough? Impact? Infinite game?
2. Whys: Terms used? Impact on patients?
3. Hows: Achievability? Steps toward intervention?
4. SMART aim: is it?

(Optional): Scope – Culture – Timeline

Exercise: The SMART aim

What could improve?		Anchoring concepts
1. Global aim	General enough? Impact?	Finite/Infinite game Focus on the patient Vision for change
2. Whys	Terms used? Impact on patients?	Safety culture Attitudes Burning platform
3. Hows	Achievability? Includes culture and process?	Data acquisition Stakeholders Resources
4. SMART aim	Is it?	Short term wins Don’t let great be the enemy of good
(Optional)	Scope? Timeline?	Stakeholders Resources

What tools should learners use?

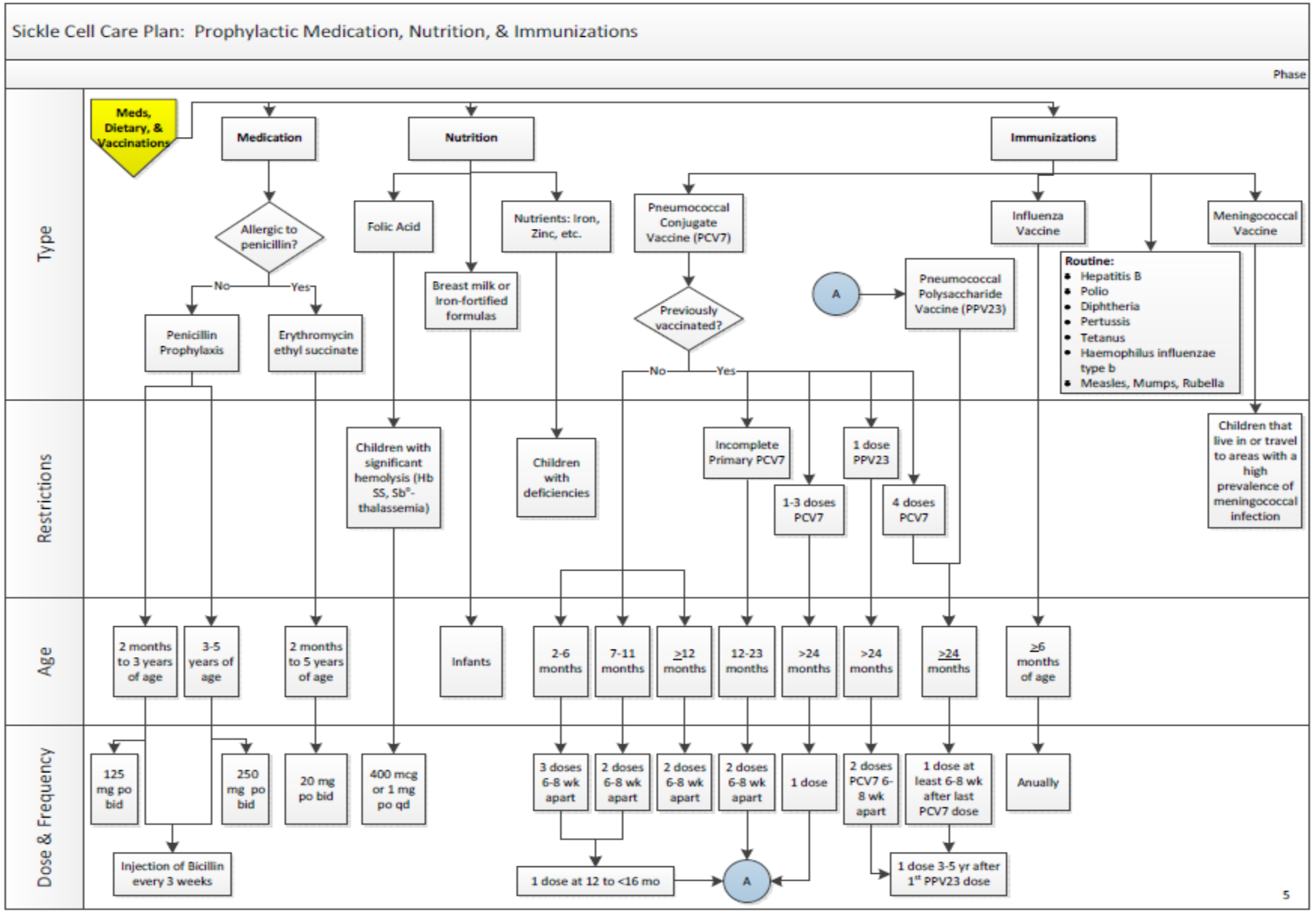
QI Tool Selection Matrix

Tool	Phase of QI			
	Problem Identification	**Data Analysis**	**Solution Planning**	**Result Evaluation**
Brainstorming	X	X	X	X
Affinity diagram	X		X	
Multi-voting; nominal group technique	X	X	X	X
Flowchart /Process map	X		X	
Cause-and-Effect Diagram (Ishikawa)	X	X		
Failure Modes Effects Analysis (FMEA)	X	X	X	X
Barrier analysis	X		X	
Pareto Chart	X	X		X
Run Chart	X	X		X
Statistical Process Control (SPC) Chart	X	X		X

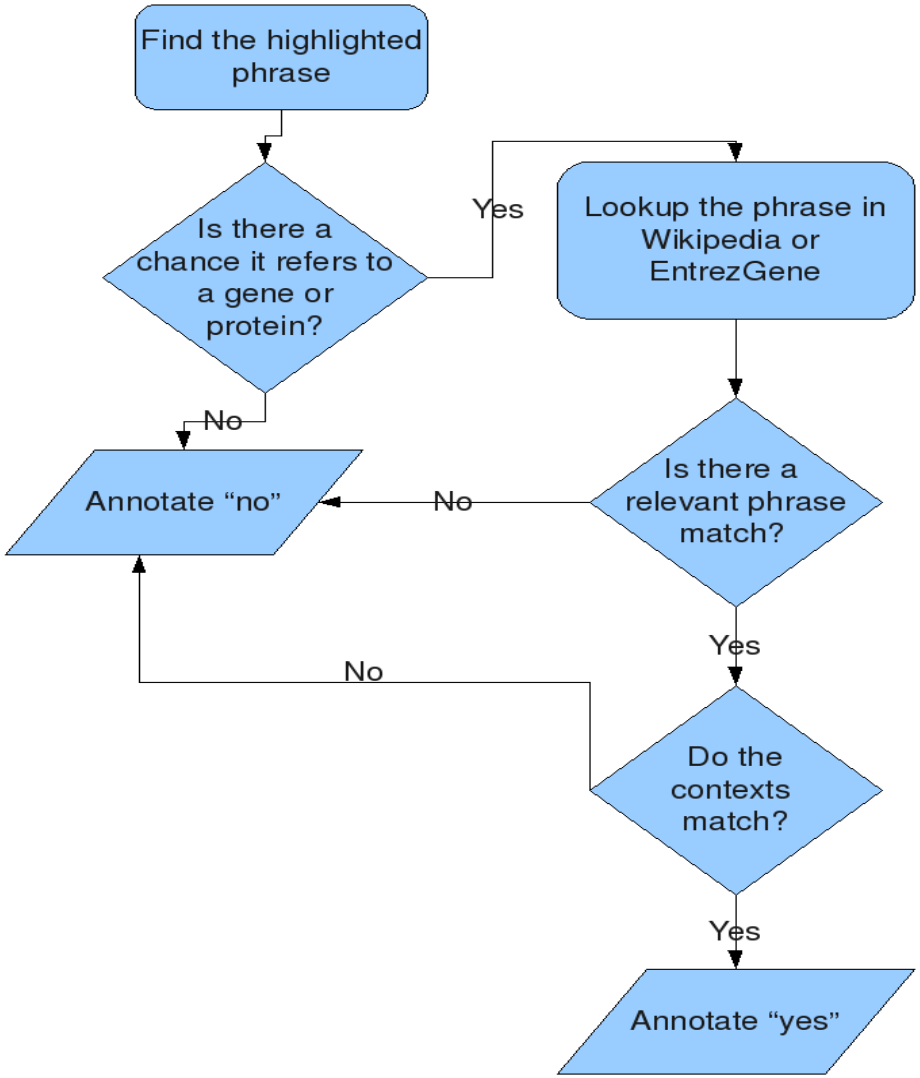
Flowchart/Process map

- Picture of function in organization
- Identifies work steps
  - Identify hand-offs in process
  - Show participants, inputs, outputs
  - Track resources

What you can do



What they can do



5. Team development: Two Goals

Assess and Create Interventions

and

Implement and Sustain

The Team

- Leader
- Facilitator
- Content experts
- All who touch the patient
- Community
- Thought leaders

6. Project Management

- Priority area --focus
- Assemble your team
- Choose your Model: DMAIC or PDSA
- Create a timeline: step-by-step completion

7. Sustainability

- Trainees are transients
- Efforts require attention, time, mentorship
- Phased projects →program ownership
- Resource management requires institutional support
- Integration into institutional projects
  - →success
  - →lack of interest

How to Start

In your binder:

- Learner checklist
- Needs Assessment for faculty – expertise and tools
- QI Tools cheat sheet
- Example Process map with prompts

What you learned

- Core concepts
- Priorities
- SMART aim
- Tools
- Team
- Model
- Management
- Sustain gains