QI Methods

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

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- Disclosure:

- 1. University of California grant, office of the President, Center for Health Quality and Innovations: improving discharges

- 2. It took a long time to get to #1

Objectives

▸ Describe the importance of defining a QI <u>strategy</u> prior to engaging in or teaching QI

▸ Compare and contrast the two commonly used QI <u>methods</u> and explain the value of each

▸ Demonstrate basic skills in educating learners on the use and creation of a <u>SMART aim and flowchart</u>

▸

What is our QI strategy?

▸ Core concepts

▸ Prioritization

▸ Team development

▸ "Models for improvement" - PDSA and DMAIC methods
SMART aim and tools

▸ Project management

▸ Sustainability

▸

# Change Concepts to Change Ideas

Vague, Strategic, Conceptual

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

↓

Specific Ideas,

Actionable results

Use a flow sheet for 2 patients

How do we prioritize goals?

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

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

- Patient Satisfaction
- Enhance hospital reimbursement through better documentation
- VP shunt outcomes
- Early enteral nutrition
- Sono for CVC insertion
- Analgesics in Acute Abdomen
- Hospice/palliative care issues
- Nat'l Patient Safety Goals
- Pressure support in respiratory disease – risk assessment

Team development: The Engine of QI

Impact the interventions developed

and

their implementation

▸ Critical: potential stakeholders, thought leaders, formal leaders from the facility, academic structure, and individual groups

▸

Assemble the team: <u>Task Force</u>

- Team leader
- Facilitator – can act as mediator if needed
- Team Members:
  - "All who touch the patient"
  - Content experts
  - "High admitters"
  - Think systemically – community leaders? Patient?
- Expectation: Engagement
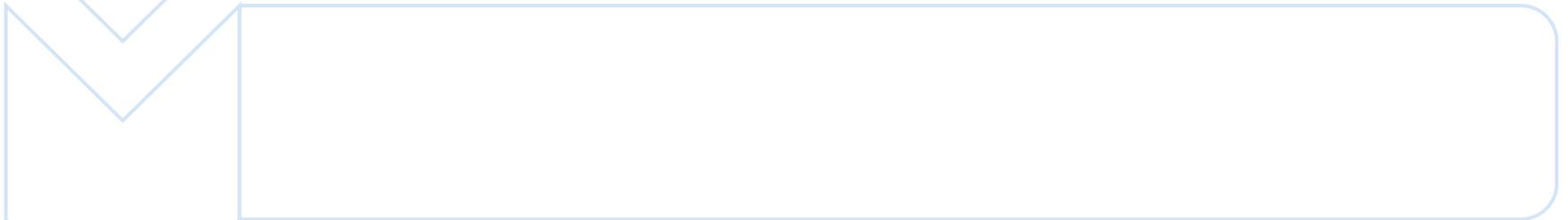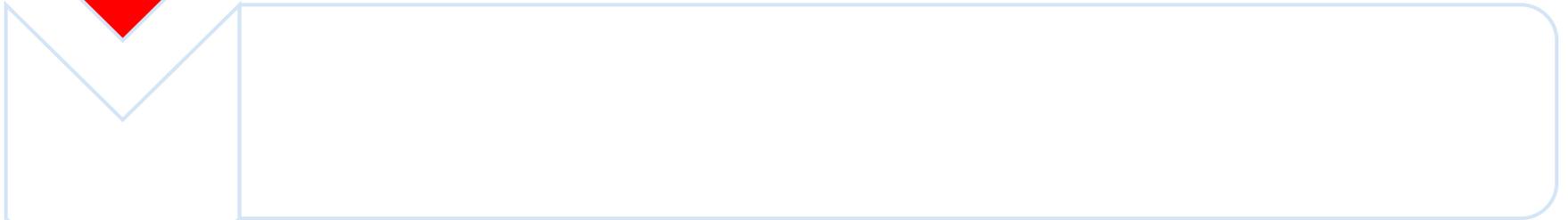
Pre-work → Meetings → Post-work → Implement → Sustain

Model for Improvement

Aim

- What are we trying to change?

Model for Improvement

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Measure
- How will we know a change = improvement?

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Aim
- What are we trying to change?

Measure
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Change ideas
- What changes will give us the improvement we want?

QI Method #1: Lean

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 the steps that the patient would not find valuable ("waste")

▶

QI Method #1:"Six Sigma"
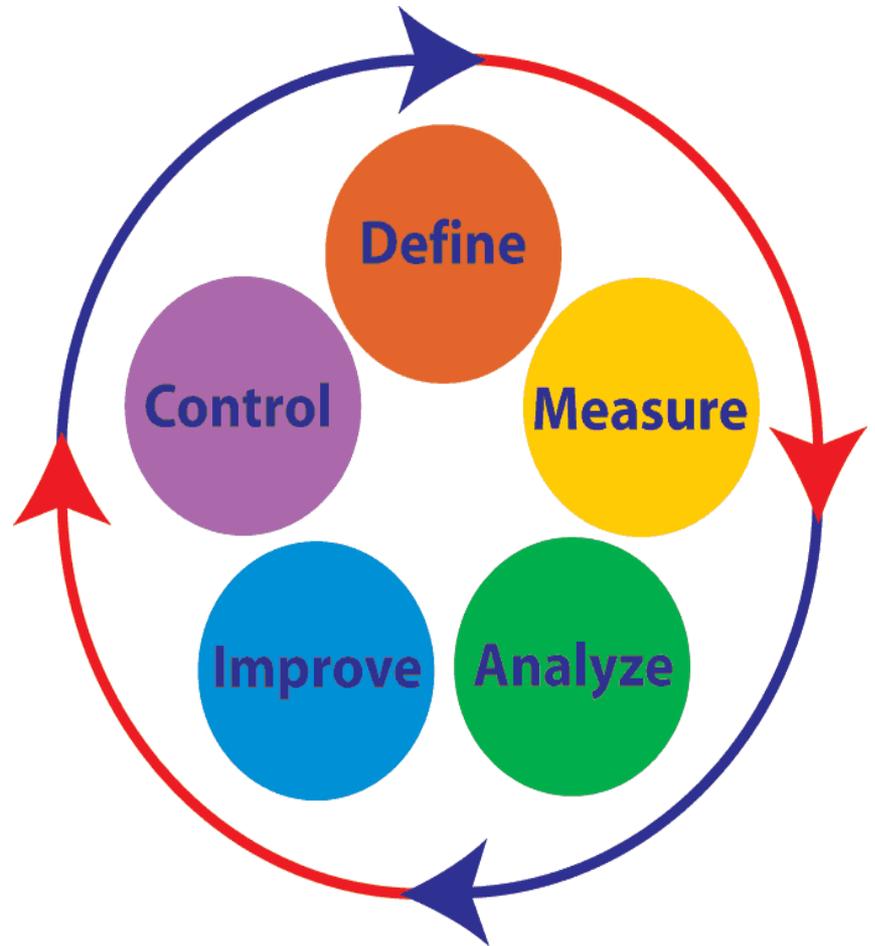
QI Method #1: Lean <u>and </u>"Six Sigma"

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Lean

Eliminate waste

+

Six Sigma

Eliminate variation

=

LEAN-SIX SIGMA

Less waste

Less variation

More time

Lower cost

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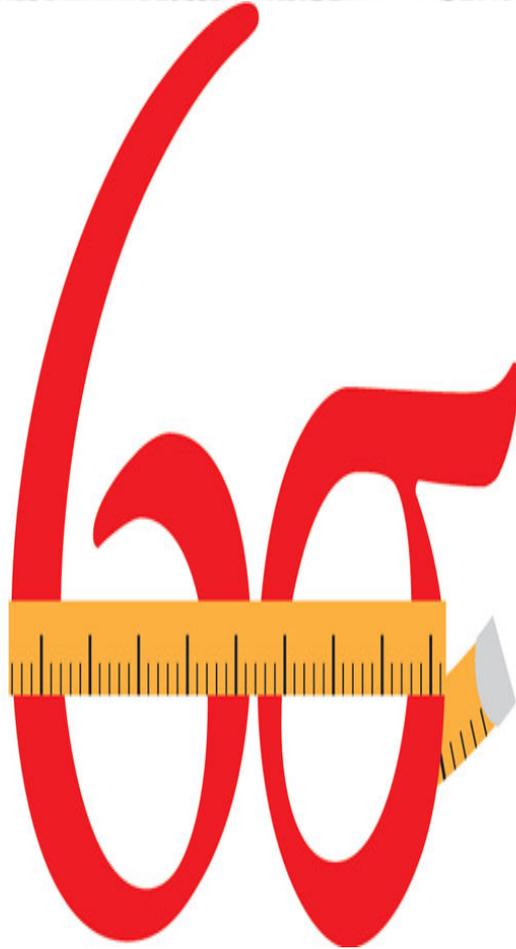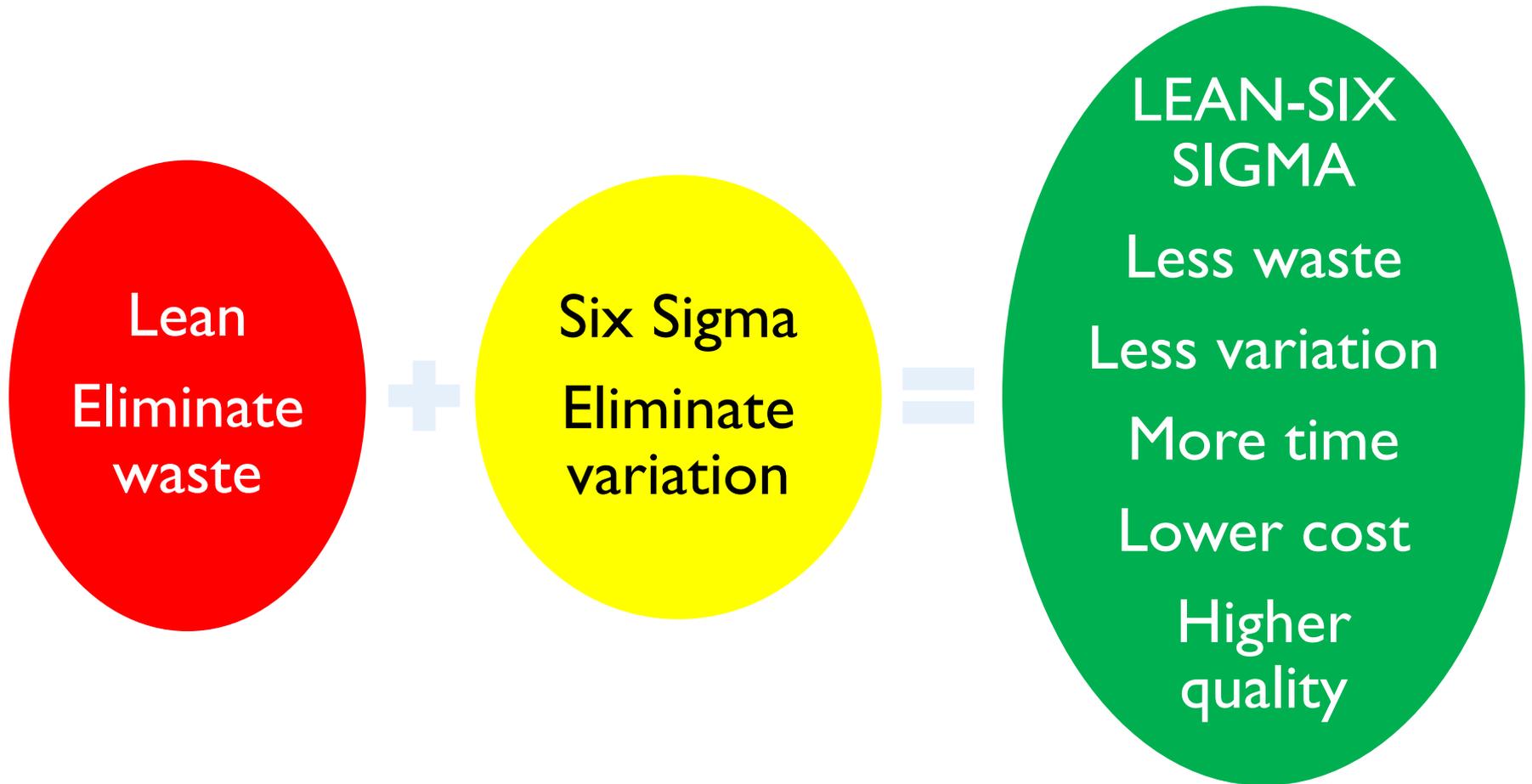
Waste: anything that does not add value
Eliminated waste: by definition adds time

QI Method #2: PDSA
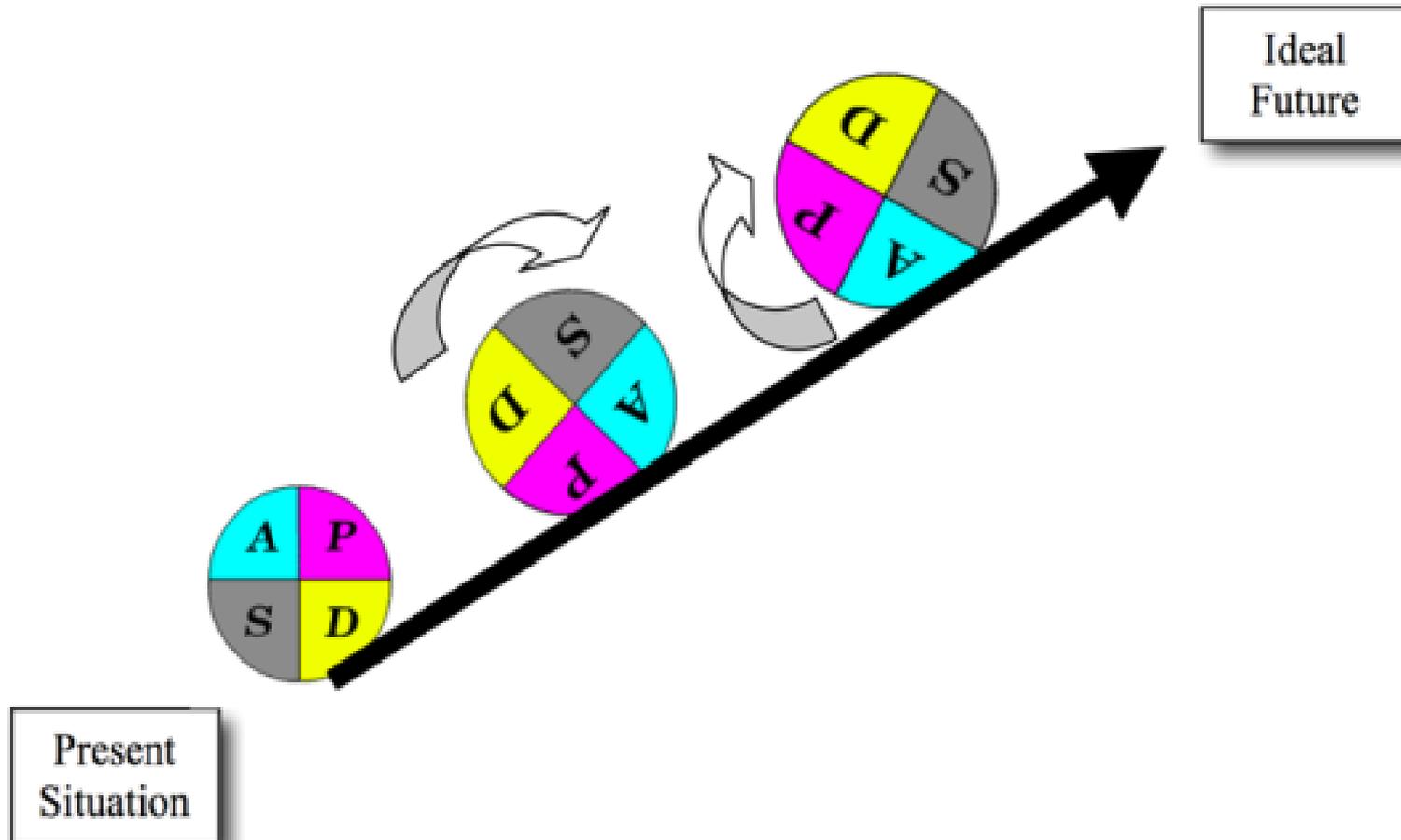
How to Start: the SMART aim

- List the aim

- Ask "why" three times

- Ask "how" three times

- Look at the new aim statements

- Pick the best one

Features of Good Aim Statements

- **S**pecific

- **M**easurable

- **A**ggressive yet **A**chievable

- **R**elevant

- **T**ime-bound

Sample Aim Statements:

▸ <u>Treatment</u>

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

▸ <u>Prevention</u>

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

▸

Exercise 1: The SMART aim statement

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

▸ Mapping the Process

▸ Picture of process function in organization

▸ Identifies all work steps

   ▸ Understand hand-offs in process

   ▸ Show participants, inputs, outputs

   ▸ Track resources
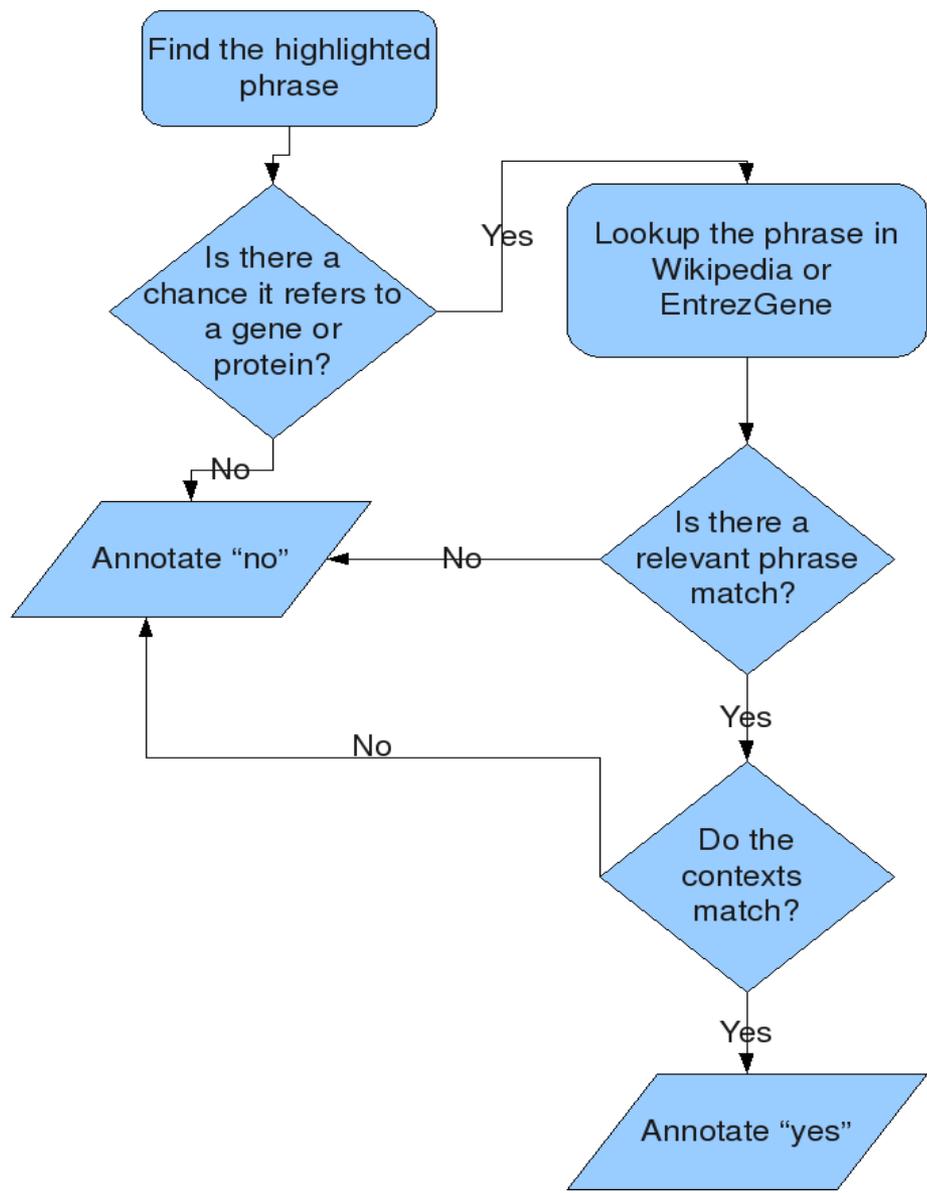
Exercise 2

Make a Flowchart/Process map

Project Management

▸ Priority area --focus

▸ Assemble your team

▸ Choose your Model: DMAIC or PDSA

▸ Create a timeline: step-by-step completion

How to Start

▸ Create a SMART aim

▸ Define data sources

▸ Determine your sampling strategy

▸ Collect data

▸ Plot the data

▸ Interpret the data – understanding variation

▸ Present often and shamelessly

▸ Act only where you should

▸ Give credit to the team

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

QI

- Strategy
- Methods
- SMART aims
- Tools