Using the Model for Improvement to Accelerate Your Perinatal Quality Improvement Work

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Perinatal Quality Care Collaborative

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HRSA Health Resources & Services Administration

IOWA Health and Human Services

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

Objectives

1. Explain the foundational principles of the Model for Improvement
2. Describe the Plan-Do-Study-Act (PDSA) cycle as a tool for iterative testing and learning
3. Illustrate real-world applications through examples

The Model for Improvement

The QI Recipe for Success

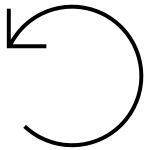
Will:
Summary of the problem

Ideas:
Best practices and innovative ideas

Execution:
Strategies for effective QI

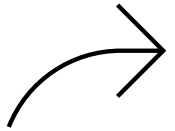
Reactive vs Fundamental Changes

Reactive



- Return the system or process to prior condition
- Solve problems or react
- Driven by external forces or events (ex. defects identified in RCA following adverse event)

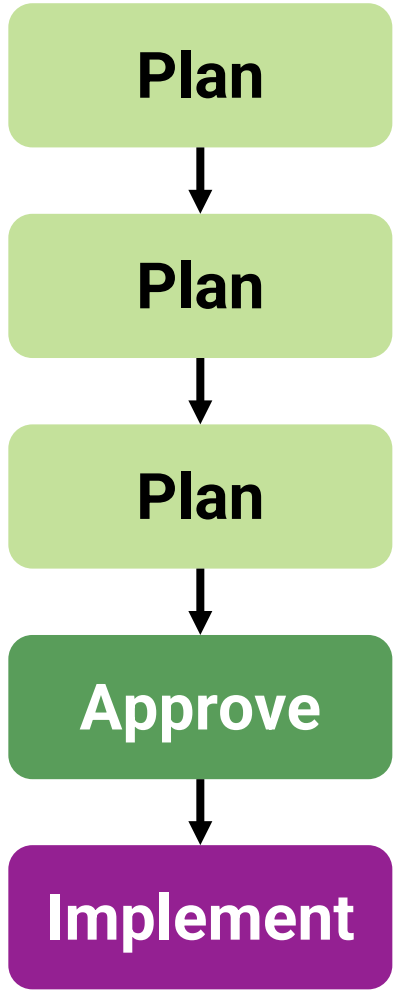
Fundamental



- Create a new system or level of performance
- Necessary for improvement beyond problem-solving
- Driven by internal motivation and desire for excellence
- Culture shift or breakthrough

Traditional approach to practice change

- We have a problem to solve (maybe)
- Identify new best practice (medical literature, society guideline, etc)
- Draft policy
- Educate staff on policy
- Create EMR tool
- Set “go live” date for change
- Mass-implement a new practice that has never been done on our unit or by our people



Why the “Typical Approach” can fail

- A good idea may fail in your facility due to lack of testing to learn…
  - How will this work in our context?
  - How will our teams use this tool / perform this activity?
  - How can this new approach integrate into the routine on our unit?

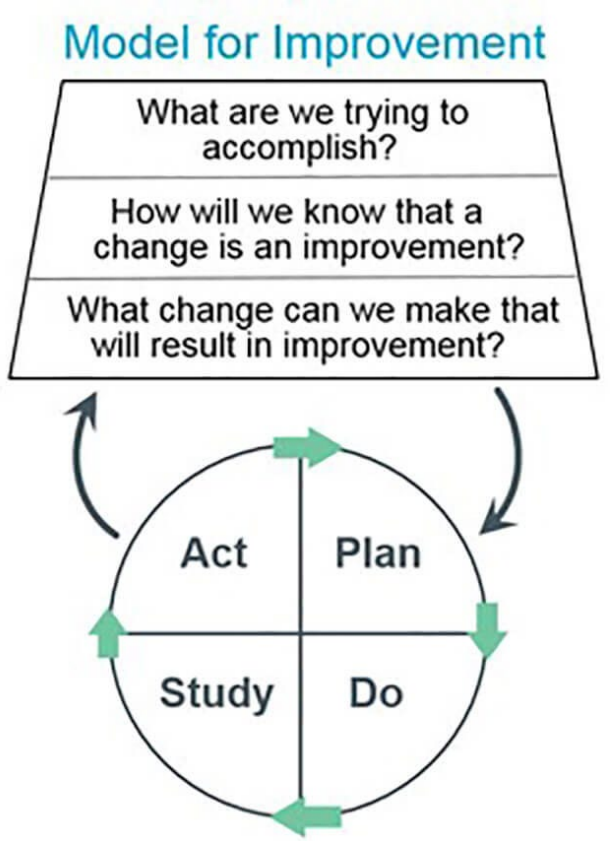
- Without testing and refining, the practice may not work as designed or over time the team will revert to the “old way”.

Why should we use a QI model?

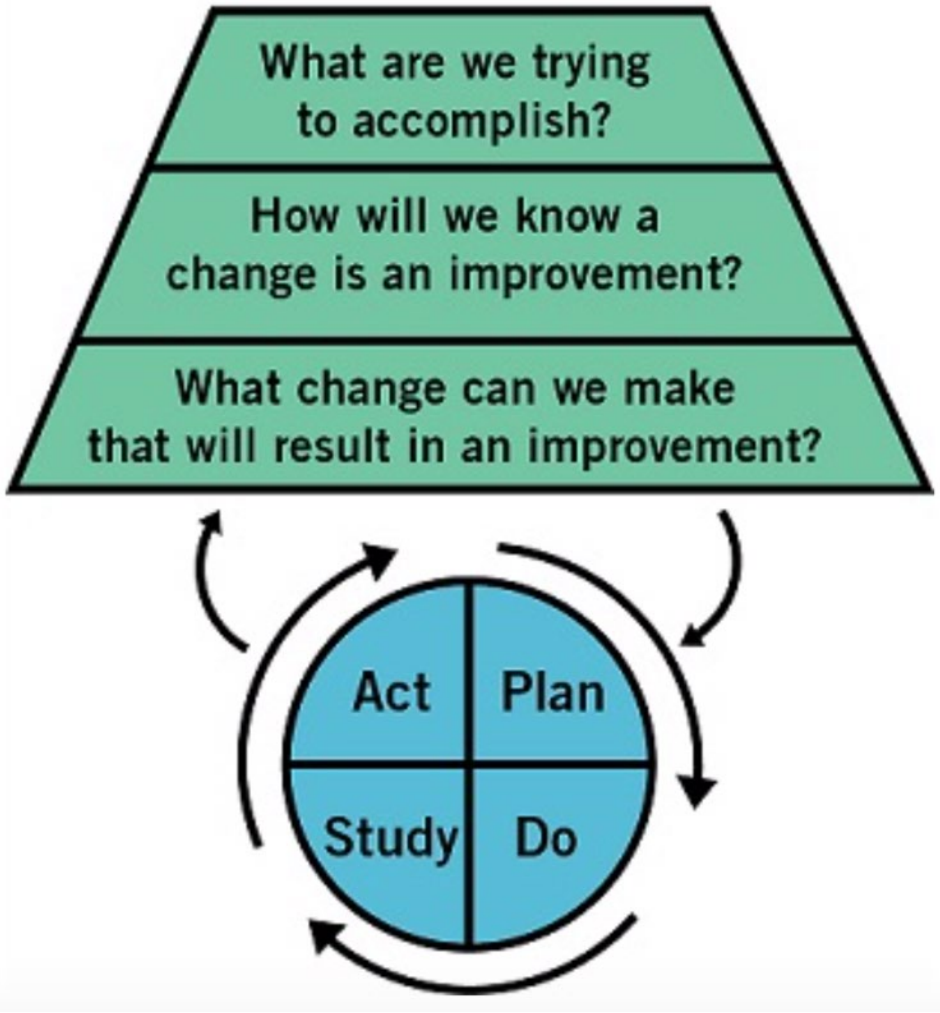
- Human behavior change is complex
- Understand system influence
- Maximize efficiency of the improvement process

Diffusion of Innovation

QI models (re)structure your approach to improvement



The Model for Improvement



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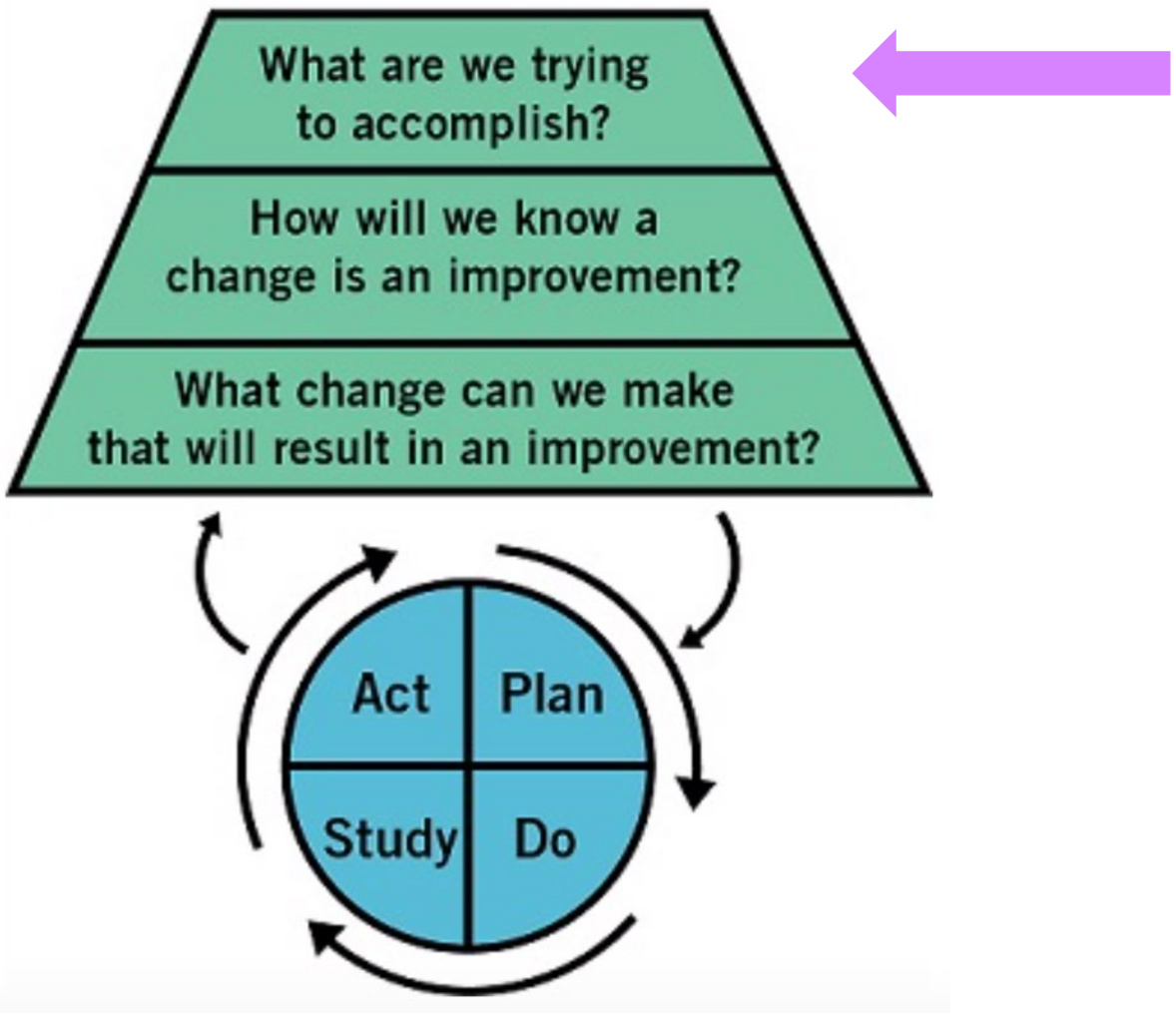
Langley, et al, The Improvement Guide, 2009

1. What is the problem? What is our goal?



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Problem Statements

A **problem statement** is a concise description of an issue to be addressed or a condition to be improved upon. It identifies the gap between the current (problem) state and desired (goal) state of a process or product.

What is our problem statement?

Mental health conditions are the leading cause of pregnancy-associated death in Iowa.

Aim Statements

- Statement of **what** you're trying to improve, for **whom**, and by **when**.
- Important to consider equity and inclusivity (SMART-IE).
- Goal may be based on historical performance, national targets, or other standards of care.

Aim Statements

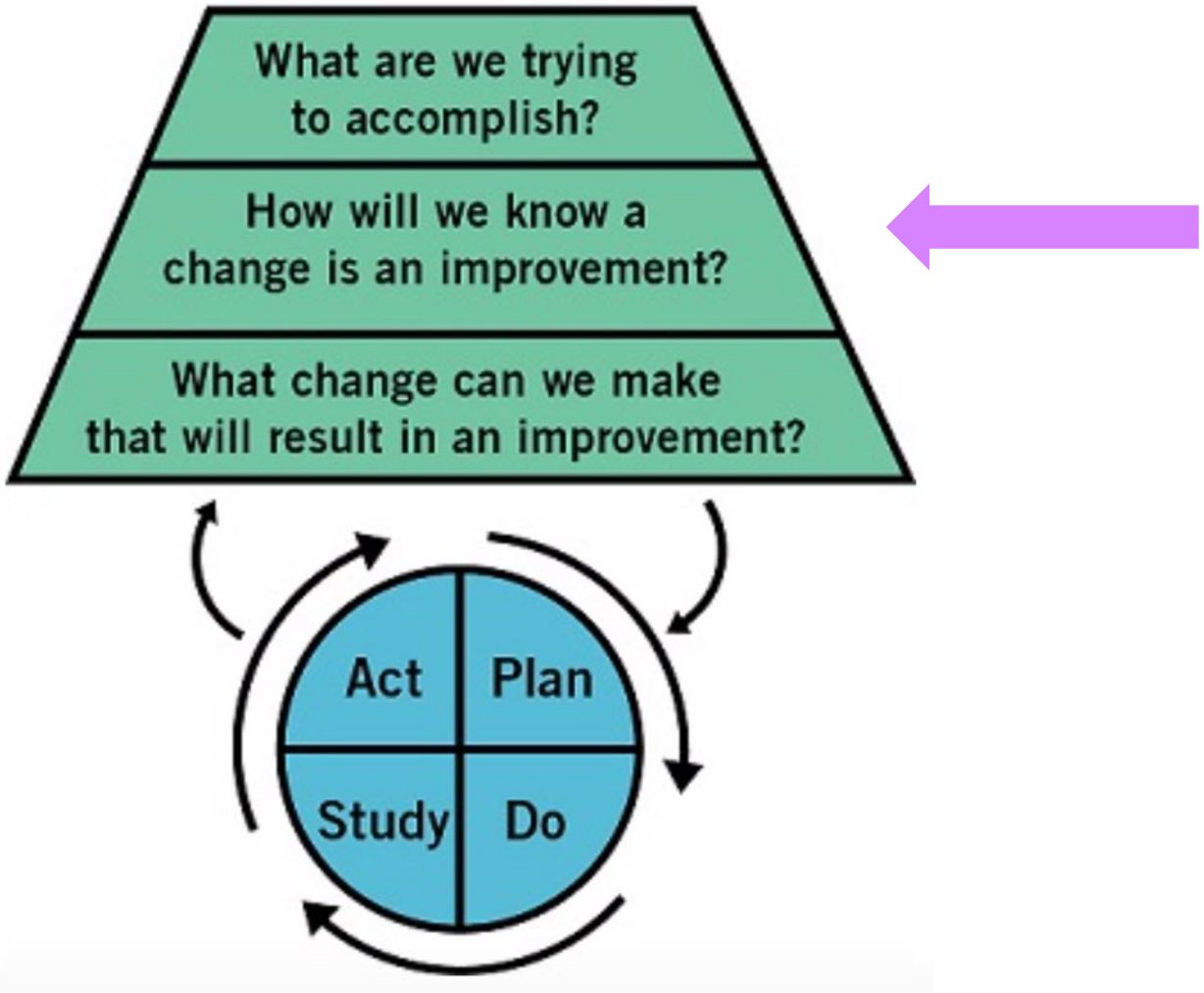
What you're trying to improve, for **whom**, and by **when**.

Our aim is to reduce the incidence of maternal deaths in Iowa attributed to mental health conditions by 2027 by 50%.

Examples of possible team aim statements:

- Improve the portion of perinatal patients who receive comprehensive screening for mood disorders to >95% by July 2027.
- Increase the portion of patients with positive screening for mood disorders who are connected to resources to >80% by July 2027.

2. How will we know if we improved?



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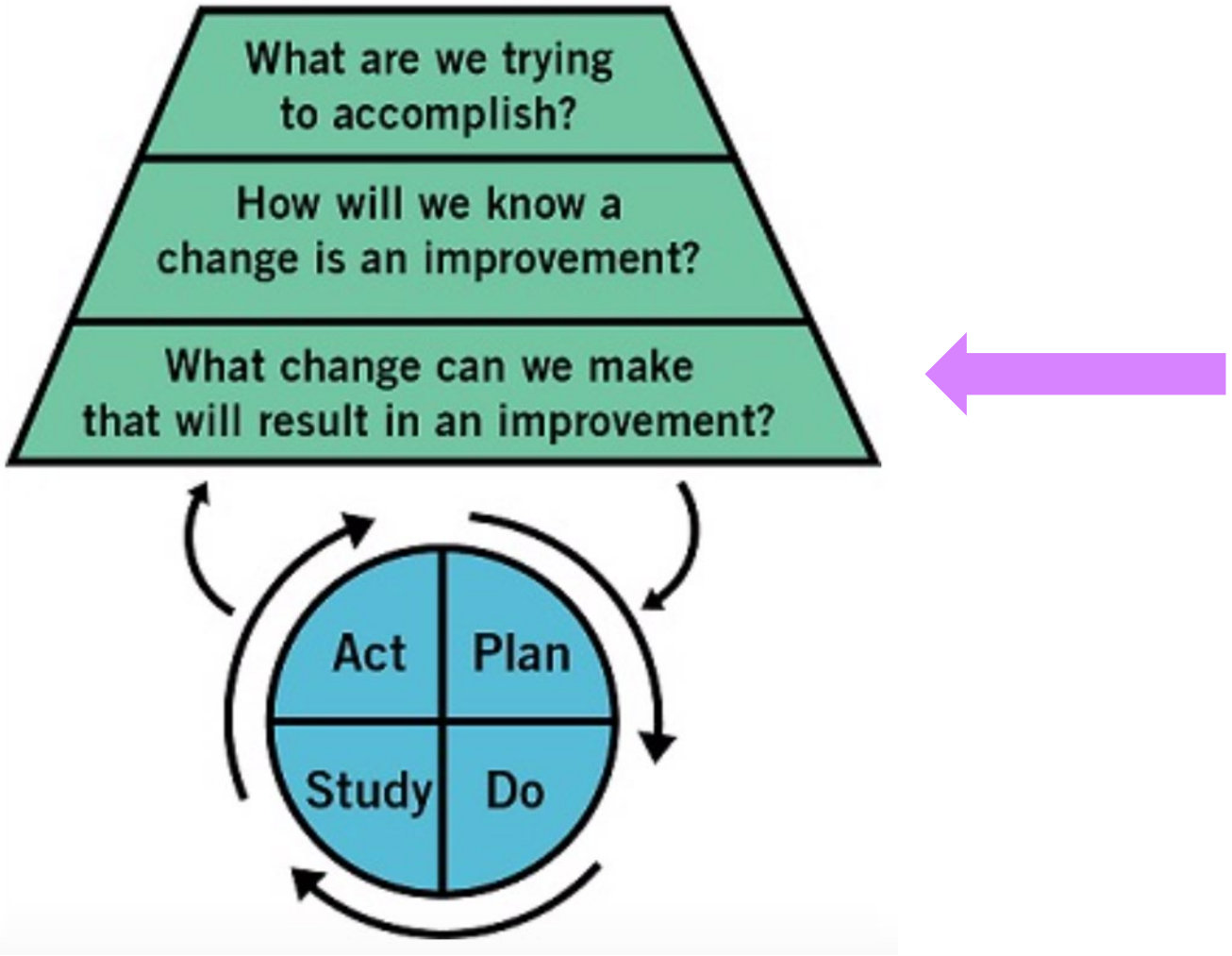
Data for QI

- Use of data for quality improvement is necessary
  - Understand “gap” between current state and goal
  - Identify progress
  - Identify challenges (systems, people)
- Data for QI is different than quality assurance and research
  - “Just enough” to understand and learn
  - Flexible metrics – unique measures may arise for individual teams
  - No PHI

3. What do we think we should do differently?



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Change Ideas: where do we get them?

- Societal guidelines
- AIM bundles
- Medical literature
- Expert opinion
- Personal experience
- Innovation

Get creative with your ideas

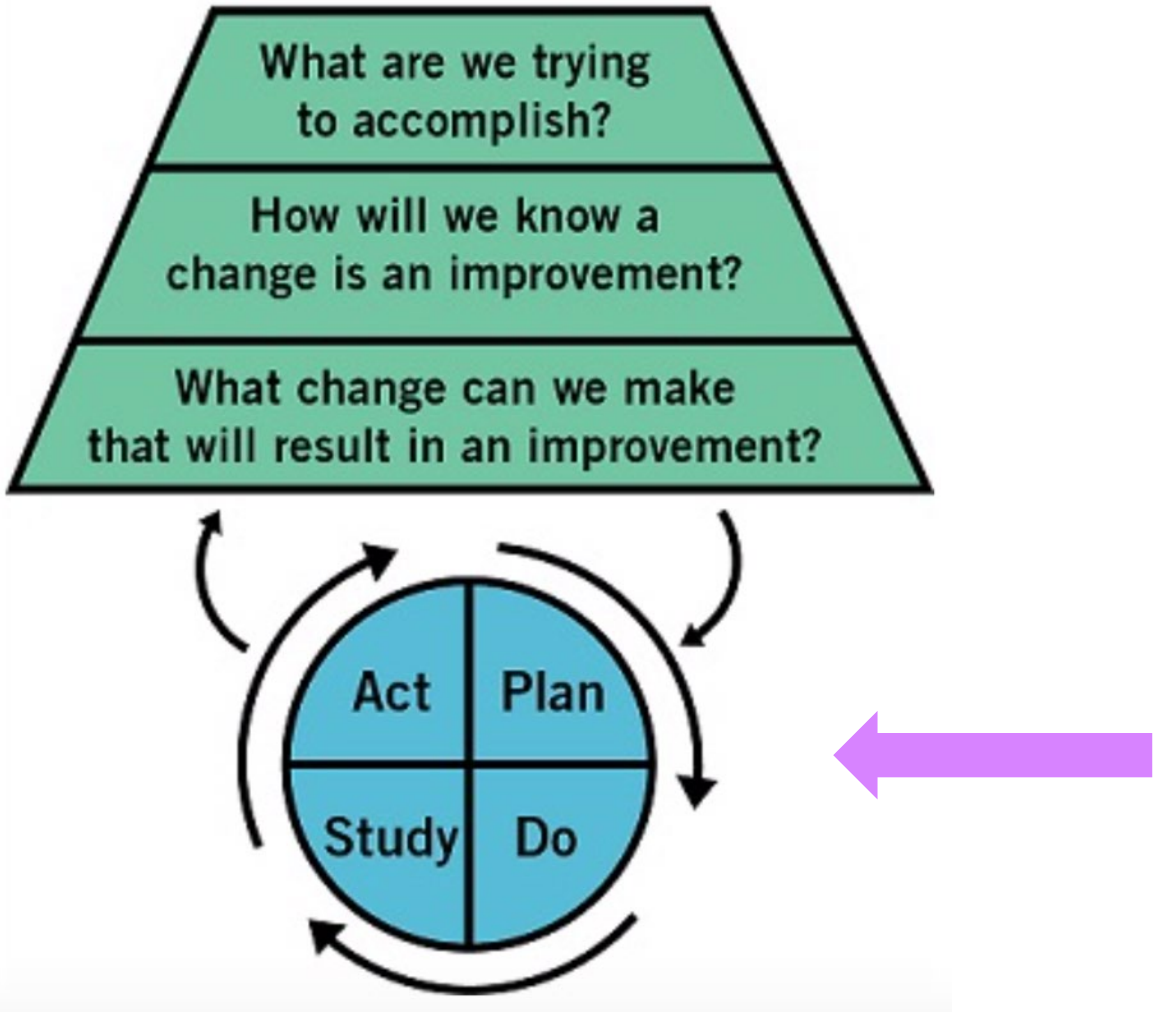
- Imagine what an ideal system of care would look like
  - Do this together as a team
  - Include front-line staff, patient, and community perspectives
- How is this different from your current system?
  - Get specific, what workflows, people, spaces, etc are involved in this process?
  - How could those workflows, people, spaces, etc be changed?
  - What can you do with available resources?
- How do we get from A to B?

Aim:

By July 2026, >90% of newborns in Iowa qualifying for cooling for HIE will have this therapy initiated within 6 hours of birth.

Primary Drivers:	Secondary Drivers:	Change Ideas:
Birthing Center Resources at time of delivery	Umbilical cord gas collection	• Follow a checklist of criteria to collect cord gases • Define role(s) for timely collection (personnel, equip, lab) • Develop training on cord gas collection • Optimize workflow to achieve cord gas results within 60 minutes
	Care management after acute perinatal event or newborn indication	• Adopt a standard HIE screening tool • Train providers to perform neurologic assessments for HIE • Develop a standard process for the identification of newborns at cooling centers requiring admission to NICU (potential need for serial exams)
	Consultation with Cooling Center	• Create a standard script to use when calling for neonatologist consult • Optimize workflow to achieve first call to cooling center within 1 hour • Offer telemedicine consultation for indeterminate cases (for cooling centers)
	Care of newborn while awaiting transport	• Provide standard recommendations for newborn temperature management prior to transport team arrival (for cooling centers)
Neonatal Transport Process	Transport team mobilization	• Adopt a standardized process for priority triage of HIE patients for transport • Ensure availability of equipment to initiate active cooling in transport
	Care of newborn during transport	• Provide standard guidelines for cooling during transport (including temp monitoring) • Develop a competency assessment for the transport staff in performing neurological exam
	Communication between transport team and Cooling Center	• Create a standardized script or template to communicate: ETA, patient condition, current cooling status, etc.
Cooling Center Care	Initiation of cooling (within first hour)	• Develop a pre-arrival checklist to prepare for initiation of cooling • Follow a standardized cooling protocol/procedural bundle (physical assessment, labs, monitoring)
	Care of newborn during cooling therapy (hours 1-72)	• Follow a standardized cooling protocol/procedural bundle (i.e., physical assessments, labs, other testing, antibiotics, seizure, analgesia, sedation, feeding, positioning, temp monitoring, etc.)
	Care of newborn after cooling therapy (72-hours-neuroimaging)	• Follow a standardized process for rewarming • Create a process for standardized timing of MRI
	Communication from cooling center to referring hospital	• Develop a standard approach to providing updates on status/feedback on management of newborn prior to transfer for referral hospital

How do we test a change idea?



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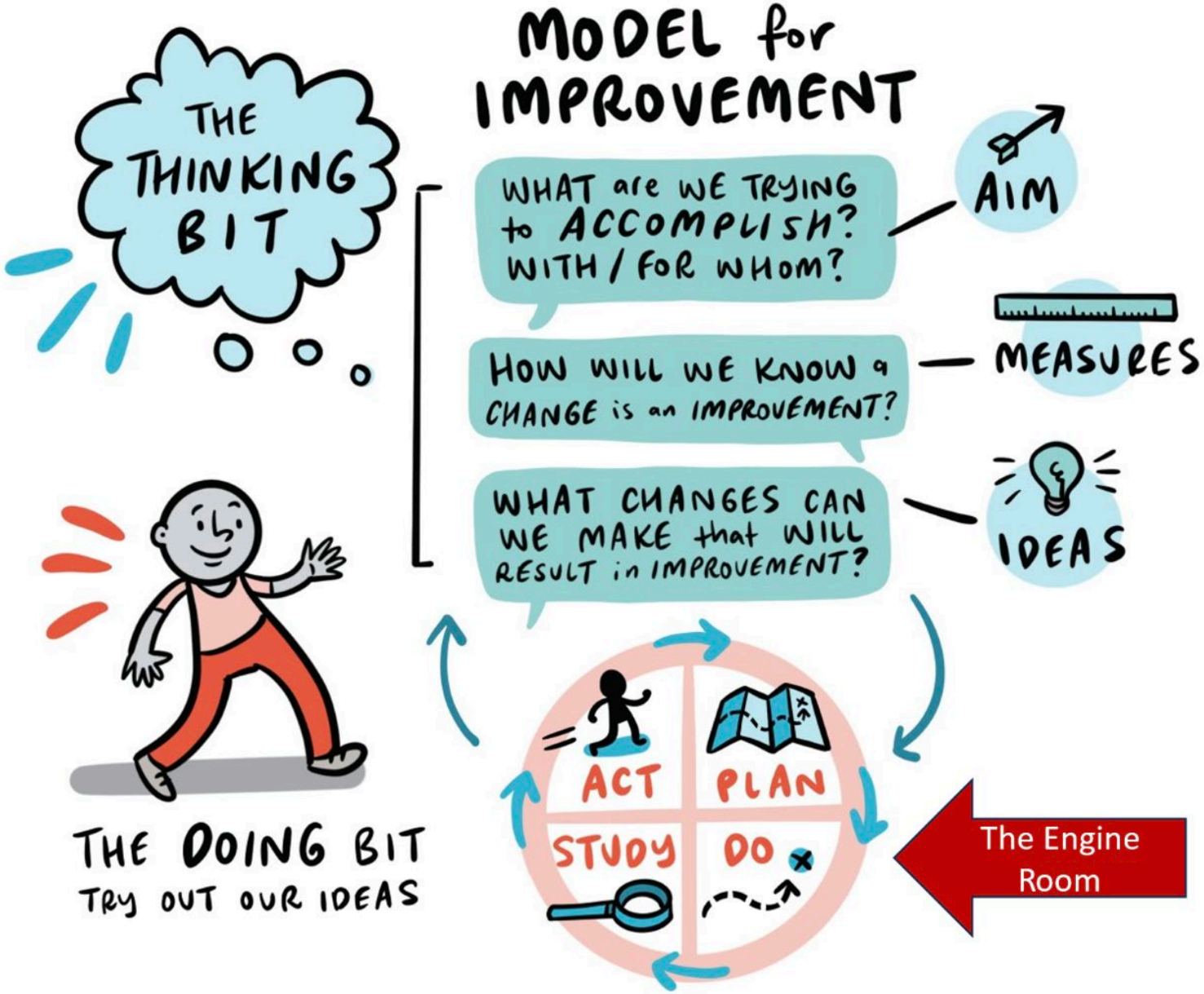


Thank you to: Improving Residential Care Project led by the Department of Families, Fairness and Housing in Victoria, Australia for sharing this graphic of The Model for Improvement

Plan-Do-Study-Act Cycles

Purpose of the PDSA (Plan-Do-Study-Act)

The purpose of the PDSA method is to:

- Learn as quickly as possible how a change works in a particular setting
- Allow for rapid refinements
- Increase the likelihood that full implementation will go smoothly

PDSA methodology may allow teams to reach their QI goals more efficiently or reach QI goals that otherwise they would not have achieved.

(round vs square wheels guy)

Testing prior to implementation can avoid costly errors or oversights if a new process is not well designed for the system.

Reed JE, Card AJ. The problem with Plan-Do-Study-Act cycles. BMJ Quality & Safety 2016;25:147-152.

Cutting the Jargon… a PDSA is a Pilot

- Testing changes for improvement is really just piloting a new idea and gathering feedback
- Use the feedback to refine your process then test again
- Repeat until you've determined a good process for your team and facility
- Implement once you're confident in the change

Act: what's next? adapt, adopt, abandon

Develop a plan for the next test, incorporating what you have learned.

Plan: Who, what, when, where?

Make predictions about what you *think* will happen.

Study: compare outcome to what you expected. Summarize findings

Sometimes called "check" (PDCA)

Compare your outcomes to your prediction. What was learned? What was a surprise?

Do: carry out the plan, note any problems or unexpected outcomes

Record what occurred

PLAN:

- Plan your test, including who will do it and when
- Make **predictions** about the test
  - Clarify the *why* behind the change
  - Ensure the team is on the same page as to the purpose of the test
  - Improve the plan
  - Enhance learning (want to compare results to predictions)

DO: Carry out the test

- Test out the new practice
- Record what happened
- TIP: make sure the plan for the test includes how information will be recorded and reported back to the improvement team!

STUDY: Review what happened and what was learned

- Was the test carried out as planned? (if not, why not?)
- Did it have the intended outcome?
- Was it easy for team members to do?
- Did people like it?
- What was the patient's perspective?

ACT: What's next?

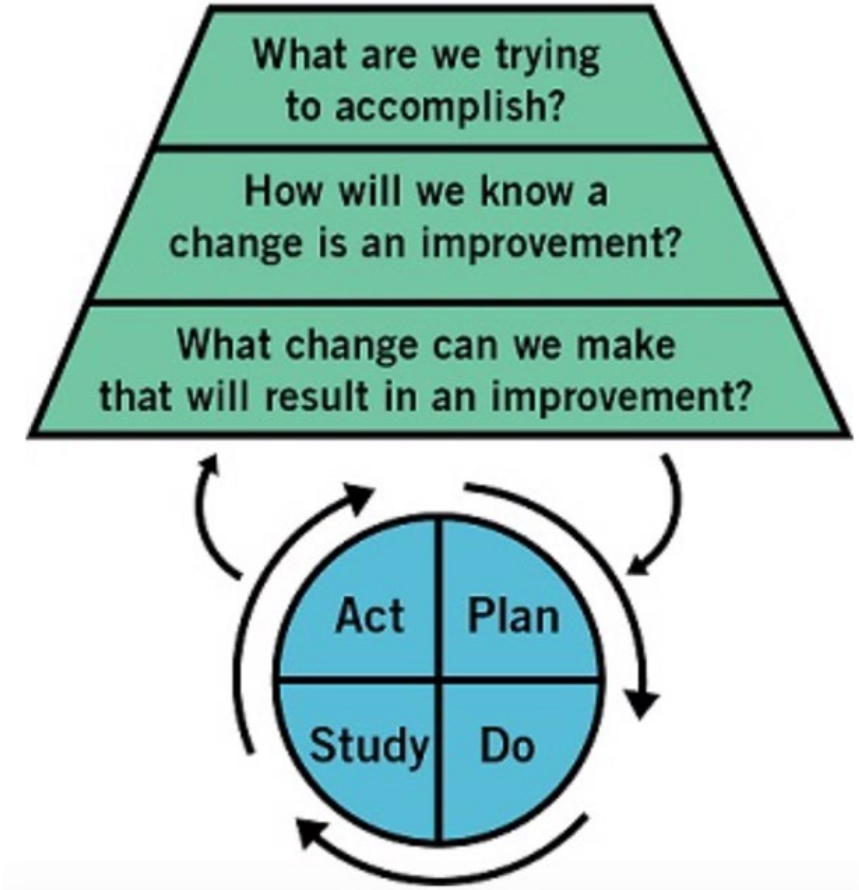
- **Adapt** the idea and test again
- **Adopt** the idea and plan for implementation
- **Abandon** the idea

Examples and Ideas for Your Initiatives

What are Common Uses of PDSA?

The three most common uses of PDSA:

- To gain **knowledge** to help answer one of the three questions
- To **test** a change
- To **implement** a change



The Improvement Guide, 2009

First PDSAs with a new project

- Help define your current state and your goals
  - Problem and aim statements
  - Identify what doesn't need improvement
- PDSA approach to baseline data
  - Make a prediction! (how well do you know your system)
  - Get curious, include observations of workflows you will be focusing on
- Test your system
  - If events are rare, use simulation to test the current system performance
  - Apply PDSA approach to predict performance

How to use baseline data for knowledge when planning a mental health initiative

- Are we using a validated instrument to screen?
  - If not, what is needed to introduce an improved screening tool?
- Are we screening at the recommended times?
- Is our screening policy up to date (or do we have one?)
- How consistently are we following our desired practice?
- Who is falling through the cracks?
- How are people with positive screens connected to treatment?

Structure measures (resources/policies)

Process measure (baseline data)

These are PDSAs – gathering information to assess current ("problem") state to better understand your system and identify opportunities

Example of baseline data used as a PDSA to inform plans for improvement in cord gas collection for HIE initiative

What are Common Uses of PDSA?

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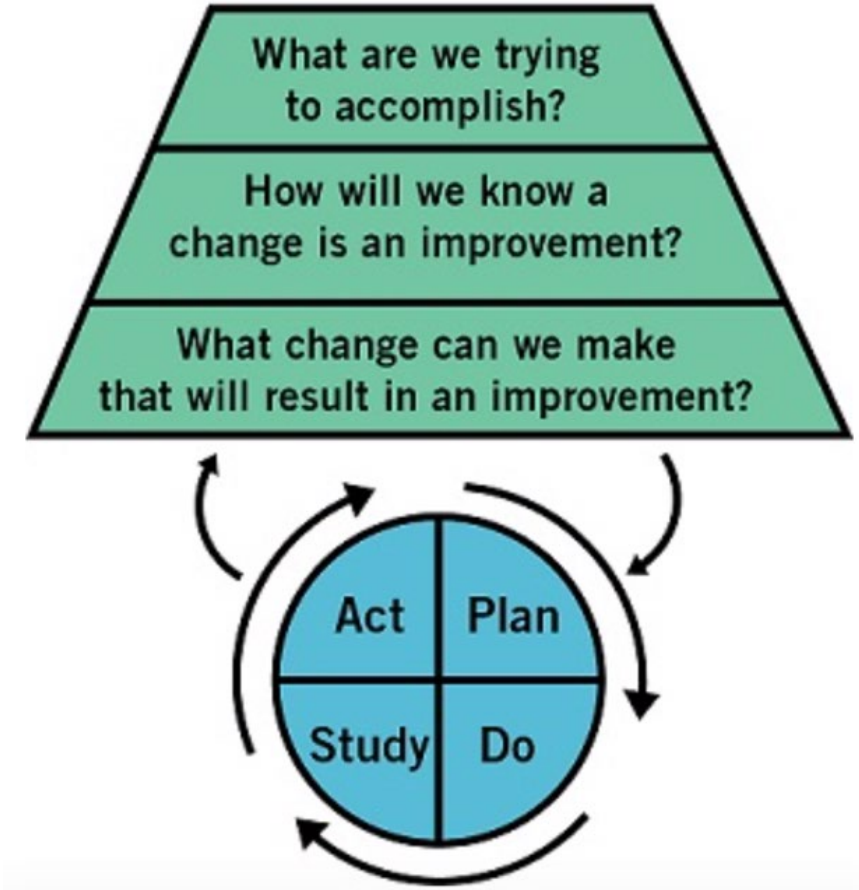

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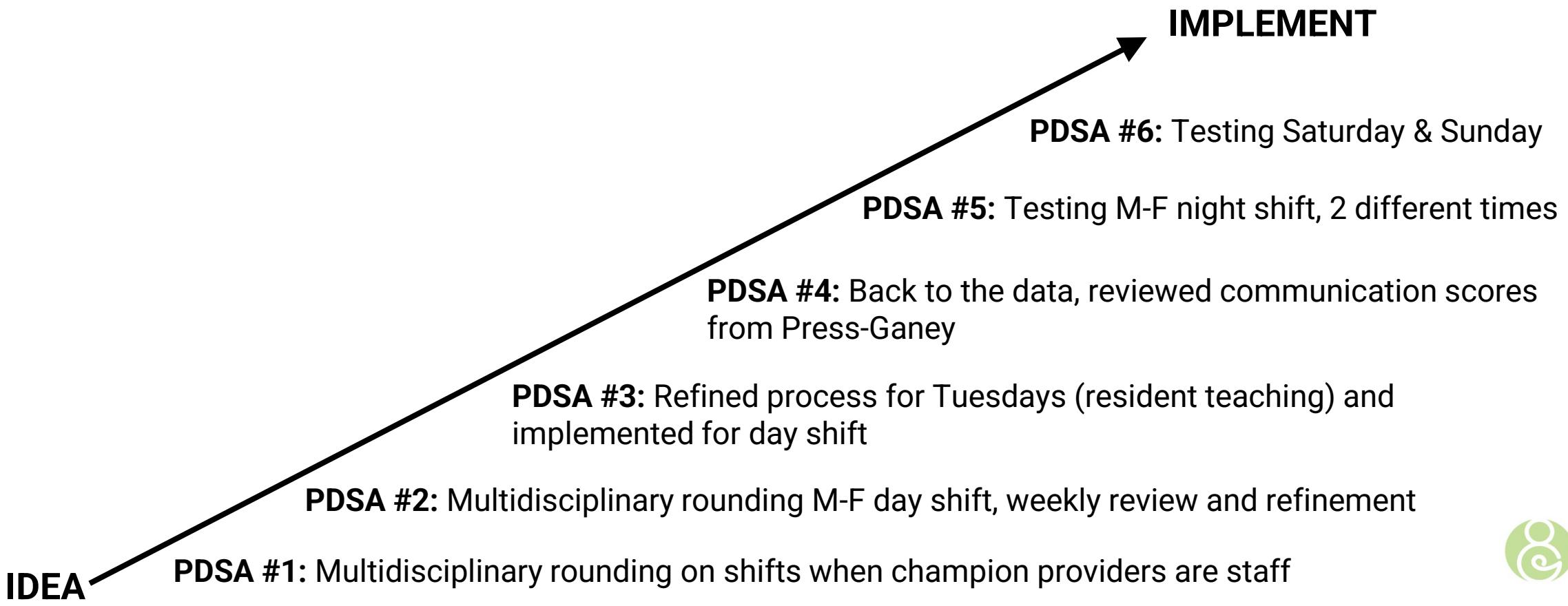
Repeated Use of PDSA Cycles to implement a multidisciplinary rounding practice at a tertiary care center



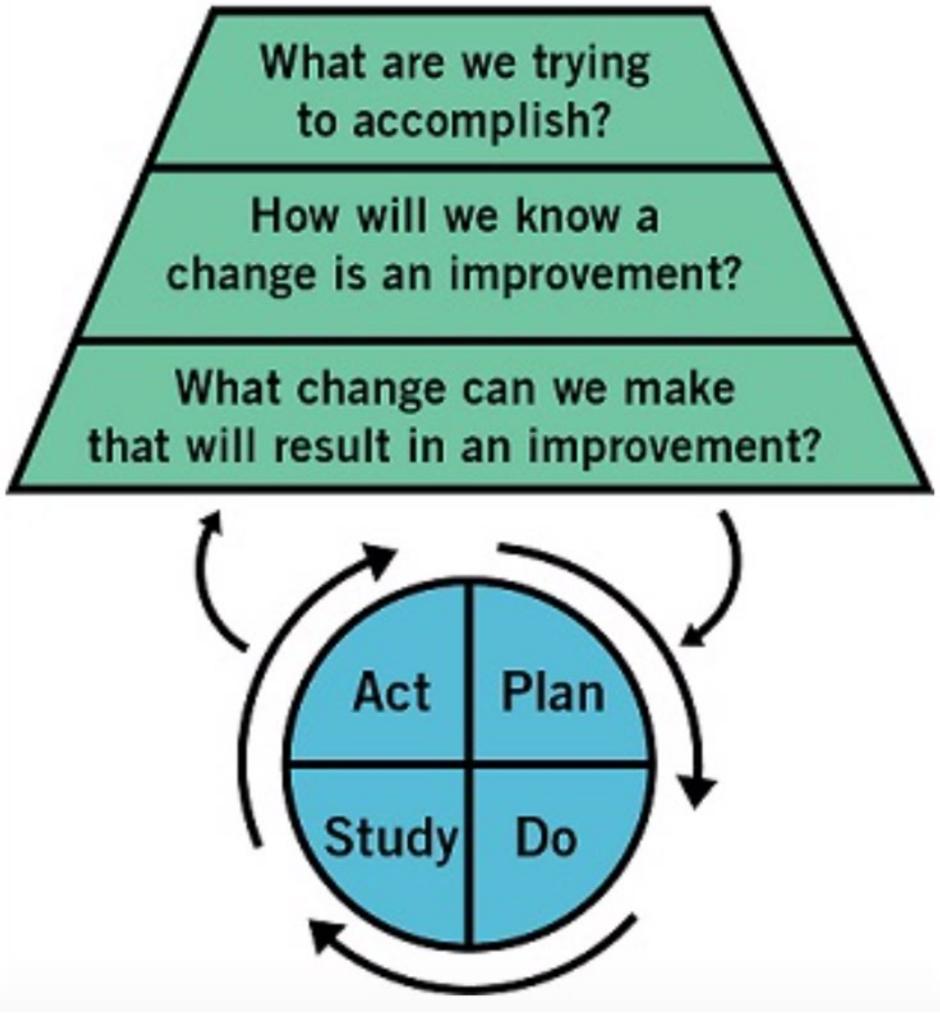
Determining scale of testing

Team's assessment of change idea:		Organizational Commitment:		
Improvement Potential	**Cost of Failure**	**Adopters: No Commitment**	**Adopters: Some Commitment**	**Adopters: Strong Commitment**
Low degree of belief that the change idea will lead to improvement	**Large cost** of failure	Very small-scale test	Very small-scale test	Very small-scale test
	Small cost of failure	Very small-scale test	Very small-scale test	Small-scale test
High degree of belief that the change idea will lead to improvement	**Large cost** of failure	Very small-scale test	Small-scale test	**Large-scale test**
	Small cost of failure	Small-scale test	**Large-scale test**	**Implement**

Can staff education be a PDSA?

- Generally, education is not a PDSA
- Exception is if you are testing a new approach to education to see if it is more effective
- Education (knowledge) is a foundation for high performance, but not sufficient
- PDSAs are used for testing new processes, tools, or workflows in clinical settings

The Model for Improvement



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Objectives

1. Explain the foundational principles of the Model for Improvement
2. Describe the Plan-Do-Study-Act (PDSA) cycle as a tool for iterative testing and learning
3. Illustrate real-world applications through examples

Thank you!

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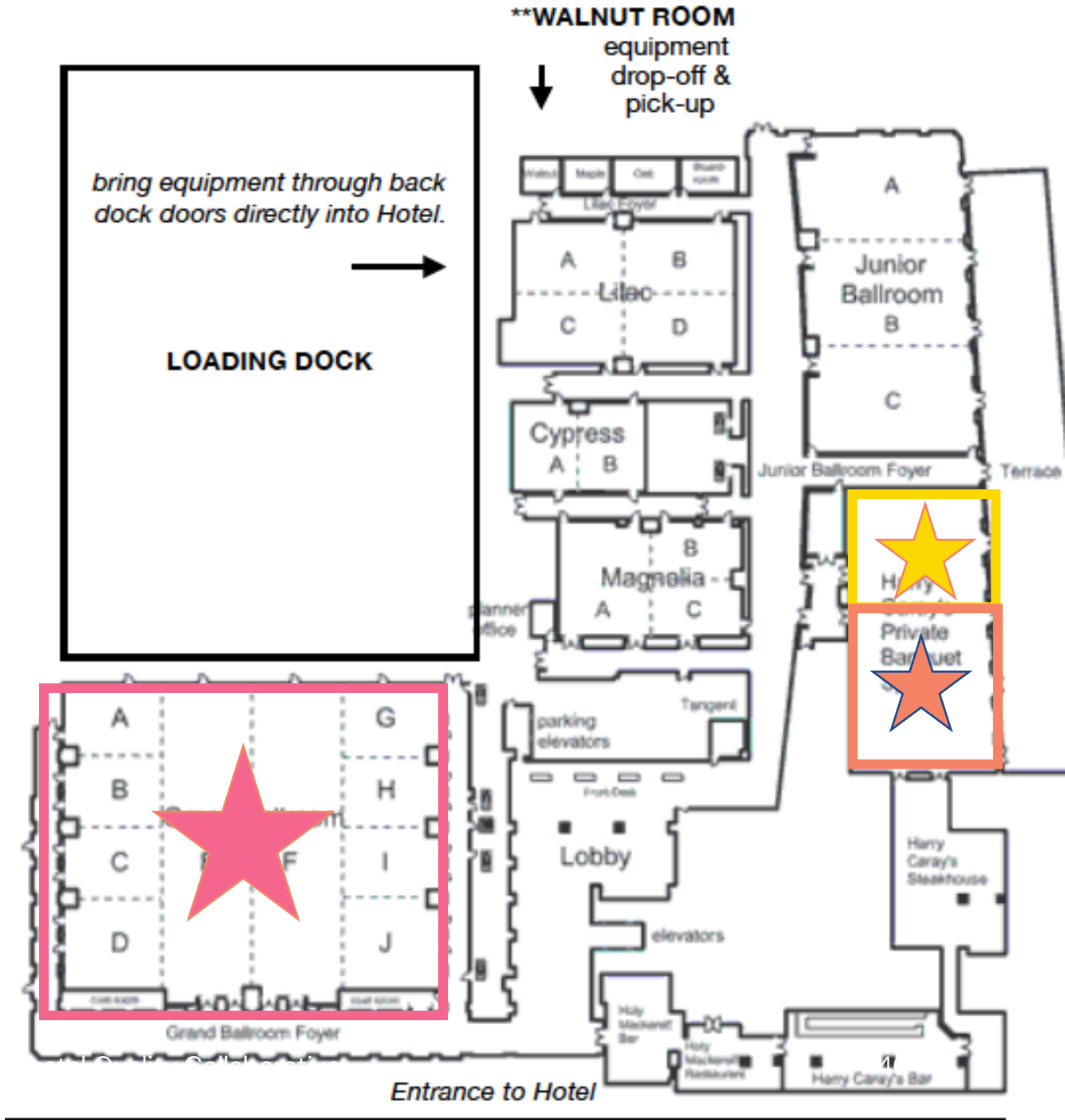
2025 Breakout Session Instructions

View the back of your name tag for which breakout session you signed up for!

OB Breakout: Return to Grand Ballroom

Neonatal Breakout: Harry Caray's Banquet A (Right side)

ILPQC Patient, Family, Community Breakout: Harry Caray's Banquet B (Left side)



For OB Breakout: choose your table based on topic you want to join for breakout discussion

1. **Screening implementation during delivery admission**
   - How is your team currently implementing **depression and anxiety screening**?
   - What tools or workflows are used for response to positive PMH screens?
2. **Engaging State PMH Resources (Utilizing IL DocAssist and IL MOMs Line)**
   - What strategies can you use to increase providers use of these resources in PMH workflows for OB unit or for ER unit?
3. **Identifying barriers to access and developing innovative strategies for PMH care**
   - How will you implement a PMH Access Workgroup and identify innovative strategies to address barriers to access PMH care?

15 – Minute Break

2:30p → **2:45p**