

# **Quality Improvement Strategies: Forming and Motivating Teams, Using PDSA Cycles, and Sustaining Success**

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# Disclosures

Michael Posencheg is on the contract faculty as an Improvement Advisor for the Institute for Healthcare Improvement (IHI) and receives stipends for teaching.



# What we heard from you...

- How to engage physicians and maintain enthusiasm for a project?
  - Staff Burnout and turnover
- Sustaining changes over time?
- PDSA cycle structure and effectively using PDSA cycles?



# Topics to be covered

- Psychology of Change
  - PDSA Cycle Review
  - Sustainability Features
- 
- Think about questions for your project in the context of the subjects above. We will leave time for discussion.



People are the key to any effective change

# THE PSYCHOLOGY OF CHANGE



All improvement requires change, but  
not all change is an improvement!



# How People React to Change

- **Resistance:** an emotional or behavioral response to real or imagined threats to the work routine
- **Apathy:** feeling or showing little or no interest
- **Compliance:** publicly acting in accord with social pressure while privately disagreeing
- **Conformance:** a change in behavior or belief as a result of real or imagined group pressure
- **Commitment:** the state of being bound emotionally or intellectually to a course of action



# Cannot make Effective Change without People!

$$Q \times A^2 = E$$

*Quality X (Accountability x Acceptance) = Effectiveness*

Psychology of Change

**\*62% of quality efforts fail from lack of attention to the cultural and people sides of change – the “A”.**





# The Psychology of Change

“Improvement science has given health care improvers a theoretical framework and the applied technical skills to understand variation, study systems, build learning, and determine the best evidence-based interventions (“what”) and implementation strategies (“how”) to achieve the desired outcomes. Yet, health care improvers worldwide still struggle with the adaptive side of change, which relates to unleashing the power of people (“who”) and their motivations (“why”) to advance and sustain improvement — two commonly cited reasons for the failure of improvement initiatives.”



Hilton K, Anderson A. *IHI Psychology of Change Framework to Advance and Sustain Improvement*. IHI White Paper. Boston, Massachusetts: Institute for Healthcare Improvement; 2018. (Available at [ihi.org](http://ihi.org))



# What is holding us back?

- The rate at which improvement spreads relies, at least in part, on people.
- People's resistance to change comes from fear:
  - Fear of failure
  - Fear of losing control
  - Moving from habit to uncertainty



# Activating People's Agency

## AGENCY

The ability of an individual or group to choose to act with purpose

**Power**

The **ability** to act with purpose



**Courage**

The emotional resources to **choose** to act



Hilton K, Anderson A. *IHI Psychology of Change Framework to Advance and Sustain Improvement*. IHI White Paper. Boston, Massachusetts: Institute for Healthcare Improvement; 2018. (Available at [ihi.org](http://ihi.org))



# IHI Psychology of Change Framework

## Unleash Intrinsic Motivation

Tapping into sources of intrinsic motivation galvanizes people's individual and collective commitment to act.

## Adapt in Action

Acting can be a motivational experience for people to learn and iterate to be effective.

## Distribute Power

People can contribute their unique assets to bring about change when power is shared.



## Co-Design People-Driven Change

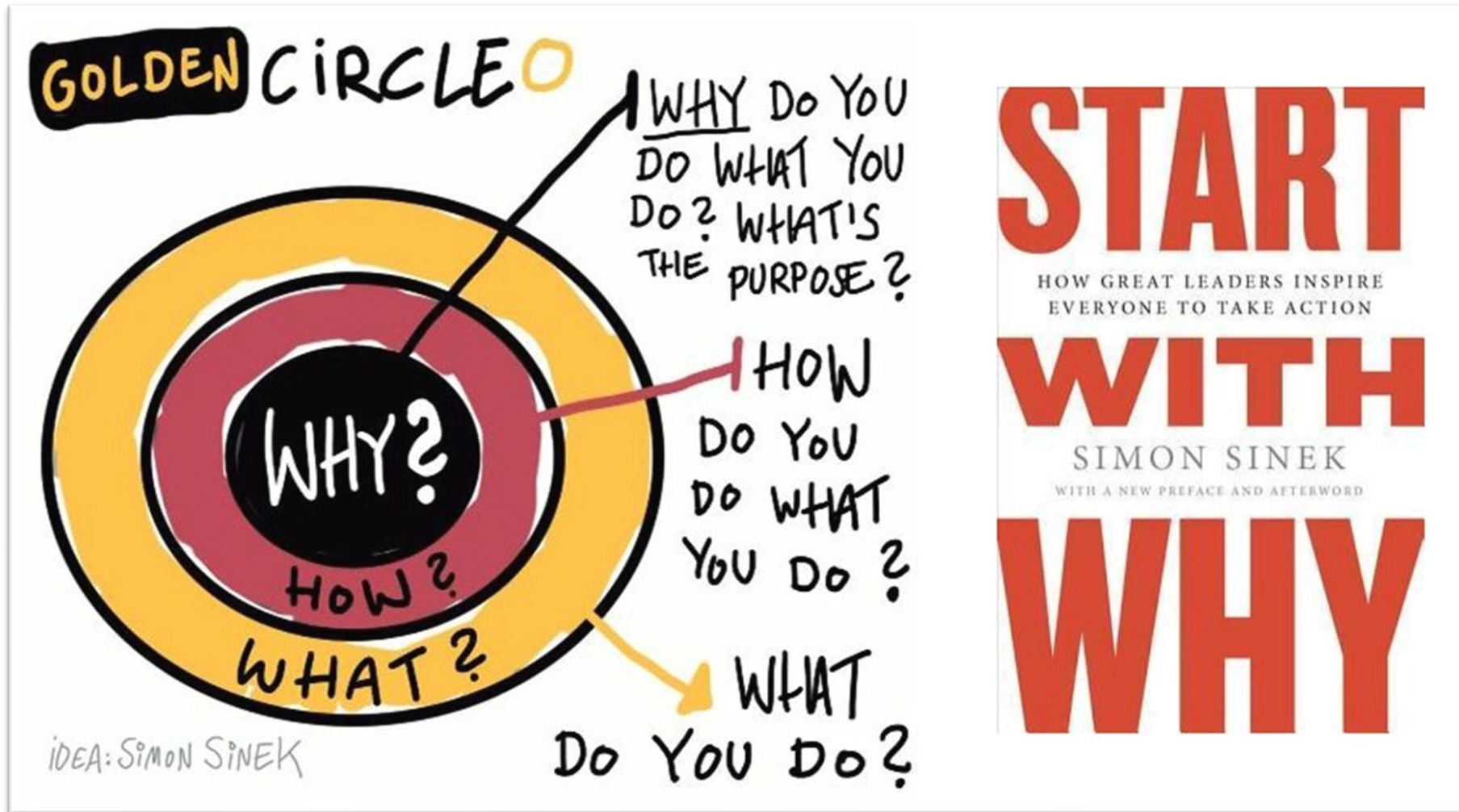
Those most affected by change have the greatest interest in designing it in ways that are meaningful and workable to them.

## Co-Produce in Authentic Relationship

Change is co-produced when people inquire, listen, see, and commit to one another.

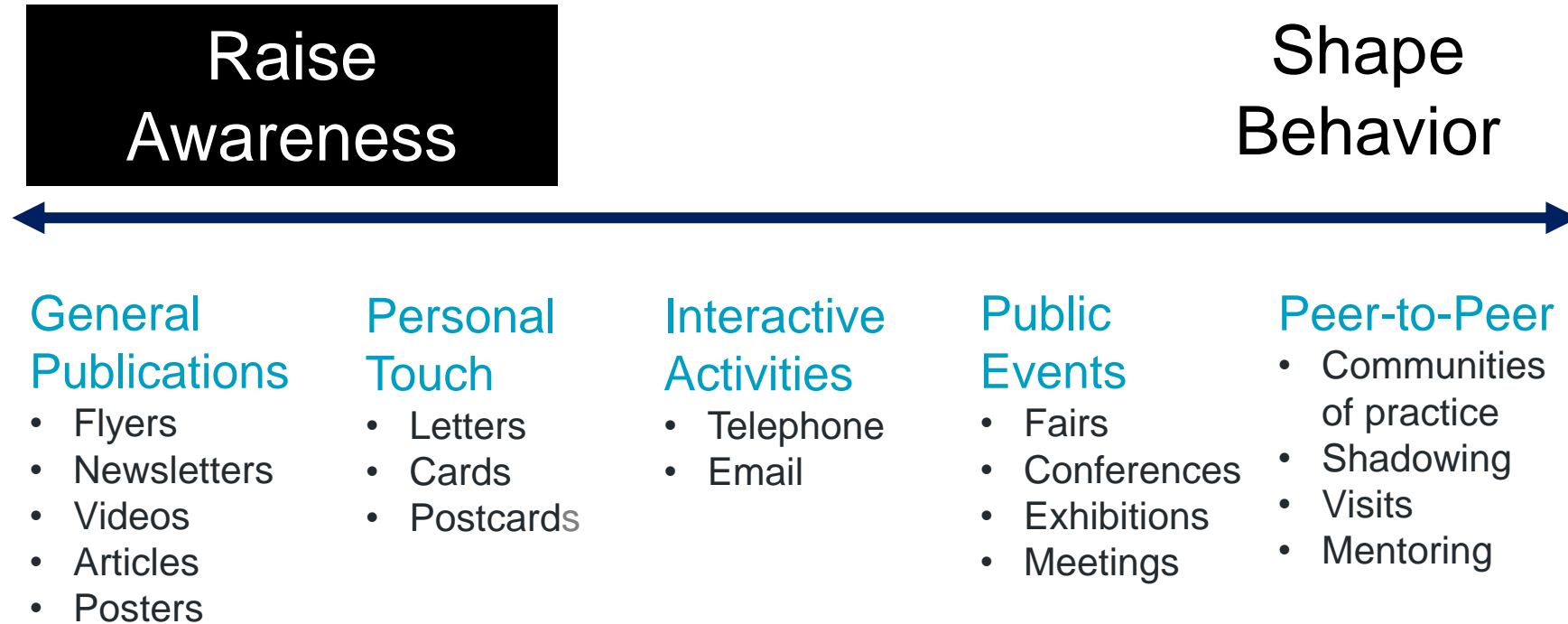


# Start with “Why”





# Communicating the Message



Adapted from Sarah W. Fraser

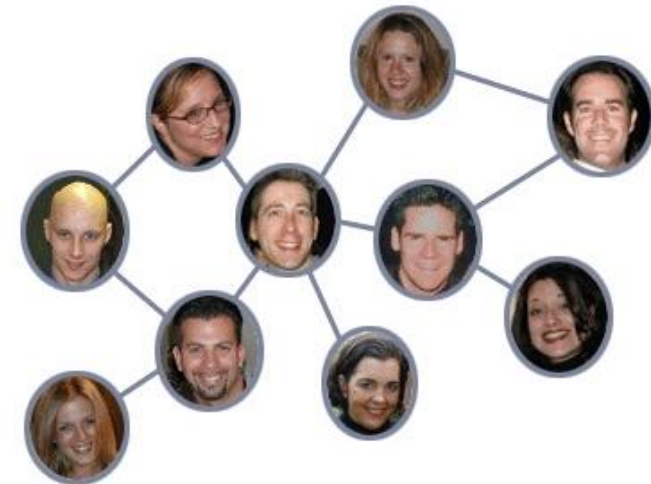
# Other Tips for Addressing Resistance

- Create dissatisfaction with current state
- Relentlessly communicate direction and the “why”
  - Use stories
  - Empathize with anxiety
- Express excessive faith in success
- Make it personal:
  - Logistical implications of change (e.g., where will I sit)
  - Clear message on what I will be doing differently
  - How will this make my job easier?



# The Messengers – Adoption is SOCIAL

- Include influencers/opinion leaders
- To identify opinion leaders:
  - Survey (Whom do you go to for advice and information about \_\_\_\_?)
  - Discussion and observation within the social system
- Testing teams should be front and center
- Understand the nature of networks





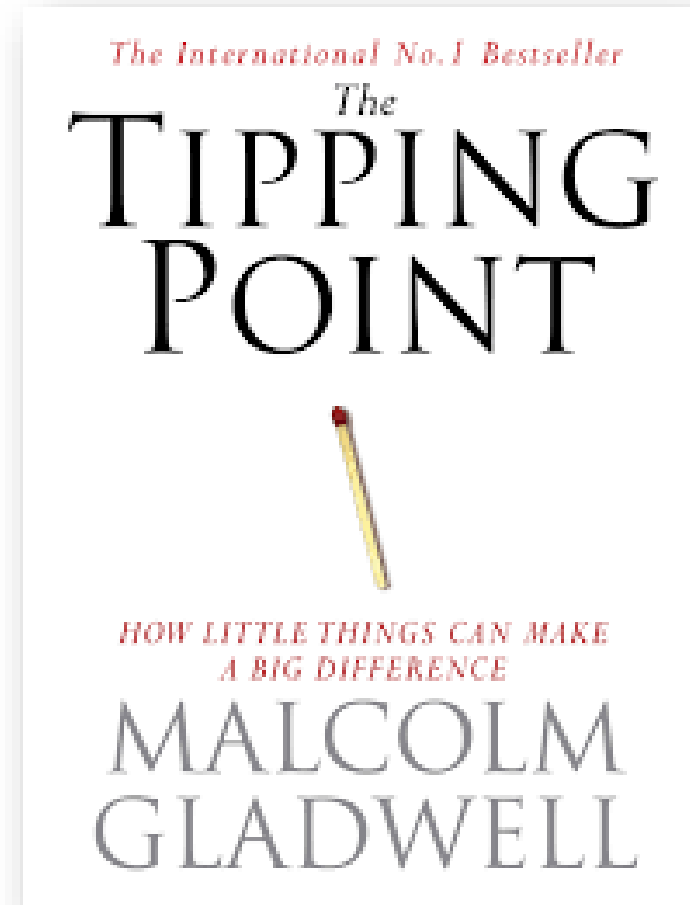
# For a Message/Idea to “tip”....

## You need:

1. A volunteer with a good idea backed by a good reason
2. A group of potential adopters

*“The part of the diffusion curve from about 10 percent to 20 percent adoption is the heart of the diffusion process. After that point, it is often impossible to stop the further diffusion of a new idea, even if one wished to do so.”*

**- E. Rogers**



# Key Points – Psychology of Change

- Failure to address the human side of change is the main reason for QI efforts not to spread or sustain.
- Peoples' resistance to change stems from fear.
- Activating People's Agency by focusing on the 5 domains of the Psychology of Change will help overcome these barriers.
- Starting with “Why” is at the core of motivating change.
- Change spreads through networks – identify and harness the influencers and early adopters.



Moving from testing to implementation.....learning along the way!

## **PDSA CYCLES**



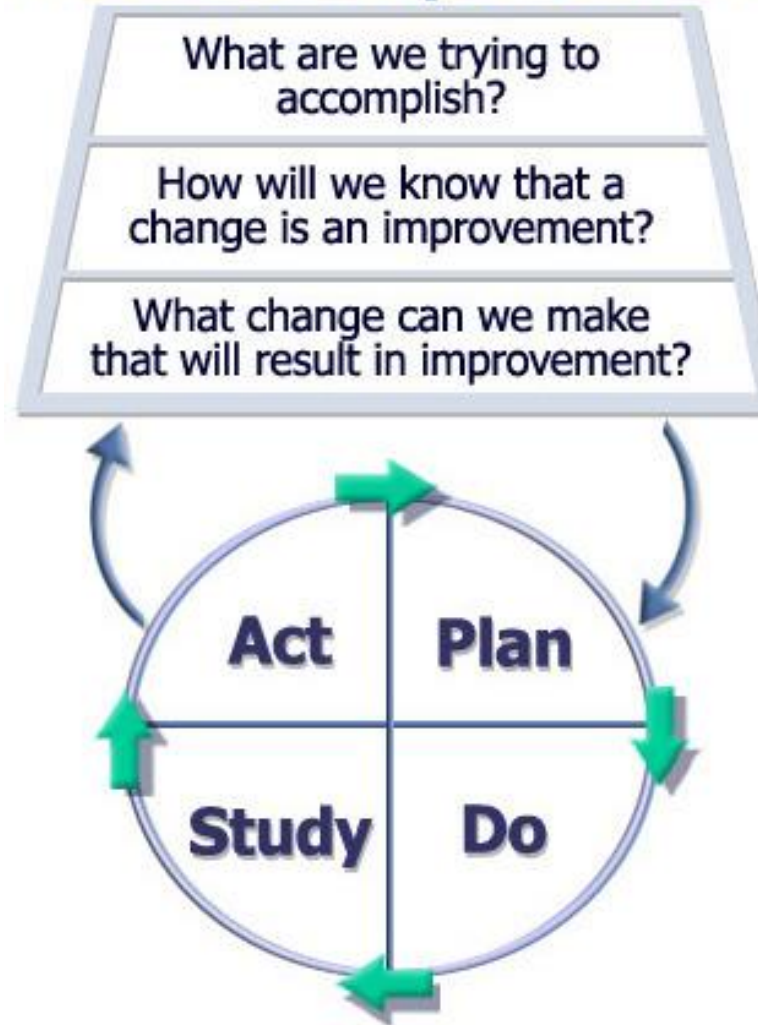
# The 5 Key Principles for Improvement

1. Knowing why you need to improve.
2. Having a feedback mechanism to know if improvement is happening.
3. Developing an effective change that will result in improvement.
4. Testing a change before attempting to implement.
5. Knowing when and how to make the change permanent.



# IHI Model for Improvement

## Model for Improvement



# PDSA

P Please

D Do

S Something

A Anything!



# Stuck in Diagnosing the Current Process?

- “Teams often spend too much time thinking about all of the possible options, ramifications, and implementation issues before proceeding with a test of a change”
- Can one learn more by diagnosing the current process or system or by changing something?
- Improvement efforts are frequently stuck in the diagnostic journey (analysis paralysis).
- The alternative is to very quickly run a test.
- “Experience has shown that the latter approach leads to accelerated learning and improvement.”



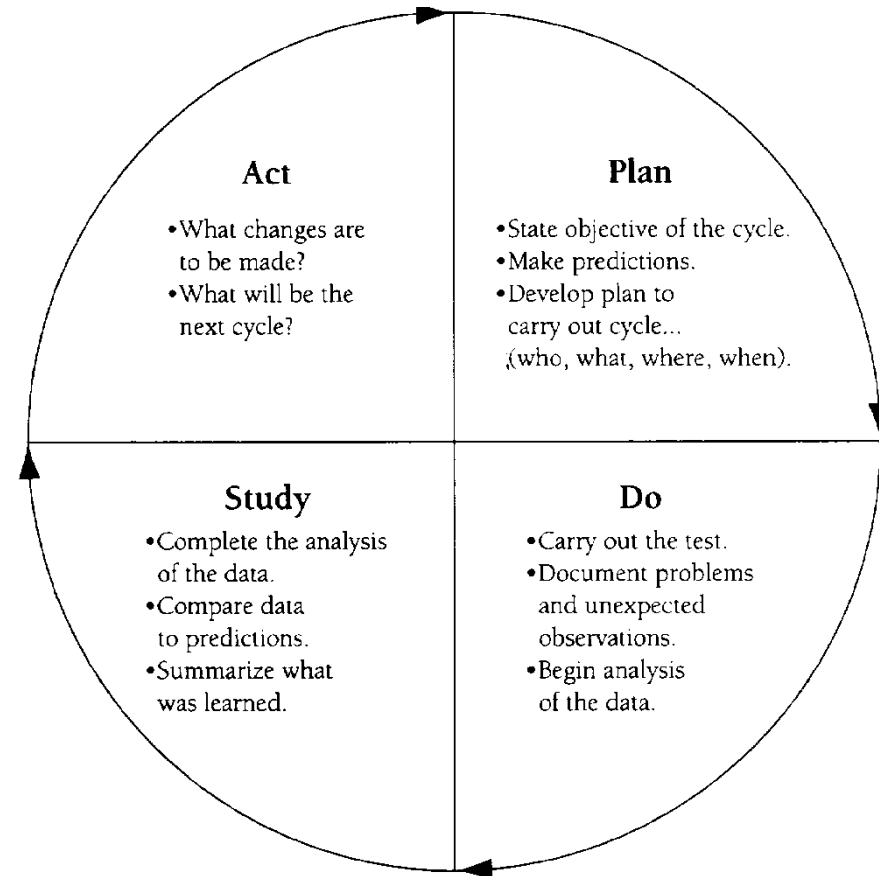
# The PDSA Cycle for Learning and Improvement





# On the basis of what is learned from any cycle, a change might be:

- Implemented as is (adopt)
- Dropped (abandon)
- Modified (adapt)
- Increased in scope (expand)
- Test under other conditions

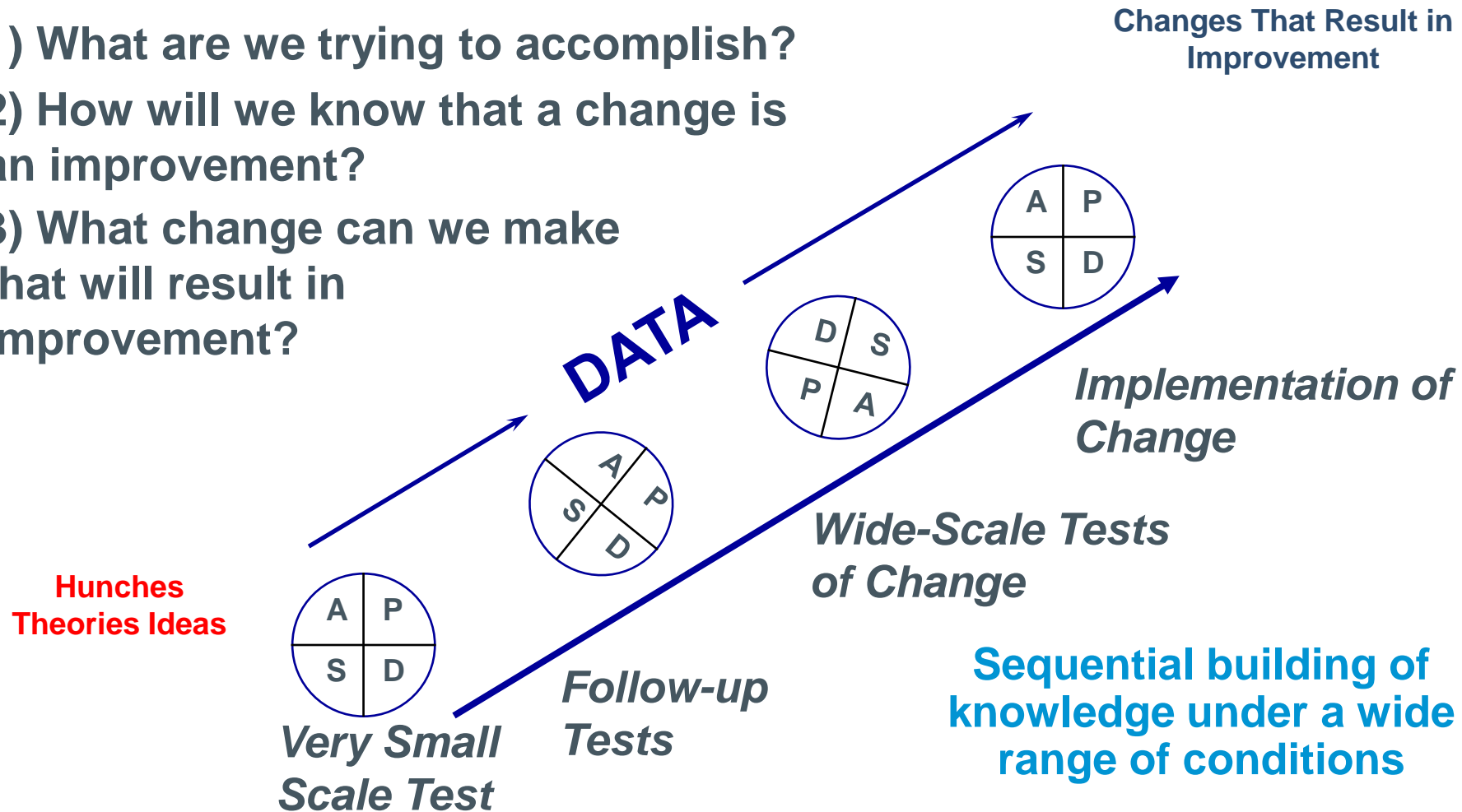


*Figure 4.1. Elements of the PDSA Cycle.*

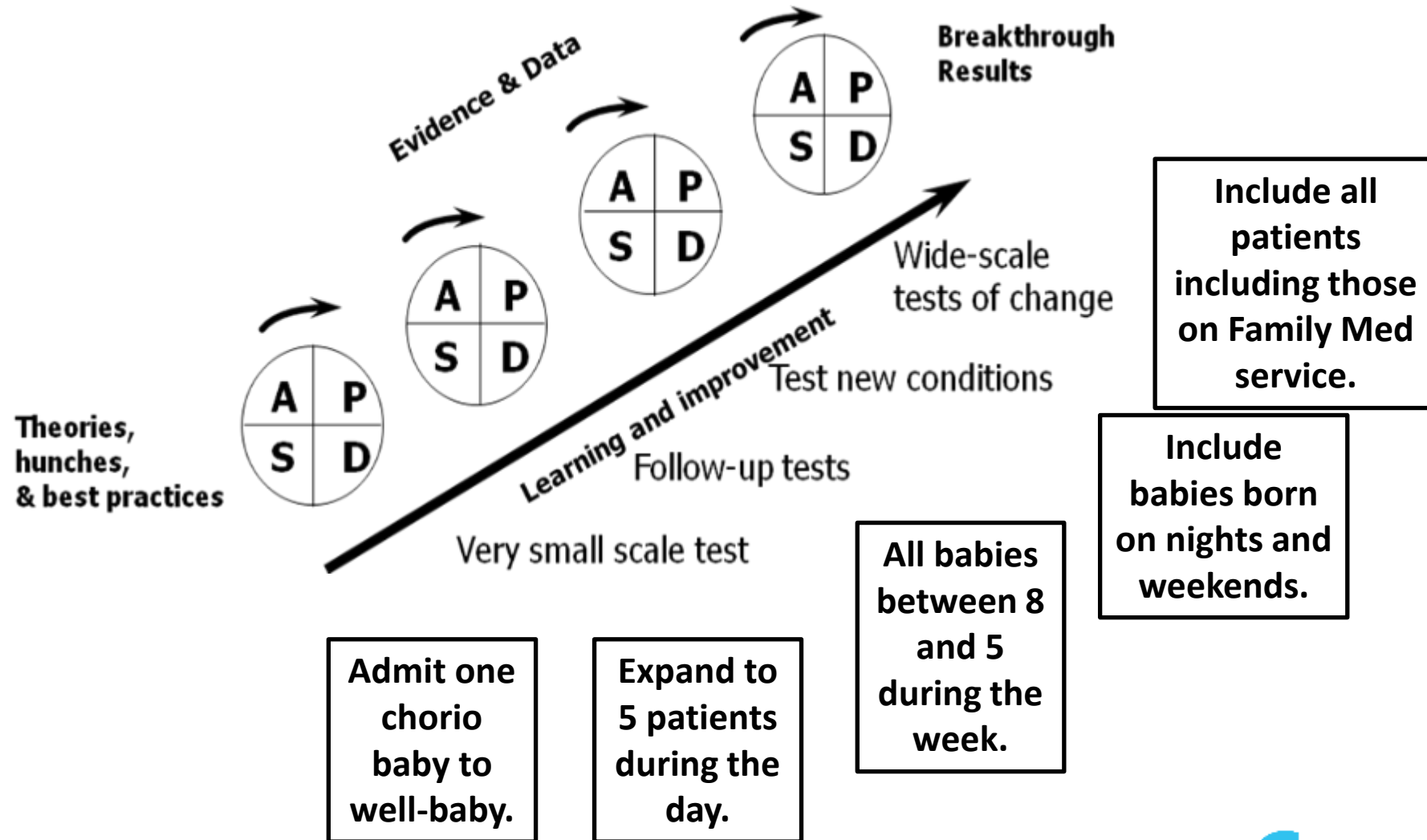


# Repeated Use of the PDSA Cycle

- 1) What are we trying to accomplish?
- 2) How will we know that a change is an improvement?
- 3) What change can we make that will result in improvement?



# Using a PDSA ramp to test change – Chorio



# PDSA Guidance

- Test changes at the smallest level that is possible and reasonable.
- One patient – one day – one admit - one doctor.
- Test under various conditions before expanding.
- What can you do by next Tuesday?
- Fail often to succeed sooner.



# How big of a test of change?

Current Situation		Resistant	Indifferent	Ready
Low Confidence that current change idea will lead to Improvement	Cost of failure large	<u>Very</u> Small Scale Test	<u>Very</u> Small Scale Test	<u>Very</u> Small Scale Test
	Cost of failure small	Very Small Scale Test	Very Small Scale Test	Small Scale Test
High Confidence that current change idea will lead to Improvement	Cost of failure large	Very Small Scale Test	Small Scale Test	Large Scale Test
	Cost of failure small	Small Scale Test	Large Scale Test	Implement



# Key Points – PDSA Cycles

- Each cycle should have a key question you are trying to answer.
- The learning comes from making predictions and comparing what you found.
- Increase scope and scale to build degree of belief.
- PDSA cycles are used from the origination of an idea through implementation through ramps.
- The more resistance to change, the higher cost, and lower confidence in the change idea, the smaller the scale of the test should be.



How do we hold the gains from improvement over time?

# SUSTAINABILITY



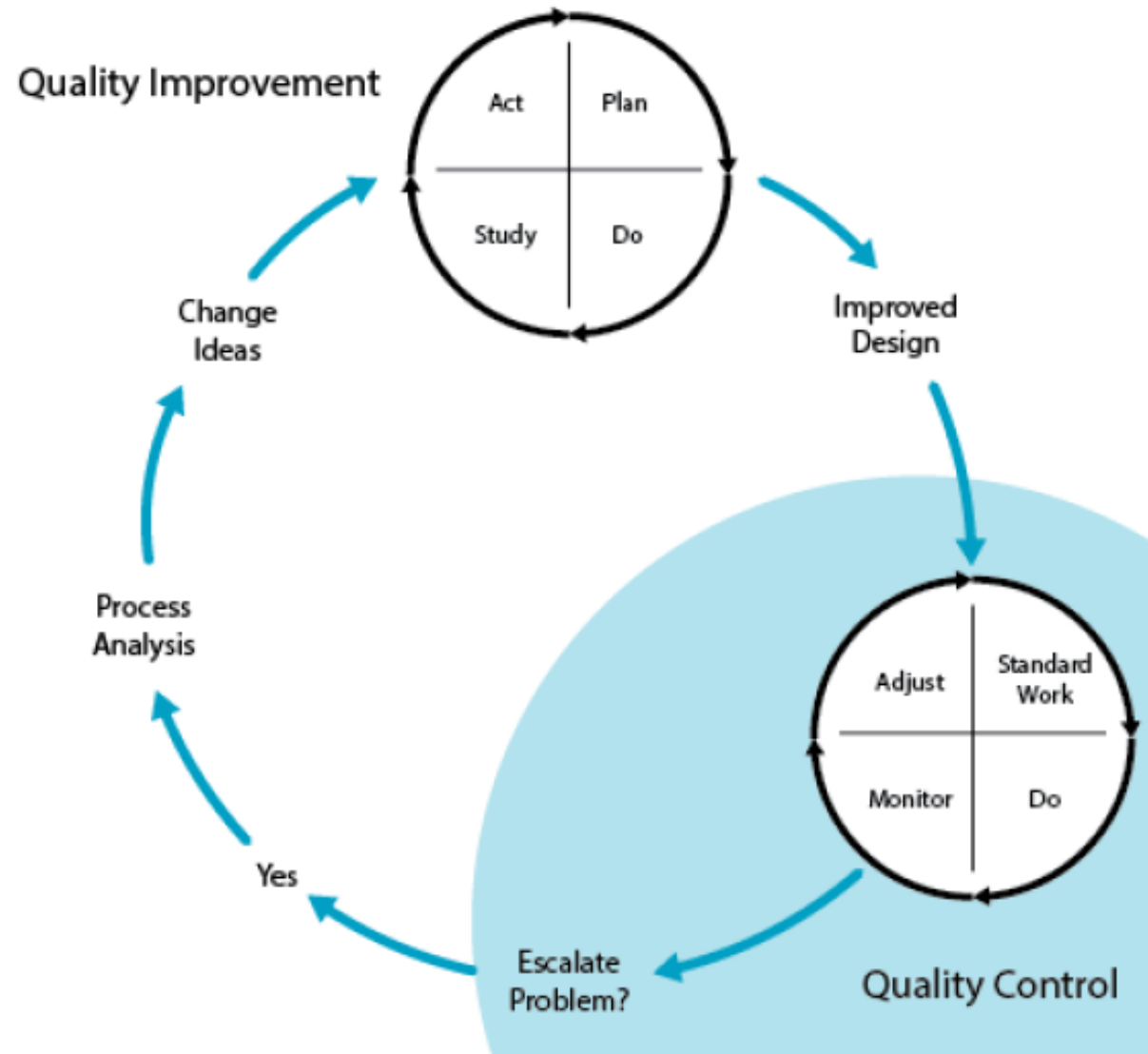
# Discussion

- Think of a time in your experience when an improvement was implemented. Are the gains from that change still there?
  - If yes, what was done that resulted in the gains being held?
  - If no, why did the gains fail to be held? What got in the way?





Figure 1. The Relationship of Quality Improvement and Quality Control

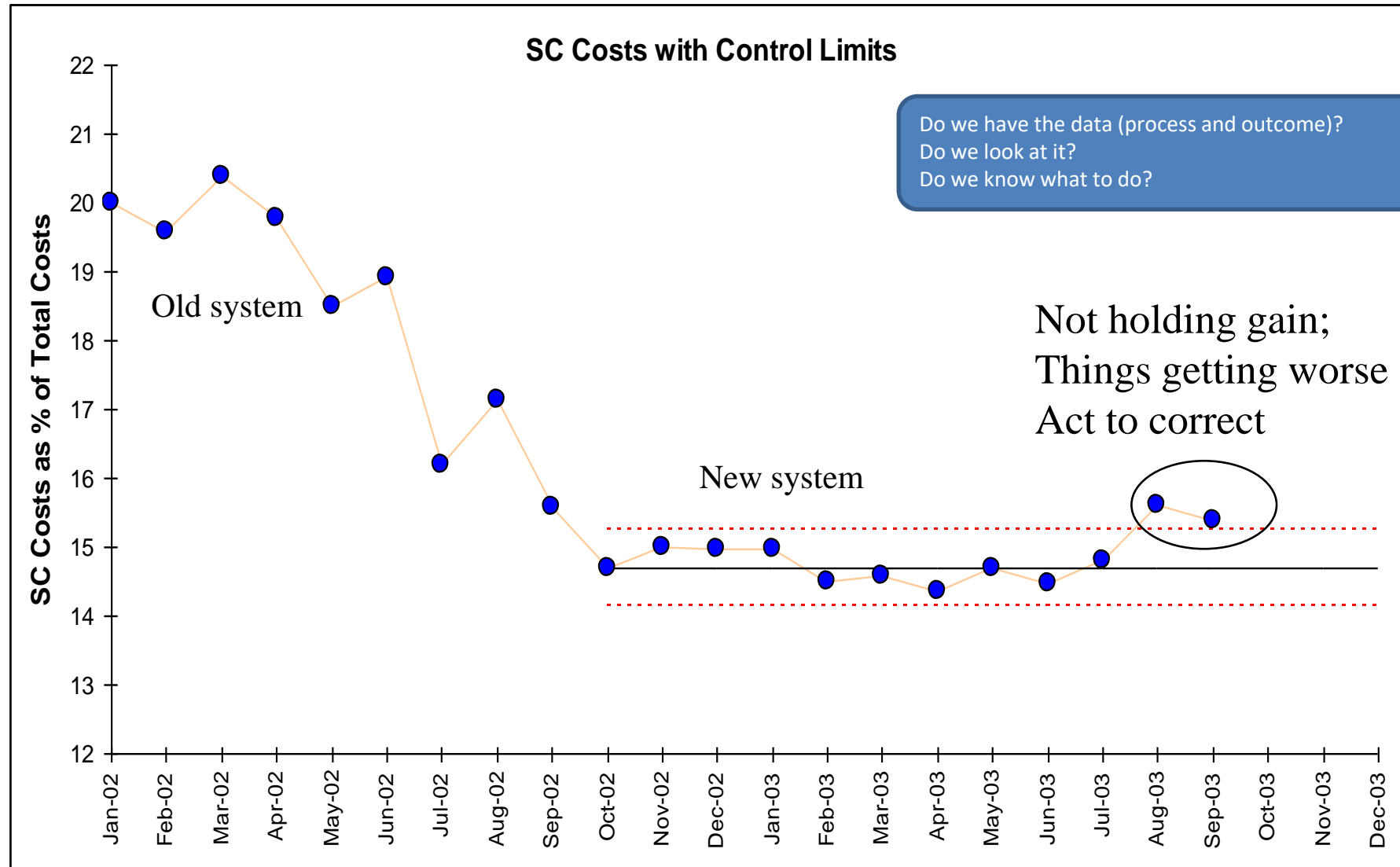


# Technical Aspects

- Measurement
- Ownership
- Communication and Training
- Hardwiring and Standardization
- Assessment of Workload



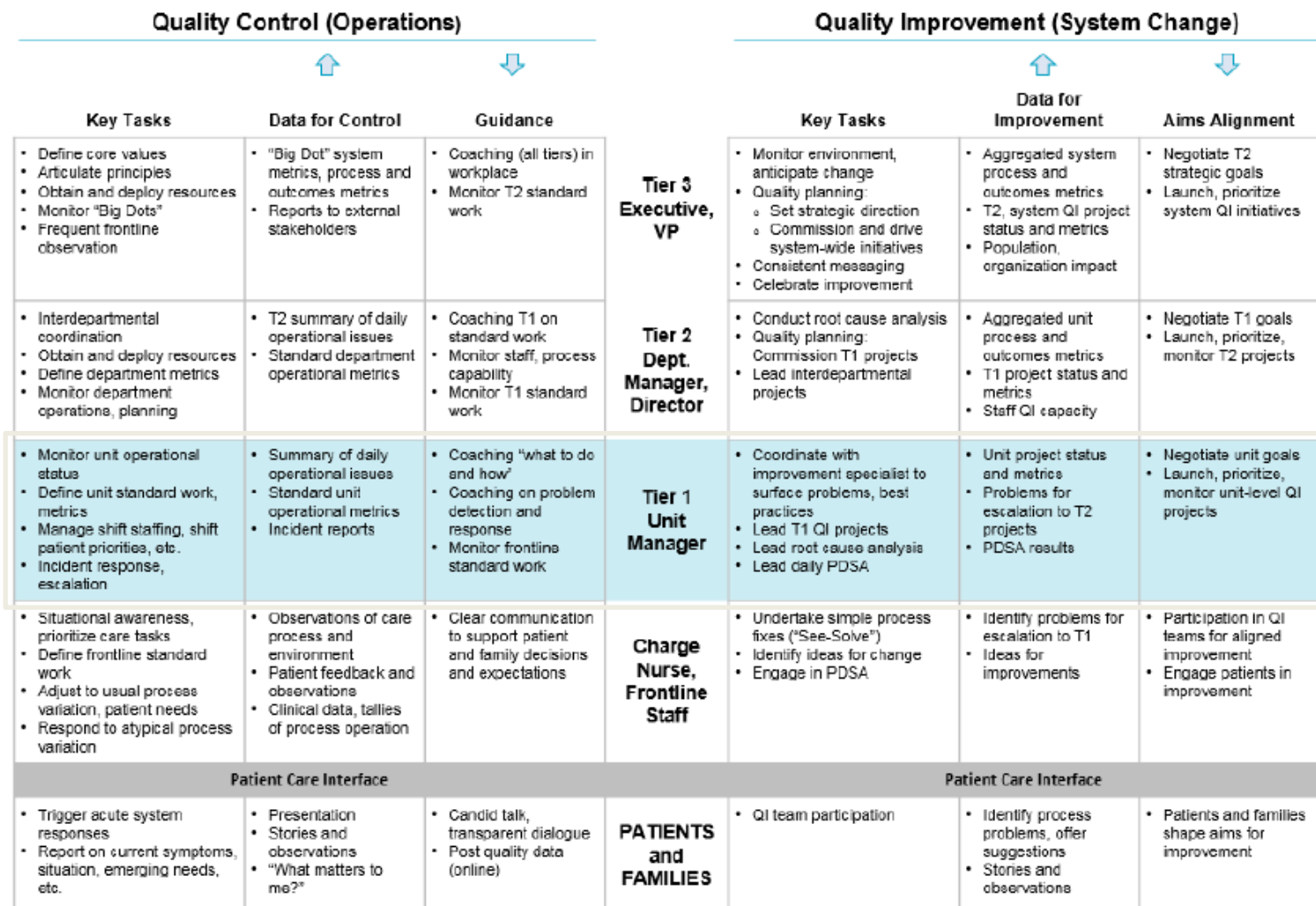
# Measurement: Quality control



# Ownership

**Figure 2. Architecture of a High-Performance Management System**

<http://www.ihl.org/resources/Pages/IHIWhitePapers/Sustaining-Improvement.aspx>



# Communication and training

- Awareness to decision
- Decision to action:
  - Peer-to-peer
  - “At the elbow” or mentoring
  - Ongoing technical support or hotline
  - Learning and Action
  - Address mindsets and technicalities
- Consider training for both existing and new employees (e.g., onboarding)



# Training: How matters

- What do adults retain after three months?
  - Lecture-based training (e.g., presentations, videos, demonstrations, discussions) = 10%
  - Learn by doing (e.g., role plays, simulations, case studies) = 65%
  - Practice what was learned in the workplace = ~100%

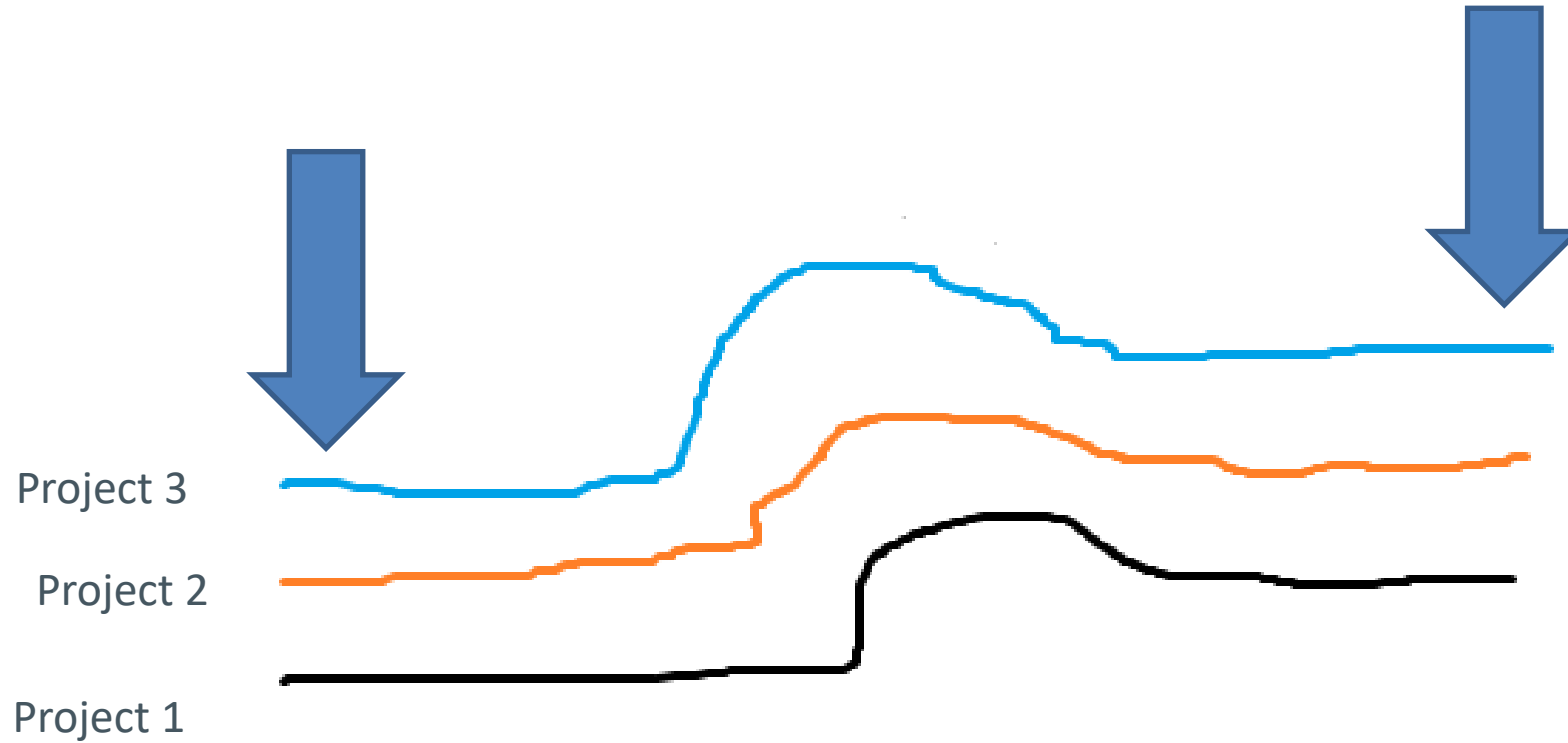


# Hardwiring the change

- Make it easy to do the right thing and hard to do the wrong thing
- Sample methods:
  - Standardization and accountability for following standard work
  - Documentation
  - Remove “old way”
  - Reduce reliance on human memory (affordances, defaults)
  - Tend to resources: forms, equipment, etc.



# Assessment of Workload





# Stop, Start, Continue

Category	Description
Stop	What are we doing in this area that is not working or no longer makes sense? (Something we should STOP)
Start	What should we put in place to improve our area? (Something we should START)
Continue	What is working well in our organization and should be continued? (Something we should CONTINUE)
Change	What is working to some extent and would benefit from minor changes? (something we should change)



# Managing sustainability

4 Hour Project					
SUSTAINABILITY PLAN					
Process Description	Assessment and management of patients discharged from ED	Core Team Members		Date First Completed	7/22/2011
Process Owner		Executive Director of Process Owner		Date (latest revision)	8/13/2012

Control Plan									Response Plan				Comments
Types of measure	Operational Definition	How is the data taken	Who is accountable for the data	How is the data measured	Who is accountable for the measurement	How is the data reported	Who produces the report	Who receives the report	What is the target for the measure	Who is accountable for meeting the target	When do I take action	What actions do I take	
4 Hour KPI performance	The percentage of patients discharged from the ED with a length of stay of less than 4 hours	Crystal report from Symphony	Bruce Garbutt	Crystal report from Symphony	Bruce Garbutt	ED Scorecard	Bruce Garbutt	ED Leadership Group (Melinda Truesdale, Steve Pincus, Karen Clark, Liz Virtue)	> 80%	ED Leadership Group, Bruce Garbutt	< 80%	Review of more detailed ED performance data to identify delays	Performance during May - July 2013 maintained at 70 - 80%, 60 - 70% August 2013, most recent measure 70% (week ending 1/9/13).
Fast Track - patient numbers and 4 hour performance	Number of patients managed through Fast Track per week and the percentage discharged within 4 hours	Crystal report from Symphony	Bruce Garbutt	Crystal report from Symphony	Bruce Garbutt	ED Scorecard	Bruce Garbutt	ED Leadership Group (Melinda Truesdale, Steve Pincus, Karen Clark, Liz Virtue)	100 patients per week, 4 Hour KPI > 80%	ED Leadership Group, Bruce Garbutt	< 75 patients per week, 4 Hour KPI < 80%	Audit of patients being managed through Fast Track, and potential missed patients in Emergency stream	Continued good performance: 90 - 110 patients per week, 4 hour KPI performance 80 - 100%
Q3 process times for patients discharged from ED	3rd quartile process times for waiting time, assessment time and length of stay for patients discharged from the ED	Crystal report from Symphony	Bruce Garbutt	Crystal report from Symphony	Bruce Garbutt	ED Scorecard	Bruce Garbutt	ED Leadership Group (Melinda Truesdale, Steve Pincus, Karen Clark, Liz Virtue)	Wait 30 minutes, Assess 150, LOS 240	ED Leadership Group, Bruce Garbutt	Wait 30 minutes, Assess 150, LOS 240	Review more detailed ED performance figures/workload, review staffing issues/allocations	Waiting time 105 - 135 minutes (originally 150 - 160 minutes). Assessment time 135 - 150 minutes (improved from 140 - 170 minutes). ED LOS 230 - 275 minutes (originally 315 minutes).
								ED					Short Stay utilisation to 70 - 80% (70 - 80%)



# Key Points – Sustainability

- Once improvement is seen it is important to identify a process owner for effective sustainability.
- Track data over time to understand keep an eye on performance.
- Have a response plan if performance wanes.
- Hardwiring the change and focusing on turnover/on-boarding helps to reinforce the change.
- Use start, stop, continue to remove items from workload.



**WHAT QUESTIONS DO YOU HAVE?**



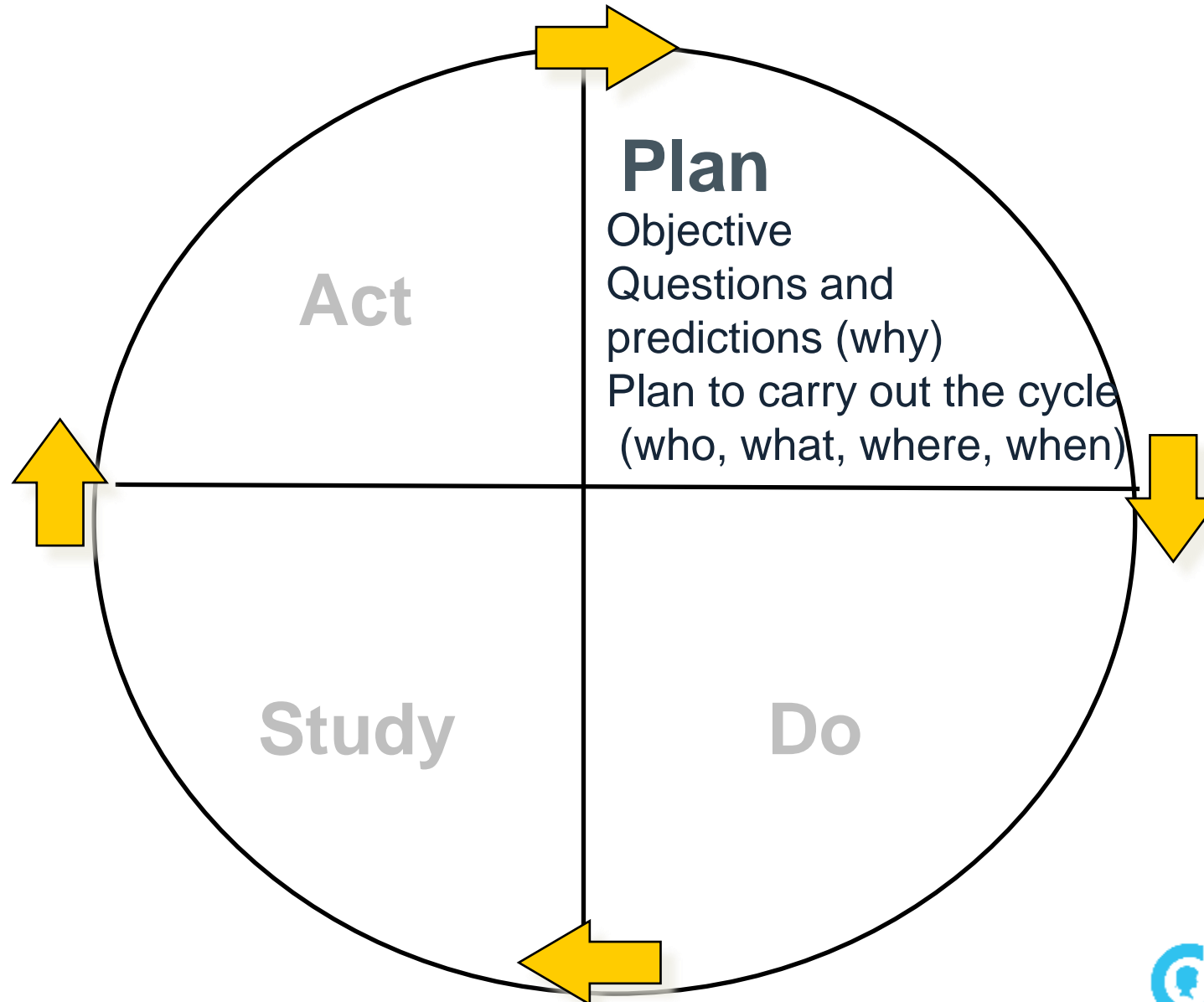
**THANK YOU**



# A PDSA EXAMPLE: CHORIOAMNIONITIS



# Plan, Do, Study, Act Cycle



# Chorioamnionitis PDSA – Objectives and Questions to be answered



**MODEL FOR IMPROVEMENT**     **DATE** \_\_5/22/14\_\_

Objective for this PDSA Cycle: To continue testing the admission of an infant for r/o sepsis due to maternal chorio to well baby during the day.

Is this cycle used to develop, test, or implement a change? Test a change

What question(s) do we want to answer on this PDSA cycle?

1. Will there be a delay in the placement of an IV and administration of antibiotics?
2. Will there be a delay in drawing blood work and ordering medications?
3. Will there be any barriers to the infant receiving every 3 hour vital signs by the couplet nurse and be reevaluated at 6 hours of life by the medical staff?
4. Will there be any new barriers or issues discovered as we scale up (moving from a test of 1 to a test of 5)





# Chorioamnionitis PDSA – Plan

## Plan:

*Plan to answer questions: Who, What, When, Where*

*Starting on May 28, between the hours of 8am to 4pm we will admit the next 5 babies born to mothers with Chorioamnionitis to the well baby nursery for sepsis workup and antibiotics administration.*

- Infant may stay with mother skin to skin for 1 hour if stable.
- Labor floor nurse to contact silver 8 nurse (nursery or couplet as appropriate) to alert her that she is bringing this baby to the nursery.
- Silver 8 nurse to contact ICN charge nurse to alert her of the admission.
- ICN charge nurse to determine resource for IV placement and alert the medical team from the ICN to arrive to draw blood (resident or FLC).
- Intern in the well baby nursery will place admission orders and orders for blood work and antibiotics.
- Intern in the well baby nursery will complete admission paperwork and admit the baby with the well baby attending of the day.
- Couplet nurse on silver 8 will perform vital signs every 3 hours for the first 12 hours of life (x4 sets) and alert the medical staff if there are abnormalities.
- A member of the medical team (intern with supervision by the well baby attending) will reevaluate the baby at approximately 6 hours after admission for stability. If this occurs after change of shift, the need a timing of this evaluation will be communicated to the nighttime ICN team and be performed by the overnight resident with fellow supervision.



# Chorioamnionitis PDSA – Plan and Predictions

*Plan for collection of data: Who, What, When, Where*

There will be a data collection form to be completed by the nursery nurse documenting time of birth, time baby arrives in the nursery, time of IV placement and time of antibiotic administration. There will also be a check box to indicate whether or not vital signs were done q3h and an additional evaluation of the baby was done at 6 hours. This form can be left with the baby's crib for ease of documentation. Forms to be collected on all 5 patients separately.

Predictions (for questions above based on plan):

1. The placement of the IV will happen within 30 minutes of admission to the nursery.
2. The blood drawing and ordering of medications will occur within 30 minutes of admission to the nursery, unless there was a competing patient need in the ICN/delivery room.
3. Vital signs will be documented every three hours and the resident will reevaluate the baby at 6 hours after admission.
4. We anticipate finding additional challenges when we start to scale this up including forgetting to do 3 hour vital signs and 6 hour medical check. Furthermore, we anticipate that if these cross shifts to night time, this will represent an additional opportunity for missing these items.

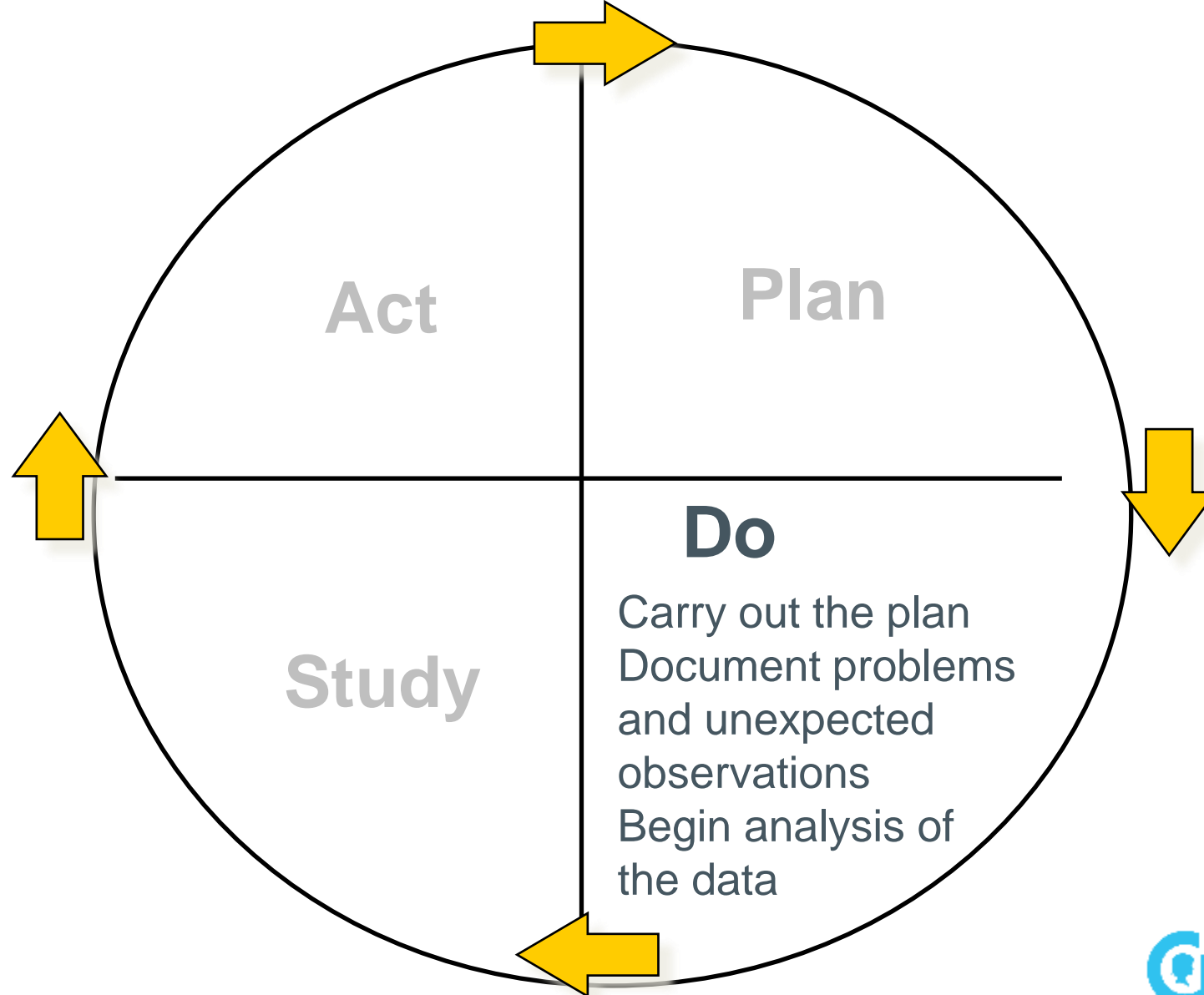


# Data Collection Form

Infant Name:		Date:	
	Time of birth:	Time of day:	
<div style="border: 2px solid black; padding: 2px; text-align: center;">             goal: 90 min from birth              goal: 30 min from admit              goal: 30 min from V placement           </div>	Time of admission to silver 8 nursery:		<i>If not within 90 minutes of birth, were there identified reasons:</i>
	Time of IV placement:		<i>If not within 30 minutes of admission, were there specific reasons for the delay:</i>
	Time of antibiotic administration:		<i>If not within 30 minutes of admission, were there specific reasons for the delay:</i>
	Yes	No	
Were vital signs documented every 3 hours?			<i>If not, what were the barriers identified?</i>
Was there documentation that the baby was reevaluated 6 hours later by the medical team?			<i>If not, what were the barriers identified?</i>



# Plan, **Do**, Study, Act Cycle



# Chorioamnionitis PDSA – Do it!

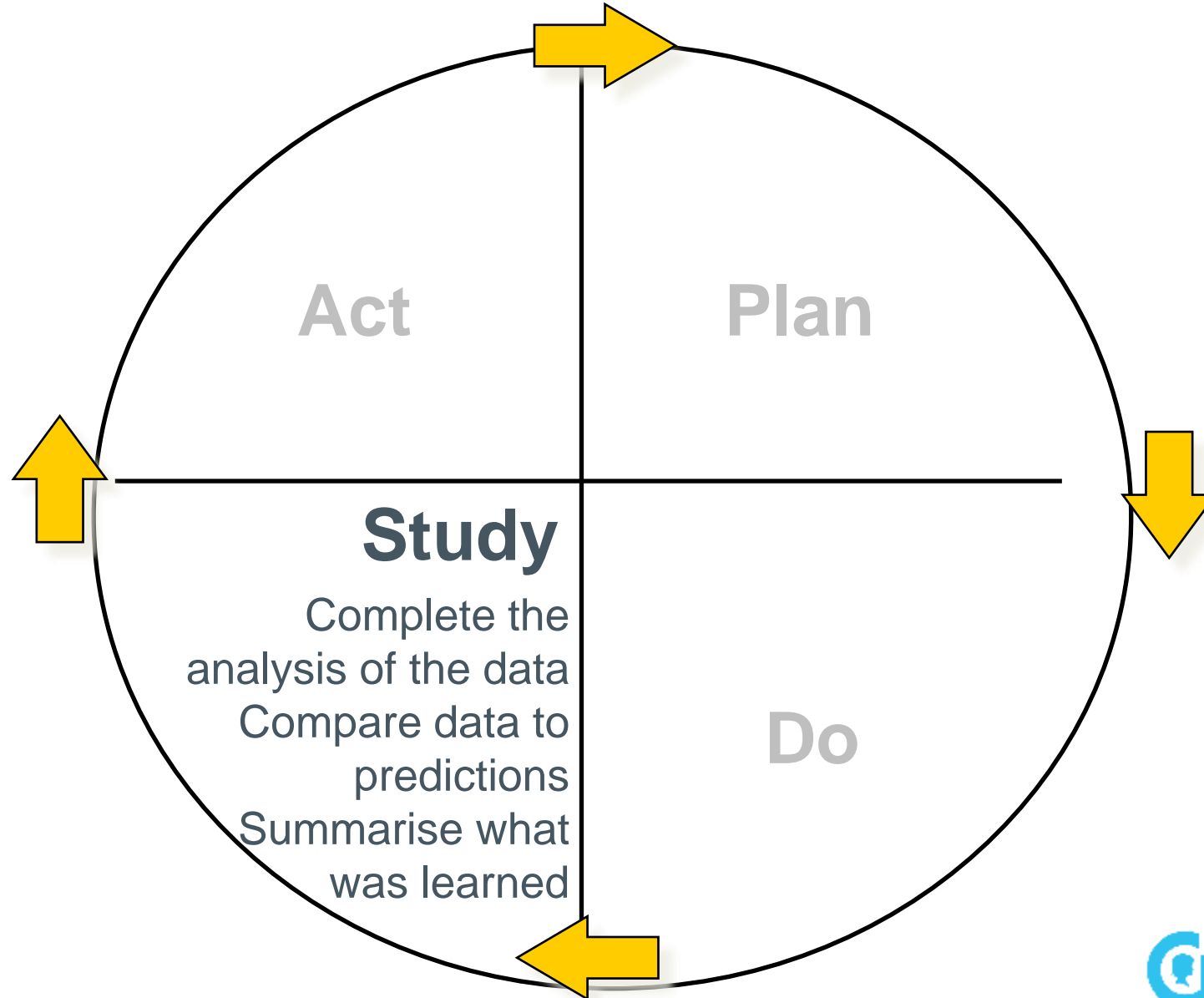
## **Do:**

*Carry out the change or test; Collect data and begin analysis.*

The test of change was carried out with 5 consecutive babies (born during the day) over the first 2 weeks of June. Data collection sheets were completed for these infants. The infants were all transferred from the labor floor to the silverstein 8 nursery where an IV was placed, blood was drawn, and antibiotics were ordered and administered. The time for each of these steps was documented. We also assessed the frequency of vital sign documentation and evaluation by the medical staff.



# Plan, Do, **Study**, Act Cycle



# Chorio – Study it! What did we learn?

## Study:

*Complete analysis of data;*

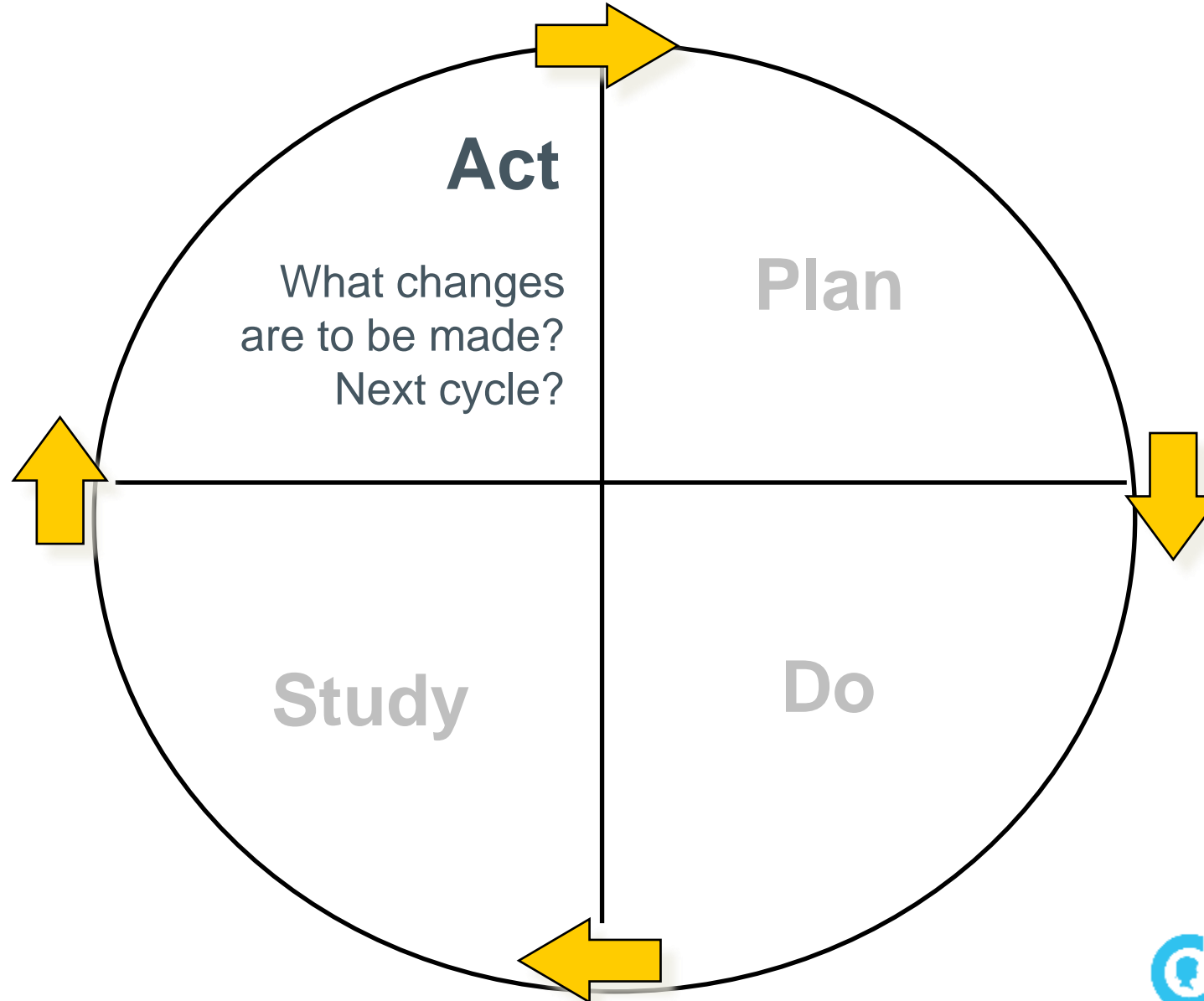
3 babies in the first week and 2 babies in the second week of June were treated in the well-baby nursery for their sepsis evaluation. 3 of the 5 babies were born outside of the window of 8am to 4pm. In two cases, there was a delay in bringing the baby up from the labor floor due to a lack of understanding that the labor floor nurse was supposed to initiate this. The process actually seemed to work better for the babies that were born at night (one baby had antibiotics started within 2 hours!). In one situation, the delay in care was due to the time it took to place the IV. Personnel did what they were otherwise expected to do (well-baby and ICN nursing and physician staff).

*Compare the data to your predictions and summarize the learning*

Question	Prediction	Actual Findings
Delay in IV and Abx?	Placement of IV within 30 minutes	One delay in IV. Two delays in baby being brought up from labor floor. On average, antibiotics were started within 3 hours.
Delay in blood work and ordering medications?	Blood drawing and orders within 30 minutes	Completed on time
Barriers to q3h vital signs and 6 hr evaluation?	No barriers	Some babies did not get q3h vital signs and 6 hour check. Barriers were people forgetting they had to do it.
New barriers due to scale from 1 to 5 babies?	Yes there will be additional challenges – forgetting to do vital signs and 6hr check. Will be worse at night	Communication with labor floor about initiating transfer was a problem. Also, lack of understanding that this was only supposed to happen during the day.



# Plan, Do, Study, **Act** Cycle





# Chorioamnionitis – Act? What to do next?

## **Act:**

*Are we ready to make a change? Plan for the next cycle*

- Reinforce communication between well baby nursery and labor floor about practice change and everyone's role.
- Expand pilot to include more babies during the day.
- Introduce reminders about q3h vital sign checks and 6 hour medical evaluation.
- May be able to move to nights and weekends more quickly than we anticipated.

