

# Quality Improvement Community of Learning

March 31st, 2022

1:00-2:30 pm ET



# Welcome!

Thank you for joining the call! We will get started shortly.

- You may be **muted upon entry** to the call
- You **DO have the ability** to unmute yourself
- We encourage participants to remain muted in an effort to reduce background noise

This presentation will be recorded



NICHQ

# The NICHQ Team



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**Jane Taylor, EdD**  
*Improvement Advisor*

The faculty have nothing to disclose.



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# Objectives of the 5 QI Sessions

Participants Gain:

- Increased capability in improvement science—improvement basics
- Increased understanding of what is happening in other States
- The ability to include others (partners, team members, staff, community-based organizations) to expand boundaries of the work
- The ability to influence others to adopt quality improvement as an execution framework



# Sessions 1& 2 Review

- Welcome & Introductions
- Quality Improvement
  - What is it?
  - Using Adult Education Theory and Principles with Improvement Science
  - Why do we use improvement science?
  - How do we start?
- Creating the Case for Change and Assessing Readiness for Change
  - Assessing the gap
  - Identifying steps to close gaps
- Model for Improvement Part 1
  - Overview
  - Focus on Aim and Changes
    - Driver Diagrams
    - PDSAs
- Leaving in action



# Today's Agenda

- Welcome
- Model for Improvement Part 2
  - Review of PDSAs from Part 1
  - How will we know that a change is an improvement?
    - Measurement for Improvement
    - Finding the Story in Data using Run Charts
- Leaving in Action
- Next Steps and Close





Washington

Oregon

Idaho

Montana

North Dakota

Minnesota

Wisconsin

Michigan

New Hampshire

Vermont

Massachusetts

Maine

South Dakota

Wyoming

Nebraska

Iowa

New York

Pennsylvania

Rhode Island

Connecticut

New Jersey

Delaware

Maryland

Washington, DC

West Virginia

Nevada

Utah

Colorado

Kansas

Missouri

Illinois

Indiana

Ohio

Kentucky

Virginia

North Carolina

South Carolina

Georgia

Alabama

Mississippi

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New Mexico

Arizona

California

Alaska

Hawaii

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# QI Community of Learning Overview

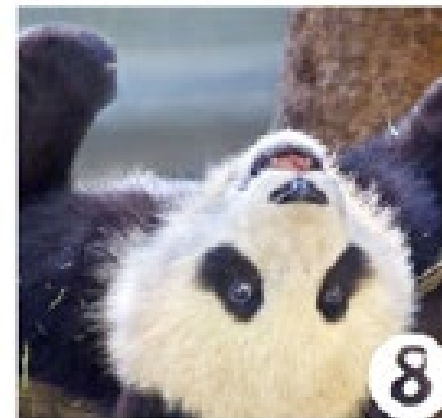
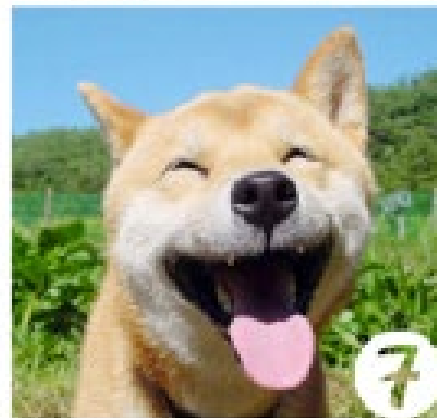
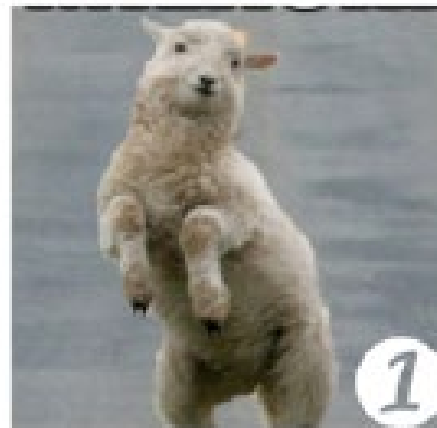


| Topic                                                                                               | Month                         |
|-----------------------------------------------------------------------------------------------------|-------------------------------|
| Quality Improvement: What is it? Why do we use it? How do we start?                                 | January 25, 2022, 2-3:30pm ET |
| The Model for Improvement Part 1                                                                    | February 22, 2022, 2-3pm ET   |
| The Model for Improvement Part 2                                                                    | March 31, 2022, 1-2:30pm ET   |
| Obstetric Hemorrhage: Sharing Successes and Guidance                                                | April 2022 (exact date TBD)   |
| More on Using Data for Improvement                                                                  | April 27, 2022, 1-2pm ET      |
| Severe Hypertension in Pregnancy: Sharing Successes and Guidance                                    | May 2022 (exact date TBD)     |
| Care for Pregnant and Postpartum People with Substance Use Disorder: Sharing Successes and Guidance | June 2022 (exact date TBD)    |
| Sustaining the Gains and Spread                                                                     | July 26, 2022, 1-2:30pm ET    |
| Cardiac Conditions in Obstetrical Care: Sharing Successes and Guidance                              | August 2022                   |



Be sure to add all webinars to your calendar if you have not already done so!

# Mood Check...



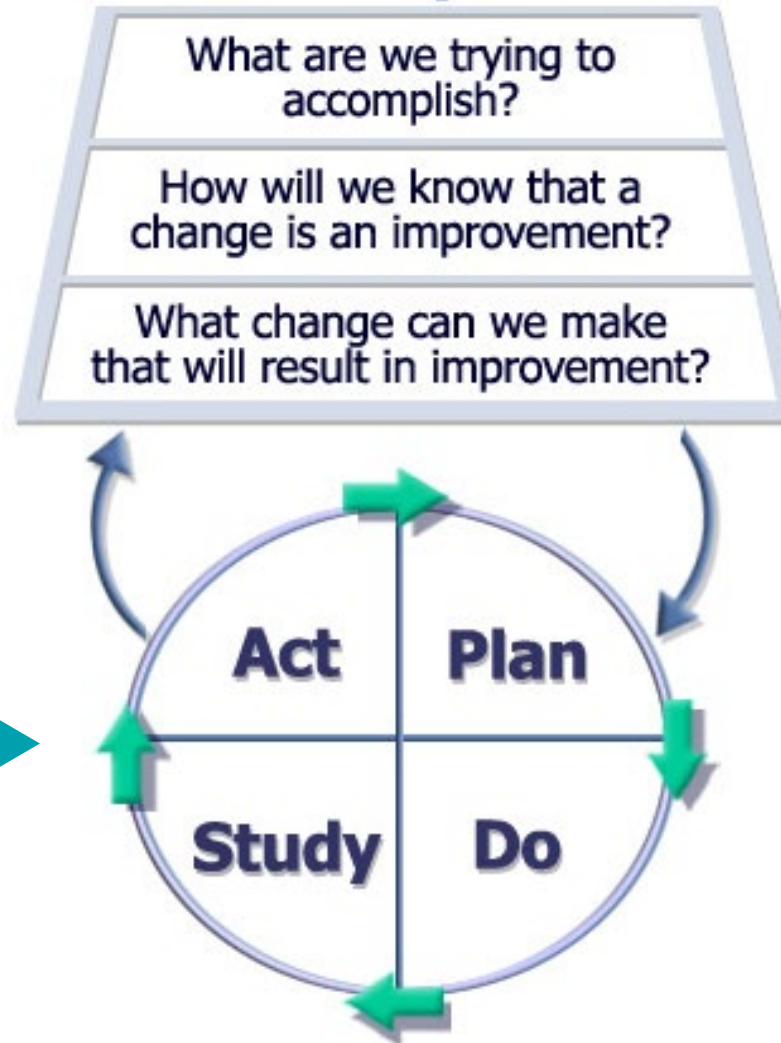
# Model for Improvement

## Building our PDSA Muscles



Photo by [Simone Pellegrini](#) on [Unsplash](#)

Testing Change Ideas



### Cycle of Improvement

- Rapid Testing
- Think **BIG** and Start **SMALL**

# PDSAs

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In your experience:

- What is the best thing about using PDSA cycles?
- The hardest thing?

# PDSA Worksheet



MODEL FOR IMPROVEMENT *Date:* \_\_\_\_\_

Project Name: \_\_\_\_\_

Overall Aim of Project: \_\_\_\_\_

Objective of this PDSA Cycle: \_\_\_\_\_

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

What question(s) do we want to answer with this PDSA cycle: \_\_\_\_\_

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## **Plan:**

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

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

Predictions (for questions above): \_\_\_\_\_

## **Do:**

*Report what happened: the completed change or test; data; and begin analysis.*

## **Study:**

*Complete analysis of data.*

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

## **Act:**

*Are we ready to make a change (adopt, adapt, abandon)? Plan for the next cycle:*

# Tips for Testing

- Scale down – think “Drop Two”
- Use a form to document your test

**Just 1**

- Make changes in parallel

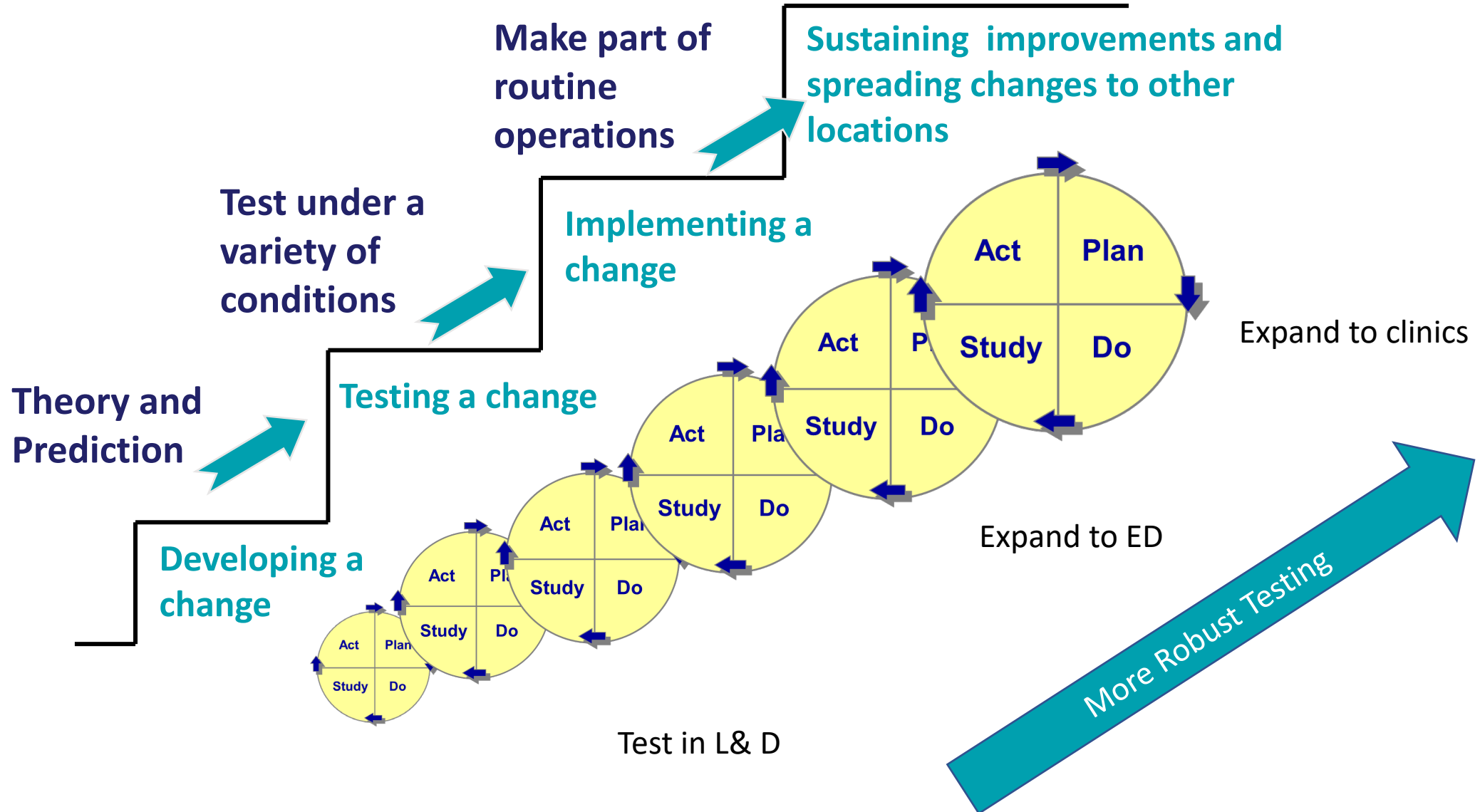
- Year
- Quarter
- Month
- Week
- Day
- Hour



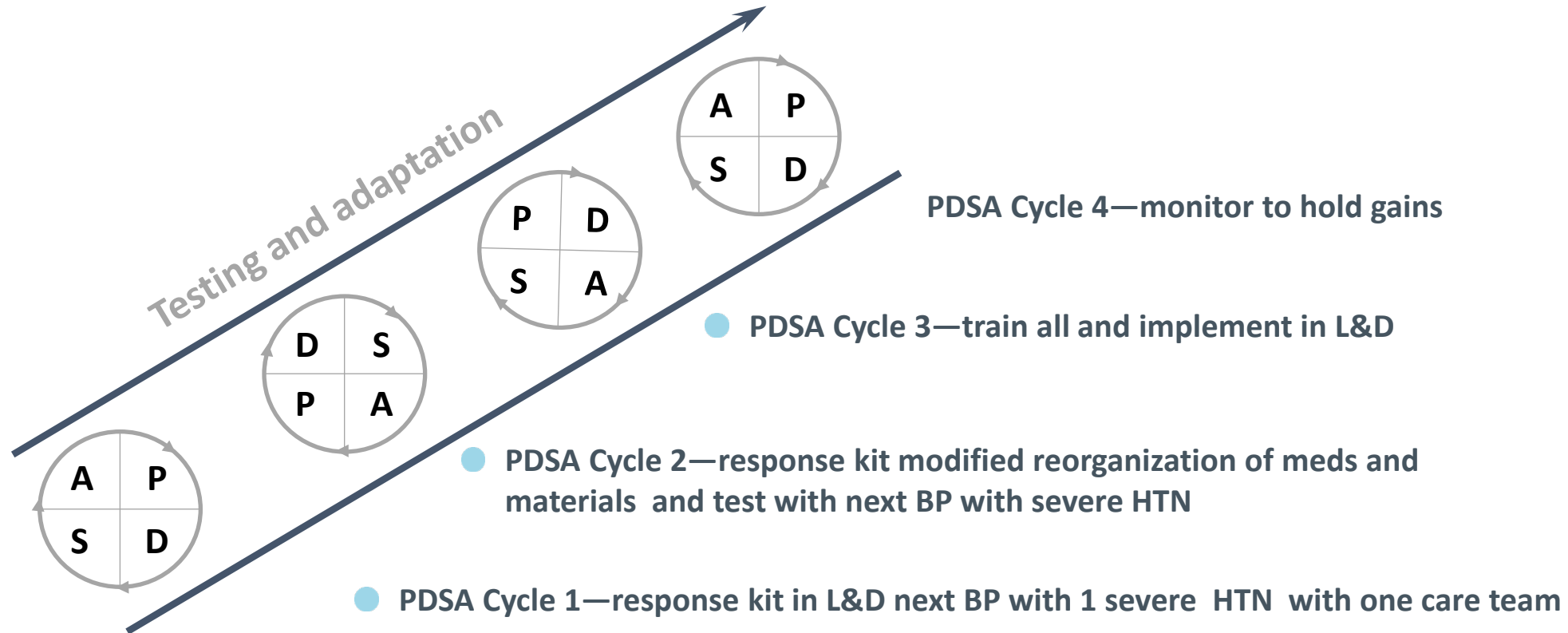
*“What can we do by Tuesday without harming the hair on the head of a patient?”*

- Don Berwick

# Sequence of Improvement

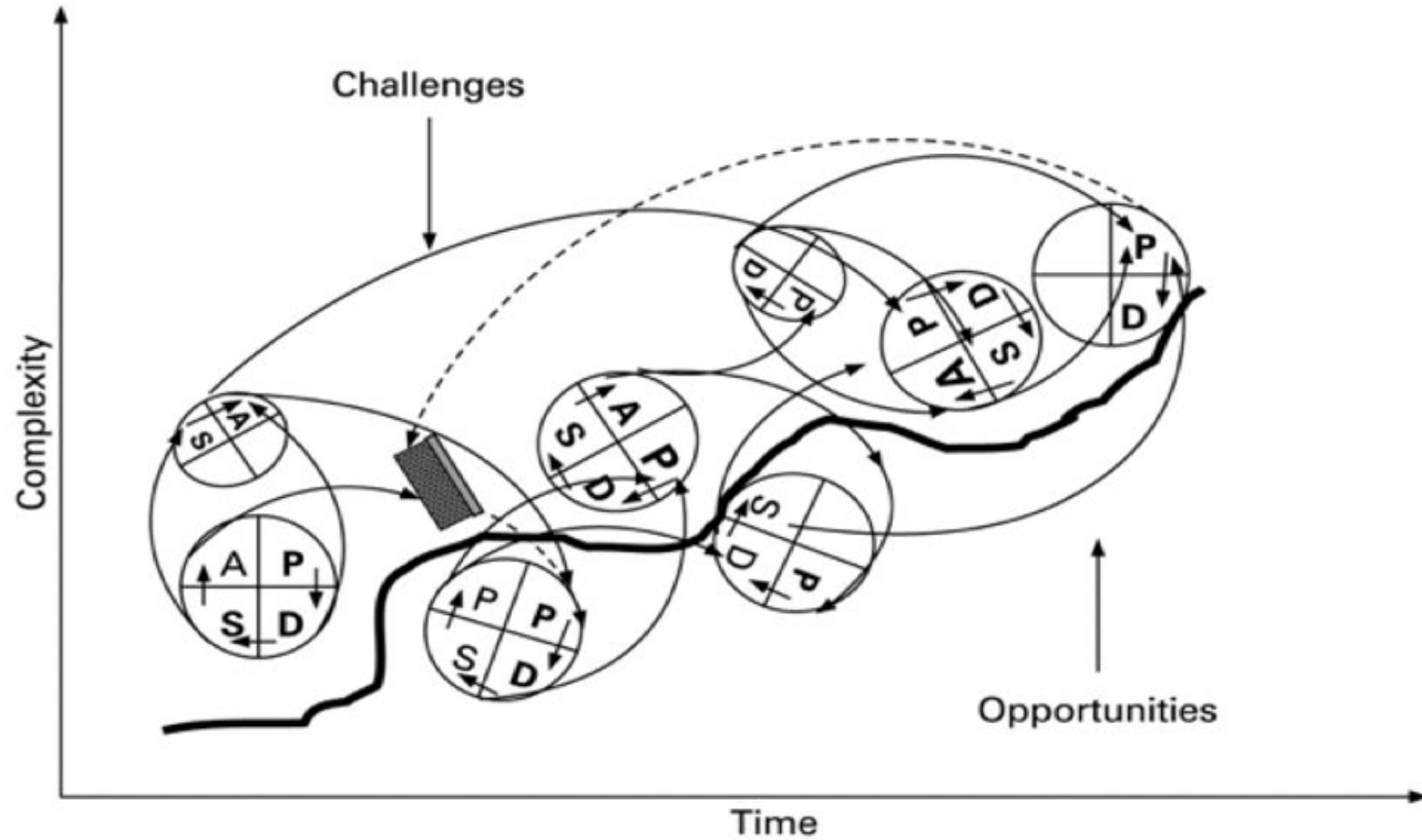


# PDSA Series: Changes Ideas That Evolve



Langley, G., R. Moen, K. Nolan, T. Nolan, C. Norman, and L. Provost. "The Improvement Guide: A Practical Approach to Enhancing Organizational Performance." 2nd ed. San Francisco, CA: Jossey-Bass, 2009.

# Early PDSA tests (*adopt, adapt, abandon*)



Source: A case study of translating ACGME, to a comprehensive curriculum improvement projects as the key component requirements into reality: systems quality practice-based learning and improvement, A M Tomolo, R H Lawrence and D C Aron, *Qual Saf Health Care* 2009 18: 217-224

# Deciding on the Scale of the Test

| Readiness To test changes                                       |                       | No commitment         | Some commitment       | Strong commitment     |
|-----------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Low degree of belief that change idea will lead to Improvement  | Cost of failure large | Very small-scale test | Very small-scale test | Very small-scale test |
|                                                                 | Cost of failure small | Very small-scale test | Very small-scale test | Small-scale test      |
| High degree of belief that 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      | <b>Implement</b>      |

Source: The Improvement Guide: A Practical Approach to Enhancing Organizational Performance, Table 7.1, p. 146.

# Model for Improvement

Measures →



Source: Langley, et al, The Improvement Guide, 2009

# Measures for Improvement

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



“Of all changes I’ve observed, about 5 percent were improvements; the rest, at best, were illusions of progress.”

- W. Edwards Deming

### Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?



**Measurement**

Select the **Measurement** button.

# Measurement Assumptions

- **All measures have limitations**
  - Limitations do not negate their value
- **Measures are an important “voice” of the system**
  - Hearing the voice of the system gives us information on where to work and focus efforts
- **Measures tell a story**

# Data for Improvement, Accountability and Research in Health Care

| Aspect                                     | Improvement                                          | Accountability or Judgment                                    | Clinical Research                                                    |
|--------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------|
| <b>Aim:</b>                                | Improvement of care processes, systems and outcomes  | Comparison for judgment, choice, reassurance, spur for change | New generalizable knowledge                                          |
| <b>Methods:</b>                            | Test observable                                      | No test, evaluate current performance                         | Test blinded                                                         |
| Confounders:                               | Accept consistent                                    | Measure and adjust to reduce                                  | Design to eliminate                                                  |
| Sample Size:                               | “Just enough” data, small sequential samples         | Obtain 100% of available, relevant data                       | “Just in case” data                                                  |
| Flexibility of Hypothesis:                 | Hypothesis flexible, changes as learning takes place | No hypothesis                                                 | Fixed hypothesis                                                     |
| Testing Strategy:                          | Sequential tests                                     | No tests                                                      | One large test                                                       |
| Determining if a Change is an Improvement: | Run charts or Shewhart control charts                | No focus on change                                            | Hypothesis, statistical tests (t-test, F-test, chi square, p-values) |
| Confidentiality of the Data:               | Data used only by those involved with improvement    | Data available for public consumption                         | Research subjects’ identities protected                              |
| Frequency of Use:                          | <b>Daily, weekly, monthly</b>                        | <b>Quarterly, annually</b>                                    | <b>At end of research</b>                                            |

Source: [The Health Care Data Guide](#); Provost and Murray, 2011. Developed from Solberg, Leif I., Mosser, Gordon and McDonald, Susan. “The Three Faces of Performance Measurement: Improvement, Accountability and Research.” Journal on Quality Improvement. March 1997, Vol.23, No. 3.

# A Family of Measures for Quality Improvement

## Outcome measures

- Did our changes impact the aim as predicted?
- Are we getting results and seeing improvement based on our aim?
- The “what” of the QI project
- Limit to a small set of measures

## Process measures

- How did we make the changes?
- Reflects key steps required for improvement
- The “how” of the QI project
- Limit to a few measures

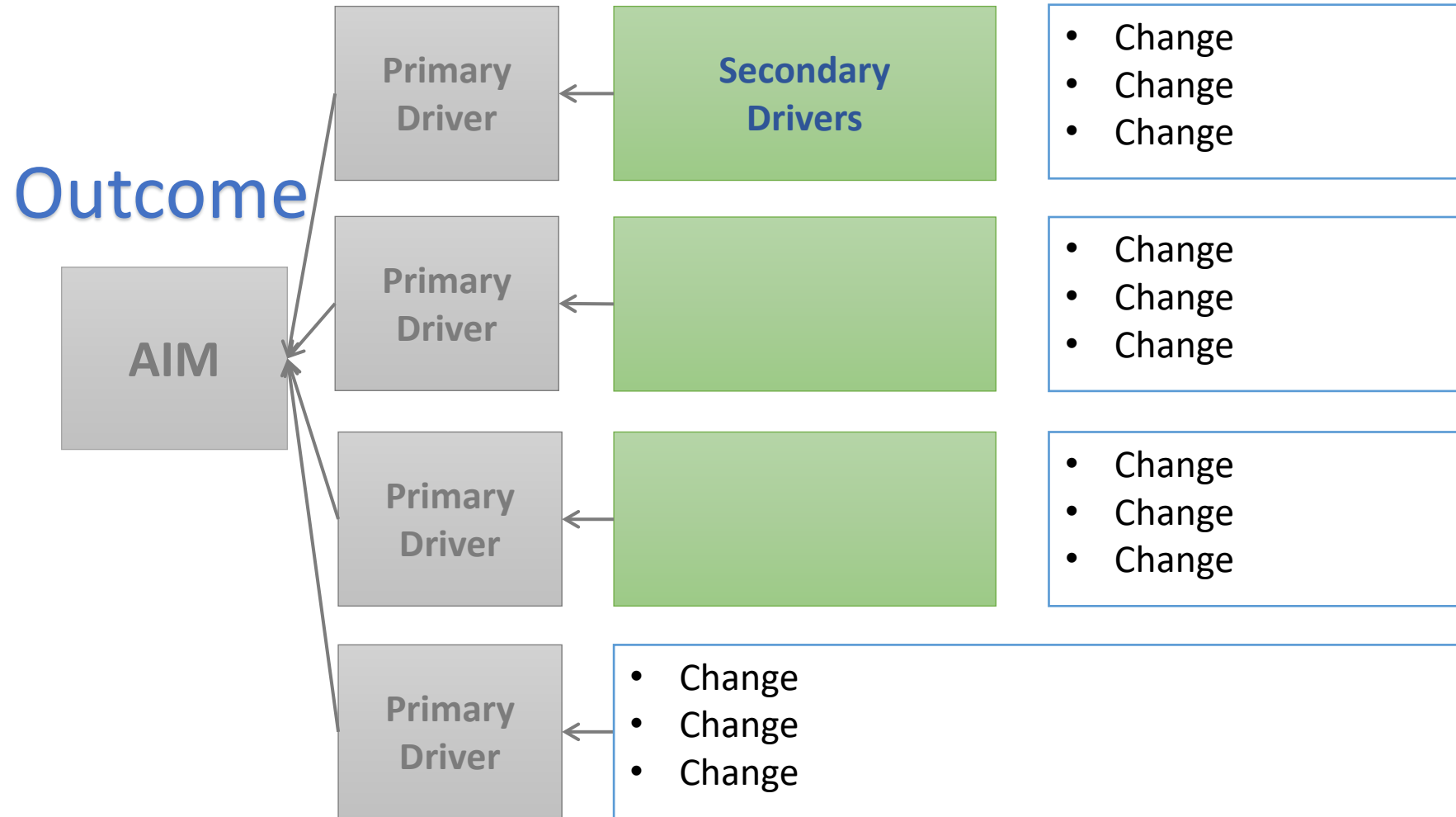
## Balancing measures

- Unintended consequences of improving the system
- May be positive or negative
- May be something else your team wants to monitor
- Limit to one or two measures

## Structural Measures

- A measure meant to designate the conditions under which care is provided:
- Material resources (such as equipment and facilities)
  - Human resources (such as the number, variety and qualifications of professional and support personnel—educated or not)
  - Organizational characteristics (such as the organization of the staff—presence/absence of staffing models, supervision and performance review, methods of paying for care, etc.)
  - Policies, procedures and protocols (done or not done, followed or not followed)

# Where do we look for measures?



- Plan-Do-Study-Act (PDSA) cycles are a disciplined inquiry and learning approach about how these changes will work in your state
- How a state customizes good ideas, ready for use to their unique context

Process & Structure

Aim: By Feb. 2023, we will recognize and treat obstetric hypertension (HTN) during pregnancy and up to six weeks postpartum to reduce severe maternal morbidity (SMM) by 25% and achieve 80% or higher compliance of the HTN recognition tool and OB HTN emergency pathway.

## Primary Drivers

Assessment/  
Recognition

Response/Treatment

Clinical Collaboration to  
avoid 3 D's delay, deny,  
dismiss

Equity in Care

## Secondary Drivers

In ED  
Upon admission  
At first acute HTN onset  
In clinical setting

At second HTN reading  
Medication administration  
At discharge

Stratification by race,  
ethnicity and other factors  
Care gap recognition  
Vigilance in closing gap  
Targeted Universalism Steps

## Change Ideas

Know risk factors  
Use proper BP technique  
Prioritize 2nd reading  
Use a timer as reminder  
Think, "This is an emergency" (like a stroke)  
Use preeclampsia early recognition tool  
Utilize blue band

Use standing orders / HTN order sets to avoid delay  
Over-ride Pyxis for urgent HTN meds  
Make 2<sup>nd</sup> reading within 15 min after initial HTN  
Treat HTN within 15 min if BP elevation lasts 15 min or more  
Follow HTN Medication Admin Guide  
Follow OB HTN Emergency Pathways  
Use Preeclampsia VS Guide  
Use eclampsia algorithm  
Treat severe BP  
Check stat lab results  
Use and practice SBAR  
Swarm and debrief all failures, look for system and process failures  
Develop clear rapid escalation  
Implement TeamSteps  
Schedule f/u PP visit w/in 72hrs if on meds or 3-10 days if not on medications  
Drill & simulate HTN emergencies

Use run and control charts to analyze data monthly.  
Stratify by race and ethnicity  
Include women of color on your improvement team.  
Set universal goals and develop targeted approaches so all groups achieve universal goals

# MN PQC Family of Measures for Hypertension

**Outcome Measures:** Maternal mortality and morbidity rates due to HTN disorder during pregnancy – 6 week pp

**Process Measures:** 3. Percent of birthing people with severe range BP treated within 60 minutes

4. Lapsed time between first severe range BP and follow up BP reading

5. Lapsed time between second confirmatory severe range BP to treatment

6. Percent of compliance with OB hypertension emergency pathway from all hospital entry points

7. Percent BP with HTN disorder sent home with discharge education

8. Percent of BP with HTN disorder sent home with BP cuff

9. Percent of BP with HTN disorder during pregnancy scheduled for post d/c follow up appointment within 3-5 days of discharge

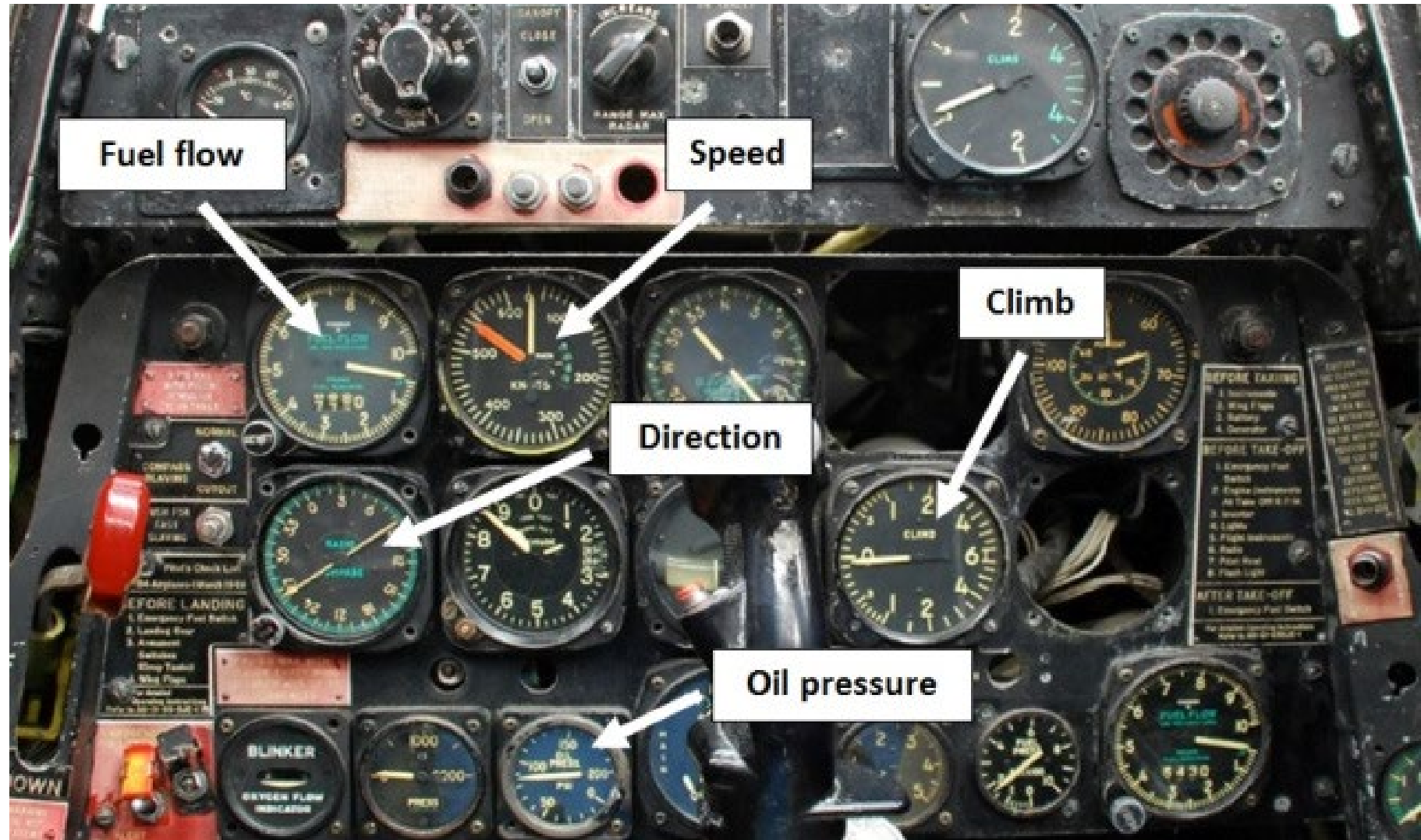
Optional Measure: Percent of BP with HTN disorder sent home with blue band

# Selecting Useful Data and Using Run Charts to See the Story

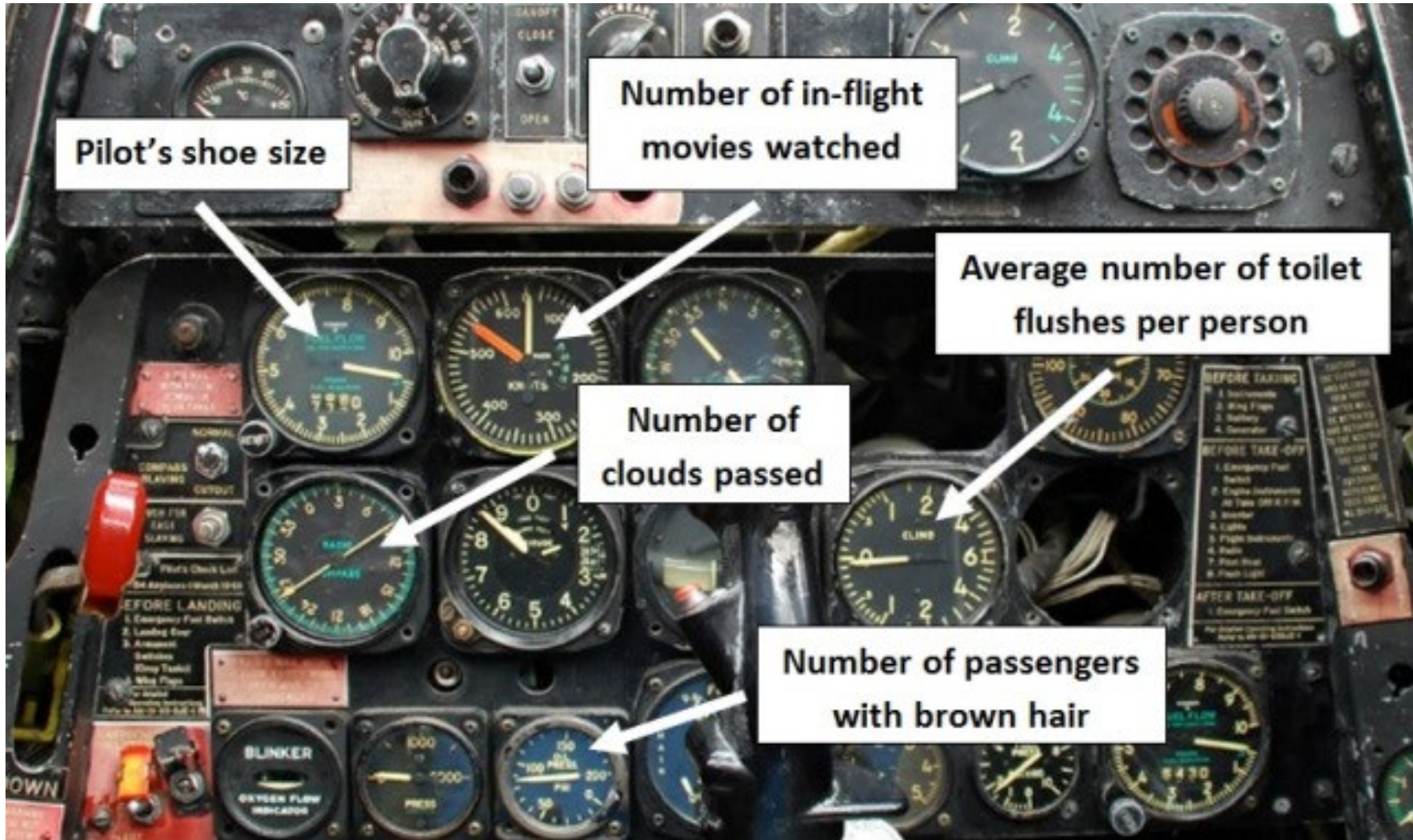


Simon Guilfoyle, 2013

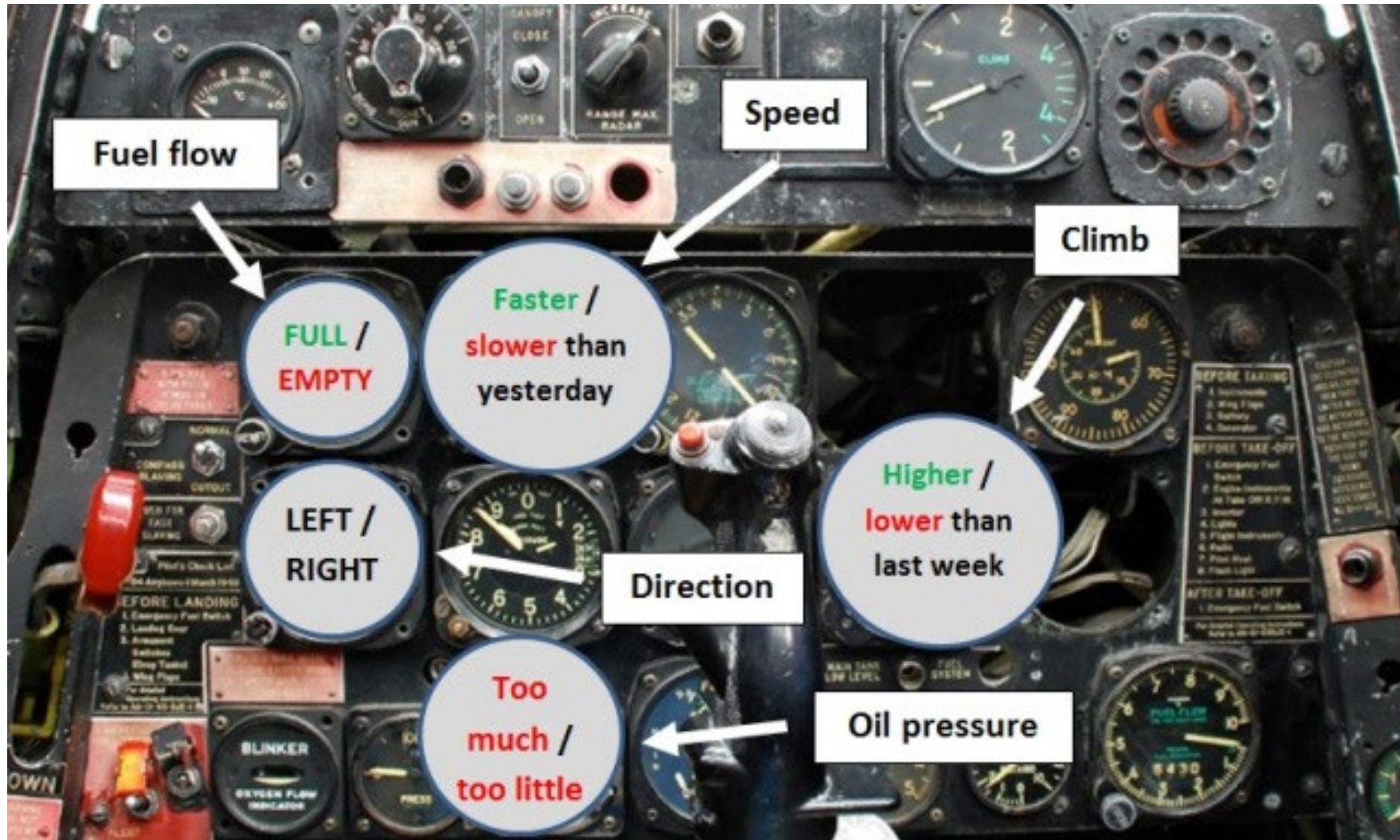
# The right measures are the ones derived from purpose...



# What if you use the wrong measures?



# What if you measure the “right” things, but in the “wrong” way?



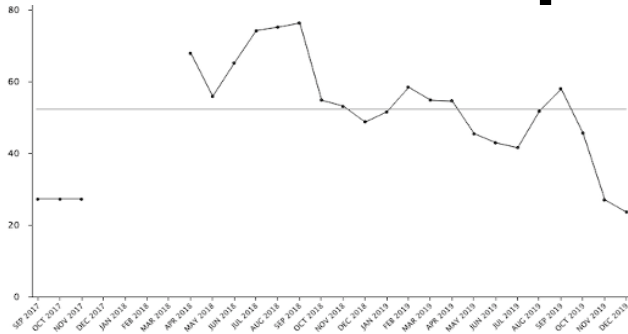
# And, what if we didn't measure anything?



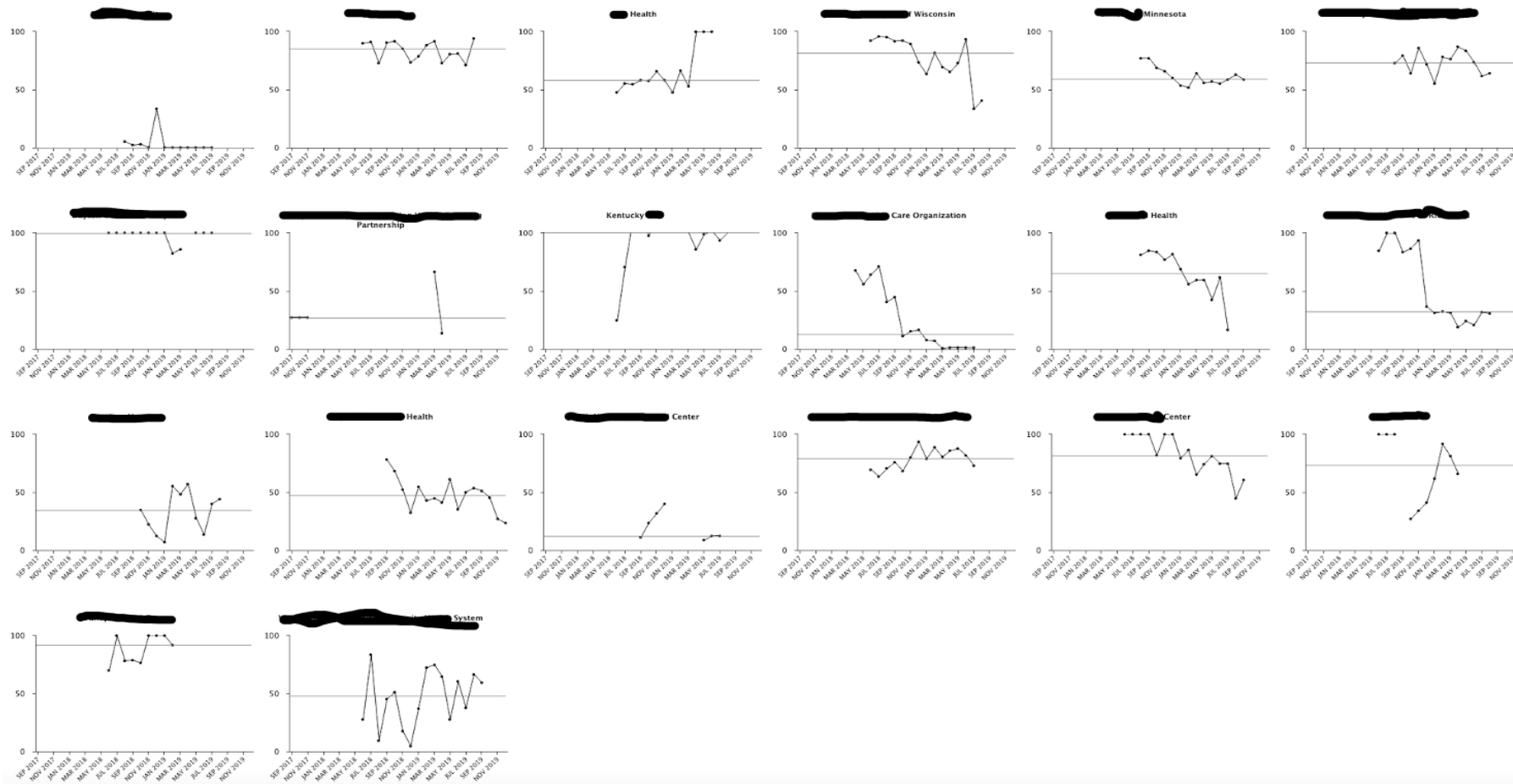
**Aim:** Reduce Hypertension-related severe maternal morbidity from (x/1,000 deliveries to y/1,000 deliveries) for individuals delivering in the labor and delivery unit at ABC hospital by November 1, 2021.

| Measure Type | Measure                                                                                                                                 | Measure Definition                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Outcome      | Hypertension-related Severe Maternal Morbidity (SMM)                                                                                    | <ul style="list-style-type: none"> <li><b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages</li> <li><b>Numerator:</b> Among the denominator, all cases with any non-transfusion SMM code</li> <li>Stratify data by race and ethnicity and language</li> </ul>                                                                                                    |
| Process      | Percent of delivering patients with elevated blood pressure who receive treatment within 60 minutes of elevated blood pressure reading. | <ul style="list-style-type: none"> <li><b>Denominator:</b> Number of patients with persistent (twice within 15 minutes) new-onset Severe HTN (Systolic: = 160 or Diastolic: = 110)</li> <li><b>Numerator:</b> Number of patients among denominator who were treated within 60 minutes with IV Labetalol, IV Hydralazine, or PO Nifedipine</li> <li>Stratify data by race and ethnicity and language</li> </ul> |
| Process      | Percent of patients who can teach back postpartum warning signs to their care team upon discharge                                       | <ul style="list-style-type: none"> <li><b>Denominator:</b> Total number of patients delivering on the unit</li> <li><b>Numerator:</b> Number of patients who, at the time of discharge, could teach back the symptoms of when they should seek postpartum emergency care</li> <li>Stratify by race and ethnicity and language</li> </ul>                                                                       |
| Process      | Percent of deliveries where a complication occurred that had a team debrief after the event                                             | <ul style="list-style-type: none"> <li><b>Denominator:</b> Total number cases where a complication occurred</li> <li><b>Numerator:</b> Number of cases where a complication occurred that had a team debrief within one week of the adverse event</li> </ul>                                                                                                                                                   |
| Structural   | Organization has a system in place for conducting debriefs                                                                              | <ul style="list-style-type: none"> <li>Yes/No</li> </ul>                                                                                                                                                                                                                                                                                                                                                       |
| Balancing    | Fetal Distress (in response to medication)                                                                                              | <ul style="list-style-type: none"> <li><b>Denominator:</b> Total number of cases where anti-hypertensives were given</li> <li><b>Numerator:</b> Number of cases where fetal distress was observed (as measured by system criteria) due to low blood pressure</li> </ul>                                                                                                                                        |

# Small Multiples: visualizing all your teams



% patients screened for SDoH  
Aggregate and Small Multiple Run Charts





Source: Electronic Shine-a-Day™ Safety Scoreboards - Department Worked Days Without Accident Signs, SKU: S-7464 (mysafetysign.com)

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# An Operational Definition...

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... puts communicable meaning to a concept by specifying how the concept will be applied within particular set of circumstances.

- It gives communicable meaning to a concept
- Is clear and unambiguous
- Specifies measurement methods and equipment
- Identifies criteria

# Organizing Your Measures Worksheet©

Topic for Improvement:

| Aim/Driver Concept | Potential Measure(s) | Outcome | Process | Balancing | Structure |
|--------------------|----------------------|---------|---------|-----------|-----------|
|                    |                      |         |         |           |           |
|                    |                      |         |         |           |           |
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|                    |                      |         |         |           |           |

Adapted from: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators*. 2<sup>nd</sup> Edition, Jones & Bartlett Learning, 2017.

# Example

## Organizing Your Measures Worksheet

Topic for Improvement: Severe Maternal Hypertension (HTN)

| Concept          | Potential Measure(s)                                                            | Outcome | Process | Balancing | Structure |
|------------------|---------------------------------------------------------------------------------|---------|---------|-----------|-----------|
| Harm             | Maternal morbidity and mortality rates                                          | ✓       |         |           |           |
| Timely treatment | Percent of birthing people with severe range BP treated within 60 minutes       |         | ✓       |           |           |
| Readmissions     | Percent of birthing people readmitted w/ complications from severe maternal HTN |         |         | ✓         |           |
| Staff Education  | Percent of staff fully trained in identifying and treating severe maternal HTN  |         |         |           | ✓         |

Adapted from: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators*. 2<sup>nd</sup> Edition, Jones & Bartlett Learning, 2017.

# Operational Definition Worksheet

**Measure Name:** \_\_\_\_\_

(Remember this should be specific and quantifiable, e.g., the time it takes to..., the number of..., the percent of... or the rate of...)

## Operational Definition

Define the specific components of this measure. Specify the numerator and denominator if it is a percent or a rate. If it is an average, identify the calculation for deriving the average. Include any special equipment needed to capture the data. If it is a score (such as a patient satisfaction score) describe how the score is derived. When a measure reflects concepts such as accuracy, complete, timely, or an error, describe the criteria to be used to determine "accuracy."

**Can you develop good Operational Definitions?**

# Data Collection Plan Worksheet

Project: \_\_\_\_\_

| Measure Name | Is Stratification appropriate?<br>If Yes, list the levels of stratification | Will you use sampling? If Yes, describe the sampling method you will use | Frequency of data collection (e.g., hourly, daily weekly?) | Duration of data collection (i.e., how long do you plan to collect the data?) |
|--------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|              |                                                                             |                                                                          |                                                            |                                                                               |
|              |                                                                             |                                                                          |                                                            |                                                                               |
|              |                                                                             |                                                                          |                                                            |                                                                               |
|              |                                                                             |                                                                          |                                                            |                                                                               |
|              |                                                                             |                                                                          |                                                            |                                                                               |

Source: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators*. 2<sup>nd</sup> edition, Jones and Bartlett, 2017

# Measurement Dashboard Worksheet<sup>©</sup>

Project: \_\_\_\_\_

| <u><b>Measure Name</b></u><br>(Be sure to indicate if it is a count, percent, rate, days between, etc.) | <u><b>Operational Definition</b></u><br>(Define the measure in very specific terms. Provide the numerator and the denominator if a percentage or rate. Be as clear and unambiguous as possible) | <u><b>Data Collection Plan</b></u><br>(How will the data be collected? Who will do it? Frequency? Duration? What is to be excluded?) | Goal |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                                                                         |                                                                                                                                                                                                 |                                                                                                                                      |      |
|                                                                                                         |                                                                                                                                                                                                 |                                                                                                                                      |      |
|                                                                                                         |                                                                                                                                                                                                 |                                                                                                                                      |      |

Adapted from: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators*. 2<sup>nd</sup> Edition, Jones and Bartlett, 2017.



## Leaving in Action

- Continue to refine your aim
- In preparation for next session:
  - Go to <https://1drv.ms/b/s!AlvzNhmTpx9kgQB8IWkLFa9ZKidC> to access your state's Jamboard
  - Identify at least one outcome measure, 1-2 process measures and a balancing and structural measure (if useful) for your project
  - Complete one PDSA between now and the next session



Photo by [Sammie Vasquez](#) on [Unsplash](#)

# Resources

- [NICHQ QI 101](#)
- [NICHQ QI 102](#)
- How to Improve, IHI Website [How to Improve | IHI - Institute for Healthcare Improvement](#)
- Measurement for Improvement, Bob Lloyd, IHI Open School [Whiteboard: Family of Measures - YouTube](#)



# Reminders and Next Steps

- The next QI COL webinar will be held on: April 27<sup>th</sup> 2022, from 1-2:00 pm ET. The topic will be More on Using Data for Improvement.
- If you have not done so already, register for all QI COL sessions and download them to your calendar:  
<https://nichq.zoom.us/meeting/register/tJckcOGorDoiHdXJ27vnCTcEZC8iuE39ucS6>
- You can sign up for at least one TA session. Complete this TA request form to set up a session with Jane or Sue when you're ready! One person from your state should fill this out.  
<https://survey.alchemer.com/s3/6707471/QI-Community-of-Learning-TA-Form>



# Thank you!

We are improvers at heart.

We want to hear and learn from your experiences during these sessions.

<https://survey.alchemer.com/s3/6803849/AIM-COL-Session-Evaluation>

Please take a moment to complete the brief evaluation before signing off!



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