**I-VAC**

ILLINOIS VACCINATES
AGAINST COVID-19

# QI Project Orientation

With Edward Linn, MD

# Agenda

- Welcome

- Clinical Session
  - Orientation to Project

- QI Session
  - Introduction to the Model for Improvement, Creating PDSAs

- Questions and Closing

# Session Schedule

| Session | Date | Topic |
| --- | --- | --- |
| **1** | **April 25** | **Orientation, Introduction to the Model for Improvement** |
| 2 | May 23 | Practice Systems/Workflows to Promote Vaccination |
| 3 | June 20 | Utilizing IIS Functionality |
| 4 | July 25 | Overcoming Vaccine Hesitancy at the Practice Level |
| 5 | August 22 | Addressing Equity in Immunizations |
| 6 | Sept 19 | Combatting Vaccine Misinformation and Shifts in Vaccine Acceptance |

# CME Disclosures

None of the Planning Committee members, faculty/presenters, content reviewers, CME application reviewers or anyone in control of the training content disclosed a relevant financial relationship with a commercial interest/ineligible company.

| Name and Credentials | Role in Activity | Was there a relevant Financial Disclosure? | List of Mitigated Disclosures |
|---|---|---|---|
| Marielle Fricchione MD | Planning Committee Member | No | N/A |
| Edward Linn MD | Faculty/Presenter<br>Planning Committee Member | No | N/A |
| Christina Wells | Faculty/Presenter<br>Planning Committee Member<br>Content Reviewer | No | N/A |
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| Sarah Parvinian, MD | CME Reviewer | No | N/A |
| Joe Hageman, MD | CME Reviewer | Yes | Royalties - Owlet Inc |

# CME Accreditation

The Illinois Chapter, American Academy of Pediatrics is accredited by the Illinois State Medical Society (ISMS) to provide continuing medical education for physicians.

The Illinois Chapter, American Academy of Pediatrics designates each live webinar for a maximum of *1 AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses and Nurse Practitioners can submit Certificates of Attendance to their accrediting board to claim credit for participation in the live webinars.
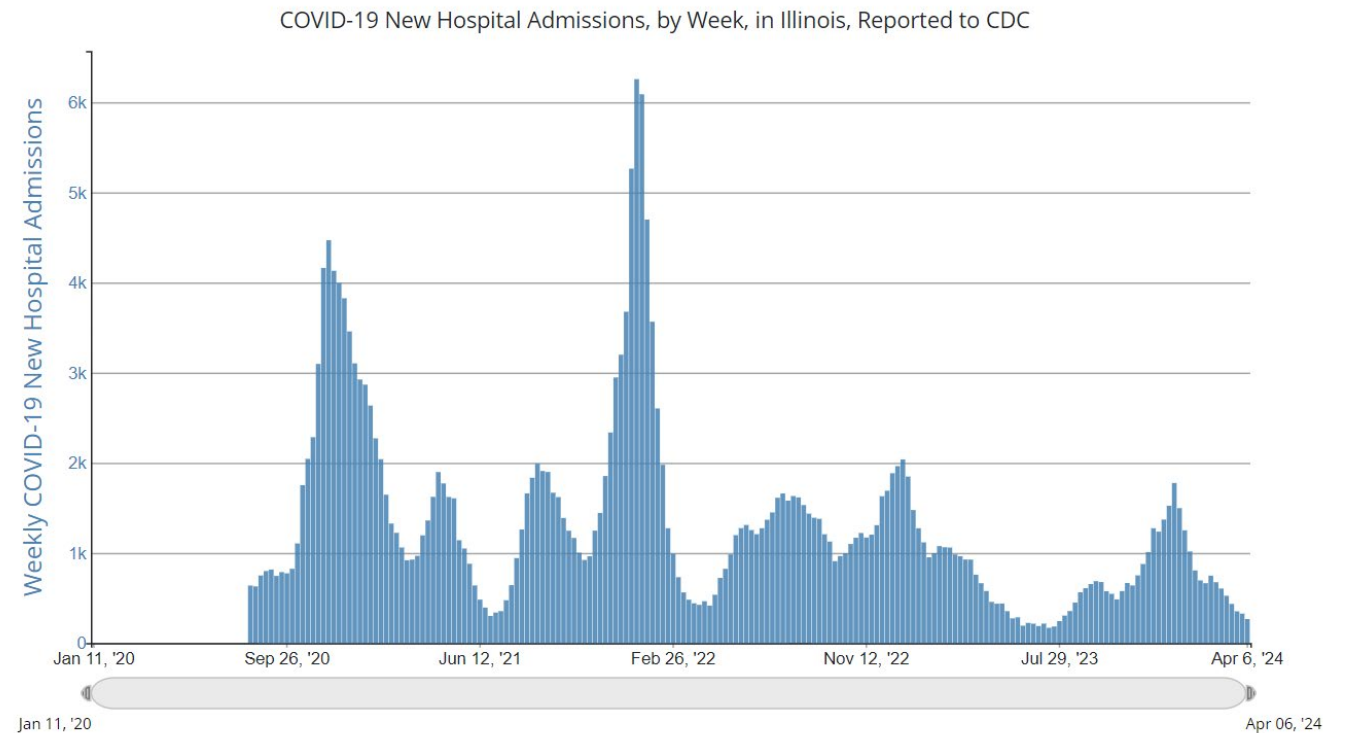
# OBJECTIVES

▷ Describe the importance of COVID -19 vaccination in Illinois

▷ Understand the Model for Improvement

▷ Practice creating PDSA Cycles

▷ Summarize Rapid Cycle Testing

▷ Review Data Collection & the Quality Improvement Data Aggregator (QIDA)

# COVID-19 Trends

- Waves of infection causing seasonal peaks
  - Respiratory virus season = COVID-19, RSV, and Flu
- New variants continue to emerge



COVID-19 New Hospital Admissions, by Week, in Illinois, Reported to CDC

https://covid.cdc.gov/covid-data-tracker/#trends_weeklyhospitaladmissions_select_00
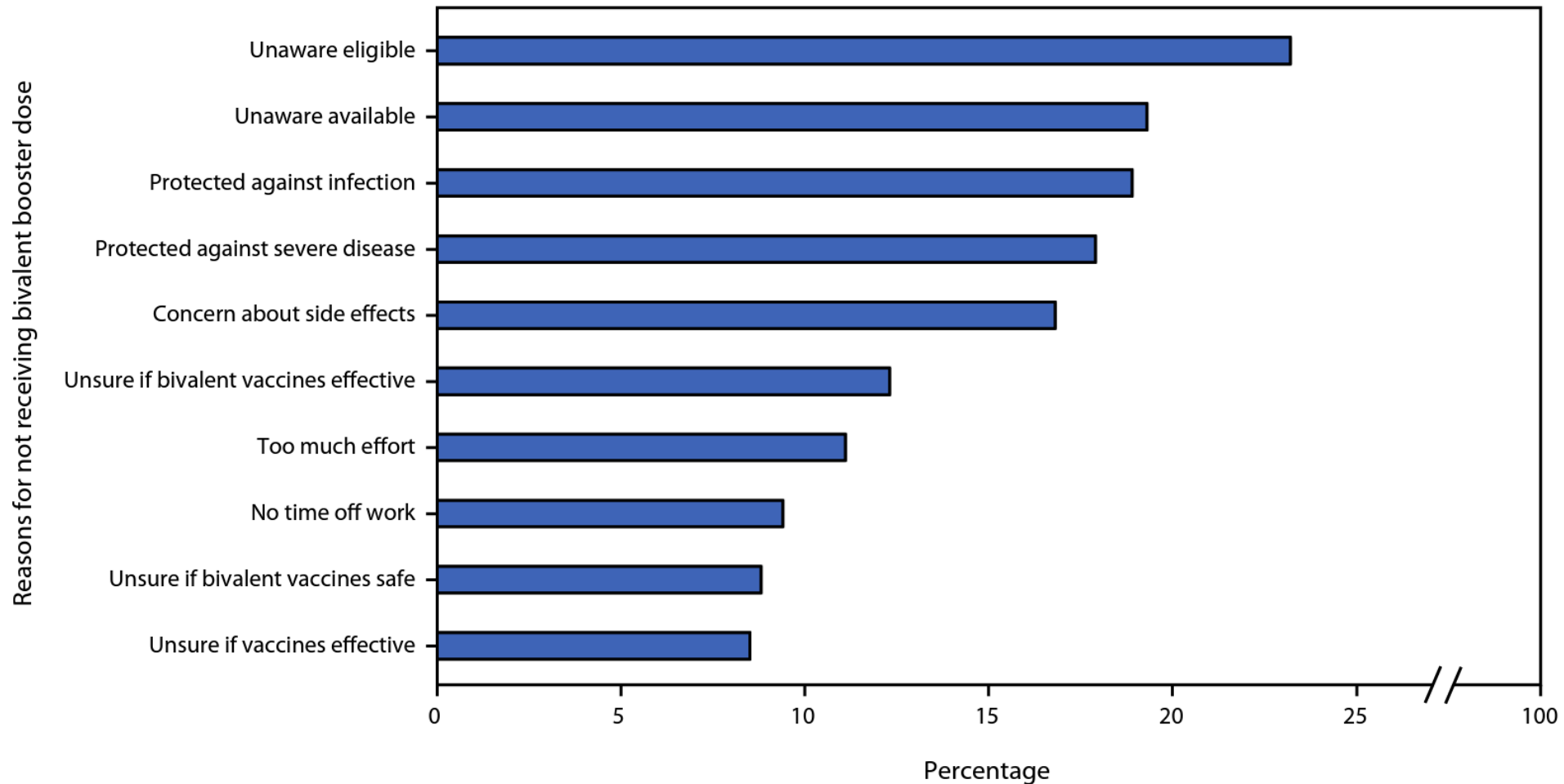
# Future with COVID

- COVID-19 is here to stay.
  - Likely have a new vaccine every winter.
- People can get reinfected.
- Continued concerns of Long COVID – we still don't have a cure.
- High risk groups: people over 65 years, infants, pregnant people, immunocompromised people.

# Why Aren't Patients Getting Vaccinated?



**B. Did not receive bivalent booster dose (N = 714)**

(Horizontal bar chart)

Y-axis: Reasons for not receiving bivalent booster dose

- Unaware eligible — ~23
- Unaware available — ~19.5
- Protected against infection — ~19
- Protected against severe disease — ~18
- Concern about side effects — ~17
- Unsure if bivalent vaccines effective — ~12.5
- Too much effort — ~11
- No time off work — ~9.5
- Unsure if bivalent vaccines safe — ~9
- Unsure if vaccines effective — ~8.5

X-axis: Percentage (0, 5, 10, 15, 20, 25 ... 100)

# Challenges with COVID-19 Vaccinations – What Providers are Saying

## Internal

- Storage/refrigeration hardships.
- Not enough time during appointments
- Competing with messages out in the world/social media, etc.
- Walking the line of letting patients decide whether they want to vaccinate/not pushing.

## External

- Everyone is an epidemiologist now.
- Patients mistrust medicine.
- Patients mistrust in government-mandated decisions.
- Patient's fear of side effects.
- Citizenship status/identification.

# COVID-19 Vaccine Review

- 2023 – 2024 Pfizer, Moderna, and Novavax COVID-19 vaccines were authorized and recommended in September 2023.

- Everyone 6 months and older should receive a COVID-19 vaccine.
  - Most people only require one dose.
  - Children 6 months to 4 years will need multiple doses if they are starting a series or having not completed a primary series.

- All VFC providers are required to stock and recommend COVID vaccines.

# Project Measures

| Measure Name | Measure Definition |
|---|---|
| 1. COVID-19 Vaccination Rate | Percentage of patients seen in office during the data collection month who received or had already received the 2023-2024 COVID-19 vaccine |
| 2. Missed Opportunity Rate | Percentage of patients seen in office during the data collection month who did not receive an eligible COVID-19 vaccine at the office visit |
| 3a. Missed Opportunities due to Postponement by Provider | Percentage of missed opportunities that were due to the provider postponing the vaccine to a later date |
| 3b. Missed Opportunities due to Postponement by Patient or Caregiver | Percentage of missed opportunities that were due to the patient or caregiver postponing the vaccine to a later date |
| 3c. Missed Opportunities due to Refusal | Percentage of missed opportunities that were due to a patient or caregiver refusing or declining a vaccine |
| 3c-a. Patient Refusals Where Education Was Provided | The percentage of missed opportunities due to patient refusal where education was provided |
| 3d. Missed Opportunities due to Stock or Supply Issues | Percentage of missed opportunities that were due to stock or supply issues |
| 3e. Missed Opportunities Without Reason Documented | Percentage of missed opportunities that did not have a documented reason |
| 3f. Missed Opportunities for Other Reasons | The percentage of missed opportunities due to other reasons |

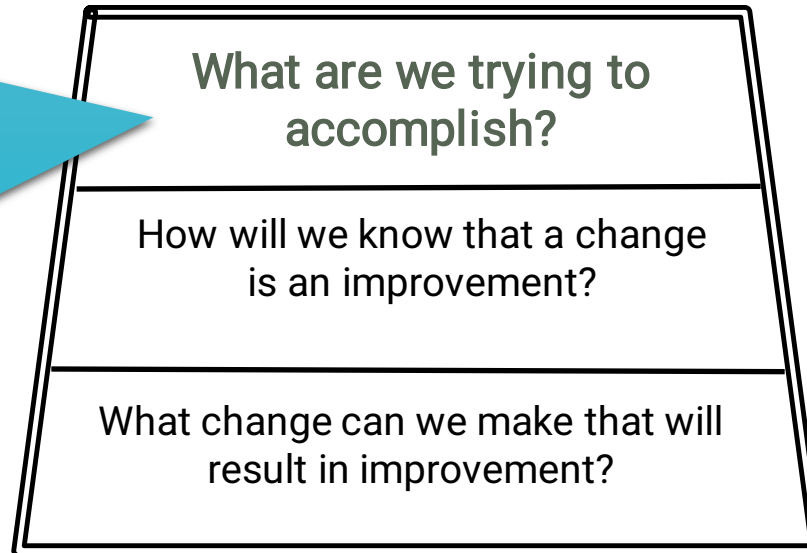➡ Goal: 20% improvement from baseline

➡ Goal: 20% decrease from baseline

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# Model for Improvement



Fundamental Questions → 

- What are we trying to accomplish? — **AIMS**
- How will we know that a change is an improvement? — **MEASURES**
- What change can we make that will result in improvement? — **IDEAS**

Iterative Tests of Change →

Plan · Do · Study · Act

Langley, et al, *The Improvement Guide*, 2009
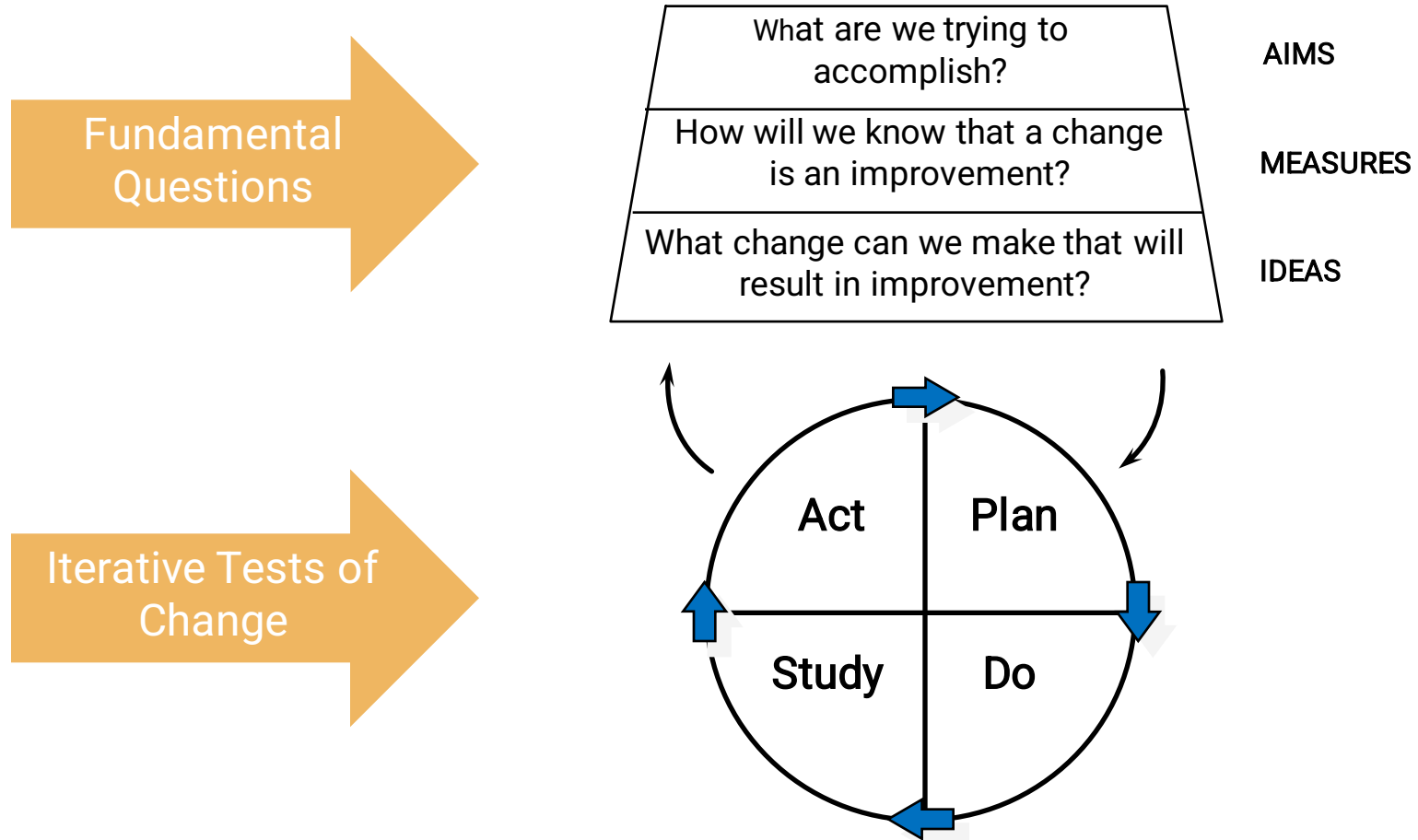
# Model for Improvement

CHOOSE A
**S**pecific
**M**easurable
**A**ctionable
**R**elevant
**T**ime-bound
AIM

What are we trying to accomplish?

AIM

How will we know that a change is an improvement?

MEASURES
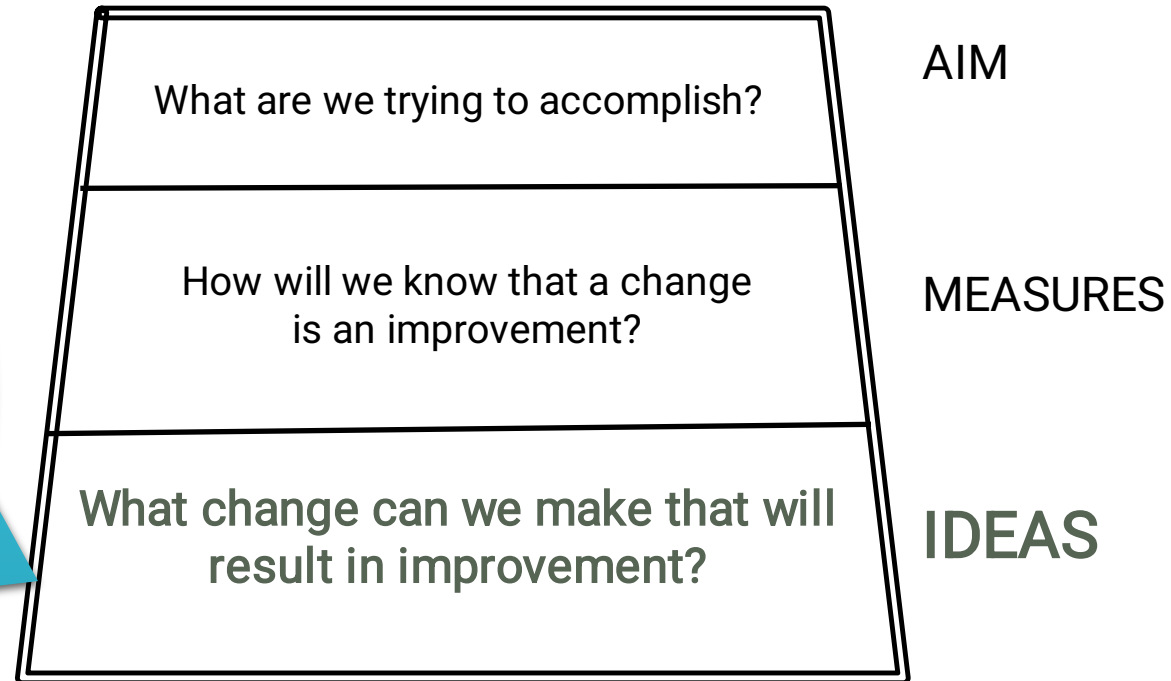
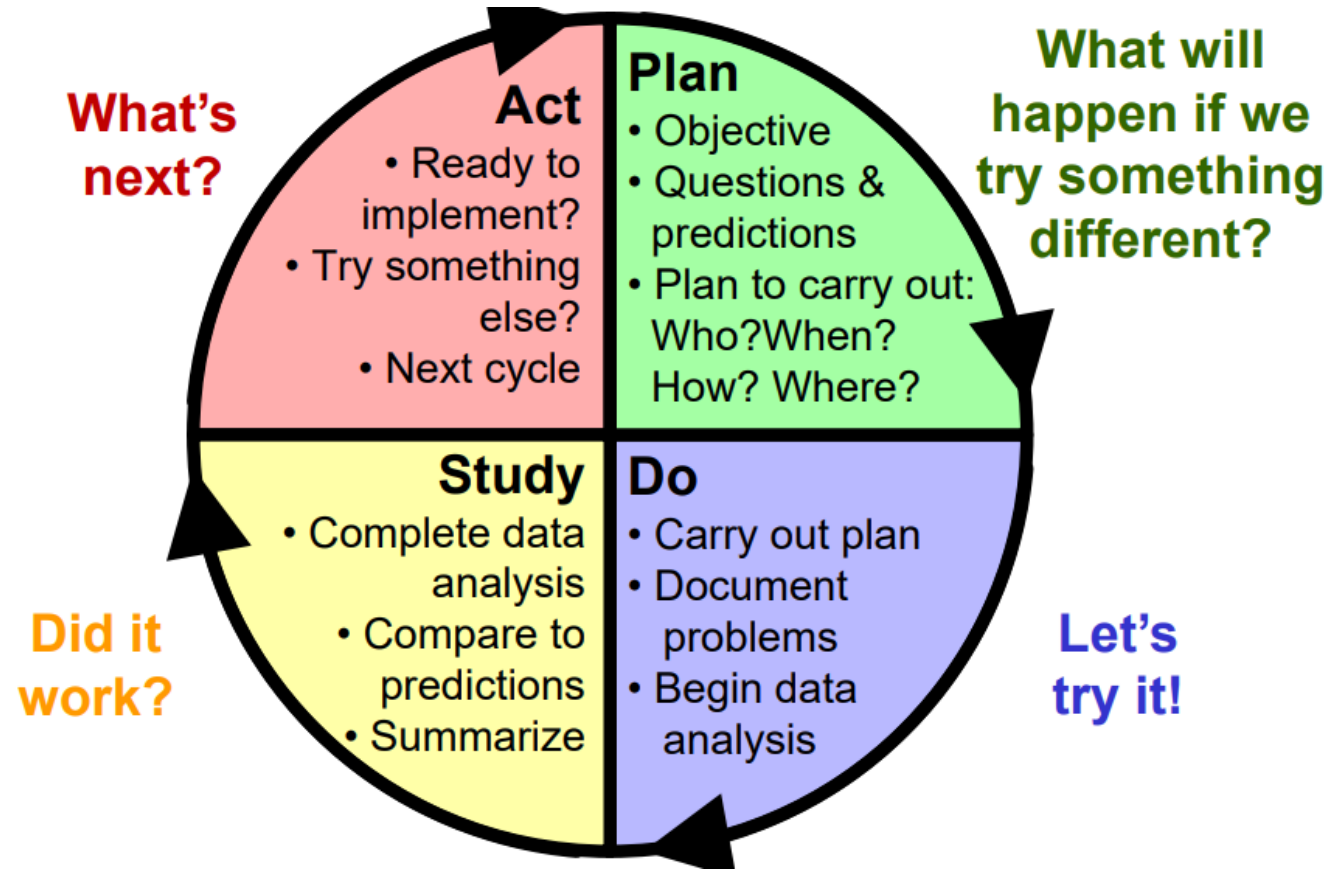What change can we make that will result in improvement?

IDEAS

Langley, et al, *The Improvement Guide*, 2009

# Model for Improvement

**DECIDE** how to evaluate whether changes are having the desired effect

What are we trying to accomplish?  AIM

How will we know that a change is an improvement?  MEASURES

What change can we make that will result in improvement?  IDEAS

Langley, et al, *The Improvement Guide*, 2009

# Model for Improvement

**DEVELOP IDEAS:** Involve your entire team and (when possible) all stakeholders

What are we trying to accomplish? — AIM

How will we know that a change is an improvement? — MEASURES

What change can we make that will result in improvement? — IDEAS

Langley, et al, *The Improvement Guide*, 2009

# PDSA Cycle



Source: Institute for Health Care Improvement, Bob Lloyd et al, May 2017

# What is Rapid Cycle Testing (RCT)?

- PDSA cycle is a framework to convert ideas into action

- The RCT method involves
  - conducting PDSA tests with rapid, continuous, and iterative testing on small populations before spreading change
  - allowing concurrent measurement on small samples
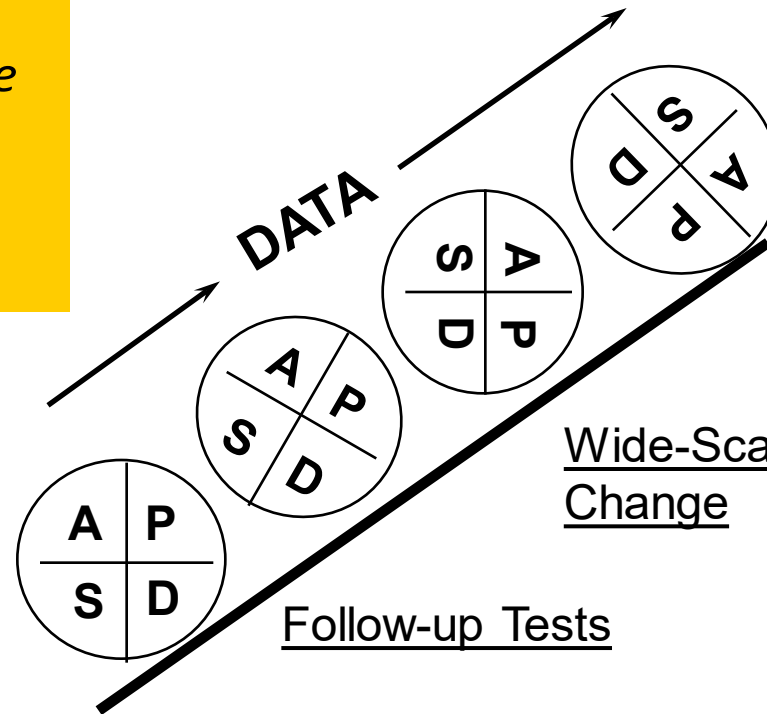  - generating consensus through testing and continuous improvement
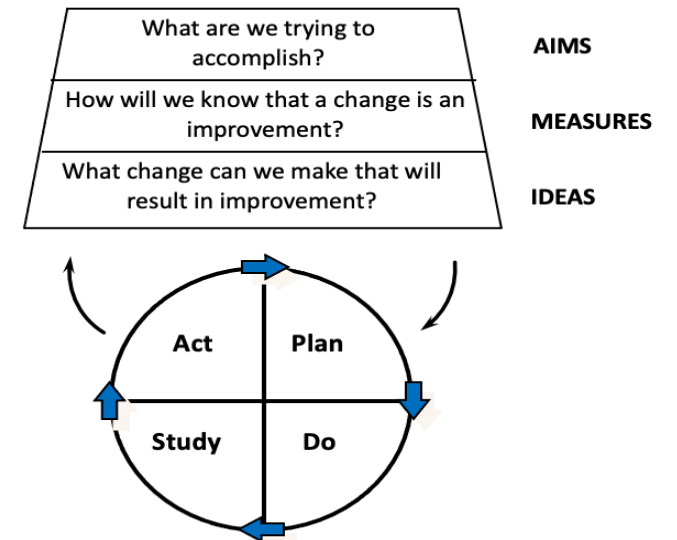


Langley, et al, *The Improvement Guide*, 2009

# Iterating Up the PDSA Ramp

*Multiple PDSA Cycles – **Sequential Building of Knowledge** – include a wide range of conditions in the sequence of tests before implementing the change*

**Changes That Result in Improvement**

DATA

**Hunches Theories Ideas**
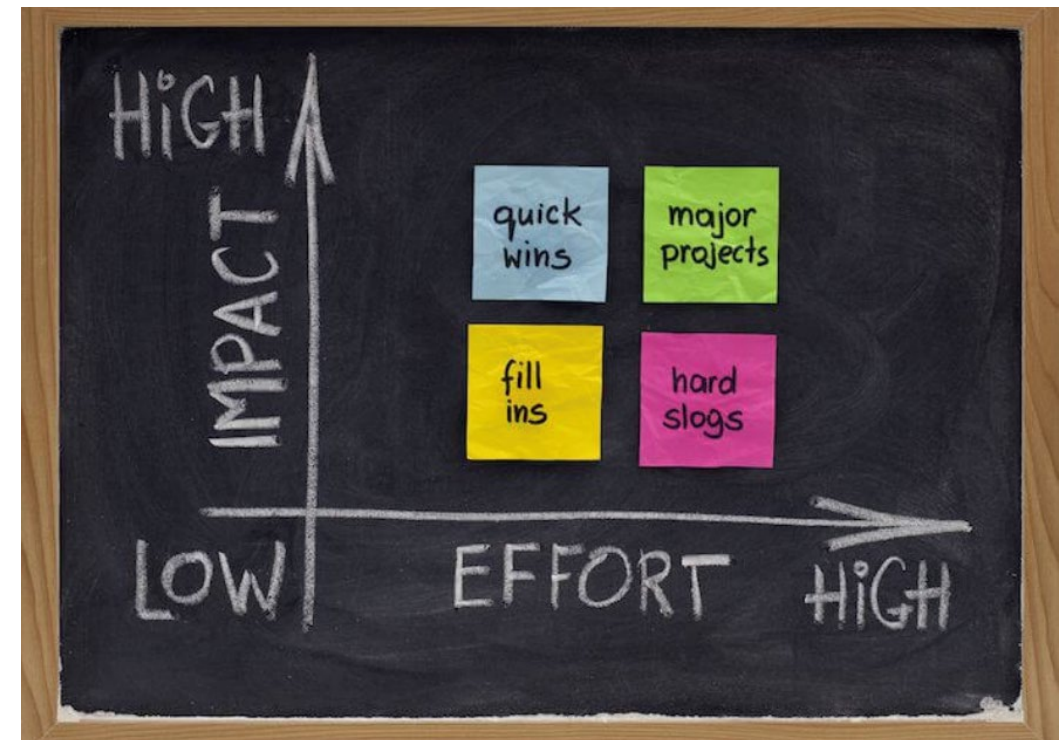
Implement Change

Wide-Scale Tests of Change

Follow-up Tests

Very Small-Scale Test

# RCT: Optimize Practice-Level Improvements

- Consider impact/effort balance at your practice setting

- Consider the Triple Aims
  - Population Health
  - Experience of Care
  - Per Capita Cost

- Run small tests to learn how best to prioritize the tests with the highest impact
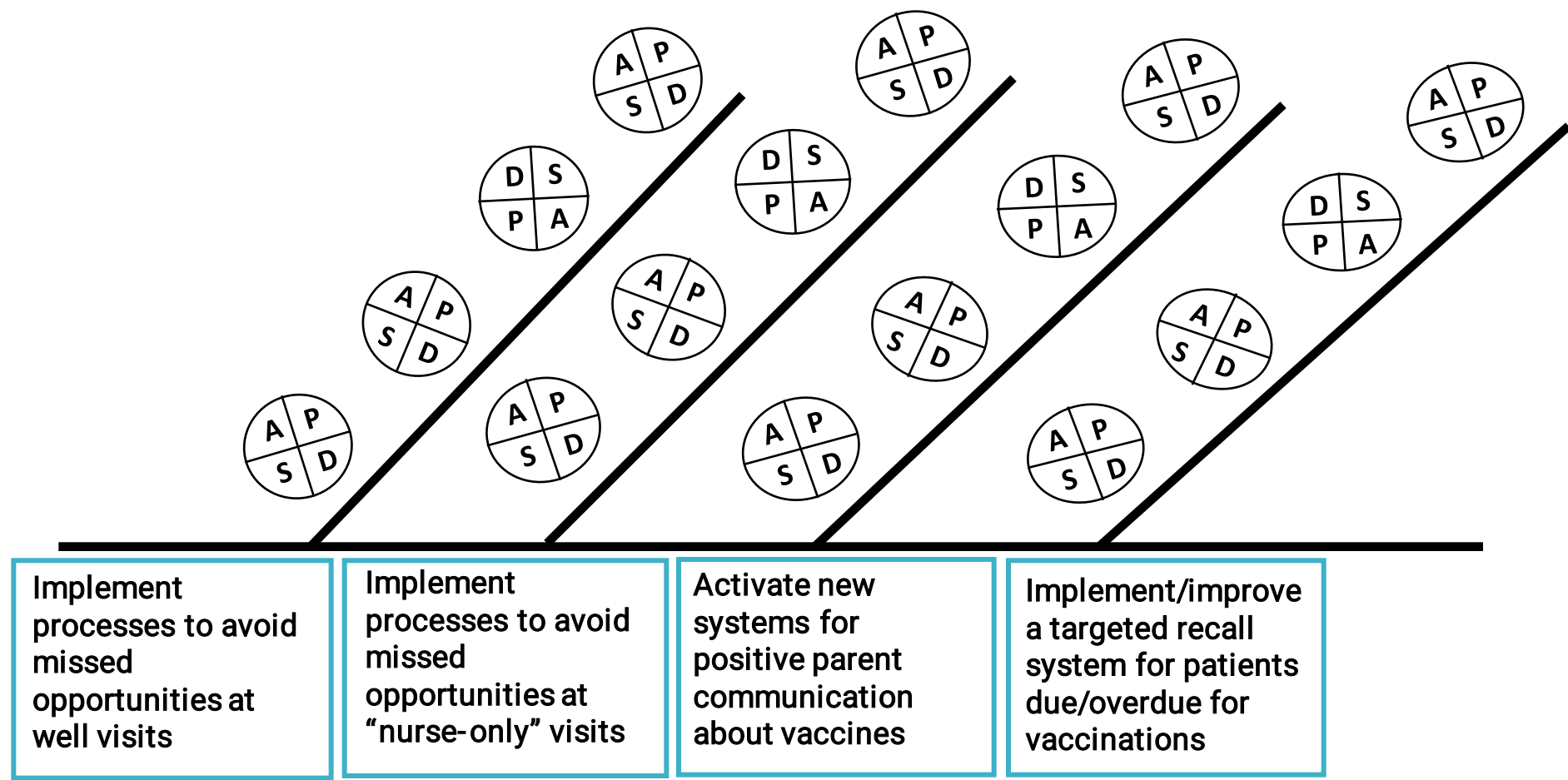
Source: https://news.kleinisd.net/2019/12/18/impact-vs-effort-eating-the-elephant-one-strategic-bite-at-a-time/

# RCT: Obtain Continuous Feedback on Tests

- Treats your practice as a system and allows you to test within your system
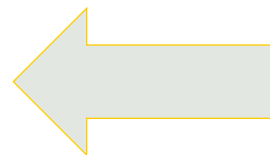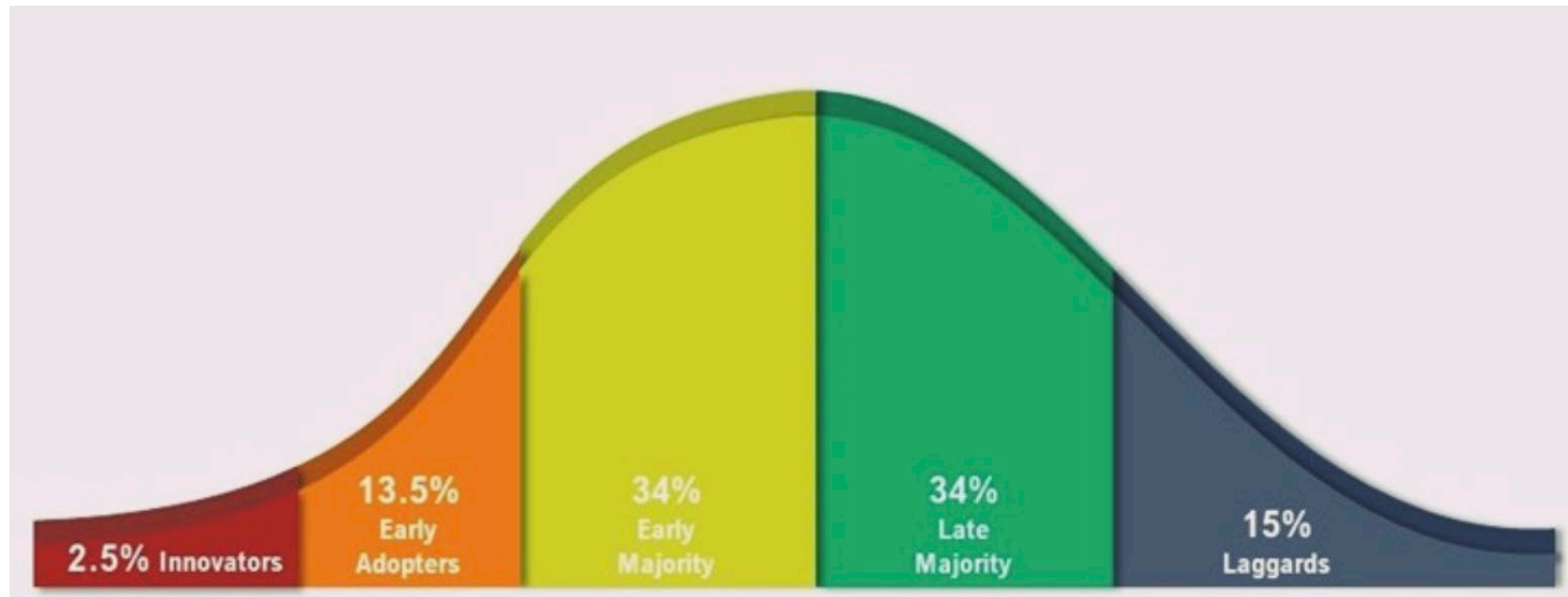
- Delivers feedback with every cycle

Image from: https://medium.com/macoclock/how-apple-used-design-thinking-38afb6770a6

# RCT: Consecutively Test Multiple Ideas



| Implement processes to avoid missed opportunities at well visits | Implement processes to avoid missed opportunities at "nurse-only" visits | Activate new systems for positive parent communication about vaccines | Implement/improve a targeted recall system for patients due/overdue for vaccinations |

# Method to: Generate Consensus through testing



2.5% Innovators | 13.5% Early Adopters | 34% Early Majority | 34% Late Majority | 15% Laggards

Image from: https://devehealth.com/diffusion-of-innovation-theory-in-health-promotion/

# RCT in Action
# Step 1: Build an Effective Team



- Key opinion leaders

- Team often composed of innovators and early adopters

- Those doing the work

- Those able to remove barriers

# RCT in Action
# Step 2: Determine your Path and Direction

- Aims

- Measures

- Driver Diagram

- Ideas and Objectives

- Priorities for focus of tests (cost-benefit; where is the low-hanging fruit?)

# RCT in Action
# Step 3: Rapid Cycle Test



Multiple PDSA Cycles – *Sequential Building of Knowledge* – include a wide range of conditions in the sequence of tests before implementing the change
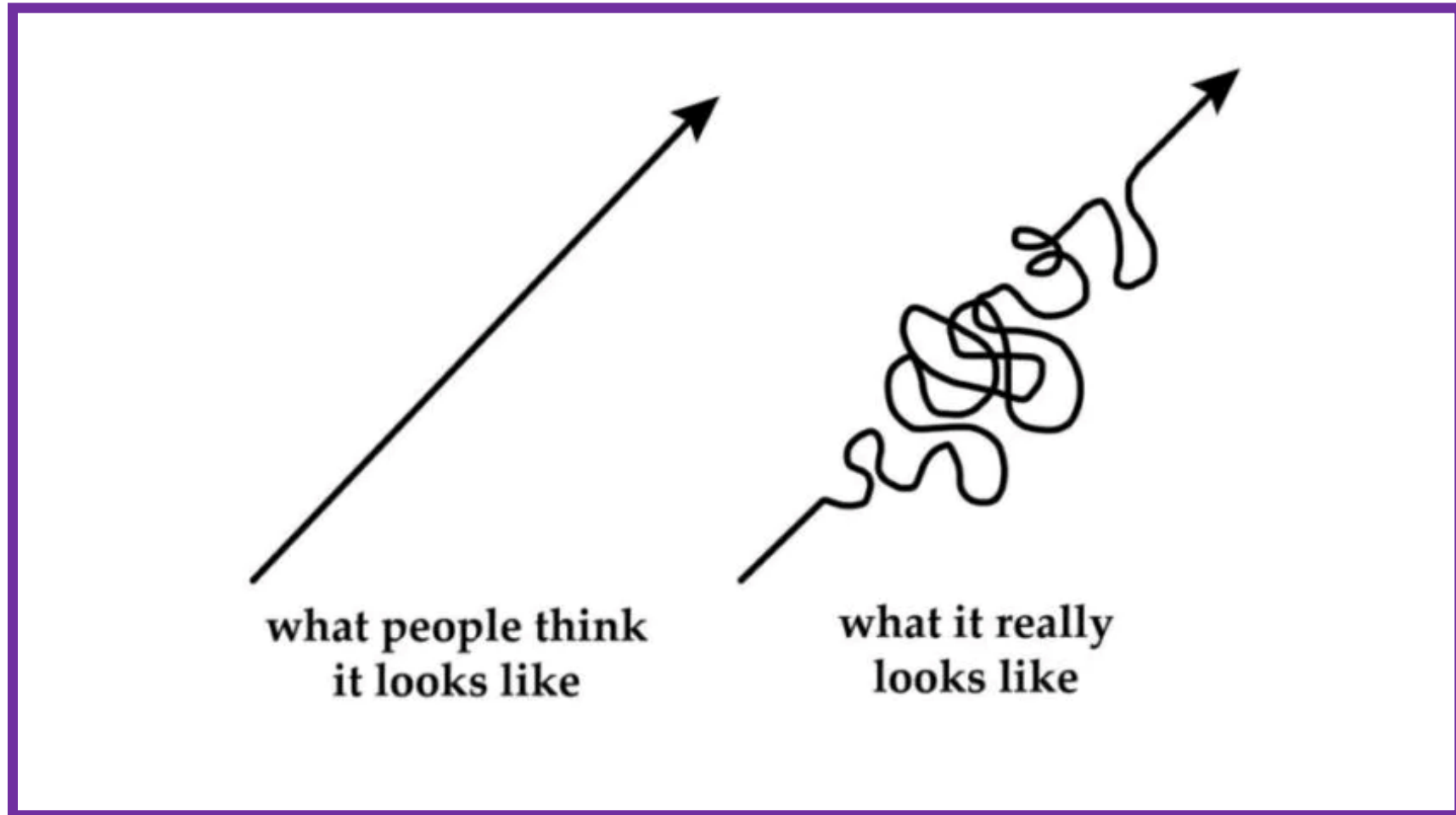
Changes That Result in Improvement

Implement Change

Wide-Scale Tests of Change

Hunches Theories Ideas

Follow-up Tests

Very Small-Scale Test

DATA
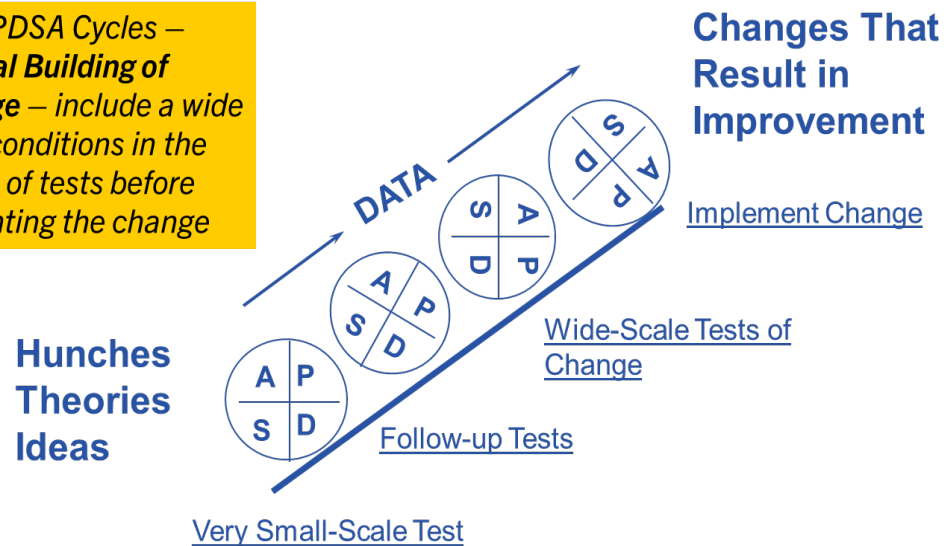
- Break process down and simplify

- Start small and build

- Discover glitches early in the process

- Generate consensus through testing

- Take risks/embrace failure

# Iterative Steps Toward Goals



what people think
it looks like

what it really
looks like

Image from: https://www.thinkific.com/blog/tips-building-a-business-successful-entrepreneurs/

# Tracking Progress

- Aim
- Measures

*Ideas*

- Plan
- Do
- Study
- Act

## PDSA Worksheet

Team:
Month test was carried out:
Objective of test:

Plan | Do
Act | Study

---

**Which project measure will be impacted by your test? Check all that apply.**
__Covid-19 Vaccination Rate     __Missed Opportunities to Vaccinate

**PLAN:**

1. Briefly describe the test:

| 2. List the tasks necessary to complete this test (What) | Person responsible (Who) | When | Where |
|---|---|---|---|
| a. | | | |
| b. | | | |
| c. | | | |
| d. | | | |
| e. | | | |

3. What do you predict will happen (measured results)?

4. How will you know that the change is an improvement?
"Just-in-time" data collection plan (who, what, when, where):

**DO:** Carry out the planned test of change. Collect data; describe observations and problems encountered.

**STUDY:** What did you learn? Analyze data, observations, problems encountered and determine next steps. How do results compare with your prediction?

**ACT:** Select next steps

☐ **Adapt:** Improve the change and continue testing plan. Plans/changes for next test:

☐ **Adopt:** Select changes to implement on a larger scale and develop an implementation plan and plan for sustainability

☐ **Abandon:** Discard this change idea and try a different one

Adapted from the AAP Pediatric Primary Care Quality Network.

# Example PDSA

## PDSA Worksheet

Team: **Example Team**
Month test was carried out: **May 2024**
Objective of test: **Offer covid-19 vaccine outside of well visits/health maintenance visits to reduce missed opportunities and increase covid-19 vaccination rates.**

Which project measure will be impacted by your test? Check all that apply.
_X_Covid-19 Vaccination Rate     _X_Missed Opportunities to Vaccinate

### PLAN:

1. Briefly describe the test:

We will begin offering covid-19 vaccines at non-emergent sick visits and behavioral health visits for patients 12 and older.

| 2. List the tasks necessary to complete this test (What) | Person responsible (Who) | When | Where |
|---|---|---|---|
| a. Physician checks patient record for covid-19 vaccination status | Project physician leader | May 1-3 | Practice office |
| b. Physician recommends vaccine (or updates record with vaccine status if patient received vaccine elsewhere) | Project physician leader | May 1-3 | Practice office |
| c. Nurse or MA administers vaccine at conclusion of visit. | Nurse or MA | May 1-3 | Practice office |

3. What do you predict will happen (measured results)?
Missed opportunities to vaccinate at non-emergent sick visits and behavioral health visits will decline 20%.

4. How will you know that the change is an improvement?
"Just-in-time" data collection plan (who, what, when, where):
The project physician leader will review data from visits with patients from the PDSA period and compare the missed opportunity rate to baseline.

### DO: Carry out the planned test of change. Collect data; describe observations and problems encountered.

All tasks were implemented as planned.

### STUDY: What did you learn? Analyze data, observations, problems encountered and determine next steps. How do results compare with your prediction?

- Overall, this change slightly reduced missed opportunities (~5%) during non-emergent sick and behavioral health visits.
- We observed that patients were surprised to be offered a vaccine at a acute and behavioral health visits and so often refused the vaccine. Two parents noted the convenience of receiving the vaccine while already at the office.
- We will attempt this PDSA again but improve communication with patients.

### ACT: Select next steps

[▨] **Adapt:** Improve the change and continue testing plan. Plans/changes for next test:
Test will be repeated with the following change:
-Front office staff will inform patients that they may be offered eligible vaccines when scheduling sick visits and behavioral health visits

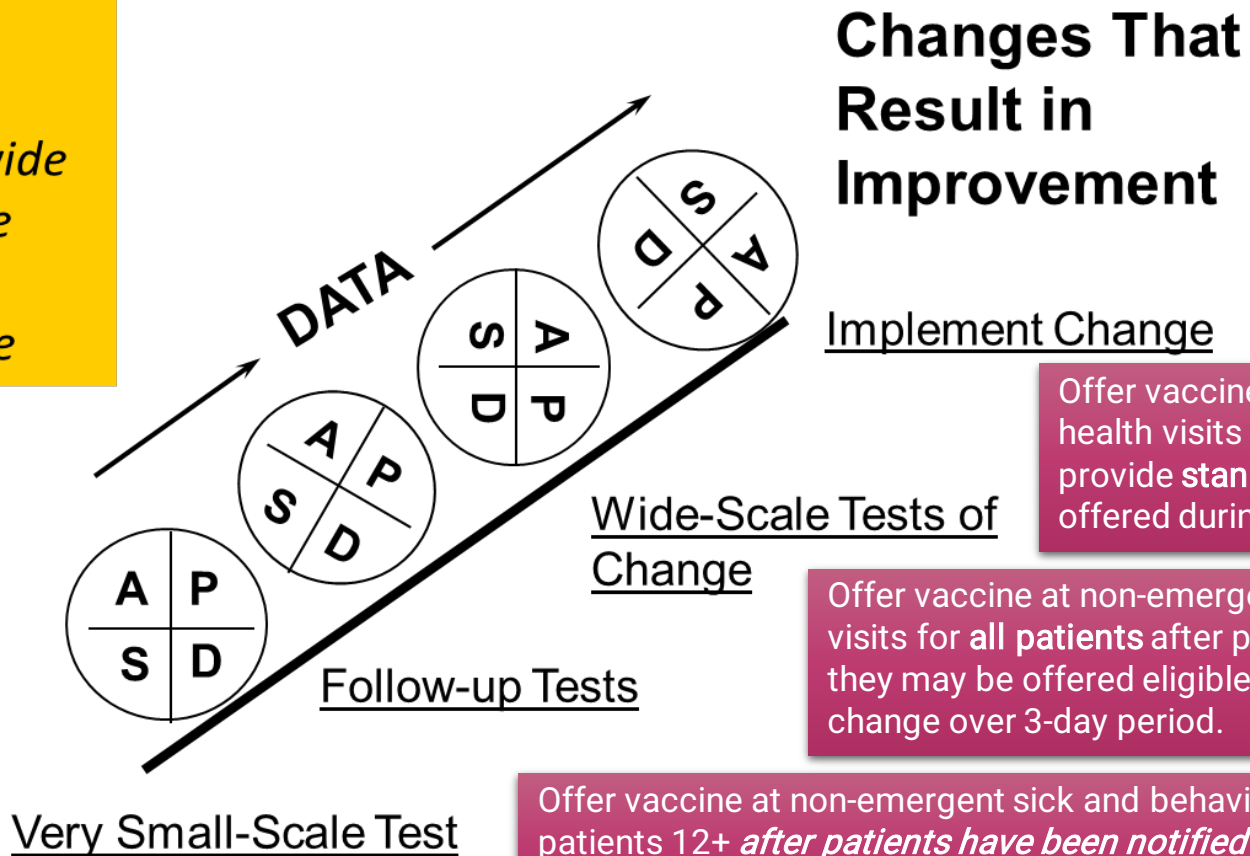[ ] **Adopt:** Select changes to implement on a larger scale and develop an implementation plan and plan for sustainability

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Adapted from the AAP Pediatric Primary Care Quality Network

# Example Rapid Cycle Testing

*Multiple PDSA Cycles – **Sequential Building of Knowledge** – include a wide range of conditions in the sequence of tests before implementing the change*



**Changes That Result in Improvement**

DATA

Hunches
Theories
Ideas

Implement Change

Wide-Scale Tests of Change

Follow-up Tests

Very Small-Scale Test

Offer vaccine at non-emergent sick and behavioral health visits for **all patients with all providers.** Staff provide **standard notification** that vaccines may be offered during scheduling process.

Offer vaccine at non-emergent sick and behavioral health visits for **all patients** after patients have been notified that they may be offered eligible vaccines during visit. Test change over 3-day period.

Offer vaccine at non-emergent sick and behavioral health visits for patients 12+ *after patients have been notified that they may be offered eligible vaccines during visit*. Test change over 3-day period.

Offer COVID-19 vaccine at non-emergent sick and behavioral health visits for patients 12+. Test change over 3-day period.

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# For more guidance on PDSA testing

1. Institute for Healthcare Improvement (IHI) Website
2. The IHI enhances the effectiveness of healthcare systems around the world through educational programs, practical applications, and innovative research. It provides information on the science of quality improvement.
3. Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.
4. Lloyd, Robert. Quality health care: a guide to developing and using indicators. Jones & Bartlett Learning, 2017.

# Project Data Collection

**Onboarding Materials**

1. IVAC Data Collection Overview

   - Measures

   - Data collection tool

   - Data collection timeline

   - Sampling instructions

2. QIDA Guide (pdf)

3. QIDA Introduction (recorded demonstration)

# Project Measures

| Measure Name | Measure Definition | |
|---|---|---|
| 1. COVID-19 Vaccination Rate | Percentage of patients seen in office during the data collection month who received or had already received the 2023-2024 COVID-19 vaccine | Goal: 20% improvement from baseline |
| 2. Missed Opportunity Rate | Percentage of patients seen in office during the data collection month who did not receive an eligible COVID-19 vaccine at the office visit | Goal: 20% decrease from baseline |
| 3a. Missed Opportunities due to Postponement by Provider | Percentage of missed opportunities that were due to the provider postponing the vaccine to a later date | |
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# Data Collection Overview

| QIDA Data Cycle | Month of Patient Visits | QIDA Data Submission Deadline |
|---|---|---|
| Cycle 1 | March 2024 (Baseline) | May 10, 2024 |
| Cycle 2 | April 2024 | May 10, 2024 |
| Cycle 3 | May 2024 | June 10, 2024 |
| Cycle 4 | June 2024 | July 10, 2024 |
| Cycle 5 | July 2024 | August 10, 2024 |
| Cycle 6 | August 2024 | September 10, 2024 |

- Each practice should submit data from **20 or more patient visits** each data cycle.
  - If >2 providers are participating from the practice, we recommend submitting ≥10 patient visits per participating provider.
  - If <20 eligible patient visits during the month, all eligible visits should be submitted.
  - There is no upper limit to the number of charts submitted each month.

- No randomization is required when selecting patients for chart review. Practices may select a convenience sample.

# Quality Improvement Data Aggregator (QIDA)

- Use to submit de-identified patient-level data and view project data
- Access
  - https://qidata.aap.org/IVAC
  - Log in using your AAP account email and password
  - QIDA access based on AAP ID provided during registration
- Video tutorial of how to use QIDA
  - https://tinyurl.com/IVACdemo
- Questions?
  - ICAAP staff or Jennifer Monti (jmonti@aap.org)

# Interactive QI Sessions

Included in future webinars:

- Data Reviews:
  - Review project run charts from QIDA
  - Track performance on project measures
- PDSA Roundtables:
  - Share successful changes
  - Obtain feedback
  - Identify strategies for overcoming barriers
  - **Please bring your PDSA worksheet to the May 23rd session!**



COVID-19 Vaccination Rate
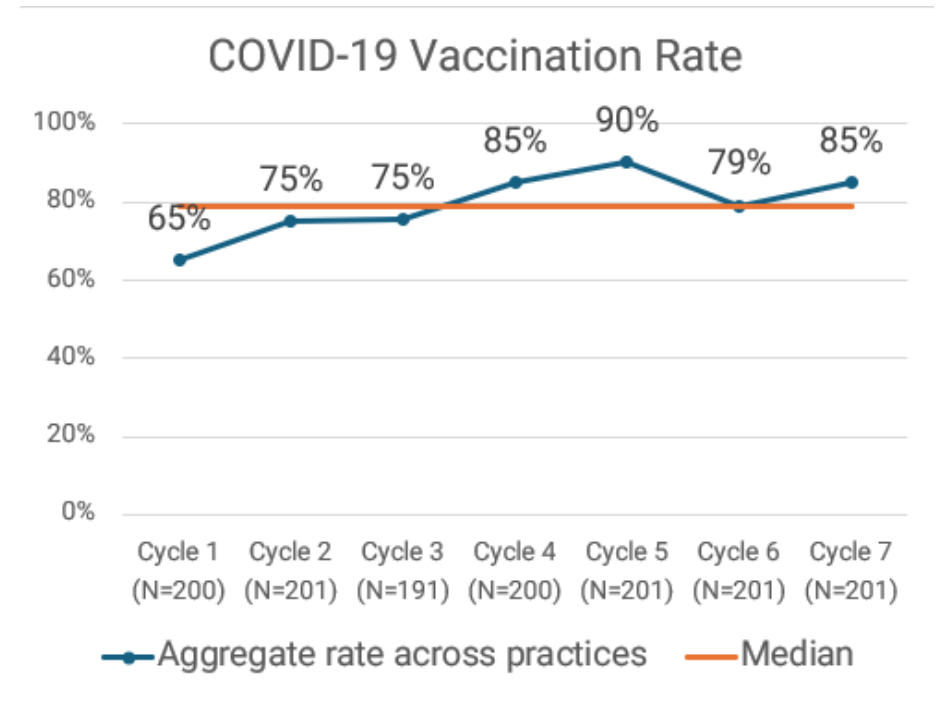
# THANK YOU

This presentation was adapted from the work of Dr. Leisha Anderson with the Chapter Quality Network (CQN).