Introduction to Quality Improvement (QI) Webinar

April 8, 2020

The Healthy Start EPIC Center is operated by the National Institute for Children's Health Quality. This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number 1 UF5MC327500100 titled Supporting Healthy Start Performance Project.

National Institute for Children's Health Quality

Webinar Agenda

Topic	Speaker
Housekeeping	Tess Pritchard
Welcome	Kenn Harris
Introduction to Quality Improvement (QI)	Dr. Jane Taylor
Q&A	Dr. Jane Taylor
Closing Remarks	Kenn Harris

Healthy Start EPIC Center
Supporting communities to give every child a Healthy Start.

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Meeting Logistics

Please note the following:

- This session is being recorded, and will be archived for future viewing.

- All participants are muted upon entry. We ask that you remain muted to limit background noise.

- Members are encouraged to participate in the discussion by typing your comment/asking questions using the chat box.

Supporting communities to give every child a Healthy Start.
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Connecting to the Audio Conference

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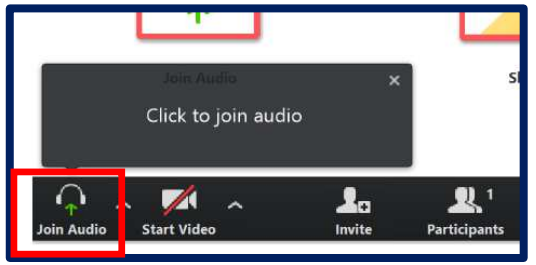
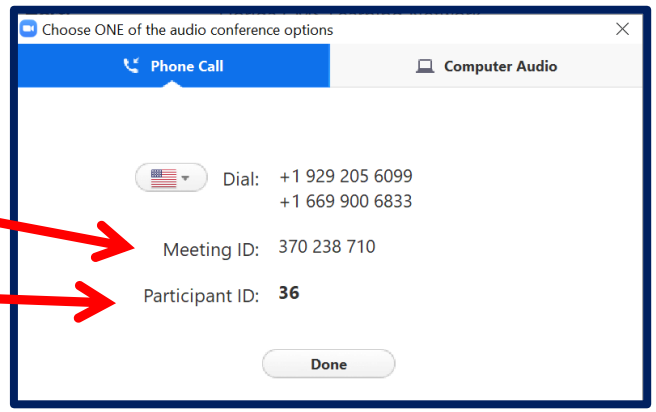
- If using the phone:
  - dial the number next to "Dial"
  - You will be prompted to enter the **"Meeting ID"**
  - Then you will be prompted to enter the **"Participant ID"**





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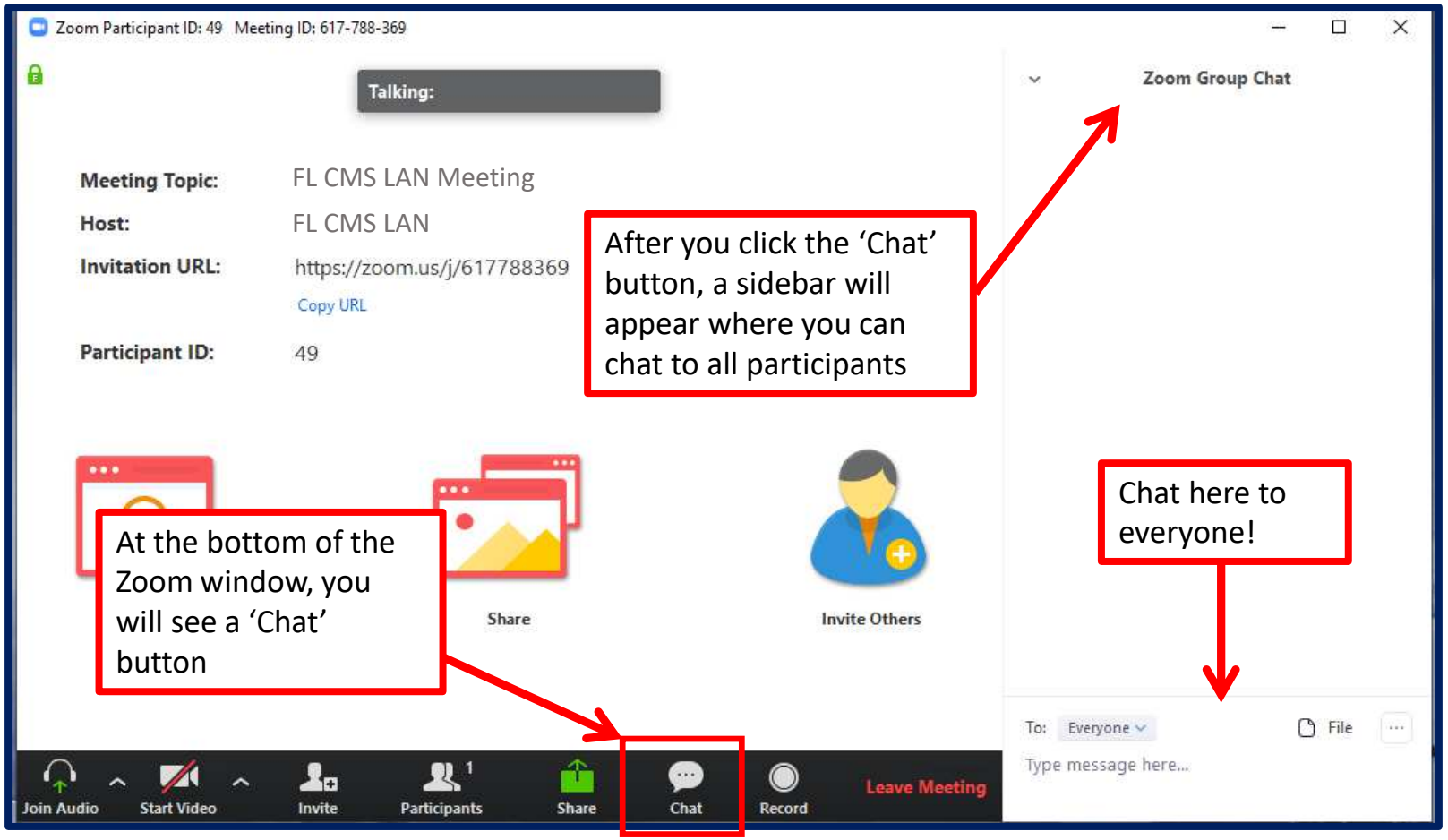
Ways to Participate: Chat



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Participating with Poll Everywhere

via text messaging

Send all messages to this five digit number: **22333**

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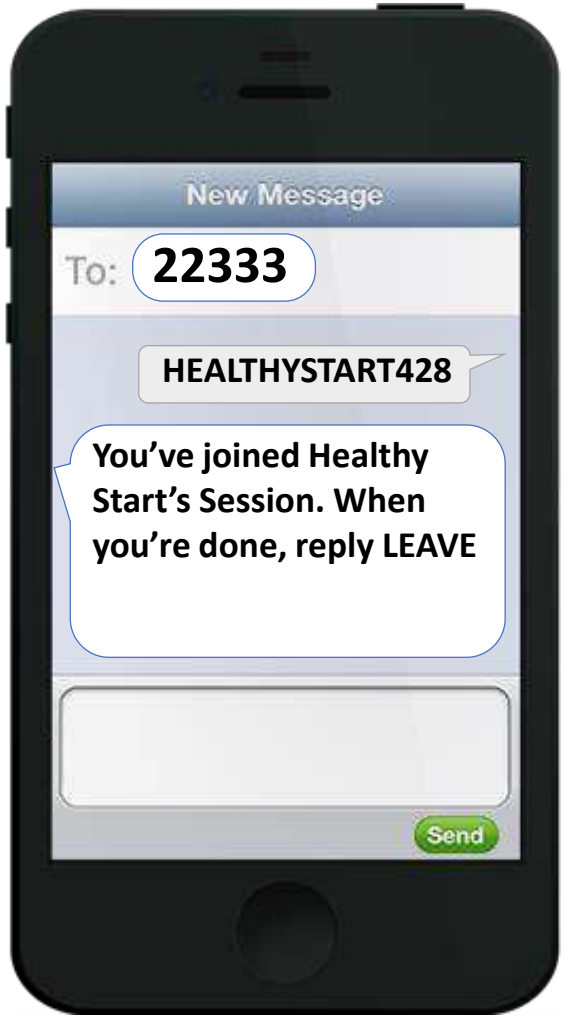

Poll Everywhere: Additional Tips

- Capitalization does not matter; spelling and spaces do
- You only have to text the word “HEALTHYSTART428” the first time. After that, just send a normal text to respond to polls.
- If texting 22333 doesn’t work: Visit **pollev.com/HEALTHYSTART428** to respond to the current poll
- NO charges to your cellphone beyond what your phone carrier typically charges for a text message

Please indicate your level of knowledge on Quality Improvement before today's webinar (1 = the least knowledgeable, 5 = the most knowledgeable)

1

2

3

4

5

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Introduction to Quality Improvement

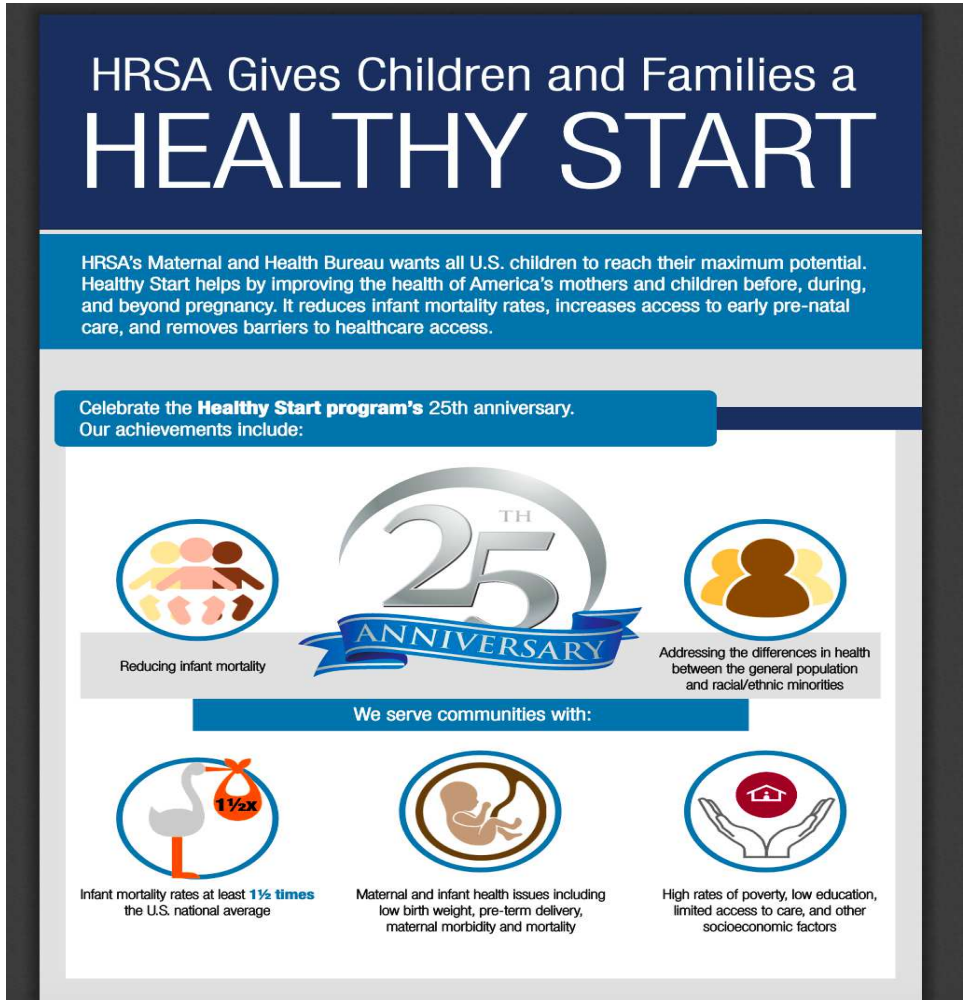
Jane Taylor, Ed.D.

Session Objectives

- Define Quality
- Become familiar with basics of improvement
- Review Model for Improvement

What is Quality

As a Healthy Start site, what is quality? *Please chat!*



W. Edward's Deming

Why is providing quality service so hard?

Defining quality means we have to understand future needs of HS clients in a way we can measure it. You have a lot of measures!

This way we can know how we are doing satisfying our clients.

The hard part is that as soon as we feel good about it, needs may change.

Constantly looking to the future.

What does this mean to you? Can you give an example of when this happened?

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Growing Clients who Learn How to be Great Consumers

- Support clients on what to expect; what we can offer; how to best use HS and CAN services
- Focus on the quality and continual improvement of your service

Feed client reactions back into service improvement and redesign
Complaints are too late!
Judgments change

Problems in understanding judgment of quality

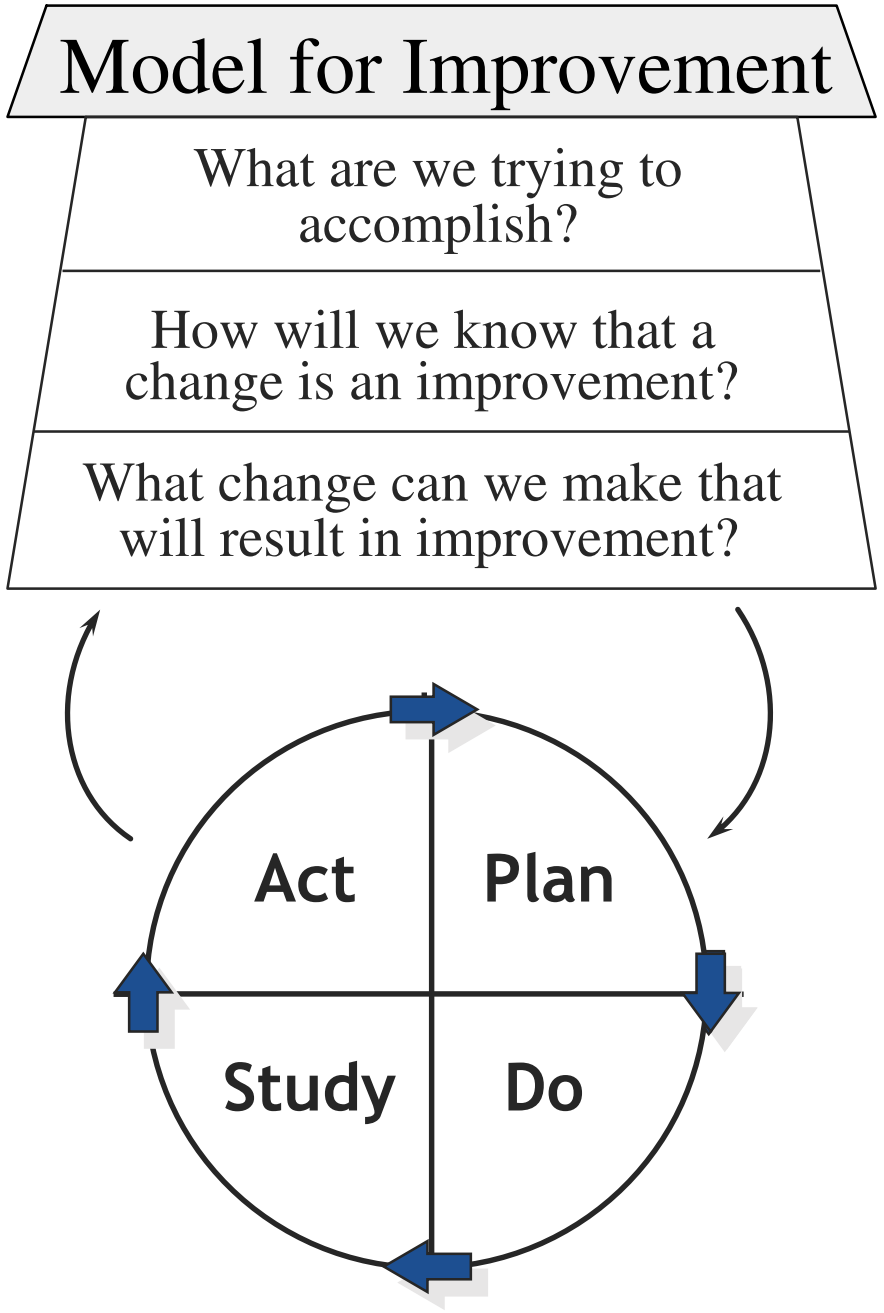
- What is good service?
  - High marks for interactions with staff, trusting relationships?
  - Low marks for referrals or connection to essential services
  - High marks for connecting women and children with insurance
  - Middle marks for smoking cessation referrals

- From whose perspective?
  - Staff, Community partners, clients: women, fathers?

Key Elements of Improvement

- Will to do what it takes to change to a new system
- Ideas on which to base the design of the new system
- Execution of the ideas

The Model for Improvement



Aim

Measures

Changes

From: Associates in Process Improvement

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Question 1: What are we trying to accomplish?

- Useful at largest project level
- Useful when working on components or any area for improvement
- Useful even thinking about a meeting, a strategy
- Useful . . . . *Please change When asking this question may be useful for you*

Example

- The Happy Healthy Start Center intends to develop a reliable risk assessment tool for our clients so that:
  - 90% of the time or more our clients receive services they want and need
  - Leadership can use the assessment for resourcing staff, for staff training and for programing
  - 90% or more of all screens are completed upon enrollment

Aim

- Direction
- Communicates magnitude of change
- Usually involves consensus and agreement

What?

By when?

How much improvement?

For whom?

Another example

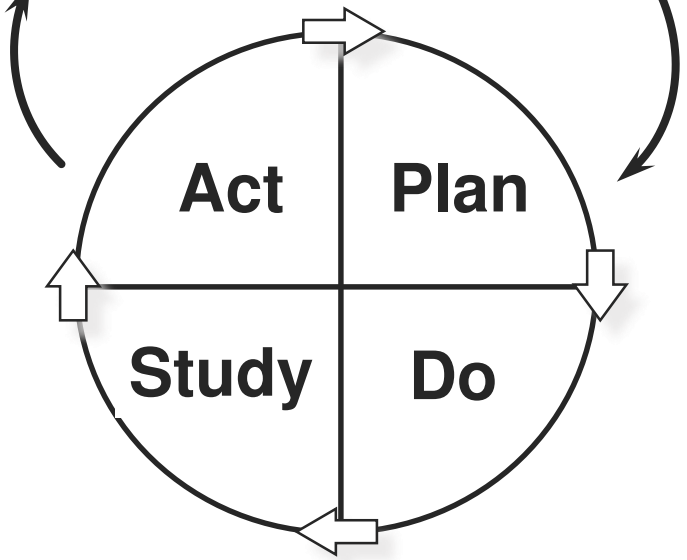
- Heart-felt Healthy Start will improve recruitment of clients by 50% by June 2021 so that we grow from 50 to 100 fathers and to 250 or more women.
- *Chat in: try it!*
- *Draft an aim statement of something you want to do. What; by when, for whom, how much improvement (measureable please).*

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?



We answer how would we know a change is an improvement with data

- Qualitative and Quantitative
- Just enough data
- No data is perfect; we strive for usefulness
- Use sampling and stratification (race, ethnicity, gender, zip code, age, etc.)
- Sequence data – usually over time
- Data informs better action to serve clients

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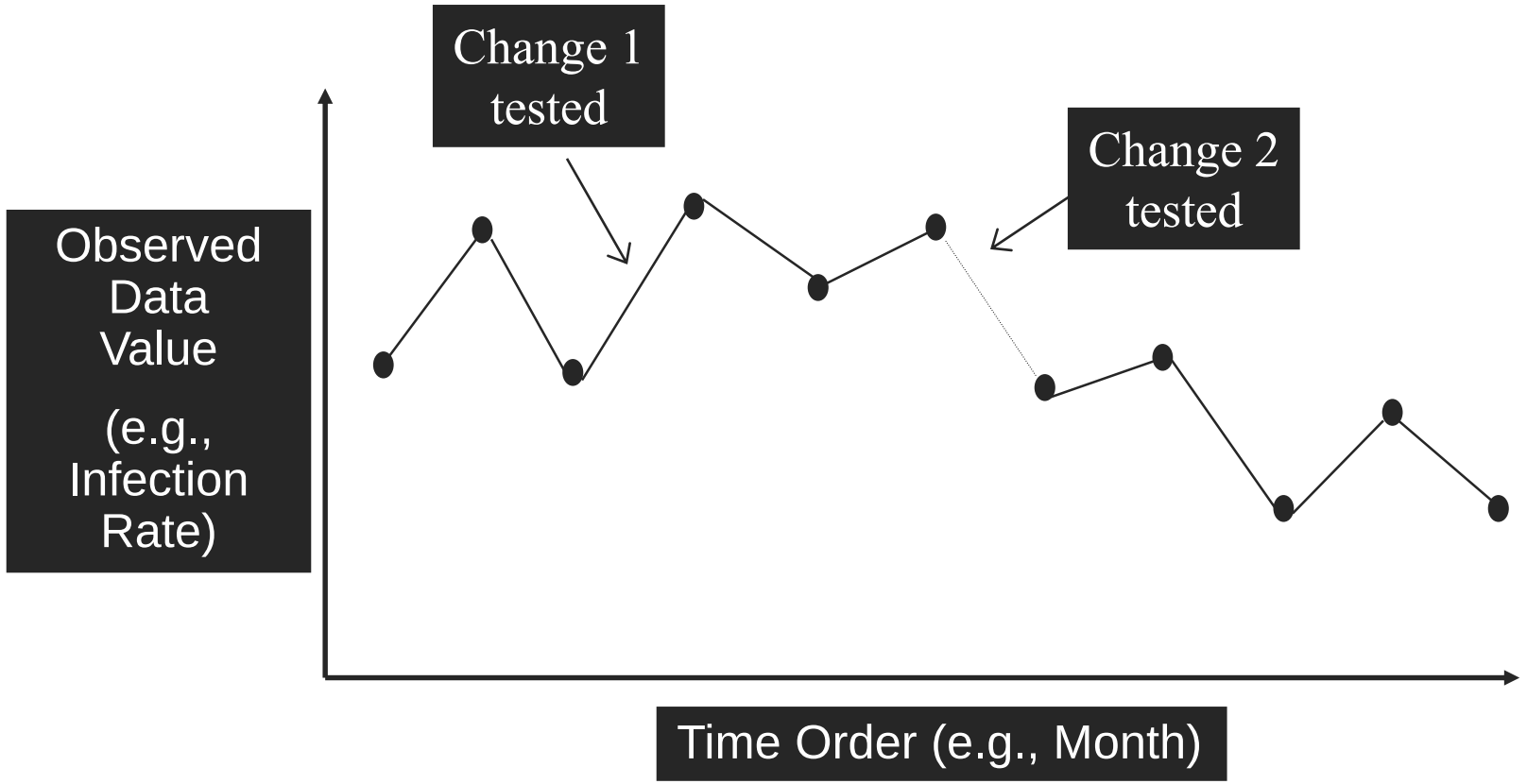
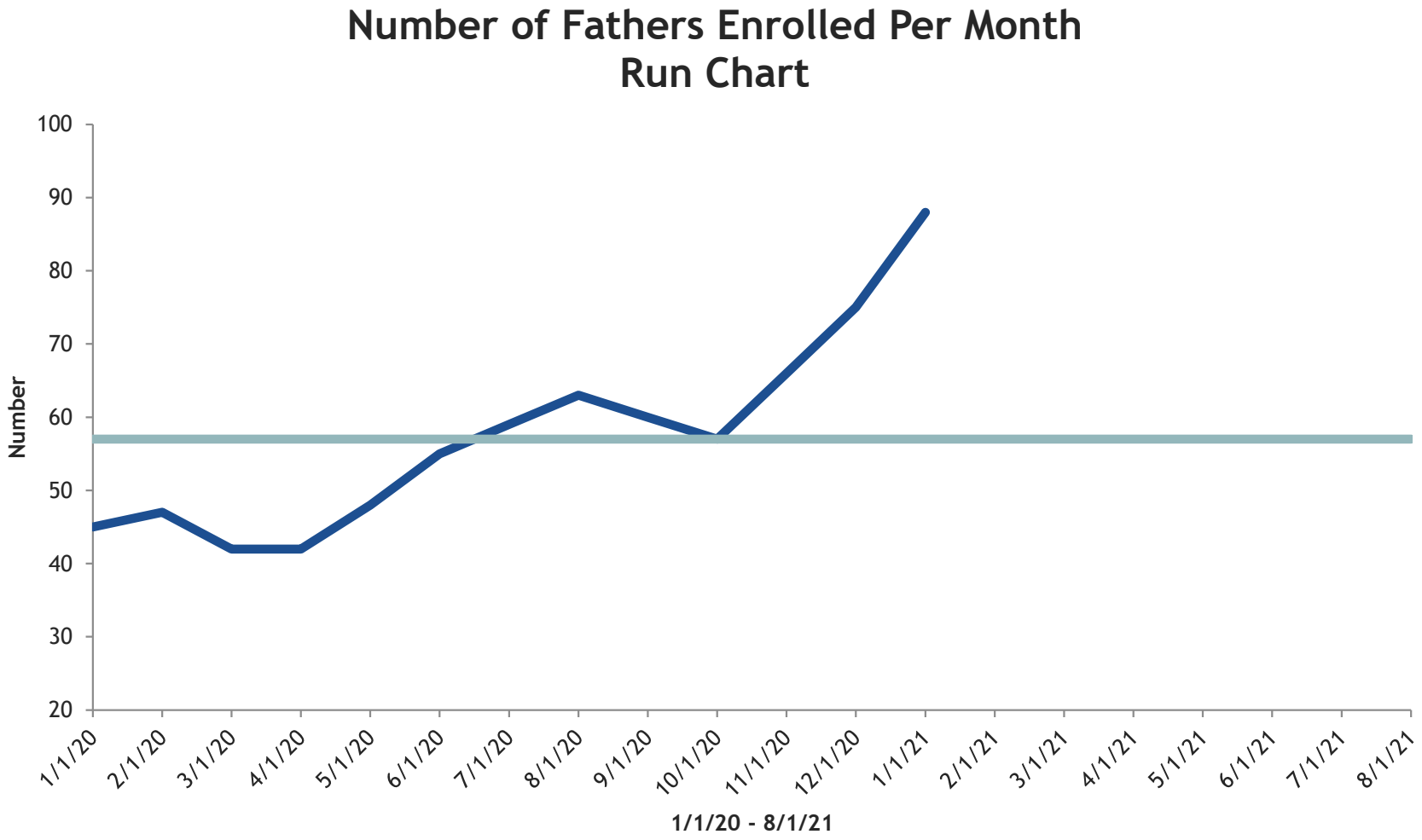
3 Faces of Measurement: Solberg, Moser, McDonald, 1996

Aspect	Improvement	Comparison or Accountability	Clinical Research
Aim:	Improvement of care	Comparison, choice, reassurance, spur for change	New knowledge
Test observability	Test observable	No test, evaluate current performance	Test blinded
Bias	Accept consistent bias	Measure & adjust to reduce bias	Design to eliminate bias
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 change is improvement	Run charts or Shewhart charts	No change focus	Hypothesis tests (T-tests, F-tests, Chi-square), p-value
Confidentiality of data	Data used only by those involved in the improvement	Data available for public consumption	Research subjects' identities protected

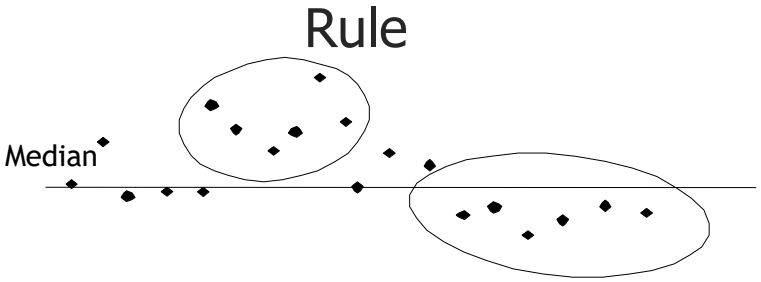
Annotated Run Chart



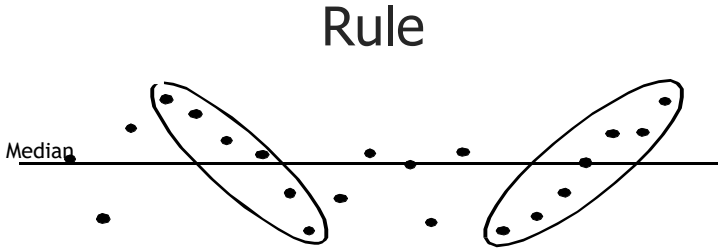
- Plot small samples frequently over time


Number of Fathers Enrolled Per Month
Run Chart
Number
100
90
80
70
60
50
40
30
20
1/1/20
2/1/20
3/1/20
4/1/20
5/1/20
6/1/20
7/1/20
8/1/20
9/1/20
10/1/20
11/1/20
12/1/20
1/1/21
2/1/21
3/1/21
4/1/21
5/1/21
6/1/21
7/1/21
8/1/21
1/1/20 - 8/1/21

Run Chart: Rules for Identifying Statistically Significant Change

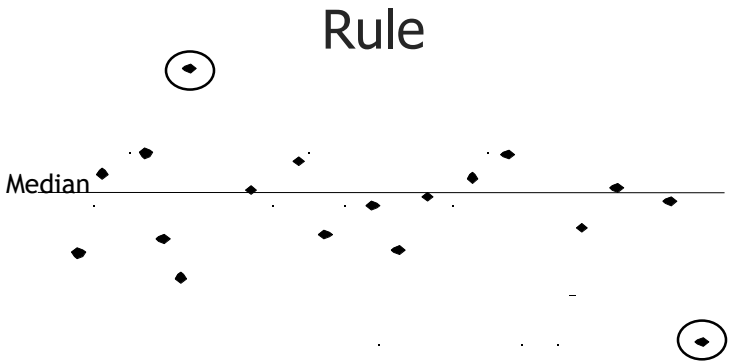


Shift: 6 points in row on same side of the median

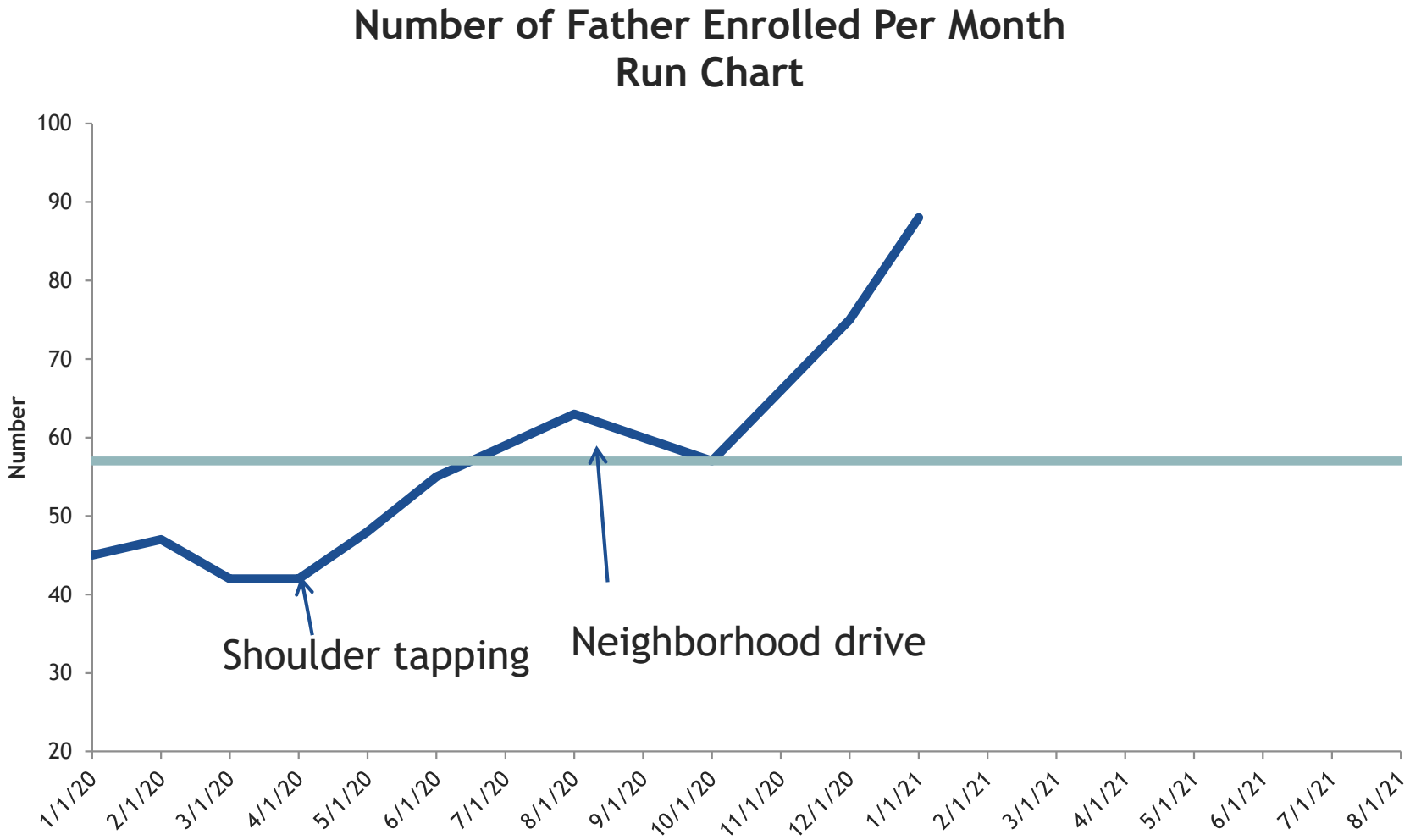


Trend: 5 points in row headed in same direction

These 3 simple
rules help us interpret data



Astronomical Point: a obviously, even blatantly different value


Number of Father Enrolled Per Month
Run Chart
Number
100
90
80
70
60
50
40
30
20
1/1/20
2/1/20
3/1/20
4/1/20
5/1/20
6/1/20
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12/1/20
1/1/21
2/1/21
3/1/21
4/1/21
5/1/21
6/1/21
7/1/21
8/1/21
Shoulder tapping
Neighborhood drive

Three Types of Measures

- **Outcome Measures**: Voice of the client. How is the system performing? What is the result?

- **Process Measures**: Voice of the workings of the system. Are the parts/steps in the system performing as planned?

- **Balancing Measures**: Looking at a system from different directions/dimensions. What happened to the system as we improved the outcome and process measures (e.g. unanticipated consequences, other factors influencing outcome)?

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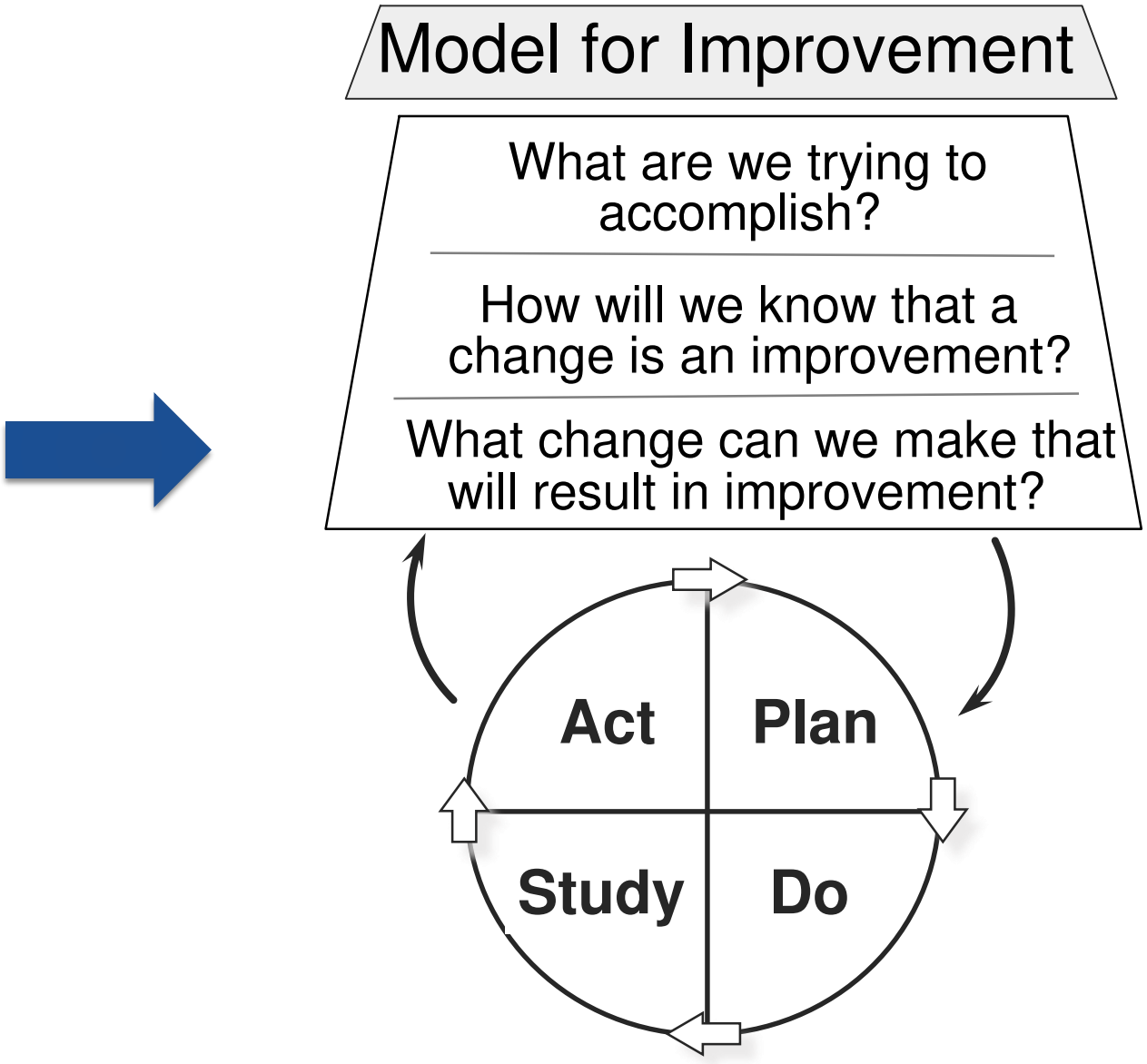
Healthy Start Family of Measures

- Outcome measures
  - Improve women's pre and interconception health
  - Family Resilience
  - Infant Mortality
- Process measures
  - Recruitment, retention
  - Smoking cessation during pregnancy
  - UTD well child visits
  - Screening: depression, essential services, etc
- Balancing measures

Measurement: How Will We Know That a Change is an Improvement?

- Key measures are required to assess progress toward the aim
- Specific measures can be used for learning during PDSA cycles
- Data from the system (including from clients and staff) focus improvement and refine changes

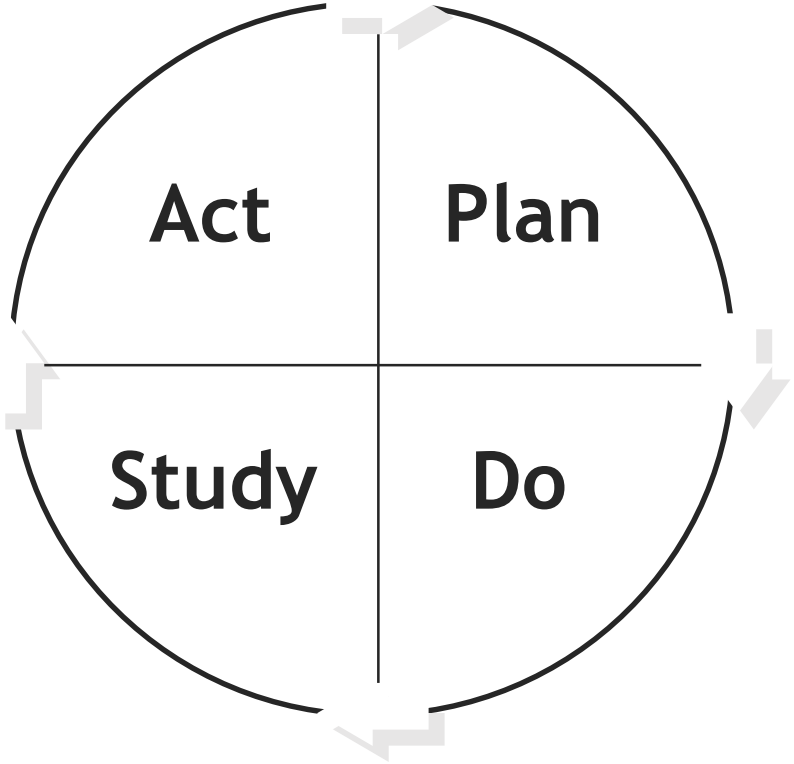

Model for Improvement
What are we trying to accomplish?
How will we know that a change is an improvement?
What change can we make that will result in improvement?
Act
Plan
Study
Do

The PDSA Cycle

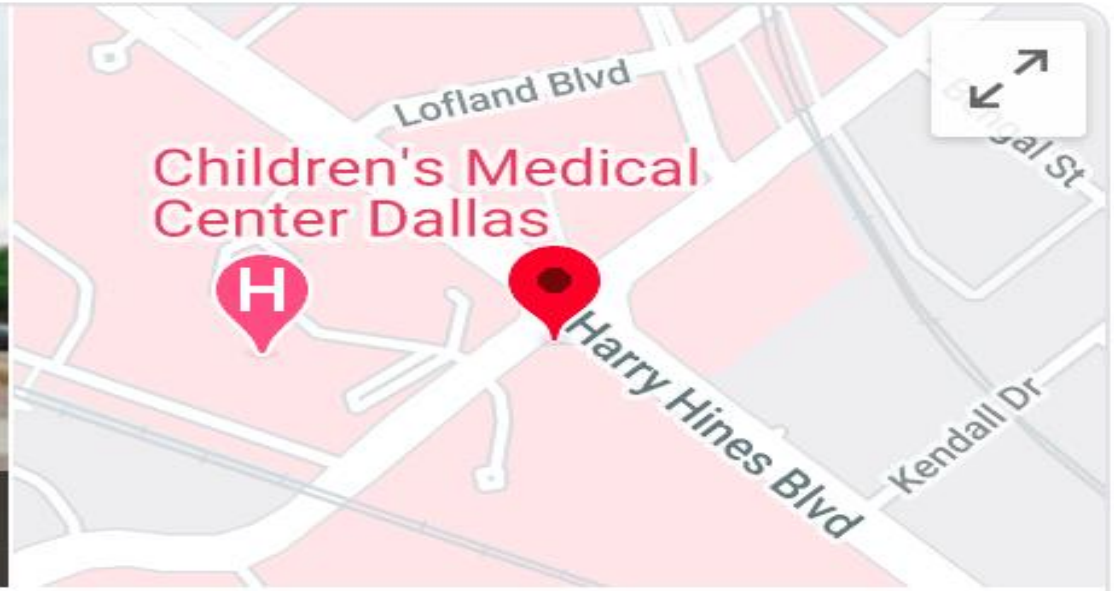
Four Steps: Plan, Do, Study, Act

Also known as:

- Shewhart Cycle
- Deming Cycle
- Learning and Improvement Cycle



Let’s hear from one of our own. Dallas Healthy Start



Parkland
Dallas Healthy Start

Dallas Healthy Start Case Management Incoming Risk Assessment

Objective:

- Assess the risk level of a woman's pregnancy and parenting phases, prior to enrollment into *Dallas Healthy Start*.
- Determination to inform her initial case management [CM] plan, including the assignment of appropriate staff personnel and linkage to program and community resources.

Strategy:

- Develop a predictive analytics tool with quantitative scoring functionality.

Tactics:

- Survey "best practices" other HS sites, other MCH programs, and our CM software vendor.
- Collaborate with NICHQ Technical Assistance to develop a risk acuity "prototype". Plan-Do-Study-Act – Test and refine [iterative]. Implement.
- Anticipated population distribution: 25% high-, 45% moderate-, 30% low-risk level.

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Dallas Healthy Start
Acuity Scale

Client Name: _____ Date of Assessment: ____/___/_____

Completed By: _____ Position / Credential: _____

Risk Factors

Please indicate [✓] all applicable Risk Factors

High Risk Factors	Moderate Risk Factors
☐ Low birth weight [PN; history of < 5 lb 8 oz]	☐ Low birth weight [baby - ICC enrollee]
☐ Preterm birth [PN; history of < 37 wk gestation]	☐ Preterm birth [baby - ICC enrollee]
☐ Maternal age [PN; mother < 18 yr]	☐ Maternal age [PN; mother > 35 yr]
☐ Unmanaged or untreated chronic disease or condition [e.g. hypertension, diabetes, asthma, anemia]	☐ Managed, treated or history of chronic disease or condition [e.g. hypertension, diabetes, asthma, anemia]
☐ Unmanaged or untreated HIV/AIDS	☐ Managed and treated HIV/AIDS
☐ PN care – none	☐ PN care - inconsistent/late entry [> 14 wk]
☐ STD [untreated]	☐ STD [treated or history of]
☐ Smoking [current]	☐ Smoking [history of]
☐ Alcohol use [PN] or abuse [untreated]	☐ Alcohol abuse [treated or history of]
☐ No positive partner involvement/support	☐ Minimal positive partner involvement/support
☐ Open CPS case	☐ Closed CPS case
☐ Multiple gestation [PN]	☐ Child with special healthcare needs
☐ Loss of fetus/stillbirth [PN; history of]	☐ No medical home
☐ Death of infant/child [PN; history of]	☐ No health insurance
	☐ Inadequate or no income
	☐ Family history of chronic disease or condition [e.g. colon cancer, breast cancer]
Automatic Risk Factors → Intensive Case Management	☐ No reproductive health / family plan
☐ Domestic abuse [current]	☐ Difficult partner or family dynamics
☐ Homelessness	☐ Unstable housing
☐ Illicit drug use [untreated]	☐ Illicit drug use [treated or history of]
☐ Depression/mental health/psych care [untreated]	☐ Depression/mental health/psych care [treated or history of]

Calculation of Risk Score

			Total Points	Risk Level
# "Auto" Risk Factors	____ × X points =	_____		
# High Risk Factors	____ × Y points =	_____	More than A	HIGH
# Moderate Risk Factors	____ × Z points =	_____	Between A and B	MODERATE
TOTAL Points calculated =		_____	Less than B	LOW

[continued on reverse]

Developed in collaboration with National Institute for Children's Health Quality [NICHQ],
Parkland Health & Hospital System Community Health Institute [PHHS CHI],
Susan Wolfe & Associates LLC, Dallas, TX, and
Texas Department of State Health Services [DSHS]

Revised 9-7-2019

Assignment of Case Management Level

Please indicate [✓] Assignment of Case Management Level:

☐ High Risk: Total points > A → High level of case management indicated

☐ Moderate Risk: Total points between A and B → Moderate level of case management indicated

☐ Low Risk: Total points less than B → Low level of case management indicated

Qualitative Risk Classification:

Based on your own judgement of other circumstances or additional criteria, did you choose a different category from the one indicated by the calculated score?

☐ Yes
☐ No

If "Yes", please state why:

_____

_____

_____

_____

_____

_____

Other Comments:

_____

_____

_____

_____

_____

_____

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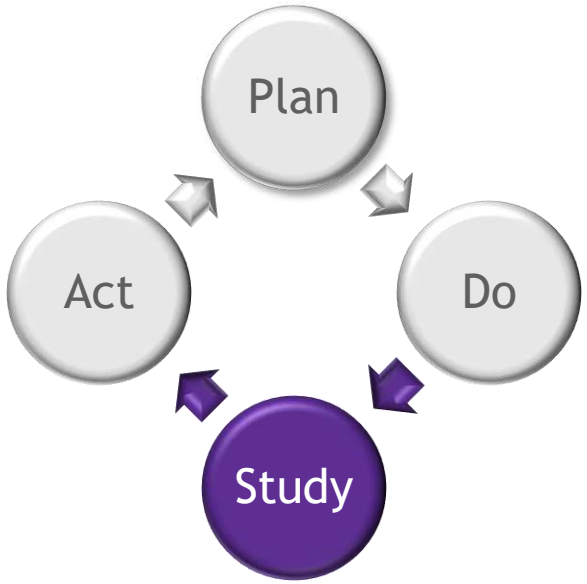


PDSA #1: Administer to Sample [n= 30] and Analyze

Feedback:

- Does not include strength / resilience factors
- Easy to complete

Results of High [H] and Moderate [M] Risk Factor Scoring:

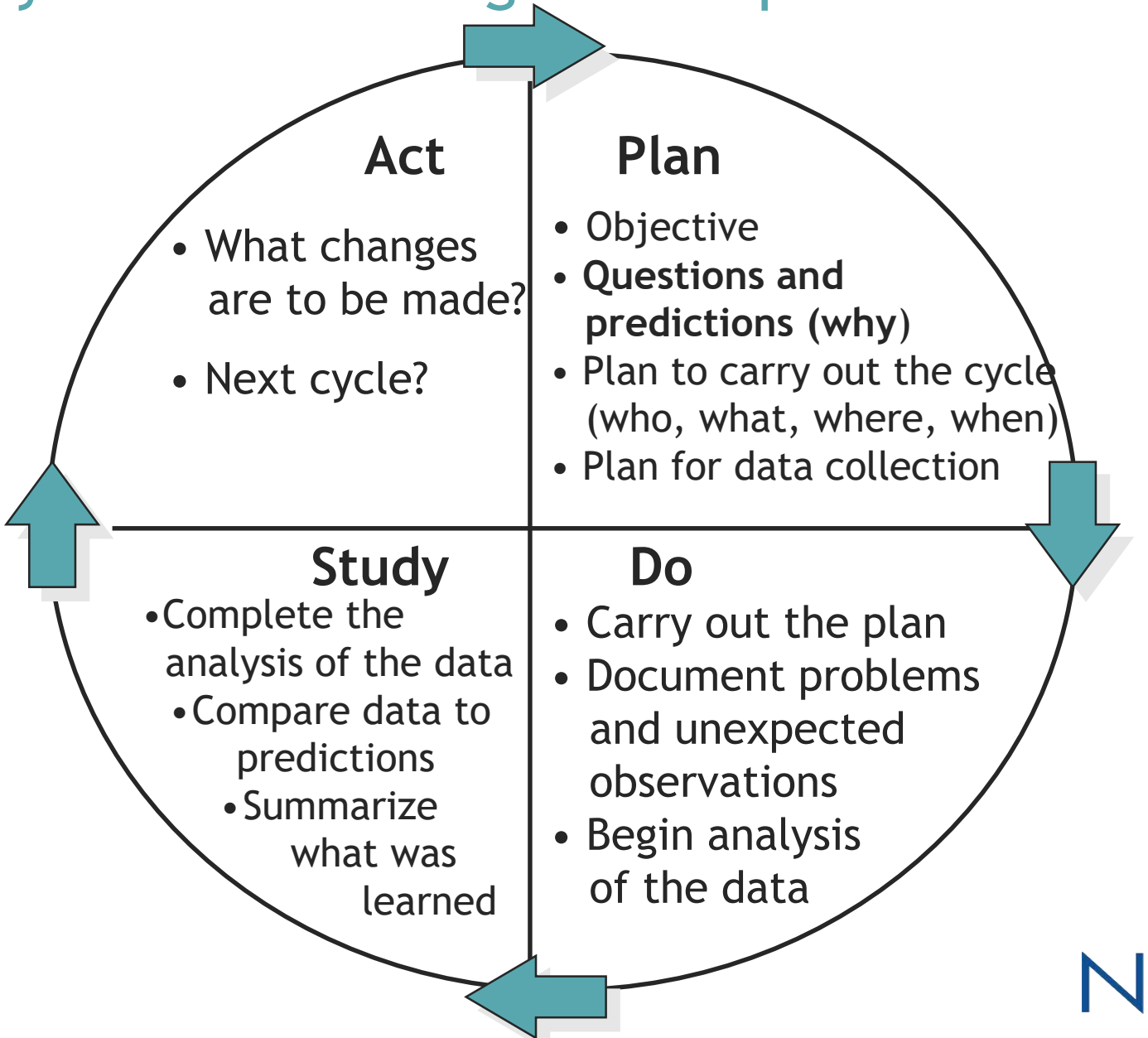
- 13% of prenatal program participants [PPs] < 18 y.o. [H]
- 10% of PPs reported no partner involvement [H]
- 30% of PPs reported inadequate or no income [M]
- 27% of prenatal PPs > 35 y.o. [M]
- 27% reported difficult partner or family dynamics [M]
- 17% reported minimal partner involvement/support [M]

Next Steps:

- Consider if a combination of moderate risk factors constitutes high-risk.
- Consider immediate take-aways [PN age, Fatherhood programming, etc].
- Investigate inclusion of resilience-based factors.
- Research asset-based approaches.
- Iterate and administer to additional PPs.

The PDSA Cycle for Learning and Improvement

Small scale test
Series of tests
Wide-scale tests
Implementation



Why Test?

- Increase the belief that the change will result in improvement
- Predict how much improvement can be expected from the change
- Learn how to adapt a change to conditions in the local environment
- Evaluate costs and side-effects of the change
- Minimize resistance upon implementation
- Localize a good idea to your setting

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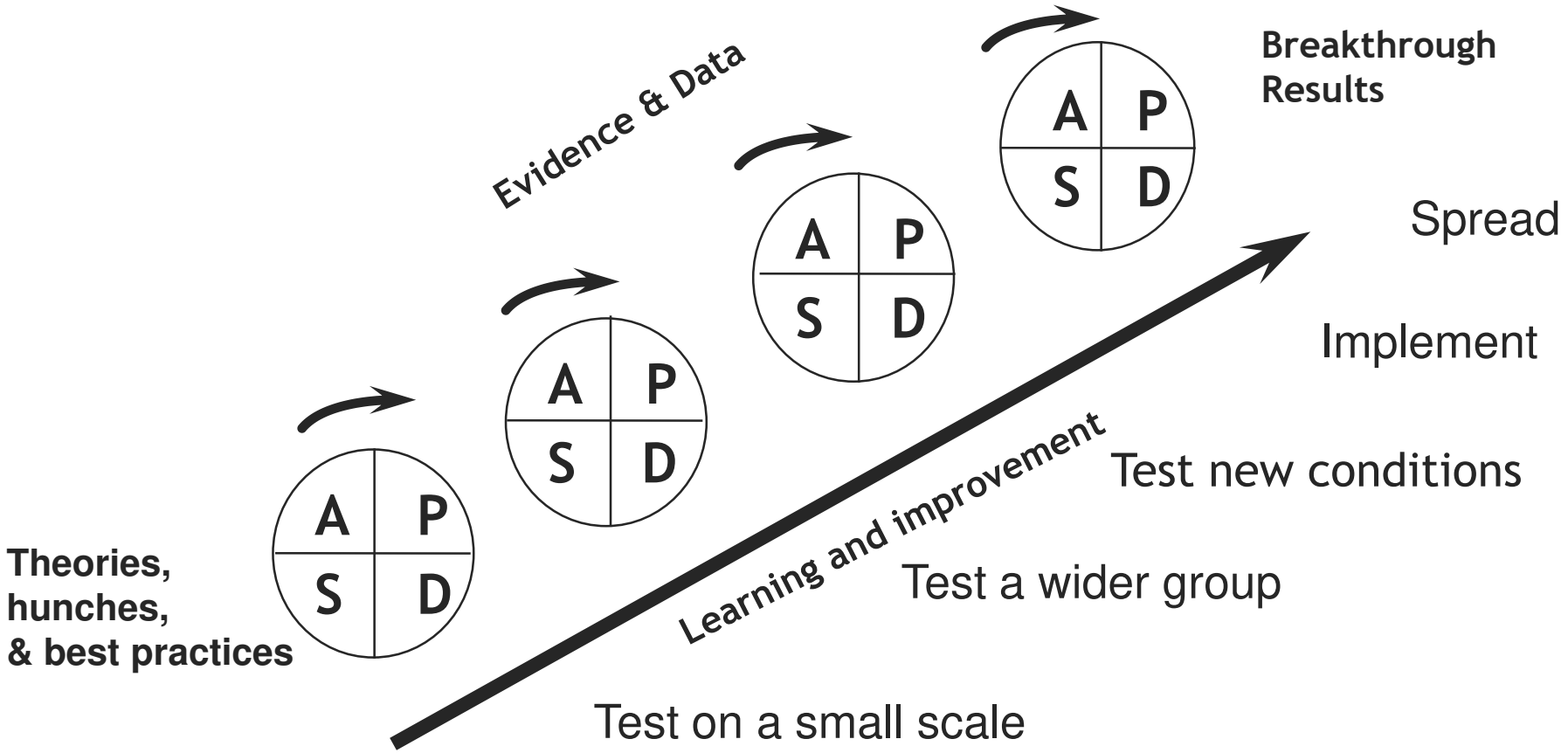
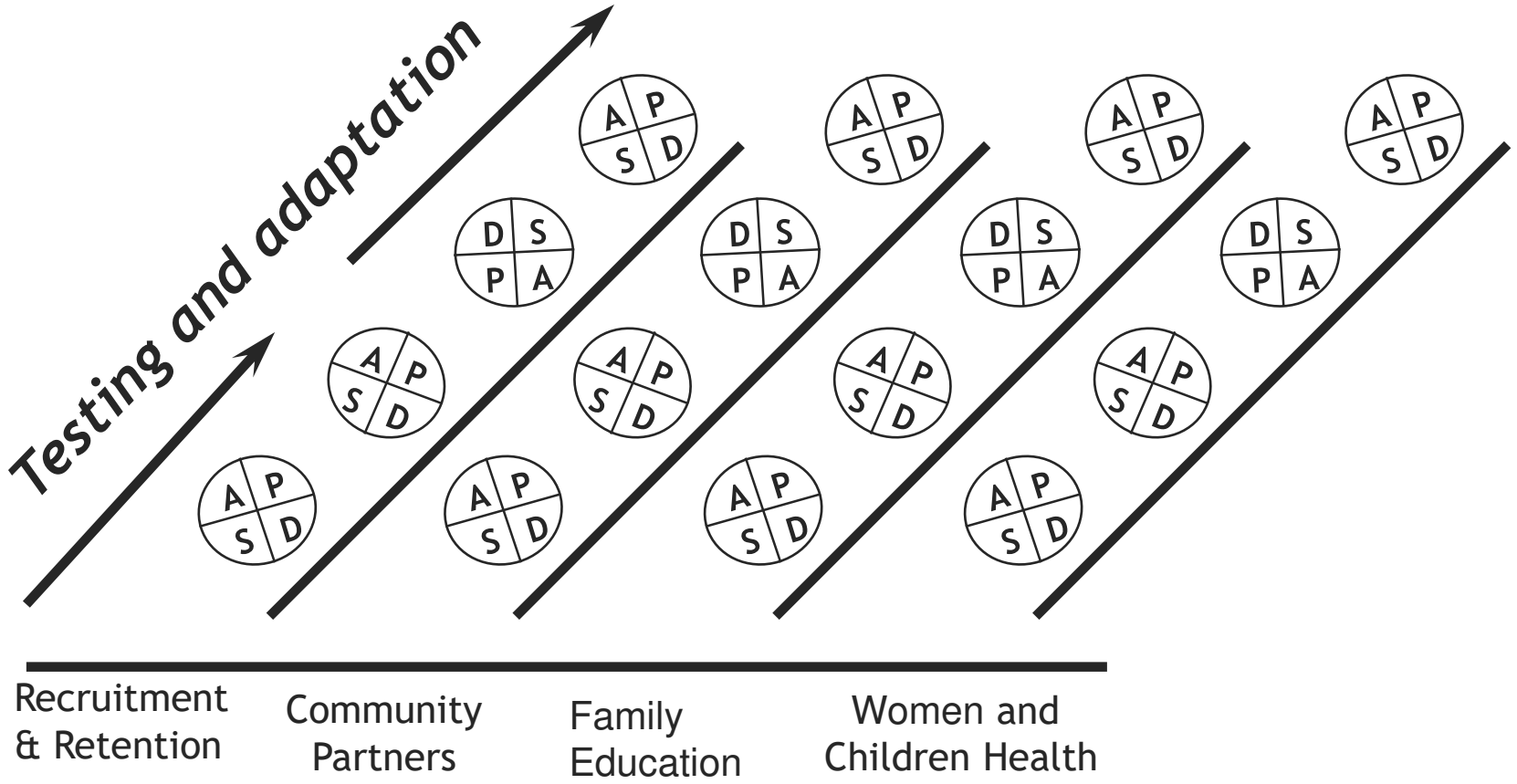
Test on a Small Scale

- Conduct the test with one community partner, one client, next 5 clients, with one staff member
- Test the change on a small group of volunteers
- Develop a plan to simulate the change in some way

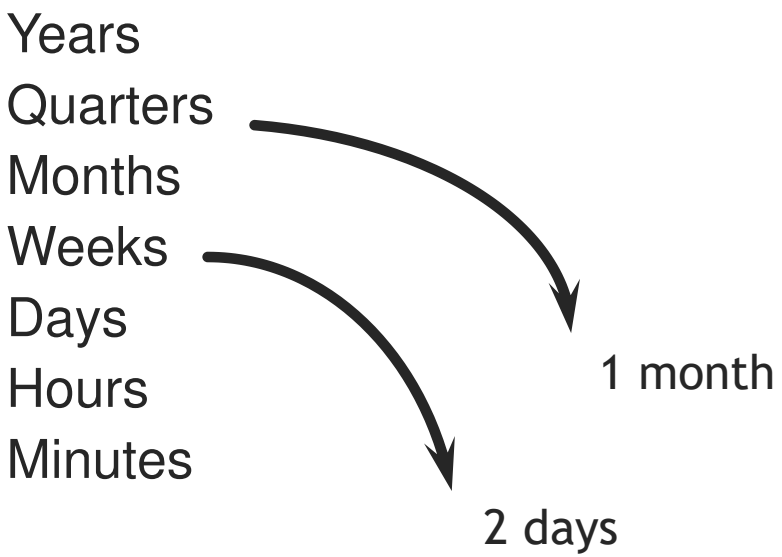
Sequential Building of Knowledge Includes a Wide Range of Conditions in the Sequence of Tests



Multiple PDSA Cycle Ramps



Decrease the Time Frame for a PDSA Test Cycle



Drop down next "two levels" to plan early test cycles!

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"Get started before you are ready!"

James M. Anderson

Former President and CEO

Cincinnati Children's Hospital Medical Center

Rate the quality of the presentation overall (1= very low quality, 5= very high quality)

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Rate the quality of the content (1= very low quality, 5= very high quality)

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Rate the usefulness of content to your work going forward (1= not very useful, 5= very useful)

1

2

3

4

5

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Having participated in this webinar, what is your current level of knowledge of Quality Improvement (1= least knowledgeable, 5 = the most knowledgeable)

Start the presentation to see live content. Still no live content? Install the app or get help at **PollEv.com/app**

Please rate your overall satisfaction with today's webinar (1= extremely dissatisfied, 5= extremely satisfied)

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Closing Remarks

When poll is active, respond at **PollEv.com/healthystart428**

Text **HEALTHYSTART428** to **22333** once to join

Please provide one word to describe how you are feeling as we move this work forward.

Start the presentation to see live content. Still no live content? Install the app or get help at **PollEv.com/app**

Thank you!

Supporting communities to give every child a Healthy Start.
Healthy Start EPIC Center

National Institute for Children's Health Quality

Contact
Jane Taylor at
jane1taylor@mac.com
&
the Healthy Start
TA & Support Center at
healthystart@nichq.org