Measurement in Continuous Quality Improvement

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July 21, 2020

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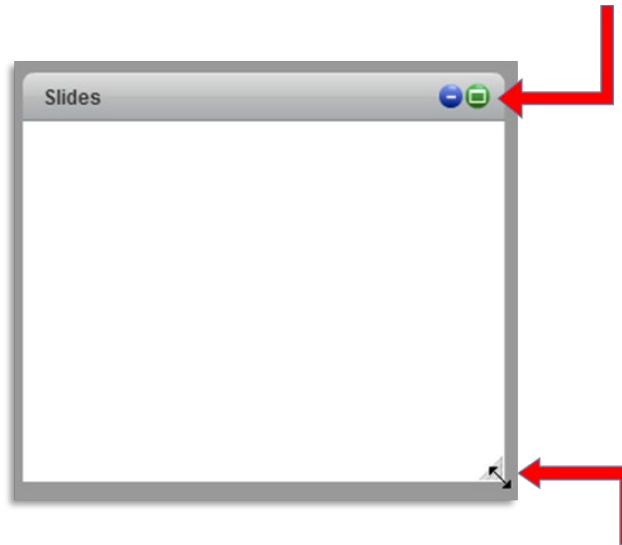
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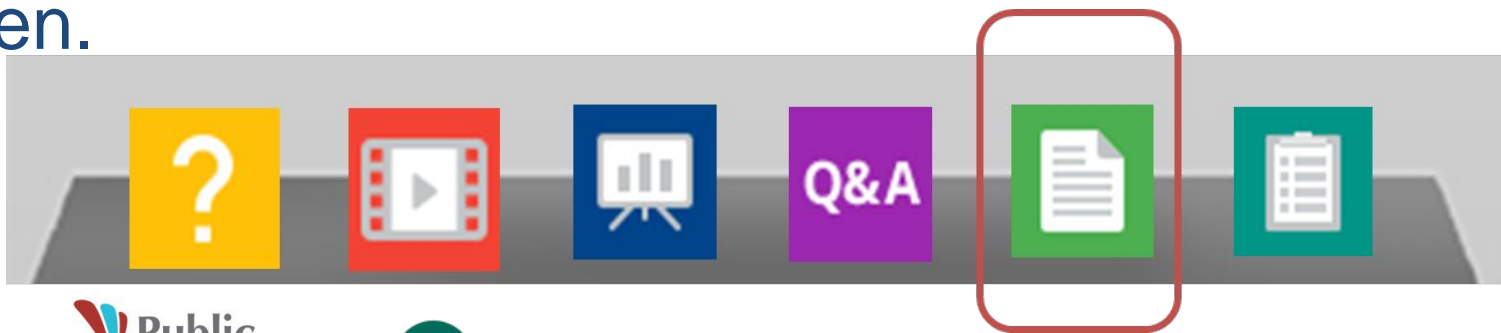
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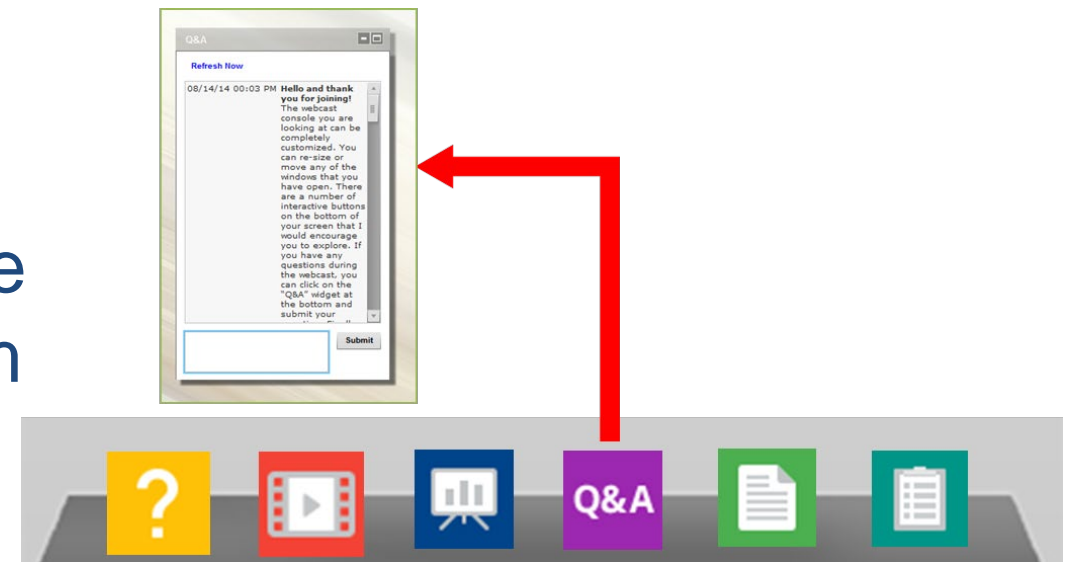
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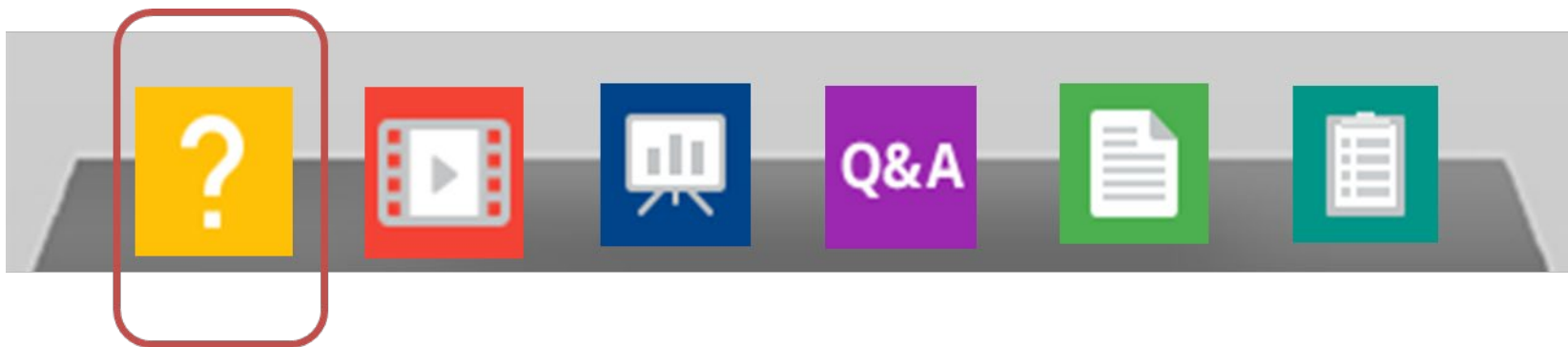
Group Chat & Polls

During the presentation we will pause for "Thinking Time" and you will be asked to respond in the Group Chat Box. Your responses will not be associated with your name or organization, rather it will be your registration ID.

We will also pause for poll questions throughout the presentation. The polls will be displayed directly on your screen.
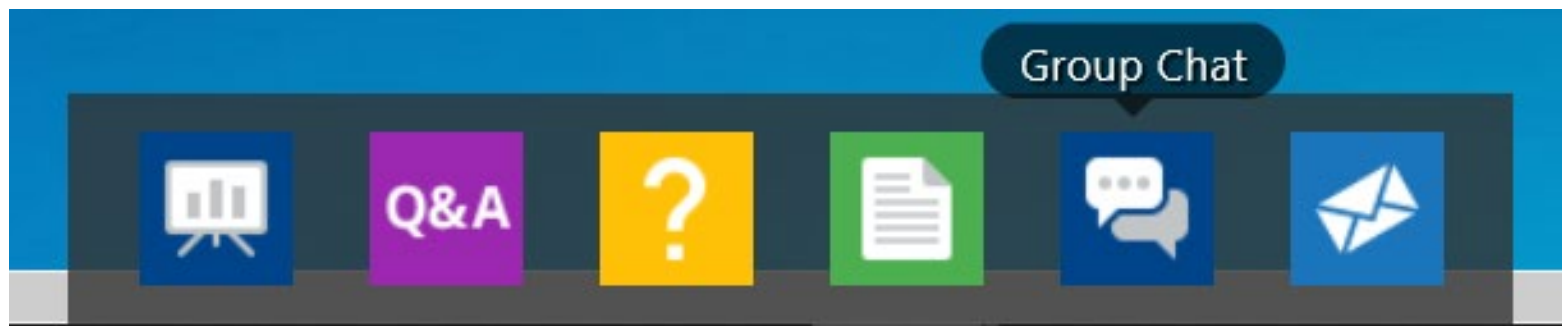
Survey

- At the end of the webinar you will asked to respond to a short survey to gather your feedback on the webinar.

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Interactive Webinar

Participant interaction planned throughout the webinar in four ways:

1. Pausing to allow "thinking time" for personal reflection
2. Incorporating poll questions
3. Asking for your thoughts in the group chat feature
4. Responding to questions via the Q&A feature

Today's learning objectives

By the end of the presentation, participants will be familiar with:

- Measurement for improvement and how it differs from measurement for accountability and research
- The types of measures that are critical to continuous quality improvement (CQI)
- Data sources to support measurement for improvement
- How to use measures to support road testing and monitoring

All activities associated with today's presentation are optional.

Review of CQI steps

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CQI cycle

Planning

Strategy development

Testing

Assessing

Implementing

Implementation team
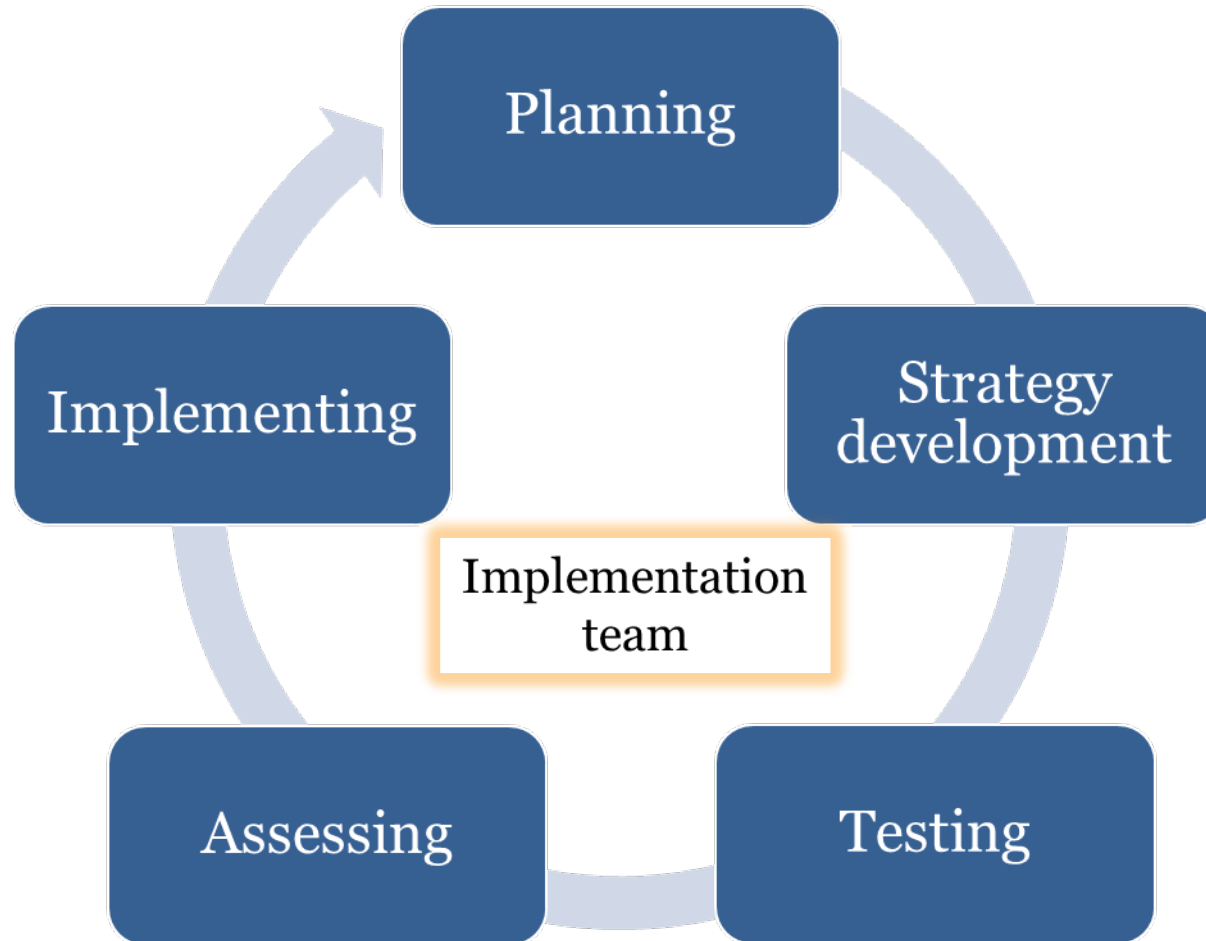
Key steps within each phase

- Planning
  - Identify and understand your challenge
- Strategy development
  - Identify and prioritize strategies to test in your program
- Testing
  - Develop plan to road test new strategy by identifying an implementation and data collection approach
  - Conduct one or more road test cycles
- Assess results of road test
  - Analyze feedback and decide next steps
- Implement strategy
  - Monitor progress

Purposes of Measurement

Three purposes for measurement

1. Improvement
   - Evaluate changes in practices
2. Accountability
   - Identify exemplary or problematic performers
3. Research
   - Develop and test theories about relationships between variables

Source: Carnegie Foundation

What is measurement for improvement?

- **Use:** To identify promising strategies; results should feel relevant to frontline staff
- **Frequency:** When new strategies are tried; should be timely
- **Testing:** Sequential tests, learning cycles to build evidence
- **Sample size:** "Just enough data"; small sequential samples
- **Context:** Low-stakes; measures don't have to be perfect, just good enough

Lief Solberg, Gordon Mosser and Sharon McDonald Journal on Quality Improvement vol. 23, no. 3, (March 1997), 135-147.

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How does this differ from accountability?

- **Use:** For grant reporting/monitoring

- **Frequency:** Typically collected once or twice a year

- **Testing:** No theory; assessing overall performance

- **Sample size:** 100% of your program

- **Context:** Aligns with required performance measures

Carnegie Foundation - source

How does this differ from research?

- **Use:** Inform the field
- **Frequency:** Once or twice per study
- **Testing:** One large test of theories
- **Sample size:** Comprehensive data; "just in case data"
- **Context:** Methods must meet standards of rigor

Thinking Time

Poll Question 1

- For what purposes are you collecting data (select all that apply)?

  A. Improvement
  B. Accountability
  C. Research

Sharing Results – Poll Question 1

Thinking Time – Group Chat Question 1

In the Group Chat Box, provide a brief response to the following question:

- Share ways your program has engaged in measurement for improvement.

Can data support multiple purposes?

Some accountability and research measures also work as improvement measures.

- Performance measures are useful for identifying challenges.
  - Research measures (for example, observation data) may assess changes in outcomes after implementing program improvements.

Some measures only support improvement.

- For road tests, measures need to:
  - Align with new strategies to assess what happened
  - Be timely and accessible to inform further changes

Improvement measures

Types of measures

- Process Measures
- On-track/interim Measures
- Outcome Measures
- Balancing Measures

Scenario

Challenge

- Chronically absent participants

Root cause

- Lack of belonging, connection to program

Strategy:

- Facilitators send text messages to students who are absent immediately following their absence from a session

Ultimate aim

- Increase attendance

Process measures

Ask: What happened?

- Examples:
  - Did all absent students receive a text messages?
  - How soon after missed sessions were text messages sent?
  - What was the nature of the texts? What did facilitators say?

On-track/interim measures

Ask: Did the strategy influence interim outcomes that are drivers of the ultimate aim?

- Example:
  - Did the texts help absent students feel more connected to facilitators? The program?

Outcome measures

Ask: Did the strategy influence the ultimate aim?

- Examples:
- After implementing text messages:
  - Did attendance improve?
  - Are there fewer chronically absent participants?

Balancing measures

Ask: Did the strategy impact other parts of the program? Were there unintended consequences?

- Examples:
  - Did facilitators have time to implement the strategy?
  - Did the added task of tracking and outreach take away from other tasks?

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Applying the four measures

Example:

Challenge

- Facilitators are experiencing a lot of classroom disruptions.

Overall strategy

- Be intentional about developing a partnership with the classroom teacher to help with classroom management.

Specific steps

- Before the cohort begins, meet with teacher to review lessons. Explicitly discuss teacher's role in classroom management.
- Debrief with teacher after each session.

Thinking Time – Group Chat Question 2

In the Group Chat Box, provide a brief response to the following question:

- How could you use each type of measure to assess the strategy?
  - Process
  - On-track
  - Outcome
  - Balancing

Potential data sources to support improvement

- Program administrative data
- Surveys
- Qualitative data
  - Interviews
  - Focus groups
  - Observations

Program administrative data

- Program attendance
- Participant demographics
- Program services data

Examples of program administrative data

- Example strategy:
- To improve the fit of the participants being referred to the program by partners, we will develop more targeted messaging for partners about the program target population
- Example measures from program administrative data:
- Process measures:
  - How many prospective participants were referred to the program? By whom?
- Outcome measures:
  - Do the demographics of participants referred to the program match our target population?

Surveys

- Existing tools
  - Program satisfaction surveys
  - Participant entry and exit surveys for performance measures
  - Fidelity logs
- Strategy specific tools
  - Targeted surveys (~5 questions)
  - Exit tickets (~1-2 questions)

Examples of surveys

Example strategy:

- Staff are struggling to balance classroom discussion and fidelity to the curriculum. Staff receive training on how to balance these.

Example measures from surveys:

- On-track measures:
  - Facilitator survey: do facilitators demonstrate greater confidence in delivering the curriculum effectively?
- Outcome measures:
  - Fidelity log: Are staff able to complete all activities?
  - Student survey: Do students say they have ample opportunities to share their thoughts and experiences?

Thinking Time
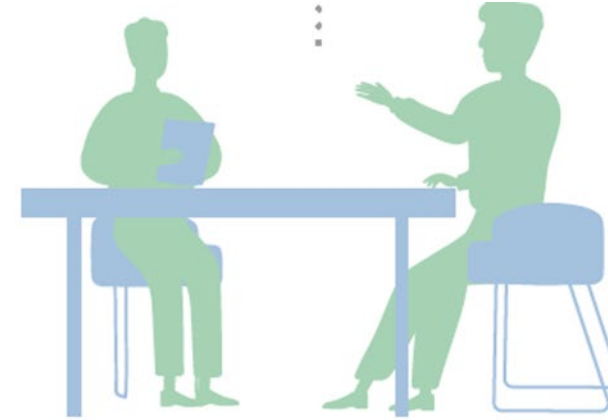
Poll Question 2

- What types of surveys do you administer to participants?
  - Participant satisfaction survey
  - Pre-post survey
  - Satisfaction and pre-post survey
  - Other
  - We don't currently administer surveys to participants

Sharing Results – Poll Question 2

Qualitative data

- Interviews
  - 1-1 interviews
  - Group interviews
- Focus groups

Comparing interviews and focus groups

- Both capture experiences of participants or stakeholders
- Key differences are the role of the moderator and focus

	Focus group	Interview
Who is involved?	Group	1-1 or group
Role of moderator	Responsible for facilitating a discussion; offer probes to keep conversation moving	Directs the interview; asks specific questions of person/people in interview
Focus of information	Opinions and beliefs	Facts and details
When to use	-To capture broad range of views over a short period of time; limited capacity for 1-1 interviews -To represent range of perspectives on a topic	-To understand a topic -1-1 interview: sensitive or personal topic

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Examples of focus groups and interviews

Example strategy:

- Curriculum isn't resonating with participants. Make allowable adaptations to better relate to target population.

Example measures from focus groups/interviews

- Process measures:
  - Facilitator interview: How did they present the adapted materials?
- On-track measures:
  - Participant focus group: Do participants feel they connect more with revised materials? Do they have thoughts on how to further improve the materials?
- Outcome measures:
  - Facilitator interview: Do they perceive that participant engagement changed after the adaptations?

Thinking Time – Group Chat Question 3

In the Group Chat Box, provide a brief response to the following question:

- In what ways have you used interviews or focus groups in your program to gather information?

Thinking Time

Poll Question 3

- Interview or focus group?
- Scenario: You want to hear from students who have been chronically absent to understand their needs and struggles.

Sharing Results – Poll Question 3

Thinking Time

Poll Question 4

- Interview or focus group?
- Scenario: You want feedback on a specific lesson in the curriculum.

Sharing Results – Poll Question 4

Thinking Time

Poll Question 5

- Interview or focus group?

- Scenario: You want to understand past experiences that youth have had with sexual risk avoidance programming.

Sharing Results – Poll Question 5

Observations

Fidelity observations

- To assess fidelity and quality of delivery

Observations focused on improvement

- Is the program (or a specific part) working as expected?
- How did the strategy or change work in practice?
- Simple template for improvement observations (available in resource list)

Examples of observations

Example strategy:

- We're having difficulty recruiting new partners, because they say they don't have time to implement the program.
- Shorten sessions and spread sessions over a longer period of time.

Example measures for observations:

- Balancing measures:
  - Observe sessions to determine whether facilitators are able to maintain fidelity and quality in shorter sessions.

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Measurement to support road testing and monitoring

Road test review

1. Conducted over short period of time or with a small group
2. Help program understand the implementation of a strategy
3. Is this a feasible strategy to scale up?
4. Not used to assess ultimate outcome
5. Process, on-track, and balancing measures may be useful

Road test scenario

Context: Operating a community-based program for middle and high school-aged youth after school

Challenge: Youth aren't participating in group discussions

Strategy: Use team-building icebreakers at the start of sessions to foster group cohesion

SMART aim: Increase average engagement ratings 1-point by end of next semester

Road test: Implement one of the high school-aged groups for 6 sessions and collect data

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Thinking Time – Group Chat Question 4

In the Group Chat Box, provide a brief response to the following question:

- What are some <u>process measures</u> that could help you to understand how the strategy was implemented?

- *Our strategy: Use team-building icebreakers at the start of sessions to foster group cohesion.

- Process measure: What happened?

Thinking Time – Group Chat Question 5

In the Group Chat Box, provide a brief response to the following question:

- What are some <u>on-track measures</u> that could help you to understand whether the strategy is promising?

- *Our strategy: Use team-building icebreakers at the start of sessions to foster group cohesion.

- On-track measure: Did the strategy influence interim outcomes that are drivers of the ultimate aim?

Thinking Time – Group Chat Question 6

In the Group Chat Box, provide a brief response to the following question:

- What are some balancing measures that can help you to identify unintended impacts of the strategy?

- *Our strategy: Use team-building icebreakers at the start of sessions to foster group cohesion.

- Balancing measures: Did the strategy impact other parts of the program? Were there unintended consequences?

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Learning cycles in road tests

- Road tests should help you understand not just what works, but what works for whom and under what conditions?

- Why do multiple tests?
    - Start small and build - start with feasibility and progress to early outcomes
    - Examine results, refine, and retest
    - Build evidence related to effectiveness

- When can you stop road testing?
    - Determined feasibility of implementing the strategy
    - Believe results would be consistent with further testing
    - Tested in all relevant contexts
    - Worked out issues with the strategy

Thinking Time – Group Chat Question 7

In the Group Chat Box, provide a brief response to the following question:

- Do you need multiple road tests for your icebreaker strategy? Where should you do road tests?
- *Context: Operating community program for middle and high school-aged youth after school
- *Strategy: Use team-building icebreakers at the start of sessions to foster group cohesion
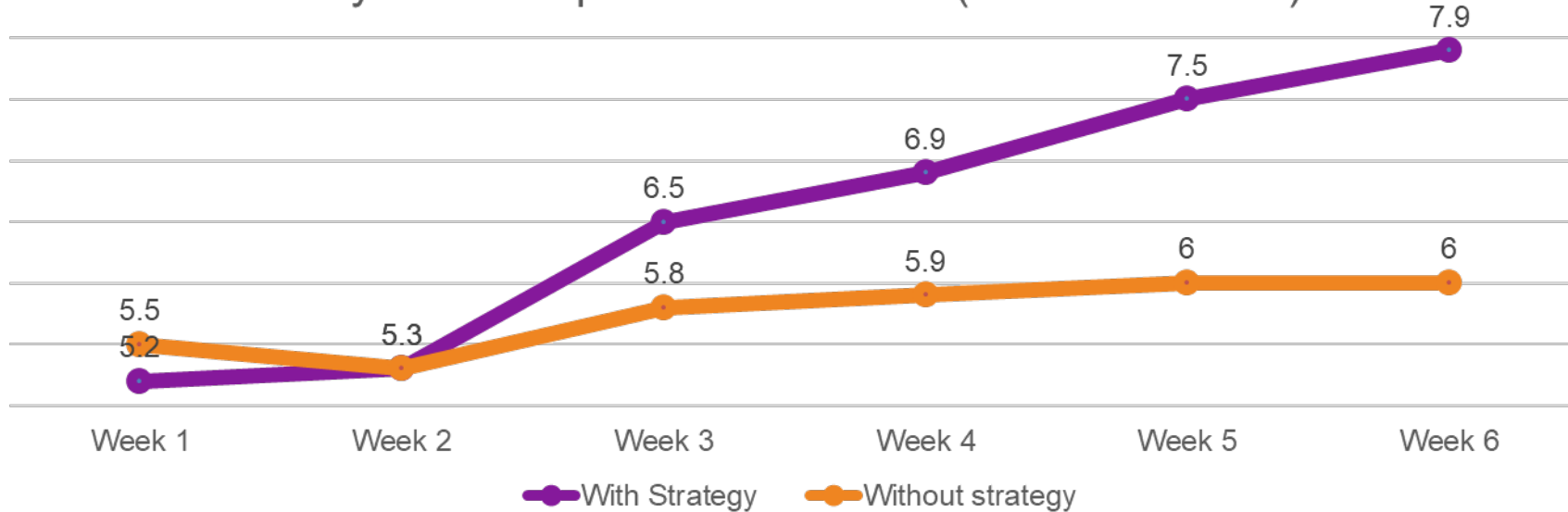
Analyzing the data

- Upon completing each road test cycle, synthesize what learned and apply insights to next cycle

- Questions to ask
  - What worked consistently well?
  - What was surprising?
  - Does data suggest expected changes are obtained?
  - How might we address challenges?

- Participatory data analysis can lead to diverse insights

Thinking Time – Group Chat Question 8

You completed your first test with a cohort of high-school participants. You examine the following output from a student survey and conclude the strategy works and scale up. Is this the right decision? Explain.


Average belonging scores on students survey: How connected do you feel to peers in this class (scale from 1-10)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
With Strategy	5.2	5.3	6.5	6.9	7.5	7.9
Without strategy	5.5	5.3	5.8	5.9	6	6

Thinking Time – Group Chat Question 9

You completed your first test with a cohort of high school youth. You examine the following output from fidelity logs completed by the facilitator. What do you conclude?

Fidelity log analysis: % of activities facilitator implemented from each lesson
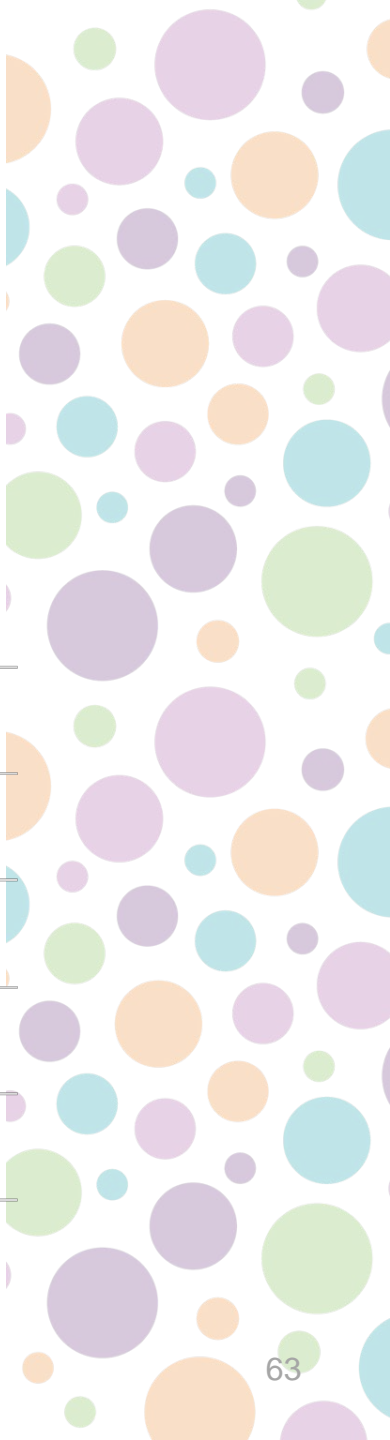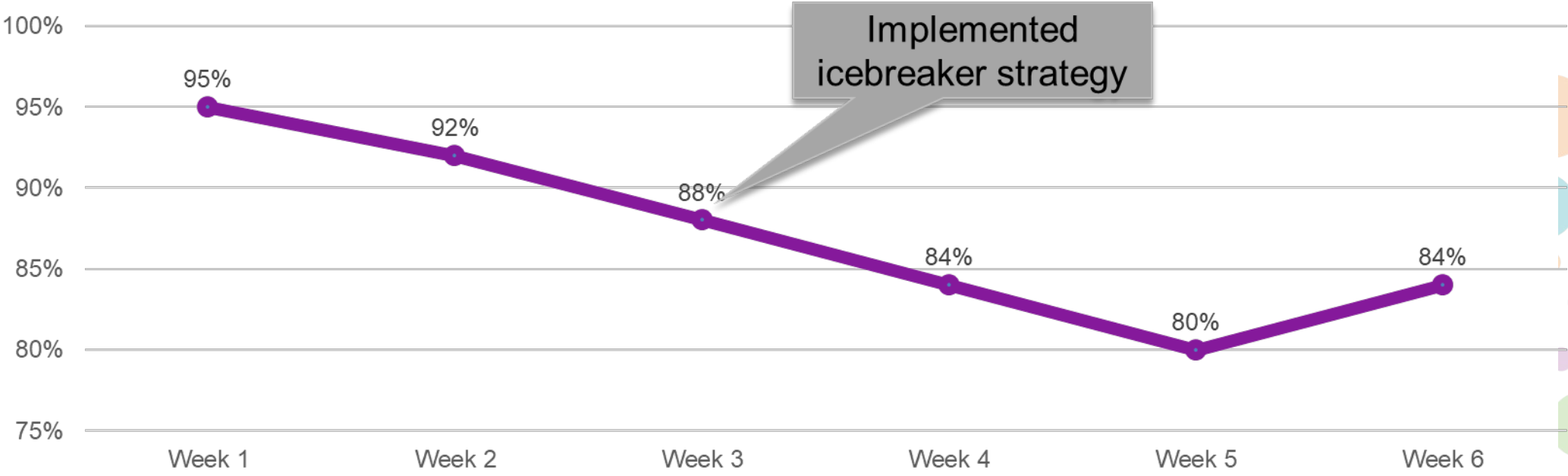
Refine and retest

Example illustrates importance of multiple learning cycles

- When are you able to stop testing?
  - Streamlined icebreakers to resolve fidelity issue
  - Tested with middle school youth and observed positive results
  - After a few tests, student survey shows consistently positive results related to belonging

Implementation and monitoring

- Example:
- Share new practice with all staff
  - Facilitators involved with testing share tips and lessons learned
- Monitor success of practice
  - Continue to examine whether practice positively influences belonging (on-track outcome)
  - Monitor engagement to determine whether you meet your target aim (primary outcome)

Thinking Time – Group Chat Question 10

- What data collection could you undertake to monitor implementation of the icebreaker strategy?
    - To monitor your interim outcome?
   - Your ultimate aim?

Thinking Time – Group Chat Question 11

- **Interim outcome: Results from student focus group to understand sense of belonging and connection appear promising.**
- Key themes:
    - Students feel icebreakers are fun and help them to relax before getting into heavier conversations.
    - Icebreakers helped participants to get to know each other.

Thinking Time – Group Chat Question 11

Ultimate aim: You monitor engagement ratings in observations of each cohort. Cohorts A and B were conducted prior to the icebreaker strategy. Is your strategy meeting the aim?

Ratings of participant engagement from observation forms

Implemented icebreaker strategy

6 — Cohort A
5 — Cohort B
7 — Cohort C
6 — Cohort D
6 — Cohort E
5 — Cohort F
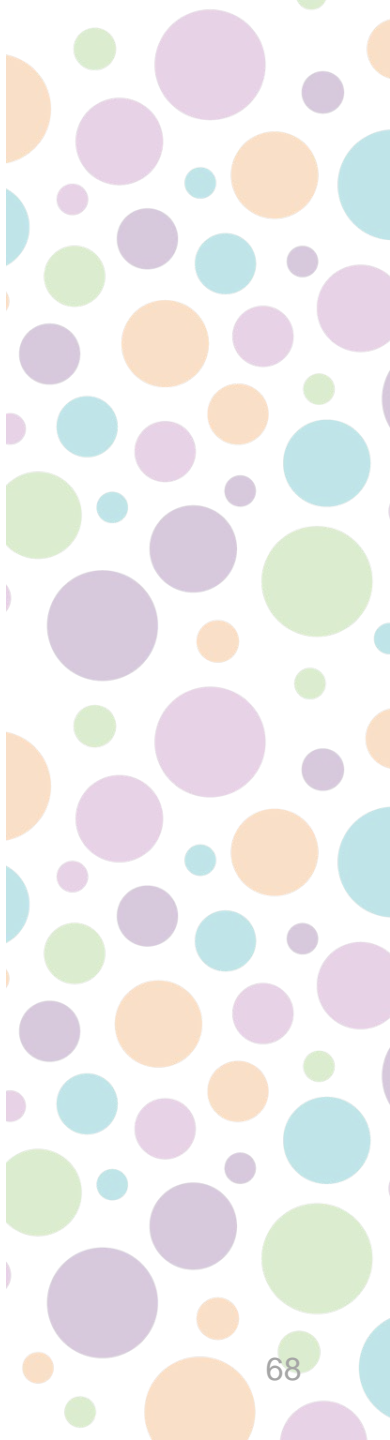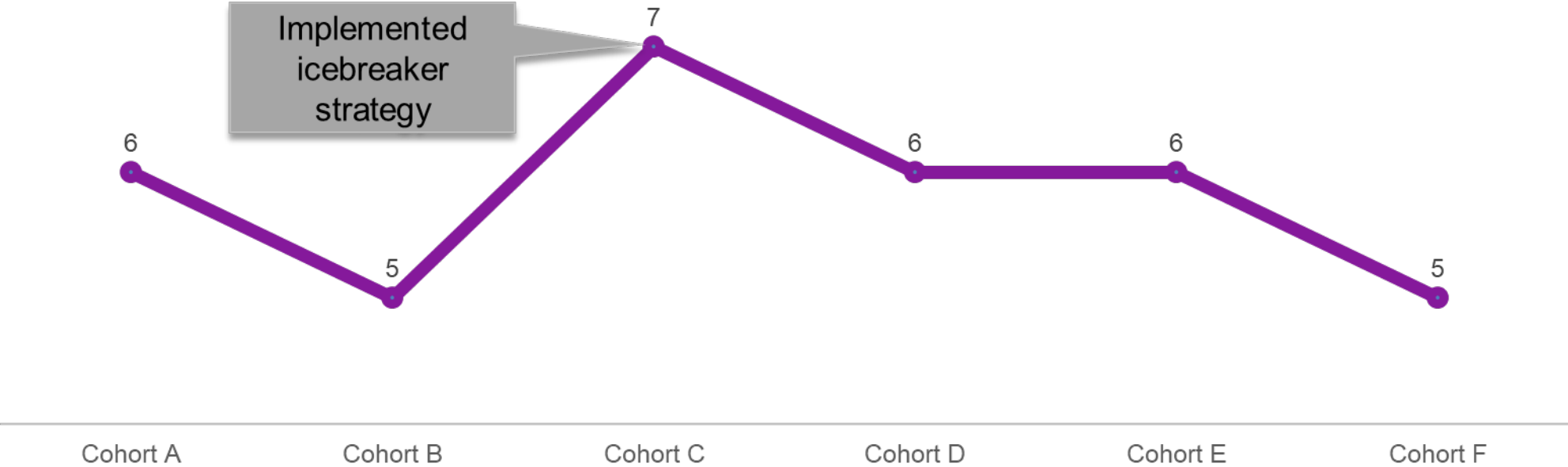
Thinking Time – Group Chat Question 11

What do you do about this new practice? Do you maintain it? Abandon it?

Scenario recap

- **Challenge:** Students aren't participating in discussions.
- **SMART aim:** Increase the average engagement rating from observations by 1 point by end of next semester.
- **Implemented strategy:** Start sessions with icebreakers.
- **Road test findings:** The strategy is feasible to implement and appears to increase feelings of belonging.
- **Monitoring assessment:** Implementing the practice did not improve average engagement ratings, but participants responded well to the icebreakers.
- **Next step:** We will keep the strategy, but try a new strategy to continue to work on improving engagement.

Questions, Comments, Other Thoughts

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Resources and Next Steps

Resources

- General CQI resources
  - [Learn, Innovate, Improve (LI2)](#)
  - RAND's [Getting to Outcomes](#) CQI approach
  - [PDSA](#) background
  - Carnegie Foundation's [improvement science](#) approach (geared toward education, but relevant for youth programs)
- More on the tools
  - [Road test](#) primer
  - [PDSA worksheet](#)
  - [Exit ticket](#) primer
  - Observation for improvement [template](#)

Resources

- Online collaboration programs:
  - [Mural](#)
  - [Miro](#)
  - [Stormboard](#)
- Online polling and brief surveys
  - [Mentimeter](#)
  - [Poll Everywhere](#)

Next steps

We are available for additional support!
- To request individual support, email SRAETA@mathematica-mpr.com
- Attend forthcoming office hours to discuss CQI with SRAENE team and other grantees

Next webinar:
- Date: Tuesday, August 18, 2020
- Topic: Building an Improvement Culture

Contact information

- Send questions, comments, concerns to the SRAE mailbox:

  SRAETA@mathematica-mpr.com