Root Cause Analysis Series

Step 4: Testing Chosen Solutions and Strategies

LME/MCO: Select Your LME/MCO

This worksheet will help guide teams to examine how chosen solutions (or strategies) impact root causes. It is critical to understand if chosen solutions are (a) usable, and (b) making expected improvements. Remember that every aspect of problem solving includes known and unknown factors. Engaging those most affected by the situation in defining root problems, explaining how they are affected, and including them when considering solutions within local contexts will provide greater fit and acceptability (e.g., adoption) of chosen solutions. Data and methods may include inadvertent biases. An intentional focus on equity and inclusive voices throughout each stage will ensure better outcomes.

Part 1: Determining What You Want to Know, and How You Will Know/Learn it?

Use this section to clearly document exactly what you hope to learn by putting your chosen solution(s) into place. It is not sufficient to ask, "does it work?". Be more specific – what is the desired end goal; what changes are expected? Are the changes measurable? Are they realistic based on what will be done? Can they be measured and observed in the time frame you hope to use? Can repeated cycles be used for continuous learning? As noted in Step 1, deciding what data will be needed to compare results is important. Those decisions show up again in this step where the team will want to specify what information (e.g., data, metrics) will help inform if the root cause(s) are being positively impacted.

Desired end goal – define your success criteria (what will success look like if root causes are eliminated or reduced – be specific):

Describe what specific changes are expected based on the success criteria. These changes may be in processes, outcomes, or both.

Document the team's measurement goals/objectives? In thinking through this, ensure that your desired changes are clearly specified, measurable, achievable, realistic, time-sensitive, inclusive relative to all affected by the solution, and equity-focused)?

Describe how will the team collect and analyze data. (what methods, measures, data will be collected, by whom, using what approaches?)

How often will the team measure to see if the solution is working? Will measuring activities repeat so adjustments can occur based on what is learned each cycle?

How will feedback be given to all partners, participants, end-users? (what mechanisms will be used, who will be accountable for the feedback?)

Are expected changes realistic based on resources, abilities, team / agency readiness, and other factors? (if not, return to Step 3 and reconsider solutions; or stick with the chosen solution and adjust methods based on these other considerations).

What plan will the team create to seek input from all relevant partners, participants, and end-users for the entire process?

Part 2: What Tools Can Help Determine if Solutions are Impacting Root Causes?* (See appendices for examples)

There are many approaches to measuring root cause improvement strategies. Two basic ideas are (a) to assess if tools and measures are useable/feasible/practical for those doing the work and impacted by the changes, and (b) smaller, repeated measurement cycles to incrementally examine if chosen solutions are working. Repeated cycling of small tests of change offers opportunities to adjust strategies, tools/methods, data, and measures more quickly along the way, breaking down change measurement into manageable increments.

A. *Usability Testing (to determine if the solution is practical, feasible, doable for those involved in the work)*	Usability testing determines if measuring the solution (e.g., practice, measurement approach, policy change, new or modified program) is a positive, feasible process. It considers the user experience involving measurement activities and tools before/during/after engaging in improvement processes. By collecting feedback about processes and tools/measures, the team ensures that usability barriers do not get in the way of learning and understanding what changes occur when the solution is put into place.
B. *Plan-Do-Study-Act (PDSA) Cycles*	PDSA cycles are part of the family of **rapid cycle testing methods**. They focus on repeated, short intervals, measuring how and if changes occur, and if observed changes are trending in desired ways. PDSA methods allow for refinements and improvements based on incremental, repeated observations and measures. They are practical, and more easily applied than complex evaluation methods – although they may certainly be included in broader evaluation plans and strategies.

Part 3: Considerations for Ease of Testing, and What Is Learned Through Measurement

(check boxes are to remind and confirm that each reflection has been considered):

Ideally, both approaches will be important to use. Key considerations include:

For Usability Testing (See sample usability tool for example focus areas) -

- *(a) Are tools, measures, activities easy to understand and apply?* ☐
- *(b) Is the chosen solution learnable, teachable, and coachable?* ☐
- *(c) Can users (team members, service recipients, others) navigate the processes and tools with relative ease?* ☐
- *(d) Is the user experience fully explored to understand how the testing/measurement processes impact day-to-day work?* ☐
- *(e) Is the user experience beneficial to all key partners and participants?* ☐

If the answer is "no" to any of these, the team should revisit tools, resources, and measures to make them more user-friendly, and practical.

++

For PDSA cycle learning:

- *(a) Has the team clearly identified improvement goals for the chosen solution (clearly defined success)?* ☐
- *(b) Has the team clearly outlined a plan with steps, resources, and timelines for testing? Is the plan realistically applicable?* ☐
- *(c) Are roles and responsibilities well-documented for who will ensure success?* ☐
- *(d) Are data being collected as planned? Are measurement timeframes being followed?* ☐
- *(e) Are the data clearly usable and aligned with questions relative to the testing goals? Do the data reflect equity, inclusive voice for everyone involved?* ☐
- *(f) Are results analyzed in comparison with root cause baseline data?* ☐
- *(g) Based on the data and usability feedback, are changes in the selected solution required? Make sense to repeat the cycle to confirm?* ☐
- *(h) If initial data **do not** support the chosen solution, will the team need to revisit Step 3 (solution finding)? Repeat the cycle allowing more time to determine effectiveness? Adjust measurement tools/methods/processes?* ☐
- *(i) How will results be communicated? How will continuous learning be sustained?* ☐

If these considerations raise questions, the team should revisit how the PDSA cycle was designed and conducted.

Part 4: Reflection Questions for the Overall Testing Process

1. Overall, do the results support continuing with the chosen solution? (Why or why not?)

2. If initial results do NOT support continuing the chosen solution, what recommendations might be made to learn and move forward?
    a. Adjust and improve usability of tools/resources/processes?

    b. Revisit, and either refine the chosen solution or choose a different one?

3. In general, what is or was learned about BOTH the usability of your testing and measurement activities, and the PDSA cycle?

4. Remember it is OK to achieve results that may not support your solution. That is the purpose of testing, measuring, and continuous learning – findings that do not support are not "failures;" they are instructive and help sharpen next ideas. Repeated measures in short, incremental cycles can help decide if sticking with a promising solution makes sense, or if revisiting Step 3 (solution finding) is a better approach.

HEADS UP! Perhaps the single most repeated error in PDSA cycle measurement is the tendency to make premature conclusions based on the first measurement cycle. Exiting the full PDSA cycle after the "Do" or "Study" portions (initial data collection) limits a fuller analysis and understanding. Be sure and complete the full PDSA cycle and repeat until there is confidence that the chosen solution will reduce or eliminate the root causes of the problem(s).

v.1|07.01.2024

Appendix A – sample PDSA worksheet

Project Lead		Title	
Team		Change	
Date Range		Cycle #	
		Key Words	

BACKGROUND: What led you to start this project? Is this cycle a continuation of another cycle? Why is this topic relevant? Include any baseline data that has already been collected. Include relevant information from literature.

PLAN:

Aim/Objective Statement for this cycle What do you hope to learn? What are you trying to improve (aim), by how much (goal) and by when (timeframe)?

Specific questions to address in this cycle:

1.

2.

3.

Predictions/Hypotheses (What do you think will happen?)

Plan for change/test/intervention

Who (target population):

What (change/test):

When (dates of test):

Where (location):

How (description of plan):

Measures (What will you measure in order to meet your aims? How will know that a change is an improvement? Will you use outcome or process measures?)

Plan for data collection

Who (will collect):

What (measures):

When (time period):

Where (location):

How (method):

DO: Carry out the change/test. Collect data.

Note when completed, observations, problems encountered, and if encountering special circumstances. Include names and details.

STUDY: Summarize and Analyze data (quantitative and qualitative). Include charts, graphs.

ACT: Document/summarize what was learned. Did you meet your aims and goals? Did you answer the questions you wanted to address? List major conclusions from this cycle.

1.

2.

3.

Define next steps. Are you confident that you should expand size/scope of test or implement? What changes are needed for the next cycle?

1.

2.

3.

Appendix B: Sample Usability Form (Generic) Sample Usability Testing (Insert Strategy that You/Team Used for this Review:

Usability testing is a form of Plan-Do-Study-Act improvement cycle that helps your team (and agency) test strategies to known implementation barriers and challenges. Data collected from this anonymous form will be reviewed by your Implementation Team and used to consider how to better apply chosen implementation strategies taking into account feedback and learning.

The solution (what you attempted) applied today is: (name/describe the actual tool, measure, or activity)

The <u>following common challenges are known</u> within your agency related the solution/strategy based on your putting it into place ("trying it on"):

1)
2)
3)

Why?

Q1: To what extent did today's testing session successfully address challenges related to **[insert challenge number 1]**?

a. Not at all (0)
b. Slightly (1)
c. Somewhat (2)
d. Moderately (3)
e. Extremely (4)

Why?

Q2: To what extent did today's testng session successfully address challenges related to **[insert challenge number 2]**?

a. Not at all (0)
b. Slightly (1)
c. Somewhat (2)
d. Moderately (3)
e. Extremely (4)

Why?

Q3: To what extent did today's testing session successfully address challenges related to **[insert challenge number 3]**?

a. Not at all (0)
b. Slightly (1)
c. Somewhat (2)
d. Moderately (3)
e. Extremely (4)

Why?

Q4: How likely are you/your team to reach the final steps of [insert final steps or outcomes related to the chosen root cause improvement strategy]?

a. Very Unlikely (1)
b. Unlikely (2)
c. Neutral (3)
d. Likely (4)
e. Very Likely (5)

Choose 1 from these Options

Q5: In your opinion, what adjustments/changes/suggestions might your team/agency use to address issues related to:

a) [Challenge 1 from above]?
b) [Challenge 2 from above]?
c) [Challenge 3 from above]?

Q7: What worked well when you applied/used the new solution/strategy?

Q8: What might be any other **priority recommendation for the solution or strategy – what final suggestions** might be offered to move forward? Based on what data (data = feedback from observations, other information collected, scales/measures, etc.)?