

# **The CQI Process: Using the Plan-Do-Study-Act Cycle to Improve Outcomes**

November 6, 2015

Lily Alpert and Yolanda Green-Rogers  
Chapin Hall at the University of Chicago

**ChapinHall**  
at the University of Chicago

# Agenda

- Introductions
- Briefly explore the structure of a **sound CQI system** and **differentiate the CQI system** from the **CQI process**.
- Define the **CQI process** as a tool for structuring the “process of getting better.” Review the stages of the **Plan-Do-Study-Act cycle** and each stage’s demand for **evidence**.
- Emphasize that **the CQI process starts with a question** the agency has about safety, permanency, or well-being. Explore the outcome and performance questions that private child welfare agencies have to answer and why.
- Explore the **CQI system** structures that exist at your agency to support the CQI process and evidence-based decision making?

# Quality Assurance → Quality Improvement



Tracking compliance & adherence to regulations



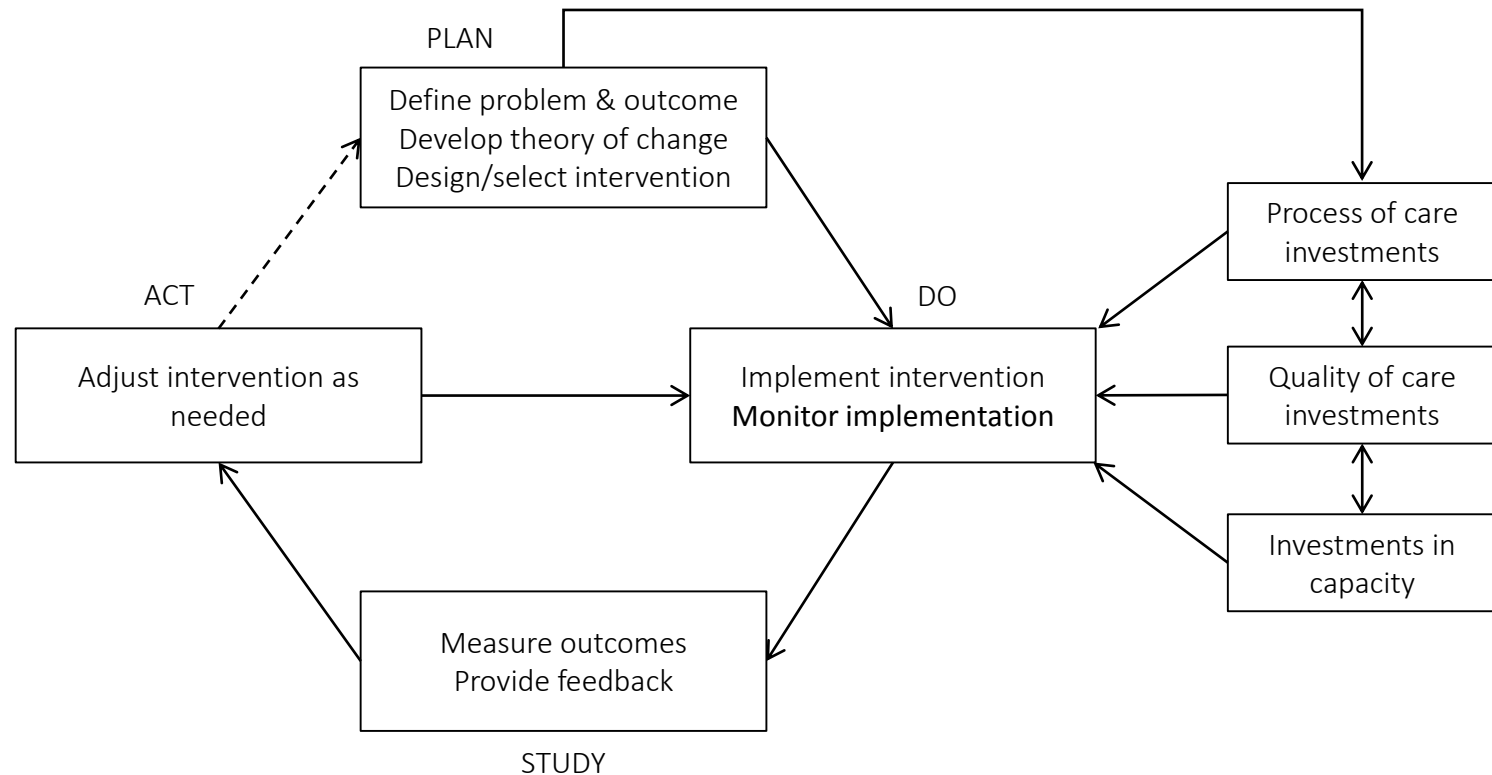
Science of improving outcomes

# A sound CQI **system** supports the CQI **process**

“A CQI system is a coherent set of structures, functions, policies and procedures that facilitate the CQI process....[It] is the supportive context inside which the CQI process runs.”



# The CQI Process: Plan-Do-Study-Act



# The CQI process begins **with a question.**

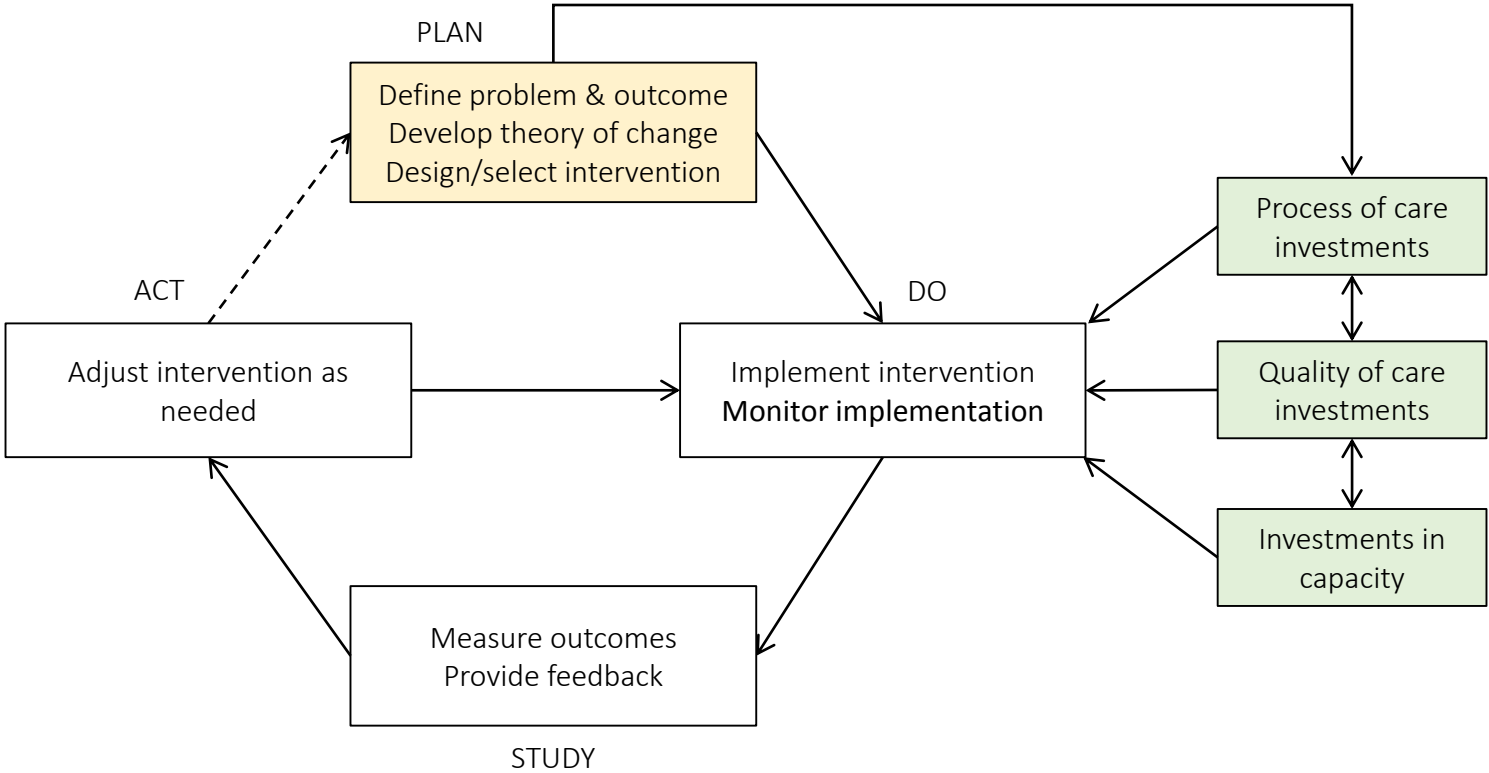
Questions about what?

- The questions we ask in the CQI process should be based on the things we care about.
- The things we care about mainly concern optimal experiences and outcomes for the children and families we serve.
- The optimal outcomes we are striving for are usually articulated as measurable goals and objectives outlined in:
  - Agency-wide strategic plans
  - Program specific plans
  - Regulatory and contractual requirements

## The CQI process begins **with a question.**

1. What is the average length of stay for children in foster care?
- 2.
- 3.
- 4.
- 5.
- 6.

# Outcomes, process, quality, & capacity





# Questions about...

Outcomes	Processes	Quality	Capacity

## Hypothesis development

I observe [**some outcome that I want to improve**].

I think it's because of [**this reason**].

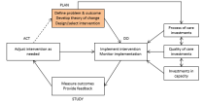


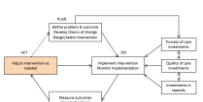
So I plan to [**implement this intervention**],

which I think will result in [**an improved outcome**].

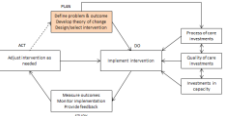
*Fill in this template given the issues and challenges you are confronting at your agency.*

I observe that	I think it's because	So I plan to	Which I think will result in

# Using Evidence in the PDSA Cycle

CQI Phase	Hypothesis development/testing	Evidence use
<p>Plan</p>  <p>The diagram for the Plan phase shows a central box 'Hypothesis development/Testing' with arrows pointing to 'Define the problem', 'Hypothesize as to the cause of the problem', and 'Identify a solution'. A feedback loop arrow goes from 'Identify a solution' back to 'Define the problem'. A box 'Set a performance target' is connected to 'Identify a solution'.</p>	<p>Define the problem. ("I observe that...")</p>	<p>What evidence supports this observation?</p>
	<p>Hypothesize as to the cause of the problem. ("I think it's because...")</p>	<p>What evidence supports this theory of change?</p>
	<p>Identify a solution. ("So I plan to...")</p>	<p>What evidence supports the hypothesis that this intervention will have the intended effect on the target population?</p>
	<p>Set a performance target. ("...which I think will result in...")</p>	<p>What evidence supports the hypothesis that the proposed dose of the intervention will lead to this specific degree of improvement?</p>
<p>Do</p>  <p>The diagram for the Do phase shows a central box 'Implement the intervention' with arrows pointing to 'Monitor implementation' and 'Collect data required for an analysis of intervention effectiveness and analysis of implementation fidelity'. A feedback loop arrow goes from 'Monitor implementation' back to 'Implement the intervention'.</p>	<p>Implement the intervention.</p>	<p>Collect data required for an analysis of intervention effectiveness and analysis of implementation fidelity.</p>
	<p>Monitor implementation.</p>	<p>What evidence is there that the intervention was (or was not) implemented with fidelity?</p>
<p>Study</p>  <p>The diagram for the Study phase shows a central box 'Measure progress toward the target outcome' with arrows pointing to 'Provide feedback to relevant stakeholders and decision makers' and 'Transmit evidence regarding outcomes and fidelity to those who will interpret the findings and make decisions accordingly'. A feedback loop arrow goes from 'Provide feedback...' back to 'Measure progress...'. A box 'Determine the extent to which the problem still exists' is connected to 'Provide feedback...'.</p>	<p>Measure progress toward the target outcome.</p>	<p>What evidence is there that the intervention was effective (or not effective)?</p>
	<p>Provide feedback to relevant stakeholders and decision makers.</p>	<p>Transmit evidence regarding outcomes and fidelity to those who will interpret the findings and make decisions accordingly.</p>
<p>Act</p>  <p>The diagram for the Act phase shows a central box 'Adjust the intervention as needed' with arrows pointing to 'Determine the extent to which the problem still exists', 'Confirm or refute the theory of change', and 'Adjust the intervention as needed'. A feedback loop arrow goes from 'Adjust the intervention...' back to 'Determine the extent...'. A box 'Determine the extent to which the problem still exists' is connected to 'Adjust the intervention...'.</p>	<p>Determine the extent to which the problem still exists.</p>	<p>What evidence supports this observation?</p>
	<p>Confirm or refute the theory of change.</p>	<p>What evidence supports this claim?</p>
	<p>Adjust the intervention as needed.</p>	<p>What evidence supports the decision to continue, modify, or discontinue the intervention?</p>

# Where do you go for evidence?

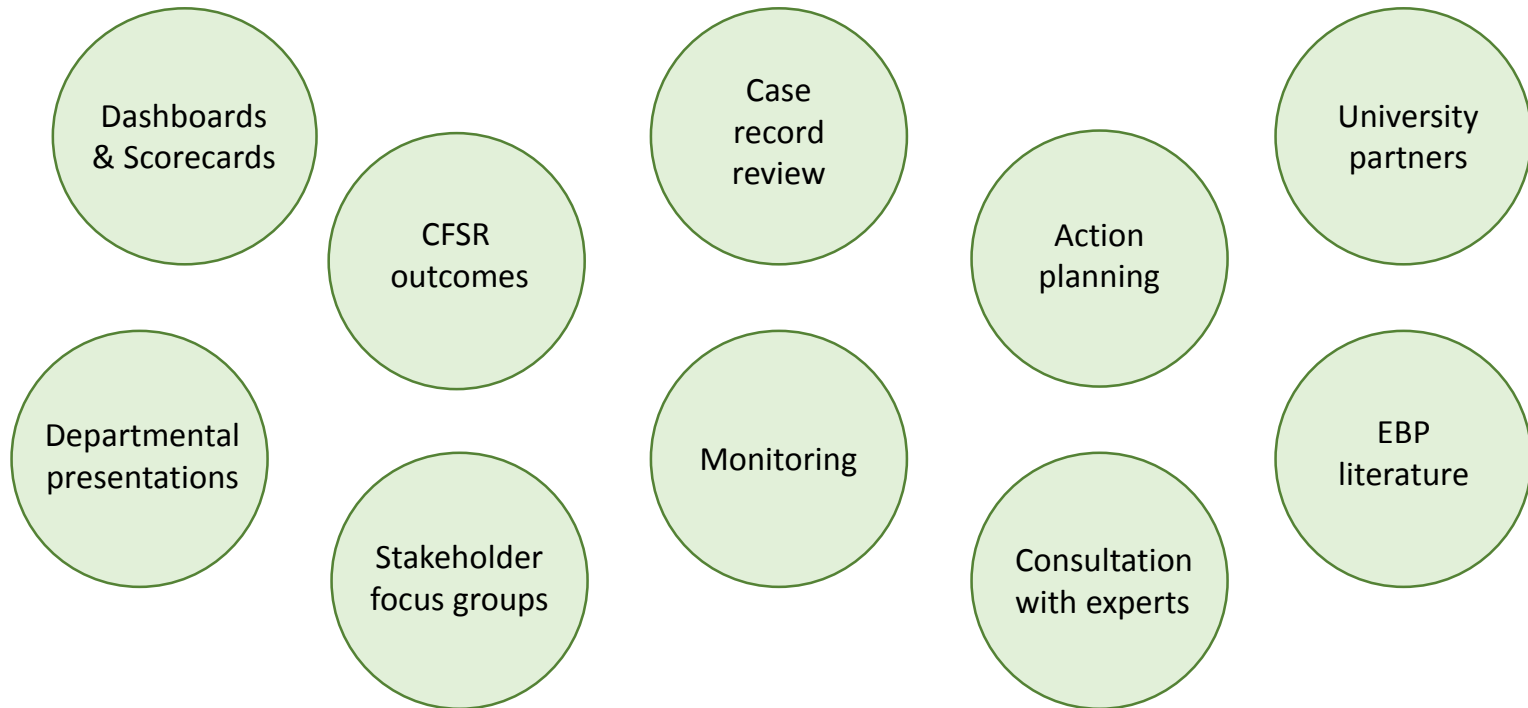
CQI Phase	Hypothesis Development/ Testing	Evidence Use	What evidence sources help you answer this question?
<p>Plan</p> 	<p>Define the problem. ("I observe that...")</p>	<p>What evidence supports this observation?</p>	
	<p>Hypothesize as to the cause of the problem. ("I think it's because...")</p>	<p>What evidence supports this theory of change?</p>	
	<p>Identify a solution. ("So I plan to...")</p>	<p>What evidence supports the hypothesis that this intervention will have the intended effect on the target population?</p>	
	<p>Set a performance target. ("....which I think will result in...")</p>	<p>What evidence supports the hypothesis that the proposed dose of the intervention will lead to this specific degree of improvement?</p>	

## CQI system structures

- The basic steps of the **CQI process**—and the demand for evidence—are the same regardless of:
  - the problem at hand
  - the role of the person attempting to solve the problem
  - the place where the problem exists
- How an agency **implements** the CQI process—who does which activities and when—and the **structures** an agency builds to support implementation will differ from place to place.
- From a **capacity building** perspective, this means asking:
  - What do we have in place that supports the use of evidence?
  - What should we do/change/build in order to strengthen the use of evidence?

# CQI system structures and evidence sources

“We have some of the pieces in place...”



# The CQI Process: Using the Plan-Do-Study-Act Cycle to Improve Outcomes - PART 2...

- What makes good evidence?
  - There are basic ground rules for identifying the analytic question that produces evidence to fuel the CQI process (identifying the right population; numerators and denominators, etc.).
  - Becoming more adept at this discipline makes you a more savvy consumer and user of evidence.
- What do you do at your agency to support the use of good evidence?
  - Refer to the PDSA process and evidence use grid to ask questions about your own agency's CQI structures and functions.



# Contact Information

Lily Alpert, Ph.D.

Researcher

[lalpert@chapinhall.org](mailto:lalpert@chapinhall.org)

917-817-0196

Yolanda Green-Rogers, MSW

Senior Policy Analyst

[ygreenrogers@chapinhall.org](mailto:ygreenrogers@chapinhall.org)

773-256-5218

**ChapinHall**  
at the University of Chicago