

Continuous Quality Improvement

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Continuous Quality Improvement, or CQI, is the third structural requirement of a *Help Me Grow* system.

CQI is the use of a deliberate and defined process to grow a system's capability to fulfill its mission. It refers to a continuous and ongoing effort to achieve measurable improvements in the timeliness, effectiveness, and responsiveness of programs, and to optimize internal resources while improving outcomes.ⁱ The best quality improvement efforts help to bring forth solutions to problems experienced by service providers and people needing their services. In the case of *Help Me Grow*, CQI creates an environment and provides a method for all involved in the *Help Me Grow* system to ensure that the system remains responsive to families, service providers and system staff, and meets their needs in an ongoing way.

CQI is a practical application tied to strong, formal science. It provides methods and tools not just to know what makes things better or worse, but to make things better.ⁱⁱ Improvement does not just happen spontaneously, at least not on any consistent basis.

Improvement comes from the knowledge and creative actions of people. Improvement of quality requires an approach that will help people learn about the systems at work in their organizations and make changes to better, and more consistently, satisfy customer needs.ⁱⁱⁱ



IN THIS SECTION: Continuous Quality Improvement

The Model for Improvement

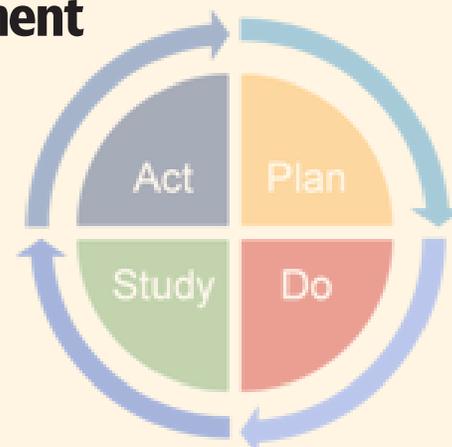
Examples of CQI in Action

Forming a CQI Team

CQI Team Meeting Frequency

CQI: Where to Start?

CQI: Training & Tools



Two elements that are central to CQI efforts' success in driving improvement are:

1. frequent and continuous measurement of quality, the tools to interpret those measures and a commitment to using those measures transparently with all members of the CQI team to guide organizational changes; and
2. organizational changes to implement improvements. (Organizational changes usually involve giving frontline workers, those most knowledgeable about the processes under study, new responsibilities and power.^{iv})

Both of these elements can be fostered within an organization in two ways:

1. adopting a CQI model to guide and structure the work of the CQI team. There are several specific QI models that have been applied successfully in public health, including the Model for Improvement, Lean, Six Sigma, Juran's Trilogy, the Baldrige Method, the Turning Point Model. All of these models have merit and significant commonalities. Choosing one model to provide a unifying process for the CQI team is more productive and helpful than exploring or comparing multiple models and the variations between them. In this chapter, we focus specifically on the Model for Improvement; and
2. creating a local CQI team comprised of program leaders, staff, and recipients. In the case of *Help Me Grow*, CQI teams should include local *Help Me Grow* system leaders (e.g. Program Director), supervisors and front-line staff (e.g. call center manager and care coordinators), community liaisons, physician outreach coordinator, evaluator, affiliate service providers and families. Well-run CQI teams that meet regularly help all levels of an organization contribute to the positive growth and evolution of their shared enterprise.



“CQI is the process that enables adherence to *Help Me Grow* core components, while supporting teams in successful system implementation. It is how our frequent acknowledgement that ‘*all politics are local*’ is put into operation.”

—Paul Dworkin, M.D.
Founder of *Help Me Grow*

CQI Model: the Model for Improvement

The Model for Improvement, developed by [Associates in Process Improvement](#), is a simple yet powerful tool for accelerating improvement. The model consists of two parts: addressing three fundamental questions and engaging in tests of change.^v

Model for Improvement

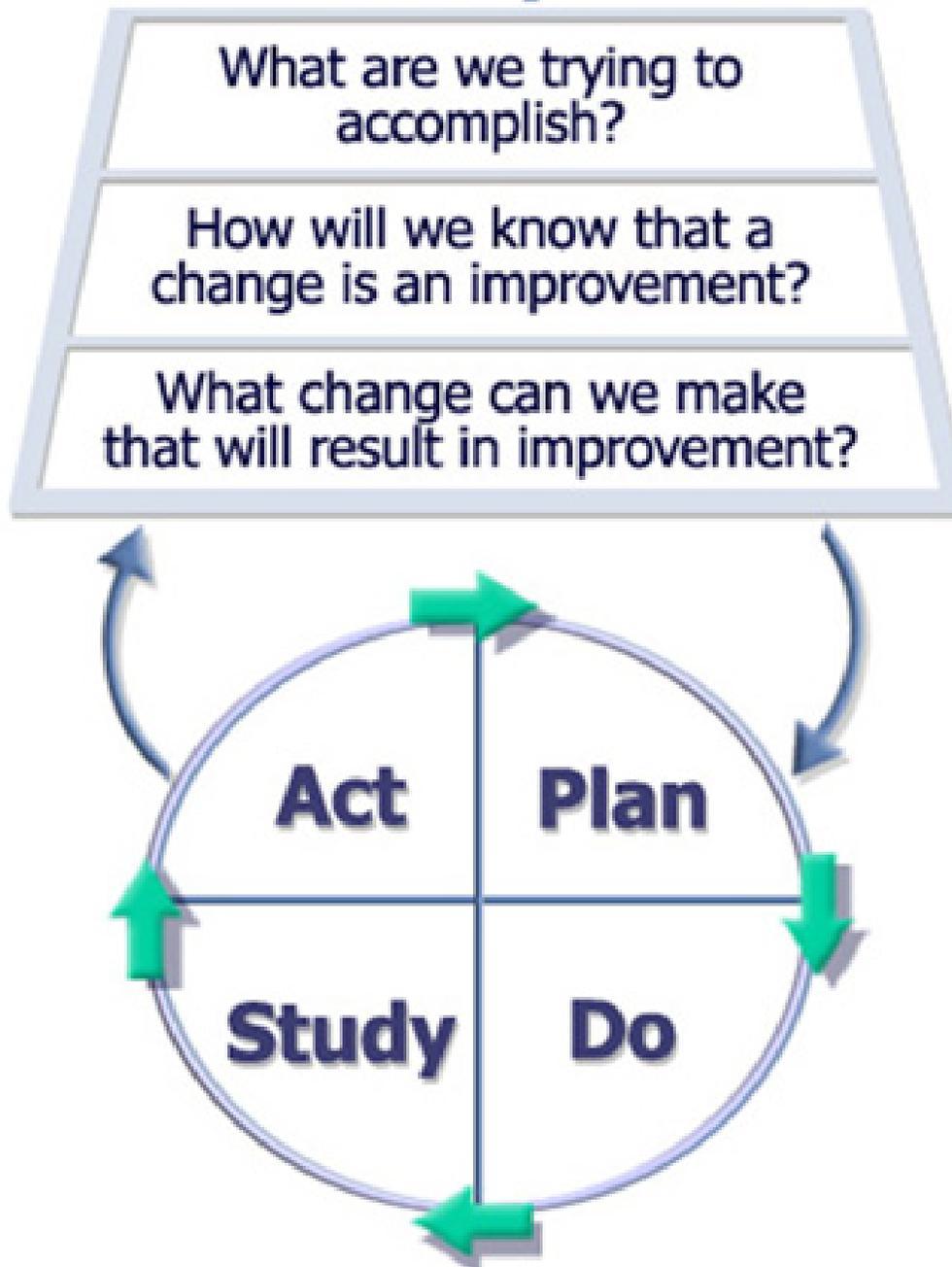


Image courtesy Associates in Process Improvement

Three Fundamental Questions

- **What are we trying to accomplish?** The improvement team develops a specific, time-limited and measurable aim statement.
- **How will we know if a change is an improvement?** The team identifies process and outcome measures to collect over time in order to track improvement and evaluate progress.
- **What changes can we make that will result in improvement?** The team identifies ideas for changes to try.

Tests of Change: Plan-Do-Study-Act (PDSA) Cycles

PDSA cycles are used to rapidly test and implement changes in real work settings by planning a change, trying the change, observing the results and acting on what is learned. The PDSA cycle guides the test of a change to determine if the change is an improvement.

The Model for Improvement stresses prediction and measurement as critical features of the PDSA cycle. Teams use PDSA cycles to test changes (initially on a very small scale in order to minimize risk), quickly identify promising ideas, and build confidence that the changes are leading to improvement. Changes that show promise are expanded for testing on larger and larger scales, until the team can be confident that the change should be adopted widely.

How to Use the Model to Test Changes and Drive Improvements

Example 1: Water & Sugar-Sweetened Beverages in a Preschool Classroom

Obesity in childhood has reached epidemic levels, and habits that contribute to obesity begin in early childhood. A quality improvement effort in preschools in Chile included a focus on promoting children’s healthy development and reducing obesity.^{vi}

In one preschool, the CQI team—comprised of the school principal, a preschool teacher, a teacher’s aide, and parents—recognized that most children were drinking sugar-sweetened beverages at snacktime and during lunch. Sugar-sweetened beverages are known contribute to the development of obesity in childhood. They decided to do a test of change to try to eliminate sugar-sweetened beverage consumption among preschool children and to replace it with water.

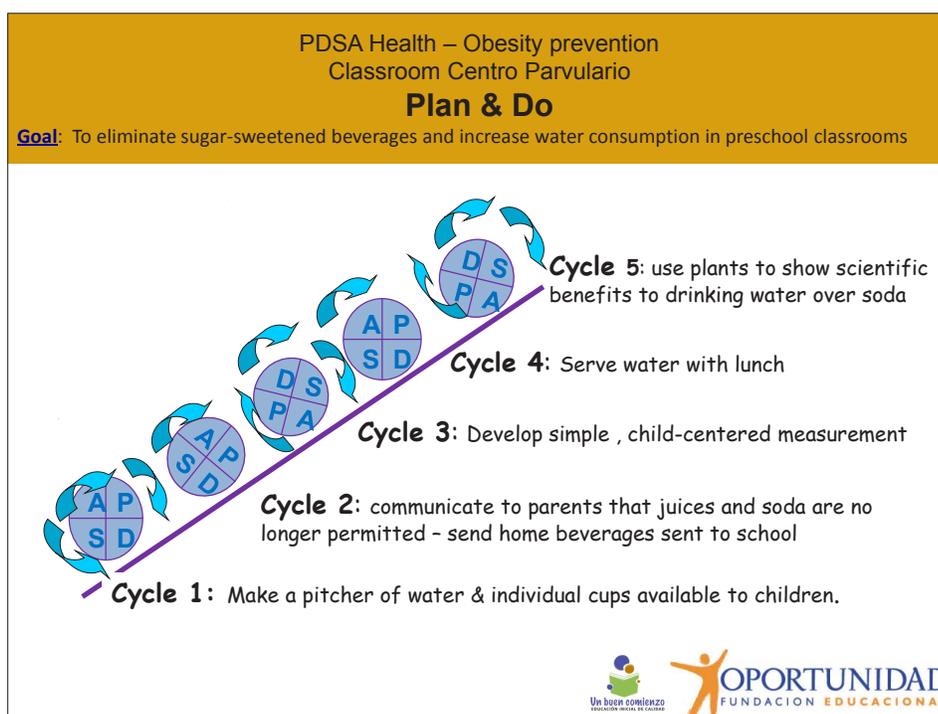
Three Fundamental Questions

- **What are we trying to accomplish?** To eliminate sugar-sweetened beverages and increase water consumption in the Preschool Center between April and May, 2012.
- **How will we know if a change is an improvement?** We will measure:
 1. the percent of children who bring sugar-sweetened beverages to school each day; and
 2. the number of glasses of water consumed per child each day.

- What changes can we make that will result in improvement?**
 Sugar-sweetened beverages will no longer be allowed to be consumed in the classroom. Any sugar-sweetened beverages that are sent to school with the child will be sent home unopened in their backpacks, with an explanation that there is a new school policy prohibiting sugar-sweetened beverages and promoting water consumption in an effort to prevent obesity. At the same time, the team will make a pitcher of water and glasses available for children to serve themselves throughout the day. Children did not have easy access to water before this effort.

Tests of Change

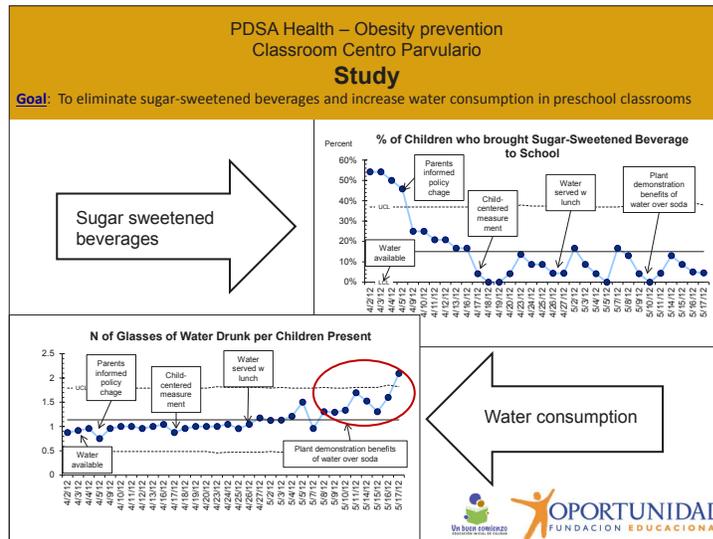
The team ran five consecutive Plan-Do-Study-Act (PDSA) Cycles. Each one incorporated the learning from the previous cycles to make an adjustment to the intervention.



Notice several characteristics to this Test of Change:

- The CQI team answered the Three Questions of the Model for Improvement,** and therefore, they had a clearly defined aim, indicators, and change idea to test. The aim and indicators remain constant throughout all five cycles of the test of change. New ideas can be added to the test as the team learns from one cycle to the next.
- The CQI team measured the process and outcome indicators every day,** and they used the data to inform their work. They met as a team every week to reflect on the results and experience of one PDSA cycle (to conduct the ‘Study’ portion of the cycle) and to make changes for the next week’s cycle (the ‘Act’ portion of the cycle).

3. The CQI team graphed their data over time, and included annotations on the graph to indicate when each change idea was tested. These kinds of graphs are called run charts. By graphing the data over time in this way and including median on the chart, probability-based rules can be used to determine when a change results in an improvement. The red circle on the bottom run chart indicates a ‘shift’—six or more points in a row on one side of the median—which is a signal of improvement.



4. The CQI team involved everyone affected by the system on the team—school leadership, teacher, teacher’s aide, and parents—in weekly reflection and planning.

Notice how this:

- contributed to the creativity you see in the change ideas they tested, as in the plant demonstration of the effects of drinking water versus soda; and
- led to the idea to introduce child-centered measurement. This served two purposes. First, it allowed the children themselves to have an active role in the test of change and let them see their own water consumption each day. Second, it solved a problem of measurement for the teacher and teacher’s aide. They didn’t want to interrupt their teaching activities to keep track of all of the water children served themselves through the day. By designing and introducing child-centered measurement, they could add up the total number of beads each child put on his own picture in 5 minutes at the end of the day.



Example 2: Improving Care Coordinator Skills

In the fall of 2014, *Help Me Grow*, Orange County underwent two changes that prompted them to focus on the quality of the call center's responses to parents' needs and concerns. First, they experienced 100% turnover of their *HMG* Child Development Care Coordinators; one went on maternity leave and the other moved on to a new job. The new care coordinators were good, but green.

Second, they were able to incorporate a supervisor at the call center assigned part-time to the *HMG* call center staff, and this new supervisor had the responsibility and experience working on quality assurance with the staff at the 2-1-1 call center. They decided to do a test of change to assure consistent, high quality responses by the *HMG* Child Development Care Coordinators to parents' concerns and needs.

Three Fundamental Questions

- **What are we trying to accomplish?** To assure consistent, high quality of the call center responses to parents' concerns and needs.
- **How will we know if a change is an improvement?** The supervisor will measure the quality of calls using a standard protocol. She will listen in on one call for each care coordinator each week.
- **What changes can we make that will result in improvement?**
Cycle 1: Provide each care coordinator direct feedback on the quality of the call by giving her the scored form and having her listen to the recorded call with the scoring sheet in hand.

PDSA 1 Cycle 1

PLAN

Who: Supervisor and two *HMG* Child Development Care Coordinators

What: Supervisor will listen to one call for each care coordinator, complete the quality form and give it to the care coordinator. Each care coordinator will listen to the recorded call with the quality sheet in hand.

When: January 30, 2015

Tasks or tools required: Adaptation of a quality scoring form

The Supervisor took a quality form she had used for 2-1-1 call assessment in the past and adapted it for *Help Me Grow*. She eliminated anything that was 2-1-1 specific and added *Help Me Grow*-specific items. The supervisor and *Help Me Grow* Program Manager reviewed the form together and incorporated changes so that the five categories she would evaluate reflected the components that really mattered:

1. intake at time of initial call and follow up care coordination including documentation of outcomes at the time of case closure;

2. professionalism (communication skills);
3. accurately assessing and defining concerns;
4. documenting correctly (intake, referrals); and
5. providing correct referral for concern and providing quality care coordination.

The Supervisor scored whether the care coordinator completed each of the five categories not at all (0 = no), somewhat (1 = sort of) or completely (2 = yes). She added the total score together (0 = minimum, 10 = maximum) and multiplied the total by 10 to calculate a percent of quality achieved score from 0-100. [See Sample Call Quality Assessment Form.](#)

Revision completed by Supervisor & Program Manager: November 2014

Plan for Data Collection. The supervisor will write notes on the quality scoring form during the call, and calculate category-specific and total scores at the end of the call. She will email the score sheet to the *HMG* Child Development Care Coordinators after the call.

Predictions. The supervisor predicts that both *HMG* Child Development Care Coordinators will score above 50% on their first assessment, and both will have the most difficulty expressing empathy on the phone.

DO

Supervisor listened to and scored one call for the first *HMG* Child Development Care Coordinator on December 4, 2014, and for the second *HMG* Child Development Care Coordinator on December 6, 2014.

STUDY

Overall, both *HMG* Child Development Care Coordinators scored well (88.9%) and exceeded the supervisor's prediction. There was a shared weakness. Both of the *HMG* Child Development Care Coordinators scored 50% in professionalism and helpfulness, because they 'sort of' expressed empathy, made reflective statements and built rapport with the caller. *Help Me Grow* ideally wants care coordinators to listen and build rapport at the beginning of a call before asking questions.

ACT

For the next PDSA cycle, the supervisor will provide training on what the call flow should be, with special attention to building rapport before proceeding with questions.

PDSA 1 Cycle 2

PLAN

Who: Supervisor and two *HMG* Child Development Care Coordinators

What: Supervisor will provide refresher training on call flow with special attention to building rapport, and then she will listen in and score one call for each care coordinator

When: December 29, 2014 to January 2, 2015.

Tasks or tools required: Supervisor prepares training

Plan for Data Collection. The supervisor will write down notes on the quality scoring form during the call, and calculate category-specific scores and total scores at the end of the call. She will email the score sheet to the *HMG* Child Development Care Coordinator after the call.

Predictions.

DO

Supervisor provided refresher training on call flow with special attention to building rapport before asking questions. She then listened to and scored one call per *HMG* Child Development Care Coordinator.

STUDY

The training was well-received by both *HMG* Child Development Care Coordinators. One was excited, the other anxious about following the data elements and filling in the information needed to complete the intake in the exact order it is shown on the computer monitor. On their calls, both *HMG* Child Development Care Coordinators scored higher (94%). This time, one *HMG* Child Development Care Coordinator scored 100% on professionalism and completely expressed empathy, made reflective statements and built rapport with the caller. The second scored 50% on professionalism and 'sort of' expressed empathy, made reflective statements and built rapport with the caller. Again, the feedback to her was to provide reflection before asking the formal *Help Me Grow* intake questions.

ACT

For the next PDSA cycle, the supervisor will ask the *HMG* Child Development Care Coordinators to independently complete training on communication.

PDSA 1 Cycle 3

PLAN

Who: Supervisor and two *HMG* Child Development Care Coordinators

What: The *HMG* Child Development Care Coordinators will complete training on communication independently. Supervisor then will listen in and score one call for each care coordinator.

When: January 5-January 9, 2015

Tasks or tools required: *HMG* Child Development Care Coordinators independently review the 2-1-1 site communication trainings. *How to de-escalate someone who is upset? How to communicate with someone who is scattered in telling story and describing needs/concerns? How to communicate bad news (e.g. no resources for a particular concern)?* Then practice with the trainer in English and Spanish.

Plan for Data Collection. The supervisor will write down notes on the quality scoring form during the call, and calculate category-specific scores and total scores at the end of the call. She will email the score sheet to the care coordinator after the call.

Predictions.

DO

HMG Child Development Care Coordinators reviewed communication trainings independently. They practiced with their supervisor in English and Spanish. The supervisor listened to and scored one call per care coordinator.

STUDY

Both *HMG* Child Development Care Coordinators enjoyed the training and practice session, especially the breaking bad news scenarios. On their calls, again, both care coordinators scored well (100% and 94%).

ACT

The *HMG* Child Development Care Coordinators seem to be improving their communication skills and professionalism. For the next PDSA cycle, the supervisor will continue to monitor these skills. She will ask each *HMG* Child Development Care Coordinator to listen to one of her own calls and score herself on the Quality form. Then the supervisor will listen to the same call, and score it. They will compare scores. Together they will discuss the similarities and differences. Coaching will occur as needed.

PDSA 1 Cycle 4

PLAN

Who: Supervisor and two *HMG* Child Development Care Coordinators

What: Each *HMG* Child Development Care Coordinator will listen to one of her own calls and score herself on the Quality form. The supervisor will listen to the same call and score it. The supervisor and care coordinator will compare scores and the coordinator will receive coaching.

When: February 2-6, 2015

Tasks or tools required: Recorded call; Quality form.

Plan for Data Collection. The *HMG* Child Development Care Coordinators and supervisor will write down notes on the quality scoring form during the call, and calculate category-specific scores and total scores at the end of the call. They will sit together to review the scores.

Predictions. The Supervisor at 2-1-1 predicts that the care coordinators will realize 1) what they're being measured on, 2) how much time the supervisor spends on this, and 3) that it is an important program priority.

DO

pending

STUDY

pending

ACT

pending

Additional Learning

During this test of change, the supervisor noticed another challenge shared by both *HMG* Child Development Care Coordinators: They both had difficulty searching the 2-1-1 resource inventory. Sometimes the search terms were not correctly filtered or found. Sometimes the resource inventory database wasn't completely up to date or accurately labeled. The 2-1-1 Supervisor realized that this problem was beyond the control of the two *HMG* Child Development Care Coordinators. Solving it will require the participation of others involved in managing the *Help Me Grow* resource inventory: the *HMG* community liaisons; the technical support staff; and the care coordinators.

To tackle this challenge and improve the functionality of the database, the CQI team would need to expand its membership to include these other staff. A new Test of Change could be started. The CQI teams would respond anew to the **Three Fundamental Questions** and run multiple PDSA Cycles until they accomplish their aim.

- **What are we trying to accomplish?** To improve the functionality of the *Help Me Grow* resource inventory by ensuring timely updates, cleaning and appropriate search terms.
- **How will we know if a change is an improvement?** The team would need to define a way of measuring the functionality of the database
- **What changes can we make that will result in improvement?** The team would introduce ideas on improving functionality, based on that barriers that prevent timely updating and the assuring accuracy of the search terms.

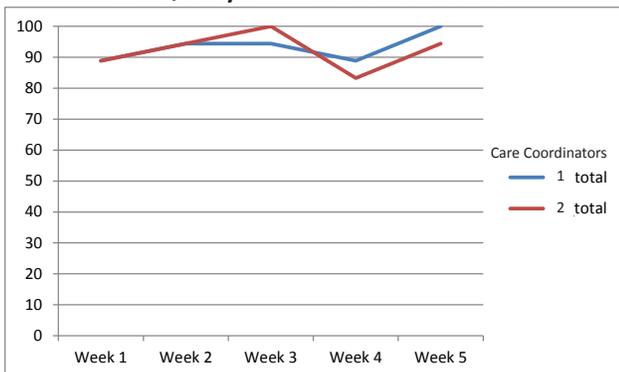
Notice several characteristics to Example 2 Test of Change

1. The CQI team answered the **Three Questions of the Model for Improvement**. Therefore, they had a clearly defined aim, indicators, and change idea to test. The aim and indicators remained constant through all cycles of the test of change. The team added new ideas to the test as they learned from one cycle to the next.

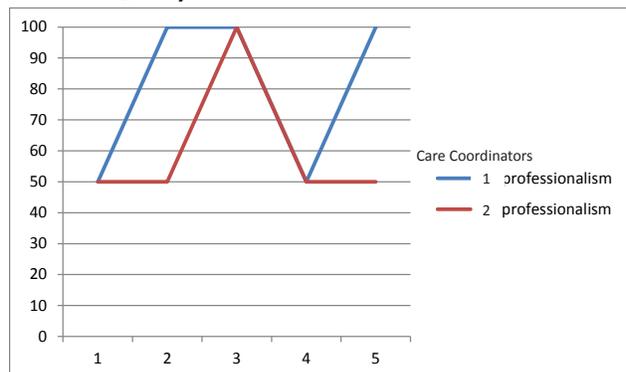
Orange County Test of Change

Aim: To assure consistent, high quality in call center responses to parents' concerns and needs

Call Quality Assessment: Total Score



Call Quality Assessment: Professionalism Score



2. The CQI team **measured the quality indicators every week, and they used the data to inform their work.** The supervisor emailed scores to the care coordinators each week with the Call Report and Contact ID number, so that care coordinators could listen to the calls with their score in hand. The supervisor also reviewed each care coordinators' weekly quality scores in monthly face-to-face supervision. **Sharing data transparently with the whole team, including the front-line staff, is a central tenant of CQI.** Every member of the team should reflect on the data, learn, and propose changes that could lead to improvement.
3. The CQI team did not **graph their data over time**, but we do so here (see page 96). Ideally, we would include dates on the Y-axis and annotations on the graph to indicate when each change idea or intervention was tested. Sharing data visually and publicly strengthens data feedback and potentiates data use. By graphing the data over time in this way and including median on the chart, probability-based rules can be used to determine when a change results in an improvement.
4. The CQI team working on this PDSA on the quality of the call center response **involved the care coordinators, the supervisor and the program manager.** It would be interesting to include a parent on this team.
5. This Test of Change **helped identify another area in need of improvement:** functionality of the referral bank database, with timely update and cleaner search terms. Another test of change with its own Three Fundamental Questions and PDSA cycles could be designed and run. The CQI team would need to expand to include all of the staff involved in and affected by the process of updating and cleaning the resource inventory database.



Building a *Help Me Grow* System

Start Small with CQI

Consider designing your first PDSA cycle at a very, very small scale with very rapid completion. For example, you can **PLAN** and **DO** a test of change with one client, in one day. At the end of the day, can you reflect as a team (i.e., **STUDY**) with questions such as: *What it was like to do the test? What was it like to collect the data? What did the indicator show? Did the experience and the data match your prediction, or not? What did you learn?* You may learn something as simple as that the data collection sheet was tricky to use and could be tweaked for easier use.

Then, **ACT**. What would you adapt or change for the next cycle? **PLAN** the next cycle immediately. You may decide to adapt the data collection sheet and run the PDSA test again, either at the same very small scale (one staff person with one client, in one day), or one size larger (one staff person with 2 or 3 clients, or two staff members testing in parallel with 1-2 clients each).

Keep the PDSA cycle as quick as possible. Especially at the beginning, it's best to run at least one small, nimble PDSA each week to get into a rhythm and to get comfortable with the methods.

Transforming Early Detection & Intervention in Home Visiting with CQI

by Paul Dworkin, M.D., Founder of *Help Me Grow*

I am privileged to serve as faculty for the Maternal and Child Health Bureau's (MCHB) Home Visiting Collaborative Improvement and Innovation Network (HV CoIIN). The Network offers participating home visiting program grantees the chance to learn about three topic areas: maternal depression, breast feeding, or developmental surveillance and screening. All grantees must also focus on family engagement.

Faculty either support programs within a specific topic area or bring expertise in continuous quality improvement (CQI) to all participants. My experience has been informative, validating, and inspiring, as well as highly relevant to our work in the *Help Me Grow* National Center.

To Join or Not To Join the Faculty

When MCHB's Carlos Cano, MD, MPM, and the leadership of Education Development Center, Inc. (EDC), approached me about joining the HV CoIIN in 2013, I had a major reservation.

"I don't want to disrupt any progress that participants have made to date in learning about developmental screening," I said. I hold strong views on the topic, and I worried that they would be at odds with the philosophy and priorities of the participants.

Specifically, I believe in surveillance and screening as the evidence-informed process to perform early detection. I believe that screening test results must always be interpreted in the context of all that is known about the child and family. And I believe that screening/early detection is justifiable only when it leads to appropriate and timely intervention.

"If these beliefs are concerning or unfamiliar to participants and faculty, I fear that they will be controversial and counterproductive," I said. I did not want in any way to derail the work of HV CoIIN.

Embracing Key Concepts of Surveillance & Screening

Dr. Cano put my fears at ease, and I joined a team of distinguished faculty including Jon Korfmacher, PhD, Associate Professor at the renowned Erikson Institute in Chicago and Brenda Jones-Harden, PhD, a highly-respected expert in early childhood development. Brenda is Associate Professor in the Department of Human Development & Quantitative Methodology, University of Maryland College Park.

Jon and Brenda, as well as Mary Mackrain, Project Director for HV CoIIN at EDC, were extraordinarily receptive to my thoughts on developmental surveillance and screening. They embraced the key concepts that drive our efforts to enhance early detection through *Help Me Grow* in the following ways:

- CoIIN's Developmental Screening topic area was renamed Home Visiting Developmental Surveillance and Screening (HV DSS CoIIN);
- the Key Driver Diagram for the initiative evolved to reflect key concepts of *Help Me Grow*, including reliable and effective systems for surveillance & screening, referral, and follow-up; and
- home visitors were supported in addressing development in the target population and engaging families in the promotion of their children's healthy development.

Home visiting programs have also evolved their thoughts and actions in support of early detection and intervention, as well. Initially, most home visiting programs selected this topic area with a worthy but narrow aim: to learn how to choose, administer and score developmental screening tools, and use the

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by Paul Dworkin, M.D., Founder of *Help Me Grow*

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results to refer children to their state's early intervention program for evaluation.

While these remain important priorities, participating programs have now embraced all of the key steps in the early detection process, including:

- engaging parents and eliciting their opinions and concerns;
- appropriately administering and interpreting screening tools in the context of all that is known about the child and family;
- ensuring that children identified as at risk or delayed are referred for the most appropriate intervention, whether the state's Part C early intervention program, a community-based program or service, or more intensive developmental support delivered by the home visitor; and
- being certain that children receive the appropriate services in an appropriate time frame.

Impressive Results, Better Outcomes for Children

The results HV DSS CoIIN's work are very encouraging. Consider the following statistics.

1. In 80-100% of all home visits, parents are asked if they have any concerns about their child's development, learning, or behavior
2. 80% of children are being screened for developmental risk/delay.
3. 80-100% of children with parental concerns are receiving developmental support from their home visitor.

The focus on family engagement, both within the DSS CoIIN and the broader initiative, is especially validating. Engaging

parents as partners in the process of developmental surveillance and screening is a fundamental construct. We must appreciate the importance and validity of their opinions and concerns for their children's development. The HV DSS CoIIN lives this value by sharing the results of screening with parents and enhancing support of their children's development.

During a recent topic conference call with our participating programs, the team from the Marion, Ohio, Adolescent Pregnancy Program (APP) shared their efforts to increase parents' support of their child's development by providing all families with written feedback from their developmental screening. APP also provides activities that parents can do with their children to support emerging skills.

What a spectacular example of parent/family engagement!

The Power of Effective CQI

CQI processes made these positive changes possible. The use of effective CQI tools, such as Plan-Do-Study-Act (PDSA) cycles and data collection and analyses, are propelling the HV DSS CoIIN teams forward to success.

Indeed, we have been so impressed with the progress, led by CQI faculty MaryCatherine Arbour, MD, MPH, of Harvard Medical School, that we have engaged MaryCatherine in helping us strengthen our *Help Me Grow* affiliates' processes and performances through CQI.

We frequently and enthusiastically celebrate the close relationship between *Help Me Grow* and home visiting. The HC CoIIN is yet another example of how much we learn from each other in the context of early childhood system building and continuous quality improvement. As always, your comments are welcome.

Find Dr. Dworkin's original blog post at www.HelpMeGrowNational.org

Implementing CQI

Forming a CQI Team

CQI encourages staff members at all levels to do the following.

- Work as a team.
- Draw on their collective experiences and skills.
- Analyze systems and processes.
- Use information to identify the nature and size of each problem.
- Design and implement activities to improve services.

A CQI Team is composed of all of the people involved in and affected by the processes you are trying to improve, including leadership, supervisory staff, front-line staff, community partners, evaluators and families. For *Help Me Grow*, it should include representatives of each component of the *Help Me Grow* system, representatives of groups or organizations that support the system, and families who use the system.

For example, the *Help Me Grow* Connecticut CQI team includes:

- the director of the centralized access point;
- a Call Center care coordinator;
- the physician outreach coordinator;
- a community liaison;
- an evaluator; and
- a representative from the funding agency.

CQI Team Meeting Frequency

The CQI Team meets regularly and as frequently as necessary to keep PDSA testing and improvement moving quickly. In the two examples above, at least part of the CQI team met weekly to reflect on the learning and feed that learning forward into the next PDSA cycle. In some industries, CQI teams meet daily in “Team Huddles” of ten to 15 minutes to study data and make quick adjustments to the process for the day. In the case of partial daily or weekly huddles, the full CQI team may meet weekly, biweekly or monthly to keep up with the learning and invite all to shape the testing and improvement.

The Model for Improvement and PDSA testing are the motor that drives improvement. If a team conducts one PDSA cycle per month because they are meeting monthly, it is like driving in first gear. Progress will be slow. The danger to slow progress is that it’s difficult to see, and teams can get discouraged or lose motivation. CQI team meetings should be frequent enough to keep up rapid cycle testing (a minimum of a PDSA test every two weeks) so that teams are continuously learning and incorporating new ideas and energy into the improvement process.

CQI: Where to Start?

The beginning of your local affiliate CQI efforts depend entirely upon your needs and priorities. The Model for Improvement and PDSA cycles have been applied to drive improvements in industry, healthcare, education and social service processes and systems. For *Help Me Grow*

affiliates, this process could be used to improve any one of *Help Me Grow's* [Core Components](#) or for the other structural components (marketing, funding and expanding).

The decision to start with a particular area should be informed by the needs of the program, the needs of the community, and the ability of to assemble a CQI team that includes all of the actors involved in and affected by the process.

CQI: First Steps

Once a CQI team is assembled and its primary focus has been chosen, one of the first tasks for the team is to define a SMART aim. SMART aims are specific, measurable, actionable within the realm of influence of the CQI team, realistic and time-bound. In simple terms, the aim should state how much will be accomplished and by when. In the Preschool Center classroom in Example 1, the SMART aim was to eliminate the consumption of sugar-sweetened beverages and increase water consumption to one glass of water per day per child by May 30, 2012.

Once the SMART aim is established, the team must choose indicators or measures that will help it to know whether or not that aim was accomplished. Often it is beneficial to include outcome measures (the number of glasses of water consumed per child per day) and process measures (the percent of children who brought sugar-sweetened beverages to school with them).

Sometimes it is useful to include a balancing measure—a measure of something that may be negatively affected by heavily investing your energy and attention in one outcome. In the preschool example, teachers were concerned that increased water consumption might lead to increased trips to the bathroom and lost teaching time. So, they included a balancing measure of “number of trips to the bathroom per day,” and they were reassured when it did not increase.

Next, the team should define its first PDSA cycle. The team should choose the first change idea they would like to test, and design a small, quick PDSA cycle. One of the strengths of Example 2 above was that the supervisor decided that the Test of Change would begin with a PDSA cycle that was one week long. She scored one phone call for two care coordinators, provided them with their scores and asked them to listen to the call with the scoresheet in hand. This could be accomplished in one week, and the learning could be fed forward into the next cycle.

CQI Training & Tools

Designing PDSA cycles takes practice and coaching. Several examples and resources of PDSAs from multiple industries are available in [Langley et al, The Model for Improvement](#).

One online course with multiple modules focused on many aspects of quality improvement is available at the [IHI Open School](#). The examples are drawn from healthcare, but the five modules and 18 lessons cover a wide range of topics including System Modification, the Model for Improvement, Defining SMART Aims, Measurement, Developing and Testing changes, Spreading Change, and the Human Side of CQI.

An abundance of additional CQI tools are available for visualizing processes, understanding variation, considering human psychology of change and defining a shared theory of change. One excellent compilation is *The Improvement Handbook* by API at www.pipproducts.com.

ACTION PLAN

Continuous Quality Improvement

 Form a comprehensive CQI team

A CQI Team is composed of all the people involved in and affected by the processes you are trying to improve, including leadership, supervisory staff, front-line staff, community partners, evaluators and families.

Determine meeting frequency.

 Answer the Three Fundamental Questions

1. What are we trying to accomplish? Define a SMART aim. This is a specific, time-limited and measurable aim statement.

2. How will we know if a change is an improvement? Identify process and outcome measures to collect over time in order to track improvement and evaluate progress. Consider using a balancing measure.

3. What changes can we make that will result in improvement? The team identifies ideas for changes to try.

 Choose the first change idea to test Plan a small, quick PDSA cycle.

Consider designing a PDSA cycle at a very, very small scale and very rapid turnaround for your first cycle. For example, you can test the idea you've chosen with one client, once, and then reflect (**Study**): What it was like to do the test? What was it like to collect the data? What did the indicator show? Testing the idea in just a few days and then reflecting on that test is a completely legitimate PDSA cycle.

 Do the first PDSA cycle Study the results of the first PDSA cycle Collect, analyze and graph data on each PDSA cycle

Reflect on what the experience was like: complement the graph with qualitative data. What did you learn? Was your prediction correct? What surprised you?

 Act on first PDSA cycle results Take what you learned from each PDSA and use it to design the next cycle

Based on your experience, what will you do differently in the next PDSA?

CQI Resources

[Help Me Grow Western Summit: Collective Impact Powerpoint Presentation](#)

[\(2011\)](#)

[Channeling Change - Making Collective Impact Work \(SSIR 2012\)](#)

[Collective Impact Stanford Social Innovation Review, Winter 2011\)](#)

[IHI Open School \(training modules\)](#)

[The Improvement Handbook by API](#)

[The Model for Improvement \(Langely, et al\)](#)

i Riley, W. J., Moran, J. W., Corso, L. C., Beitsch, L. M., Bialek, R., & Cofsky, A. (2010). Defining quality improvement in public health. *Journal of Public Health Management and Practice*, 16(1), 5-7.

ii Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. (2009). *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd Edition). San Francisco, CA: Jossey-Bass Publishers.

iii *The Improvement Handbook* by Associates in Process Improvement. Available at www.pipproducts.com.

iv Kritchevsky, S. B., & Simmons, B. P. (1991). Continuous quality improvement: concepts and applications for physician care. *Jama*, 266(13), 1817-1823.

v Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. (2009). *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd Edition). San Francisco, CA: Jossey-Bass Publishers.

vi *Un Buen Comienzo*, Fundacion Educacional Oportunidad, Santiago de Chile.

