



SLDS Issue Brief

Using ECIDS Data to Support Continuous Quality Improvement

Continuous quality improvement (CQI) is a practice to improve outcomes and programs. It has long been used in fields such as health care and manufacturing and is now being applied more regularly to education, including early childhood education. Early childhood decisionmakers, including policymakers, program directors, and staff, can use a CQI process to improve outcomes for young children and their families.

Data products developed from early childhood integrated data systems (ECIDSs) are important tools for engaging in an effective CQI process. This brief will discuss how ECIDS reports and products can inform CQI and how ECIDS staff can help ensure that decisionmakers are aware of ECIDS data, including what data are available and how to use them for CQI in early childhood.

Continuous Quality Improvement in Early Childhood

CQI in early childhood is defined as a process that “ensures that organizations and their partners are systemic and intentional about improving services and practices, and increasing positive outcomes for children and families.” CQI is

- cyclical;
- embedded within day-to-day work of the organization;
- systemic;
- data-driven; and
- proactive.

Stakeholders at all levels of the early childhood system can use CQI to make decisions about improvements. Teachers and practitioners can use CQI to improve classroom practices or delivery of services. Program directors can use CQI to continually strengthen the quality of early childhood programs or services they lead. Policymakers can employ CQI to ensure that the policies governing early childhood education are informed by and support the use of high-quality practices.

When decisionmakers use CQI, it creates a culture in which working on quality improvements is a regular function of an early childhood system. It allows childhood leaders and practitioners to go beyond a typical improvement plan to change a single aspect of their work. Instead, decisionmakers can look for ongoing systemic and organizational improvements that will be needed over time to lead to higher quality services for young children and their families.

The Plan, Do, Study, Act Model

A common method for implementing CQI is the Plan, Do, Study, Act (PDSA) model. PDSA is most effective when leaders and staff have a common vision for improvements and the expected outcomes from successfully implementing those improvements.

In a PDSA cycle, data drive decisions about which improvements to pursue, and data are used throughout the process to track effective implementation of improvements and to demonstrate the achievement of intended outcomes for children and families.¹

¹ Young, B. (2017). Continuous Quality Improvement in Early Childhood and School Age Programs: An Update from the Field.

This product of the Institute of Education Sciences (IES) SLDS Grant Program was developed with the help of knowledgeable staff from state education agencies and partner organizations. The information presented does not necessarily represent the opinions of the IES SLDS Grant Program. We thank the following people for their valuable contributions:

Kathi Gillaspay
SLDS Grant Program, State Support Team

Using ECIDS for CQI Workgroup
GA, IL, IN, KY, MI, MN, MT, ND, NE, NJ, TX

For more information on the IES SLDS Grant Program or for support with system development, please visit <http://nces.ed.gov/programs/SLDS>.

The Plan, Do, Study, Act model



Plan. Once a change or improvement is identified, plan for its implementation and identify ways to measure outcomes.

Do. Put implementation supports (e.g., new policies, professional development) in place; carry out the change or improvement as planned.

Study. Gather and analyze the data for outcomes and fidelity to implementation; consider any needed adjustments.

Act. Determine what modifications should be made, whether the change should be adopted or abandoned, and what else needs to be learned or completed. Then begin the cycle again.

PDSA models are cyclical and should be used repeatedly so that leaders and staff can gather information about whether previous improvements are having the desired outcomes, if adjustments to the approaches taken are necessary, or if the plan should be updated or revised.

ECIDS as a Critical Resource for Effective CQI

Implementing CQI in an organization requires culture change. Such a change may challenge long-held notions of how the early childhood program or system understands child learning, adjusts to change, and responds to increased demands to prove effectiveness. Organizations must encourage staff to use the CQI process for data-driven decisionmaking. ECIDS data products and reports can support such a culture shift.

When engaging in CQI, policymakers, program leaders, and staff may encounter challenges to the process. Some common barriers to CQI include

- different data collected and used at different state agencies and early childhood programs;
- reluctance by early childhood professionals to embrace data as an essential tool for making decisions about instruction (i.e., the perception that data are dehumanizing);
- different priorities across early childhood agencies and programs;
- tendency in the field to do CQI work in isolation (i.e., by agency rather than across the system, or in the

classroom but not in the district) or not at all;

- poor decisions caused by policymakers pushing for quick results paired with delays in data retrieval (changes made to policies or practices before sufficient data are available to make an informed decision, or decisions might be made too late to have a significant impact on the children currently in a program); and
- excessive workloads due to rapid change and expansion in early childhood leaving little time to consider CQI work.

State ECIDSs provide early childhood system leadership and staff the opportunity to address many of these common barriers by

- providing timely access to real-time data throughout the improvement cycle
 - across early childhood agencies and programs;
 - about practices within programs that inform policy decisions;
 - for ongoing monitoring of improvements; and
 - for the measurable impacts of the improvements over time;
- creating common research and policy questions to be answered across agencies and programs; and
- collecting feedback from key stakeholders across the early childhood system so that joint planning and implementation of improvements can happen in a coordinated way.

How the ECIDS can support CQI at each phase of the PDSA cycle

Plan. Data analysis can identify necessary policy or program change or improvement. Looking at what data are available in the ECIDS helps identify what metrics will be used to measure the change or improvement.

Do. Collect ECIDS data about the change or improvement.

Study. ECIDS provides reports that allow policymakers and program leaders to analyze outcomes of the change or improvement.

Act. ECIDS data inform the next actions. Actions that might be taken are modifying the change; adopting a new change or improvement; or abandoning the improvement or change and trying a new one. The PDSA cycle would begin again to track the effects of the new action(s).

The Role of ECIDS Staff in Supporting CQI

ECIDS staff can help policymakers, program directors, and practitioners use data to support their work, including using data in a CQI process. It is important for early childhood policymakers and program directors to have the right data reports to inform their program decisions. When ECIDS staff coordinate with early childhood leaders in the state and connect them with ECIDS data products and reports, they can be a catalyst for CQI.

Supporting capacity

To help early childhood leaders use ECIDS data products to support CQI, ECIDS staff should first consider how the staff in early childhood agencies and programs think about and use data. Some questions to consider might include

- Do people think about data as a useful tool?
- How do the organization's leaders ensure that data are part of everyone's day-to-day work?
- What policies and procedures are in place at the agency level to support data use? If they are in place, what is needed to ensure that people are using them?
- What is the external environment that influences data use in the agency? (Is there a legislative focus on using data in education, or are families asking for more data on their child's education? Is a school board making decisions without fully understanding how to interpret data?)

ECIDS staff must also understand the state's early childhood policies and programs well enough to communicate effectively with early childhood leaders about how ECIDS data products and reports can support CQI. Additionally, ECIDS staff understand the timelines, granularity, geography, content, context, and quality of the ECIDS data, and should be able to communicate this to others, along with

the potential uses of the data (for example, confirming what is known anecdotally, comparing the state to national or research data, comparing regions of the state to the state as a whole, or looking at trends over time).

ECIDS staff can also increase data use capacity while helping to develop data literacy by supporting policymakers and program staff involved in CQI. Staff can help policymakers and program staff understand what data elements are available and how to use the available data reports to answer policy or program questions.

Furthermore, ECIDS staff can help policymakers and program leaders learn to think more qualitatively by explaining and demonstrating how different reports and products are organized and what data are included, so that they understand what can be used for the different parts of the PDSA cycle and how to best interpret and analyze the data.

Stakeholder engagement

ECIDS staff can support collaboration across agencies for CQI and find out what decisions are being made. In these conversations to learn more about the use of the reports from the ECIDS, ECIDS staff should seek input about how well the products and reports from the ECIDS are meeting the agencies' CQI needs, and what additional data reports might be needed to continue to make effective changes.

Conclusion

It is likely that ECIDS staff are not the ones setting policy agenda or doing system or program development work, but they can have a role in getting the data from the ECIDS more infused into the CQI work of others by helping decisionmakers and staff understand how the data products from the system can support CQI efforts.

Additional Resources

Continuous Quality Improvement in Early Childhood and School Age Programs: An Update from the Field
<https://qrisnetwork.org/sites/all/files/session/resources/Continuous%20Quality%20Improvement%20in%20Early%20Childhood%20and%20School%20Age%20Programs%20-%20An%20Update%20from%20the%20Field.pdf>

Continuous Improvement in Education, The Carnegie Foundation
https://www.carnegiefoundation.org/wp-content/uploads/2014/09/carnegie-foundation_continuous-improvement_2013.05.pdf

Early Childhood Education Data System Toolkit
<https://slds.grads360.org/#program/ecids-toolkit>

The National Implementation Research Network's Active Implementation Hub: Handout 14: Improvement Cycles
<http://implementation.fpg.unc.edu/resources/handout-14-improvement-cycles>

The National Implementation Research Network's Active Implementation Hub: Handout 28: Drivers Ed: Decision Support Data System (DSDS)
<http://implementation.fpg.unc.edu/sites/implementation.fpg.unc.edu/files/AlHub-Handout28-DiversEd-DSDS.pdf>