



A Blueprint for Early Care and Education Quality Improvement Initiatives: **Final Report**

March 2015

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Acknowledgments

Child Trends is grateful for the financial support provided by the William Penn Foundation for the production of this report. We also appreciate the contributions of the project's expert panel, whose members dedicated time and advice to help in the articulation of best practices for quality improvement initiatives. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the William Penn Foundation.

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Publication #2015-07

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A Blueprint for Early Care and Education Quality Improvement Initiatives



Executive Summary

As Quality Rating and Improvement Systems (QRIS) continue to launch and mature across states, questions emerge from stakeholders about how to design and implement effective quality improvement (QI) initiatives that accompany a QRIS.¹ Funders, policymakers and program developers with limited resources are looking to invest in

activities that will be most successful in supporting early care and education (ECE) program quality improvement and ultimately improving outcomes for young children. **The purpose of this report is to address questions about effective QI initiatives by proposing a blueprint of quality improvement practices and design considerations generated from a synthesis of the existing research literature and input from national experts in ECE quality improvement.**

The research literature on QI initiatives in ECE is limited because few studies use designs and methods that permit examination of specific features or dimensions of QI initiatives. In addition, evaluation of quality improvement in QRIS is still a relatively new endeavor. Given these limitations of the research literature, the strategy for this report is to propose a blueprint for effective QI initiatives that builds on the features included in QI initiatives that have been linked to positive outcomes for teacher practices and/or children's developmental outcomes. This blueprint goes beyond existing literature and resources to suggest not only features, practices, and supports to include in a QI initiative, but also to propose key considerations for implementation and for situating the QI initiative in the broader ECE system to ensure quality improvements are meaningful and sustained. Because the research literature on QI initiatives is still in an early stage, it is expected that the recommended practices and features included in the blueprint will be refined and updated as new research becomes available.

The practices and considerations included in the blueprint are based on the extant literature as well as input from national experts on QRIS-related QI initiatives. Figure 1 displays the key features of the blueprint for QI initiatives. First, the top of Figure 1 highlights the importance of an established connection between the QI initiative, the broader ECE system, and adequate financing² to ensure common standards for quality improvement, access to system resources that can support quality improvement (e.g., coaching, consultation and other technical assistance; coursework; training) and motivation for participation (e.g., recognition in a QRIS, eligibility for participation in state pre-kindergarten program). If the QI initiative is attached directly to a QRIS, this connection to the ECE system is likely in place already, though intentional efforts are needed to ensure the strength and effectiveness of the connections.

The bottom of Figure 1 displays a second critical feature in a QI initiative: setting a priority to target ECE program quality improvements (including interactions between teachers/caregivers and children) that will ultimately increase support for children's optimal development. This priority on children's development can serve as a guidepost for decision-making, goal-setting and outcome measurement.

Within the anchor points of system connections, financing, and a priority on supporting children's development, the middle of Figure 1 outlines recommendations for specific practices and features to include in a QI initiative. To facilitate discussion of these practices, they are divided into three sets: Quality Improvement Foundational Elements, Implementation Efforts, and Activities. Note, however, that the distinctions between the three sets are not rigid. For example, depending on how a certain feature is discussed, it could fit under Foundational Elements or Activities. This potential permeability in the model should not diminish the usefulness of the blueprint but rather points out the need for further research to build a better understanding of how features of QI initiatives work together most effectively.

1. In this report, a QI initiative is defined as a specific and organized collection of activities designed to help ECE programs make progress in a QRIS. The activities may be embedded directly in a QRIS or they may be companion initiatives designed to support ECE programs in making quality improvements that will lead to higher QRIS ratings

2. We acknowledge that issues related to financing and supporting the true cost of quality improvement are critical. A full literature review and analysis of ECE financing is beyond the scope of this paper.

Recommended practices and considerations

- Quality Improvement Foundational Elements-** The first set of practice recommendations provides a base from which a QI initiative operates. Foundation practices include interconnected features such as the establishment of clear goals that are linked to specific aspects of quality and child outcomes, and the use of a specified model to ensure quality improvement supports are delivered with consistency. These features help set the stage for the clarity and focus of the initiative. Other Foundational practices such as the provision of incentives for participation and a focus on program leadership serve as strategies to engage participants and build capacity for ongoing quality improvement. Development of a theory of change for the QI initiative that articulates how the QI components will lead to improved program quality, teacher practices and children's outcomes is a useful activity to engage in when planning the Quality Improvement Foundational Elements.
- Quality Improvement Implementation Efforts-** The second group of practices promotes effective implementation of QI initiatives, and is based on features identified in implementation research.³ Supports for implementation of the QI initiative are a critical but often-overlooked component. These “drivers” of QI implementation include elements such as the intentional selection, initial and ongoing training, and reflective supervision of technical assistance (TA) providers; use of data systems to monitor progress; and evaluation of QI initiatives to assess effectiveness.
- Quality Improvement Activities-** The third set of practices are the heart of the QI initiative and include the direct connections between the QI initiative staff, QI components (e.g., training, coursework, coaching) and ECE programs. ECE program leadership (directors/principals/education directors/family child care providers) and staff are engaged in QI through the activities, so the relevance and effectiveness of activities are vital for success. Activities include the following: assessment of program readiness for the QI initiative; provision of individualized, on-site technical assistance to support development of engaging learning environments and effective teaching and interactions (using a variety of strategies such as modeling, observation and reflection); linking technical assistance to activities that support knowledge-building such as training and coursework (bridging knowledge and practice);

and providing support for continuous quality improvement, as well as delivering the QI initiative components with a dosage and intensity of services matched to the goals of the initiative.

One potential use of the blueprint is for developers and implementers of QI initiatives to use it as a “worksheet” against which they can assess the components of their program (see Figure 2 for a summary of key dimensions for QI initiatives with questions to guide reflection, planning and revision of QI initiatives). Though recommendations included in the blueprint are not prescriptive, they provide guidance and considerations for QI initiatives that can help promote a focus on the most likely candidates for supporting effective practice.

The practices and considerations proposed in this report are supported by both emerging empirical evidence and expert consensus in the field as promising components of a successful QI initiative that accompanies a QRIS. While it is important to remember that the blueprint will need updating in the future as the knowledge base expands, it serves as a concise articulation of the key investments to consider for the design, implementation and evaluation of QI initiatives to support ongoing ECE program improvement and achievement of outcomes for children and families. The report contains a summary of the blueprint components that can be used to guide review, reflection, planning and revision of new or ongoing QI initiatives.



³Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). Implementation research: A synthesis of the literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network. (FMHI Publication No. 231).

A Blueprint for Early Care and Education Quality Improvement Initiatives



Introduction

An accumulation of evidence documents the importance of high quality early care and education (ECE) experiences for young children, particularly for children who are disadvantaged because of family income or other factors (Yoshikawa et al., 2013). Research also demonstrates that many ECE programs (across program types such as state pre-kindergarten programs, Head Start programs, other center-based programs and family child care programs) do not meet established benchmarks for provision of high quality early learning experiences (Adams, Tout & Zaslow, 2007). The pressing need for ECE program quality improvement is one reason for the proliferation of Quality Rating and Improvement Systems (QRIS) across states and select localities. Though QRIS vary significantly, a typical QRIS offers not only a package of incentives and supports for quality improvement, but also a set of quality standards and indicators that help ECE programs, policymakers and parents establish a starting point and progress over time toward higher quality.

As QRIS continue to launch and mature across states, questions emerge from stakeholders about how to design and implement effective quality improvement (QI) initiatives that accompany a QRIS. With limited resources, it is especially important for funders and policymakers to invest in activities that will be most successful in supporting ECE program quality improvement and ultimately improving outcomes

for young children. **The purpose of this report is to address questions about effective QI initiatives by proposing a blueprint of QI practices and design considerations generated from a synthesis of the existing research literature and input from national experts in ECE quality improvement.**

A starting point for this synthesis on quality improvement is to acknowledge the strengths and limitations of the existing literature and to build on recent efforts to summarize it. For example, two recent reviews of coaching and consultation in early childhood classrooms (a key component of most QI initiatives) concluded that coaching is positively linked to improvements in observed quality and teacher practices, but there is mixed evidence that coaching is related to improved outcomes for children (Akers & Aikens, 2011; Isner et al., 2011).⁴ Outcomes for children are more likely to be observed when the focus of the initiative is on improving children's domain-specific skills (such as language and literacy, math and/or social-emotional development) by improving specific teacher practices, rather than focusing on a broad range of practices or environmental features. The reviews also noted that few studies use designs and methods that permit examination of specific features or dimensions of coaching. Because coaching is often combined with other professional development (training, coursework or professional learning communities) or with the implementation of a new curriculum, it is difficult to identify whether the coaching, the professional development, the new curriculum, or the combination is effective. Similarly, across the broader literature on quality improvement in ECE, features such as financial incentives, coaching, other technical assistance, and access to training are examined as a "package" without the option to isolate the effectiveness of particular features within the package (Boller, Tarrant & Schaack, 2014). Given this significant limitation of the research literature, the strategy for this report is to propose a blueprint for effective QI initiatives that builds on the features included in QI initiatives with positive outcomes. This blueprint goes beyond the existing literature and resources to suggest not only the package of practices to consider including in a QI initiative but also the foundational principles and implementation features to support those practices. It is unique in recognizing that QI at scale must allow for flexibility and individualization of services while still helping programs in their work towards agreed upon standards of quality and supports for children's development.

4. Akers and Aikens (2011) included studies of early elementary classrooms in their literature review.

The term quality improvement (QI) initiative is broad and multi-faceted. In this report, a QI initiative is defined as a specific and organized collection of activities designed to help ECE programs make progress in a QRIS. Related to supporting progress in a QRIS, a QI initiative targets a range of quality features such as teacher-child interactions, provisions for health and safety, stimulating environments, staff qualifications and program leadership. A QI initiative may be embedded directly within a QRIS or it may be a companion initiative in local communities designed to provide supplemental supports to ECE programs.

The reason for specifying that a QI initiative is linked to a QRIS is twofold.⁵ First, a QRIS offers a context that is distinct from the contexts that have been described in the majority of studies in the ECE literature on quality improvement. While this literature can inform identification of best practices in a QI initiative, it is important to supplement this literature with evidence and expert consensus that acknowledges a QRIS as a complex, systematic effort with unique challenges and opportunities for working with ECE programs. Second, QI initiatives in a QRIS typically consist of multiple components (financial incentives, on-site technical assistance, and access to professional development opportunities) at multiple levels (director/program, classroom, and teacher), so a blueprint for quality improvement should address these options and articulate how they can be implemented (see Boller, Schaack & Tarrant, 2014 for details about quality improvement interventions at different levels of the ECE system).

The practices and considerations included in the blueprint are based on the extant literature as well as input from national experts on QRIS-related QI initiatives. Figure 1 displays the key features of the blueprint for QI initiatives. First, the top of Figure 1 highlights the importance of an established connection between the QI initiative, the broader ECE system and adequate financing⁶ to ensure common standards for quality improvement, access to system resources that can support quality improvement (e.g., coaching, consultation and other technical assistance; coursework; training) and motivation for participation (e.g., recognition in a QRIS, eligibility for participation in state pre-kindergarten program). If the QI initiative is attached directly to a QRIS, this connection to the ECE system is likely in place already, though intentional efforts are needed to ensure the strength and effectiveness of the connections. The

bottom of Figure 1 displays a second critical feature in a QI initiative: setting a priority to target ECE program quality improvements (including interactions between teachers/caregivers and children) that ultimately will increase support for children's optimal development. This priority on children's development can serve as a guidepost for decision-making, goal-setting and outcome measurement. The QI initiative should consider the unique context and population of children and families when setting these goals.

Within the anchor points of system connections, financing, and a priority on supporting children's development, the middle of Figure 1 outlines recommendations for specific practices and features to include in a QI initiative. To facilitate discussion of these practices, they are divided into three sets: Quality Improvement Foundational Elements, Implementation Efforts, and Activities. Note, however, that the distinctions between the three sets are not rigid. For example, depending on how a certain feature is discussed, it could fit under Foundational Elements or Activities. This potential permeability in the model should not diminish the usefulness of the blueprint but rather points out the need for further research to build a better understanding of how features of QI initiatives work together most effectively.

- **Quality Improvement Foundational Elements-** The first set of practice recommendations provides a base from which a QI initiative operates. Foundation practices include interconnected features such as the establishment of clear goals that are linked to specific aspects of quality and child outcomes and the use of a specified model to ensure quality improvement supports are delivered with consistency. These features help set the stage for the clarity and focus of the initiative. Other Foundation practices such as the provision of incentives for participation and a focus on program leadership serve as strategies to engage participants and build capacity for ongoing quality improvement. Development of a theory of change for the QI initiative that articulates how the QI components will lead to improved program quality, teacher practices and children's outcomes is a useful activity to engage in when planning the QI Foundation.
- **Quality Improvement Implementation Efforts-** The second group of practices promotes effective implementation of QI initiatives and is based on features identified in implementation research

5. While this report focuses on QI initiatives in the QRIS context, a variety of QI initiatives are not linked to a QRIS. Many of the blueprint components are relevant for these initiatives, though some of the supporting information may be less relevant for QI initiatives occurring outside QRIS.

6. We acknowledge that issues related to financing and supporting the true cost of quality improvement are critical. A full literature review on this topic is beyond the scope of this paper. Two resources to consult for further information include: Assessing the Implementation and Cost of High Quality project sponsored by the Office of Planning, Research and Evaluation in the Administration for Children and Families, U.S. Department of Health and Human Services (<http://www.acf.hhs.gov/programs/opre/research/project/assessing-the-implementation-and-cost-of-high-quality-early-care-and-education-project-ece-ichq>) and the Provider Cost of Quality Calculator sponsored by the Office of Child Care (https://www.ecequalitycalculator.com/Login.aspx?ReturnUrl=%2f&A_spxAutoDetectCookieSupport=1)

(Fixsen et al., 2005). Supports for implementation of the QI initiative are a critical but often-overlooked component. These “drivers” of QI implementation include elements such as the intentional selection, initial and ongoing training, and reflective supervision of technical assistance (TA) providers; use of data systems to monitor progress; and evaluation of QI initiatives to assess effectiveness.

- **Quality Improvement Activities-** The third set of practices are the heart of the QI initiative and include the direct connections between the QI initiative staff, QI components (e.g., training, coursework, coaching) and ECE programs. ECE program leadership (directors/principals/education directors/family child care providers) and staff are engaged in QI through the activities, so the relevance and effectiveness of activities are vital to the success of programs in the initiative. Activities include assessment of program readiness for the QI initiative, provision of individualized on-site technical assistance to support development of engaging learning environments and effective teaching and interactions (using a variety of strategies such as modeling, observation and reflection), linking technical assistance to activities that support knowledge-building such as training and coursework (bridging knowledge and practice)

and providing support for continuous quality improvement, as well as delivering the QI initiative components with a dosage and intensity of services matched to the goals of the initiative.

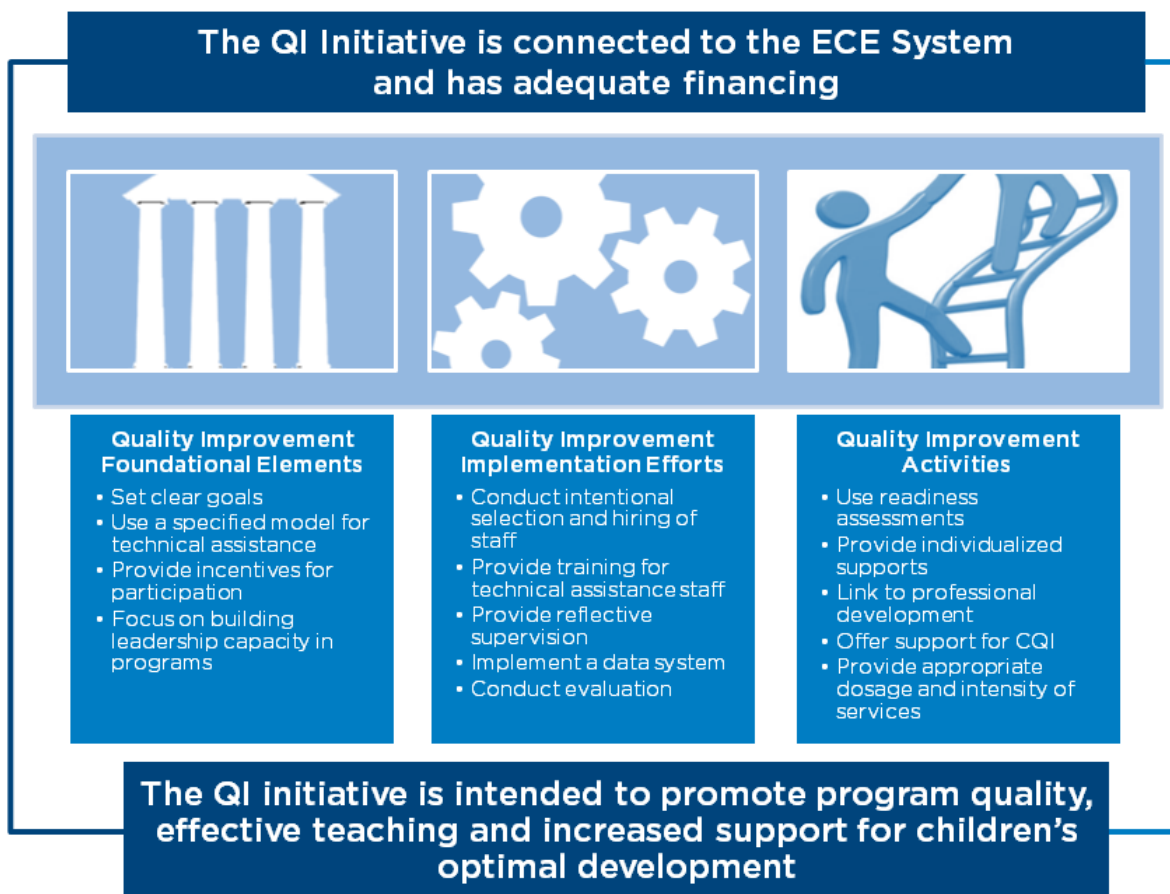
The report describes the blueprint outlined in Figure 1 and provides the rationale for selection of the practices and considerations included in the blueprint. After describing the methods used to generate the content, we present an overview of each blueprint component.

Methods

The Child Trends research team began by generating a list of quality improvement dimensions of interest emerging from current and previous literature reviews and projects. Four projects were particularly relevant for this work and were drawn from extensively:

- **Cross-site Evaluation of the Early Childhood Educator Professional Development projects (ECEPD).** The ECEPD project was funded by the U.S. Department of Education to increase access to professional development for early childhood educators working with low-income children. Local and state-level partnerships were funded to implement and evaluate innovative approaches to professional development. The cross-site evaluation

Figure 1. Blueprint for QI Initiatives in ECE



conducted by Child Trends included a review examining the existing literature on professional development for early childhood educators (Zaslow et al., 2009). It also included a cross-site analysis of 18 ECEPD projects nationally (Tout et al, 2009). Among the 18 projects, a subset of eight⁷ were identified that met established criteria for conducting rigorous evaluation and that had positive outcomes for observed classrooms practices, children's development or both. Common features across these eight effective programs can be used as a starting point for best practices.

- **Identification of Promising Features in Coaching and Quality Improvement.** Child Trends conducted a literature review and case study for the Children's Services Council of Palm Beach County (Isner et al., 2011; Tout et al., 2011). The literature review focused specifically on coaching and consultation in ECE and attempted to identify features related to effective practices. The case study collected information from local and county-level QRIS to learn more about how quality initiatives are designed and implemented in QRIS. A report and research brief from the project summarized the state of the literature and documented the linkages between coaching, classroom environments, teacher-child interactions and child outcomes. Recommendations for implementation of on-site QI initiatives in QRIS were included in the project products and provided an important starting point for the list of best practices in the current report.

- **Background Review of Existing Literature on Coaching.** This review examining coaching and linkages with outcomes was conducted by Mathematica Policy Research for the purpose of informing work on the Universal Preschool Child Outcomes Study in the Los Angeles Universal Preschool program (Aikens & Akers, 2011). The literature review was similar to the Child Trends' review conducted for the Children's Services Council of Palm Beach County, though it also included coaching in the early elementary grades. The conclusions drawn were similar: coaching is linked to improved classroom practices, but there is mixed evidence about linkages between coaching and children's outcomes. Aikens and Akers highlight emerging themes related to coaching efficacy which are incorporated into the current report. They also

provide helpful tables documenting the conclusions of each study they reviewed.

- **On-Site Approaches in Quality Improvement: Building on the Research on Coaching.** This research brief written by Zaslow, Tout and Halle (2012) for the Office of Planning, Research and Evaluation (OPRE), U.S. Department of Health and Human Services, included a summary of evidence and initial conceptualization of quality improvement best practices. The current report builds on the foundation outlined in the OPRE research brief.

These existing projects provided a strong foundation for this report and were used in both determining a starting list of best practices as well as identifying supporting evidence for each practice. Articles, reports, and literature that were already gathered from these prior projects and reports were compiled, and relevant information was entered into a table shell using an agreed upon rubric outlining the elements to be included. The reference list at the end of this report contains additional references that were included in the four reviews and projects. The comprehensive list of references goes beyond the references that were cited in this report.

Next, using the list of quality improvement practices and reviewing the literature already compiled, the team conducted searches for additional relevant and new literature using the following search engines and journals: Research Connections, EBSCOhost, JSSTOR, ERIC, and APA's PsychArticles. Searches were conducted for any articles, reports, or book chapters that included terms related to the best practices identified. After selecting and entering all of the articles into tables, they were organized around the types of quality improvement practices that were being studied (e.g., incentives for participation, selection of TA providers). A thorough review of the articles was done to identify themes in the literature for each quality improvement practice or consideration. These themes are included in the discussion of each of the practices included in this report. It is important to note that the majority of the quality improvement literature is not specific to QRIS, nor does the literature provide empirical evidence for single features. However, the literature can help identify best practices within a QI initiative, and provide information about the potential effects of these practices.

7. Some projects were missing information about rigor of evaluation and could not be included for further analysis.

In addition to a review of the current literature on quality improvement practices, the research team engaged a group of experts to participate on a panel. The panel of experts was created for several reasons. First, the selected experts understand the complexities and unique challenges and opportunities of a QRIS and how QI initiatives are able to support a QRIS. Second, they are able to provide additional evidence and consensus around these practices and help identify new research literature and resources. Third, while some of the dimensions do not have an extensive literature base, they may still be important to include in a QI initiative, and the experts can draw upon experiences encountered in their own work to determine the importance of including them. Fourth, as noted earlier, clear linkages between specific dimensions of best practice and child, teacher, or classroom outcomes are difficult to discern because of the design of the extant studies. Instead, the literature can be examined to identify common features and “packages” that appear to be connected to positive outcomes for programs and children. Therefore it was important to draw upon the expertise of the panelists to supplement the review of the literature.

Six experts were invited to participate in a panel discussion. They were selected because of their extensive expertise in designing, implementing, and evaluating QI initiatives and QRIS. The experts were asked to review the list of identified best practices and themes from the literature and then participate in a meeting to provide feedback and guidance on each dimension, including whether it should be identified as a best practice and the strength of evidence for each of the practices. The experts were also asked about other emerging evidence that they may be aware of to include in the report. Following the call, a survey was sent out to all of the experts asking them to provide additional feedback on the dimensions of best practice as well as further evidence or resources that were not already captured during the panel discussion. The research team used this additional evidence and guidance provided to supplement the report.

Blueprint for QI initiatives in ECE

The next section of the report provides detail to support the model depicted in Figure 1. The descriptions include an overview of each QI dimension and brief details from research studies, expert guidance or professional consensus that justify its inclusion in the model.

ECE System Context and Connections: QRIS, Workforce Professional Development, Education, Family Health and Well-Being

Essential features in a model for best practices in QI initiatives are the connections between the QI initiative and the broader context of the ECE system and stable, adequate financing (see the top rectangle in Figure 1). Financing for ECE system infrastructure (including higher education), the agencies and organizations that provide quality improvement services), the ECE workforce (wages and benefits), programs (facilities) and families (for accessing quality) is a critical element underlying the feasibility and extent of improvements that can be made in a QI initiative. An analysis of the role financing plays in a QI initiative (or the ECE system overall) is beyond the scope of this paper, but such an analysis would include not only the financing needed to support quality improvements (through the types of dimensions included in the QI Blueprint) but also to sustain high quality program operations over time. One existing resource – the Provider Cost of Quality Calculator – is designed to help policymakers calculate the cost of operating high quality programs by using existing provider data to model different program scenarios.⁸ A forthcoming resource is a new project funded by OPRE through a contract with Mathematica Policy Research. The Assessing the Implementation and Cost of High Quality in Early Care and Education project will develop a new instrument that can be used to measure the cost of providing and improving the quality of care.⁹ Though there is little empirical literature documenting how system linkages can support a QI initiative, a professional consensus exists about the importance of improvement strategies as a key system component (along with financing, leadership, standards, accountability and engaged stakeholders) (Early Childhood Systems Working Group - ECSWG, 2013).

The ECSWG refers to quality improvement with a focus on the overall system and how ongoing activities to evaluate progress can support movement toward system goals for children and families. Yet with this broad focus, they also highlight a number of recommendations with relevance to QI initiatives in the context of a QRIS. For example, they recommend that improvement activities be aligned across sectors and connected to common goals. They also recommend that goals for improvement be culturally and linguistically appropriate and responsive (ECSWG,

8. See <https://www.ecequalitycalculator.com/Login.aspx?ReturnUrl=%2f&AspxAutoDetectCookieSupport=1> for further information.

9. See (<http://www.acf.hhs.gov/programs/opre/research/project/assessing-the-implementation-and-cost-of-high-quality-early-care-and-education-project-ece-ichq>) for further information.

2013). These recommendations emphasize the need to connect a QI initiative to a broader context to ensure common standards for quality improvement, access to system resources that can support quality improvement (e.g., coaching, consultation and other technical assistance; coursework; training), and incentives for participation (e.g., recognition in a QRIS, eligibility for participation in state pre-kindergarten program). Connections to the ECE system could be developed, for example, through formal or informal partnership agreements, memoranda of understanding, Advisory Committees, or interagency workgroups (or similar structures).

Quality Improvement Foundational Elements

The first group of dimensions includes the practices that provide the Foundational Elements for a QI initiative. These features set the stage for the clarity and focus of the initiative. While empirical studies have not isolated the importance of practices such as having clear goals and using a specific service model, a synthesis of the literature indicates that these features are present in QI models that have been successful in improving teacher and/or child outcomes. The other Foundation practices include providing incentives for participation and focusing on leadership as a strategy for building capacity and sustainability of quality improvements. Emerging empirical evidence and expert consensus in the field of QI suggest that these Foundation features provide a solid base for Implementation and Activities (the other components of the Best Practices Model).

[Clear goals for quality improvement](#)

Clear goals for the facets of quality and corresponding child outcomes addressed in an initiative provide an essential foundation for a QI initiative (Aiken & Akers, 2011; Tout et al., 2009). Examples of effective QI initiatives from the literature typically begin with a broad goal to guide the quality improvement work overall (for example, improving observed global quality) and a process in place to allow for development of individualized goals that are aligned with the needs and capacity of the program. For example, the Head Start REDI intervention focused on a preschool curriculum designed to enhance the quality of interactions between teachers and children. Coaches assisted teachers with curriculum implementation, which was the central goal of the intervention; however, the goals were also individualized. Coaches would use the same set of strategies with teachers but adjust the pace of activities to match teachers' mastery of the material. Teachers influenced the content of their goals and received supports for unique challenges they were

experiencing in their own classrooms (Domitrovich, Gest, Gill, Jones, & DeRousie, 2009; Domitrovich, Gest, Gill, Jones, & DeRousie 2010).

In some initiatives documented in the literature, initial assessments and readiness processes are in place to facilitate the development of individualized goals. For example, the QUINCE evaluation (Bryant et al., 2009) was designed to test the effects of a collaborative consultation model in supporting quality improvements and children's outcomes. The goal of the intervention was to improve programs'/providers' scores on the Environment Rating Scale appropriate for their setting (the ECERS-R or the FDCRS). The Partners for Inclusion (PFI) consultation model used in QUINCE was a collaborative, individualized model that allowed for joint assessment of the programs' needs and the development of an action plan jointly by the consultant and consultee to achieve individual goals (Wesley et al., 2010).

Based on a review of the coaching literature, Aikens and Akers (2011) conclude that specificity of goals and clear linkages between the content of goals to the desired outcomes is an important predictor of an effective program. They suggest that programs such as My Teaching Partner (Mashburn et al., 2010) that focus on improving specific practices (through the use of the Classroom Assessment Scoring System- CLASS) and use a common language throughout the MTP process (including consultation, video exemplars and the assessment) are more effective than QI initiatives aiming at generic or broad goals. This specificity is also highlighted in initiatives targeting domains of children's development (math, language and literacy) through the use of a particular curriculum and/or training for teachers. In contrast, an initiative without clear goals might address quality improvement generally, but will not have strong examples of how specific actions will be tied to quality improvement and in turn, to improved outcomes for children.

Most QRIS-related quality improvement focuses on improving quality generally rather than implementation of a curriculum or a focus on specific developmental areas. QRIS-related quality improvement is usually intended to help a provider/program prepare for rating, facilitate the rating process, or improve the rating level (Isner et al., 2011). To gather more information about technical assistance in the QRIS context, the National Center for Children in Poverty interviewed 34 TA providers from 17 statewide QRIS systems (Smith et al., 2012). The results of this study indicated that the majority of the TA providers focused their time on improving the quality of the environment (classroom

or home-based) and/or improving specific features of the setting to help a program advance in their QRIS rating (Smith et al., 2012). The study also found that a majority of TA providers in QRIS do not report focusing their onsite assistance on improving supports for early learning related to school readiness, such as monitoring children's learning or providing individualized learning supports (Smith et al., 2012). The Expert Panel (8/7/14) agreed that a challenge in current QI initiatives in QRIS is a lack of focus on supports that will improve outcomes for children. Indeed, while supporting children's development is a stated goal for some QRIS (Tout et al., 2009), QI initiatives implemented in QRIS programs often have implicit or inadequately specified mechanisms towards achieving this goal (Elicker & Thornburg, 2011). Research suggests that well-focused quality interventions that are directed at specific aspects of children's development and learning environments are most likely to result in measureable gains for children (Burchinal, Kainz, & Cai, 2011). Thus, a clear articulation/theory of change for how a QI initiative will support children's development in the context of individualized goals for quality improvement is an important best practice to consider (Expert Panel, 8/7/14).

[Specified Model](#)

The model used to implement quality improvement is closely related to the goals of the initiative. The way that models are described and used in the literature varies widely. In general, two approaches for quality improvement models emerged from the literature: the use of formal, evidenced-based models and the development of project approaches that blend components of various models and theories. Across both approaches, there is variation in the literature in how they are conceptualized. Quality improvement models may emphasize research and theory (e.g., Wesley et al., 2010), consist of a formal manual and materials to guide TA providers in their daily practices, and/or provide a structure and order for offering quality improvement supports (e.g., Pianta et al., 2008). In addition, quality improvement approaches tend to emphasize a "relationship-based" model that is adaptable based on the needs of the provider/program (Isner et al., 2011). Emerging evidence suggests that implementing a QI initiative with clearly articulated goals and aligned strategies is critical (Zaslow, Tout, & Halle, 2011). As noted in the description of goals for quality improvement, an important model feature is the ability to individualize the services to meet the needs of the program/provider.

When considering implementation of a model or approach, it is important to note the contextual

differences between QRIS-related quality improvement and the coaching or consultation implemented in carefully designed intervention studies described in the literature. The inclusion of quality improvement staff from multiple agencies and who are geographically dispersed increases the complexity of delivering a quality improvement model in QRIS (Isner et al., 2011). Implementation of all model components at scale may also be challenging because of available resources. Thus, evidence-based models may need to be adapted to fit the QRIS context. A hybrid approach that includes some formal (evidence-based) components and some project-created components may be the most feasible for quality improvement as long as it is monitored and evaluated for effectiveness and the quality improvement activities are clearly connected to child development theory, research and practices (Expert Panel, 8/7/14). If using a hybrid approach/project model, the initiative should offer its TA providers a framework and clear parameters to guide their work with providers/programs towards meeting the goals of the quality improvement. Furthermore, the approach should ensure that quality improvement supports are being delivered with consistency (Isner et al., 2011). Finally, the literature suggests that a standard sequence of activities be used in the approach that first emphasize relationship-building and goal setting in initial work with providers/program; then focus on implementation of an action plan with clear roles, provision of feedback and reflection; and finally provide an opportunity to assess the process and plan for sustainability (Akers & Aikens, 2012; Isner et al., 2011).

[Incentives for participation](#)

An important consideration for QI initiatives is the inclusion of incentives for participation and improvement. These incentives include both broad (for example, gaining a rating in a QRIS) and specific provisions (for example, receiving quality awards or bonuses to support the purchase of new materials or staff professional development). All QRIS offer some type of incentive, though the range of monetary awards available in different QRIS varies greatly (Tout et al., 2010). There is surprisingly little empirical research documenting the impact of incentives and identifying which incentives are most effective (Boller, Tarrant and Schaack, 2014). Literature from K-12 education on financial incentives for teachers (e.g. pay for performance) is also relatively inconclusive, with rigorous evidence indicating no effects on student outcomes (see Springer & Winter, 2009; Springer et al., 2012).

The 2010 Compendium of QRIS (Tout et al., 2010) provided a description of different types of incentives

offered through QI initiatives and how funds are used to support quality improvement. Incentives may be offered at the program-level or the provider-level and may be financial or non-financial (Tout et al., 2010; see also Boller, Tarrant and Schaack, 2014 for additional details).

- Financial incentives may be spent on enhancing the program space, paying for staff professional development (training, workshops, credential courses, college credits), purchasing curriculum and materials, or funding daily program operations. Examples include:
 - Quality awards or bonuses for achieving or sustaining quality
 - Tiered reimbursement with increasing amounts based on quality level
 - Participation or enrollment awards
 - Scholarships for higher education
 - Wage and retention awards
 - Grants for specific program improvements
- Non-financial incentives may also entice programs to participate in a QI initiative. Examples include:
 - Opportunity to improve services for children and families
 - Publicly available rating that recognizes quality
 - Free or low cost training
 - One-on-one consultation or coaching
 - Opportunities for leadership or peer learning
 - Marketing materials
 - Free or subsidized curriculum and assessment materials
 - Free or subsidized classroom materials
 - Free or subsidized outdoor play equipment
- Free or subsidized technology advancements
- Networking opportunities

Recent QRIS evaluations have provided descriptive details about how QRIS-rated programs use their quality improvement awards and how they respond to marketing incentives (Tout et al., 2014; Cleveland et al., 2013). For example, programs in Minnesota reported on why they were motivated to join the QRIS. A primary reason for a bulk of the programs currently in the QRIS was the ability to access newly-available scholarship dollars (used by families to support children's tuition) (Cleveland et al., 2013). In addition, a recent study

investigated the association between quality and quality improvement supports, including financial supports, in Miami-Dade County. While the analyses used could not delineate the effect of funding amounts and whether higher amounts benefited programs more, the results indicated that the particular incentive of scholarships for teachers was significantly related to improvements in the quality rating of the centers (Yazejian & Iruka, 2014). The authors suggest that this association is likely tied to whether a program is higher quality at baseline and more able to receive such supports, or lower quality and in need of additional encouragement or support to access the resources available to them (Yazejian & Iruka, 2014). While any type of incentive is a common sense strategy to ensure participation and encourage QI, experts agree that it is important to set parameters around how incentives may be used, align incentives with the goals of the QI initiative, and support programs in accessing them (Expert Panel, 8/7/14).

Focus on Leadership

Directors play a central role in ECE programs through the decisions they make about hiring, staffing, provision of benefits and ongoing training and by establishing the philosophy and core components of the curriculum in the program. Research has found that the director's level of education, experience, and training (in both program administration and early childhood education) directly impact their ability to maintain a high quality program, establish a climate for ongoing quality improvement, support and motivate teachers, engage their communities, and strengthen the early childhood profession as a whole (Bloom et al., 2013). In essence, directors often serve as the gatekeepers for quality improvement because of their role in either facilitating or impeding success in initiatives such as program participation in QRIS.

Much of the literature on leadership comes from the K-12 education realm and has a particular focus on principals acting as "instructional leaders" in schools. Initial notions of instructional leaders emphasized the importance of working hands-on in classrooms alongside teachers to mentor, model practices, and give feedback. However, more current views promote the organizational and management skills of instructional leaders as being most important (Horng & Loeb, 2010). Leaders with strong organization management skills are better equipped to hire and retain effective teachers, provide appropriate resources and support, and create opportunities for teachers to improve their practices (Horng & Loeb, 2010). A six-year study funded by the Wallace Foundation used mixed method approaches to examine the mechanisms behind effective school leadership (Louis et al., 2010). One key finding from

this study was that the most instructionally helpful leadership practices (agreed upon by teachers and principals) focused on having school-level goals and expectations for student achievement, tracking teachers' professional development needs, and creating opportunities and structures for meaningful collaboration amongst teachers (Louis et al., 2010).

The concept of instructional leadership is emerging as a focus for the ECE field, particularly as QRIS have highlighted the need for program leaders to be champions of change in their programs. Though the research on leadership in the ECE field is scant, a small body of work exists that documents initiatives to foster leadership. One illustrative program - Taking Charge of Change (TCC) - was implemented with directors and assistant directors in Illinois. This program model established a professional learning community and provided forums for discussion and learning amongst directors about leadership-related topics. These group elements were paired with ongoing onsite observations and support from a mentor (Bloom et al., 2013). Researchers found several positive results associated with participation in TCC including directors' personal growth (e.g., education level, self-esteem, and increased knowledge and skills in over 18 areas) and program improvements in the areas of staff development, staff orientation, family communications, and improved perceptions of the work environment and organizational climate (e.g., goal consensus, decision making, and innovativeness) (Bloom et al., 2013).

Given the vital role of the director and the growing body of literature on leadership, many QRIS-related QI initiatives are exploring ways to build the leadership capacity of directors. In a direct way, many QRIS have indicators in their systems that fall under the categories of program administration, management, and leadership (Tout et al., 2010). These indicators may include items related to supervision, staff benefits, written operating policies and procedures, financial planning, self-assessments tools (e.g., Business Administration Scale or Program Administration Scale), and director-specific qualifications and training. QRIS-related QI initiatives are including a leadership focus through TA, coursework and training offerings, opportunities for group discussions, and mentoring models (e.g., experienced directors mentor inexperienced directors). QI initiatives that foster instructional leadership and reflective practices are emerging in some states, including New Mexico, which has created an Intentional Leadership category in their third generation QRIS called FOCUS. Thus, whether it is through enhanced QRIS indicators that emphasize leadership and/or through provision of technical

assistance that acknowledges and supports the critical role of program leadership in initiating and sustaining quality improvement, embedding a focus on leadership in QI initiatives is important.



Quality Improvement Implementation Efforts

The second group of dimensions includes practices that allow for effective implementation of QI initiatives. These “drivers” of implementation include elements such as the selection, training, and supervision of TA providers, effective use of data systems, and evaluation of QI initiatives. These features were selected because of the implementation science research across different fields identifying key implementation drivers (see synthesis of the implementation research conducted by Fixsen and colleagues, 2005, as well as resources available from the National Implementation Research Network). Though these drivers have been identified as critical supports for effective initiatives, there are few empirical studies that systematically vary these components to assess outcome information and none that have been conducted in the context of a QI initiative. Therefore, the implementation recommendations are based on a general synthesis of implementation research and expert consensus in the ECE field.

[Selection and hiring of TA providers](#)

Selection and hiring of TA providers are critical activities because they provide the personnel to carry out the QI initiative. In the cross-site ECEPD evaluation, the project directors emphasized the careful selection and hiring of staff for their projects (Tout et al., 2009). Staff serving as coaches typically had at least a bachelor's degree and often a master's degree. They had experience in classrooms, and directors preferred to hire staff with experience with the particular professional development approach/model they were using.

Zaslow, Tout and Halle (2012) note that many empirical articles omit details about how the TA providers are selected and hired, though researchers often provide descriptive characteristics of the coaches. Summarizing across this descriptive information (and similar to the information from the cross-site ECEPD evaluation), Isner and colleagues (2011) reported that the average coach/technical assistant is female and has levels of education and experience that are higher than the average teacher in an ECE program. Some studies specified a preference for bilingual staff (e.g., Downer et al., 2009; Garet et al., 2008), classroom and teaching experience (e.g., Koh & Neuman, 2009) or “master teachers”, and/or familiarity with aspects of the quality improvement model or program (e.g., Clements & Sarama, 2008).

For effective quality improvement implementation, emerging evidence points to a minimum qualification, selection, and hiring approach. QRIS-related quality improvement primarily focus on the TA provider’s experience in early child care settings, suggesting that they, at minimum, have ample experience in such settings (McClennahan Means & Pepper, 2010). An analysis of QI initiatives in QRIS that included interviews with QRIS administrators found that administrators seek TA providers with strong interpersonal skills as well as knowledge and experience with the quality improvement model and assessment tools being used (Isner et al., 2011). Education level or years of experience sometimes serve as a proxy for knowledge and skills since effective tools to identify knowledge and skills don’t exist. In a study of QRIS systems, Smith, Schneider, and Kreader (2010, 2012) conducted interviews with key informants for 17 states with a state-wide QRIS. The researchers found that 44 percent of TA providers had a master’s degree, 41 percent had a bachelor’s degree, and most states required coaches to have special certifications or qualifications. Experts in the field agree that it is important to set minimum educational requirements for hiring TA providers and suggest that cultural, ethnic, and language matches between TA provider and the program or program director be considered in staffing and assigning caseloads (Expert Panel, 8/7/14). Intentional matches may strengthen TA providers’ working relationship with programs and support the provision of more effective quality improvement services.

[Training of TA providers](#)

Training of staff to carry out quality improvement activities is a key implementation priority. The literature on QI initiatives revealed two general variations in how training is delivered: an initial training only (e.g., Landry, Anthony, Swank, Monseque-Bailey, 2009) or an initial training followed by ongoing training (e.g., Garet et al.,

2008). Initial trainings varied in intensity and content. Generally, they focused on training TA providers on assessment tools, coaching model (if applicable), strategies for consultation, and how to identify needs of providers/classrooms (e.g., Boller, Blair, De Grosso, & Paulsell, 2010; Isner et al., 2011; Palsha & Wesley, 1998). These trainings most frequently occurred through structured seminars, on-site training, readings, role playing, and discussion (e.g., Neuman & Wright, 2010). For example, Palsha and Wesley (1998) trained TA providers through a 2 day in-service session focusing on effective consultation techniques and administration of the Environment Rating Scales. This training also provided information on the principles of adult learning theory in order to help TA providers more effectively communicate with staff. Similarly, Neman and Wright (2010) used an approach in which training sessions included more information on research-based practices and learning occurred in a role-playing format. For the second variation, initial training sessions were followed by 1 or 2 booster/refresher trainings a few months later (e.g., Garet et al., 2008). These trainings contained the same focal content and were taught using the same approaches as initial trainings.

Training for staff in a QI initiative in QRIS has some distinct features from other initiatives described in the literature. Because a QRIS is an ongoing activity (with no specific start or end date), training needs to be available in a continuous way to support new hires and staff transitions. Some QRIS require that TA providers stay up to date on quality improvement practices, which may include attending conferences, professional development workshops, or more independent work (McClennahan Means & Pepper, 2010). Smith and colleagues (2012) recommend that the amount of TA provider training should be dependent upon the TA provider’s needs and quality. They suggest that needs should be assessed frequently and that further support and training should be provided if necessary. Further, they cite the importance of training that focuses on children’s early learning and development. Isner and colleagues (2011) recommend the use of coaching manuals to address plans for both initial TA provider trainings as well as plans for ongoing training and assessment.

Across the guidance in the literature and expert panel recommendations, the following elements emerged as essential with respect to training:

- Provide training at the outset of employment and at periodic intervals aligned with a staff person’s needs
- Develop opportunities for staff to demonstrate their skills via role-playing or response to vignettes to ensure that staff are ready to work with programs.

- Use training to emphasize the importance of high quality documentation and data entry and provide an orientation to all data system requirements and technical details.
- Develop a comprehensive manual that guides training and that can serve as a reference document for staff.

Reflective supervision of TA providers

Reflective supervision refers to the oversight of TA providers by a supervisor or TA agency. This supervision is used as a way to ensure that meaningful services are delivered as well as to give TA providers assistance and a means to develop solutions for difficult situations with the support of a supervisor or a larger group of TA providers. In the cross-site ECEPD evaluation (Tout et al, 2009), directors from effective projects described the provision of opportunities for coaches and TA providers to meet together to reflect on experiences and ask for feedback from peers and supervisors. Some projects also encouraged supervisors to observe TA providers in the field and to monitor activities by reviewing activity logs or entries in a centralized project data system (or management information system).

The ECEPD findings were reflected in the broader literature. Supervision most frequently occurred in the form of reflective meetings with document review or as observations and direct supervision. Reflective meetings functioned as a way for TA providers to debrief, share resources, and check fidelity of coaching (e.g., Bryant et al., 2009; Koh & Neuman, 2009). Though similar to reflective meetings in purpose, the observations and supervisions functioned more as a way for supervisors to directly problem solve with TA providers (e.g., Isner et al., 2011; Landry, Anthony, Swank, Monseque-Bailey, 2009). These supervision experiences tended to occur on a weekly or monthly basis. It is important to note however, that the literature on reflective supervision of TA providers was limited.

Emerging evidence from QRIS-related QI initiatives indicates that supervision in the context of QRIS can be challenging (Isner et al., 2011). For example, caseloads of supervisors can be high, and though they indicate an interest in conducting field observations and providing opportunities for peer interaction and reflective supervision, the opportunities for supervisors are limited. Thus, it is important to identify resources that can be used to support supervisors and their efforts to monitor TA provision in the field to assist them in finding and addressing issues that may be common across multiple coaches.

Data systems and case management

Data systems refer to a method of collecting, tracking, storing and analyzing information. In a QI initiative, data systems can include, for example, documentation supplied by staff in programs through the rating process, a TA provider, an observer collecting data for the QRIS or a quality rater housed in a state agency. Empirical information on data systems is limited, but professional consensus identifies data driven quality improvement as a priority (Expert Panel, 8/27/14; McClennahan Means & Pepper, 2010). Growing emphasis on data systems and funding through federal initiatives (such as State Longitudinal Data System grants or the Race to the Top - Early Learning Challenge grants) has resulted in a recent surge of new QRIS data systems that have the capacity to support a variety of QRIS functions. Five functions are particularly notable and can contribute to the effectiveness of QI initiatives. First, a data system used in a QI/QRIS initiative should include unique ID numbers for programs and practitioners to facilitate linkages to data from other systems (such as a Registry) as well as to track progress and improvement over time (Frieze, Tout & Kirby, 2014). Second, a data system should include case management features that allow TA providers to enter relevant information about their work with programs, to run reports on their caseloads and to track progress of their cases (Isner et al., 2011). Third, a data system should allow for historical tracking of information to facilitate evaluation of effective strategies. Fourth, a system should provide access to a variety of users (TA providers, supervisors, agency staff) so that the work of the QI initiative is informed by common data and performance management can be facilitated. Finally, governance processes should be in place to guide the activities of the data system (including development of documentation about the data system), specify requirements for data system users (including program staff and evaluators) and provide clear oversight of operations (Weber & Iruka, 2014).

Evaluation

Evaluation is the final implementation driver to include in a QI initiative. Evaluation can play a critical role in identifying activities that lead to quality improvement, information which can then be used to enhance the activities in the initiative (Isner et al., 2011). Regular evaluation and performance management can establish program accountability and contribute to continuous quality improvement (McClennahan Means & Pepper, 2010). Experts concur that evaluation of information collected in a QI data system can play a critical role in shaping ongoing QI design and implementation (Expert Panel, 8/7/14). Indeed, evaluation is needed to

address many of the challenges outlined in this report, namely that the design of existing research does not allow for identification of specific features contributing to desired outcomes. It is useful for QI initiatives to develop an evaluation plan that contains “wish list” evaluation questions that can be addressed in the short- (questions about process and implementation) and long-term (questions about outcomes).

Quality Improvement Activities

The final group of dimensions in the QI initiative includes the direct connections and relationships between the program staff, components of the system, and the programs themselves. For example, the process used to assess a programs’ readiness is an essential feature of a QI initiative. Other features such as strategies used to meet individuals’ needs, linking on-site technical assistance to professional development activities, and engaging in continuous quality improvement are all essential to a QI initiative and its effectiveness. Other quality improvement activities include decisions about the dosage and the intensity of technical assistance. Emerging empirical evidence and expert consensus in the field suggest that these quality improvement activities are central to a successful initiative.

Readiness assessment process

A critical initial step in the quality improvement process is assessing a program’s level of readiness. A readiness assessment is important because it aims to determine whether a program is ready for a certain type of quality improvement intervention. Results are then used to tailor services based on level of readiness (note that this process overlaps with but is distinct from assessments of program needs). Currently, there is little evidence about different readiness assessments being used in the field. The literature suggests that some initiatives use formal tools, while others develop their own readiness assessment tools, and some use a combination of both formal and informal tools.

One approach to readiness assessments is for a TA provider or a staff person to conduct intake interviews that help determine whether a program director has the capacity (available resources, time, staff support) to engage his/her staff in quality improvement before the initiative begins. For instance, a QRIS-preparation program was developed in Minnesota to accommodate providers with unique circumstances (family child care providers and providers speaking English as a Second Language) that made it difficult for them to enroll directly in the QRIS (Isner et al., 2011). A Getting

Ready Checklist was administered during intake to assess programs’ readiness for the initiative as well as their specific needs for supports to help them meet indicators of in the QRIS (Isner et al., 2011). Technical assistance was individualized based on the degree of readiness and need.

Readiness assessment process may also rely on program characteristics such as program stability and specific practices (e.g., staff retention, director’s leadership abilities) that allow for programmatic changes to occur. Therefore, a readiness assessment does not always have to be a formal assessment that is conducted, but can also simply be the gathering of information about a program to help guide caseload selection and sequence of activities in a QI initiative (with some programs skipping elementary training or orientation if it isn’t needed). In addition, experts agree that the focus should be not only assessing the current readiness of the program, but also establishing a readiness process to assist programs who need additional supports and resources to help them ensure they have all of the elements in place to be successful (Expert Panel, 8/7/14).



Strategies used to meet the individualized needs of programs

The heart of individualized work with programs is the flexibility to use different strategies to support QI initiatives while working within the parameters of a structured service model outlining basic sequence and timeline of work with a program. These structured models may focus on, for example, supports for interactions, skill development (language and literacy skills, math skills, social-emotional development and/or positive behavior), family engagement, curriculum

10. A review of effective models related to content and supports for quality teaching are beyond the scope of this review. For additional resources, see <https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching>.

and assessment, and individualized teaching.¹⁰ Within these models, a variety of interconnected coaching/consultation strategies can be used to meet individual needs of teachers and programs. The review of the literature revealed a number of strategies being used to individualize technical assistance for the needs of programs/providers including:

- a. Assessment of classroom and teacher's skills
- b. Creation of goals or improvement plan
- c. Coach modeling of techniques/skills (through video or in-person)
- d. Provision of feedback
- e. Evaluation of teachers' implementation of practices (sometimes done through video recordings)
- f. Observation of providers and classroom setting
- g. Helping teachers develop strategies for dealing with difficult situations
- h. Collaborative problem solving
- i. Promotion of reflective practice

The majority of initiatives report that TA providers use a combination of strategies that are tailored to the needs of providers and programs (e.g., Assel, Landry, Swank, & Gunnewig, 2007; Boller, Blair, De Grosse, & Paulsell, 2010; De Grosse, Hallgren, Paulsell & Boller, 2010). For example, Campbell, Milbourne, Silverman, & Feller (2005) provided on-site visits for staff using multiple strategies to reinforce and apply content that was learned through coursework. Approaches such as modifying teaching strategies, rearranging classrooms, modeling, and brainstorming were all used during the consultation visits depending on what the targeted outcomes were for each provider.

Findings indicate that a common approach in the field is to conduct observations of the providers and then provide feedback to the providers with the goal of improving specific classroom practices (e.g., De Grosse, Hallgren, Paulsell & Boller, 2010; Cusumano, Armstrong, Cohen & Todd, 2006). One process is to use a formal, observational tool such as the Environment Rating Scales (ERS) to assess the routines, materials, and basic foundational level of quality in a program (e.g., Wesley et al., 2010; Palsha & Wesley, 1998; Boller et al., 2010). Findings indicate that an environmental assessment

tool can be used at the beginning of an intervention to assess program needs and to inform goal development by conducting a joint assessment with the consultant and provider (e.g., Wesley et al., 2010). Mentors can also use an instrument to assess both the environment and instruction using an instrument such as the Teacher Behavior Rating Scale (TBRS) (Landry, Anthony, Swank, & Monseque-Bailey, 2009). For example, Landry et al. (2009) conducted initial assessments with the TBRS when the mentors first visited the classrooms and then used those results in follow up visits to help teachers with instructional planning and classroom arrangements.

In another example, Miller and Peterson (1994) conducted several 15 minute observations of the teachers in the program before the first coaching session was scheduled. The observations were used to evaluate the effective behaviors the teachers were using, so that the program director could then meet with the teachers and discuss strategies for changing select behaviors. Findings indicate that pairing initial assessment observations with feedback for the participants on behaviors to change and goals to accomplish is linked to an increase in effective teacher behaviors (e.g., giving specific praise to children, gives direction and checks for comprehension) and a decrease in ineffective behaviors (e.g., ignoring child's response, giving non-specific directions) (Miller & Peterson, 1994).

Mentors and coaches can also use videos as a method to observe and provide feedback to participants. For example, My Teaching Partner (MTP) is an evidence-based professional development system focused on improving teacher-child interactions. MTP includes access to a series of short video clips that demonstrate effective teacher-child interactions that both teachers and mentors can use to observe specific practices. In addition, an MTP consultant reviews videos of the teachers' instruction and provides individualized feedback (using the CLASS) that can be used to implement an action plan to improve future practice. Research on the effectiveness of MTP has demonstrated improvements in teachers' interactions with children as well as children's language and literacy skills (e.g., Mashburn et al., 2010).

To guide individual goal-setting and consultation strategies, other initiatives conducted an assessment in which participants were asked to provide information on their beliefs about the strengths and weaknesses of their program (Wesley, 1994).

Modeling a particular practice or intervention technique for the participants is also used (e.g., Campbell et al.,

2005; Cusumano et al., 2006; Domitrovich, Gest, Gill, Jones, & DeRousie, 2009; Domitrovich, Gest, Jones, Gill, Sanford, & DeRousie, 2010). For example, Cusumano and colleagues (2006) had coaches first model how to implement strategies that the participants learned during a literacy course, then observed the participants using those strategies, and provided feedback to the participants based on what they observed.

Promoting reflective practice is another strategy being used in ECE quality improvement, though it has been studied more extensively in the K-12 field. Defined by Schon (1996), “reflective practice involves thoughtfully considering one’s own experiences in applying knowledge to practice while being coached by professionals in the discipline” (Ferraro, 2000). Findings in the K-12 literature indicate that the main benefit of reflective practice is that teachers gain a deeper understanding of their own teaching styles, which helps them become more effective in the classroom (Ferraro, 2000). Reflective practice is often a component of teacher professional development and education programs and can be used throughout pre-service and in-service trainings. Many techniques have been successful in helping teachers incorporate reflection into their practices, including professional, on-site coaching in teachers’ own classrooms, peer coaching, and peer reflective groups (Ferraro, 2000).

Overall, TA providers in QI initiatives have a variety of tools that can be accessed to support their individualized work with programs. The research methods used in the existing literature do not permit identification of optimal strategies, so it is recommended that QI initiatives institute certain program features to ensure consistency and track outcomes of the different strategies used. First, programs should identify the preferred strategies through training and the program manual. The training should include the rationale for using particular strategies, the circumstances under which different strategies might be most helpful, and provision of opportunities for TA providers to practice using them. Second, the program should incorporate documentation of TA strategies into the data system for the QI initiative so that TA providers keep track of the different strategies they use with programs/providers (in addition to the specific content that is discussed) to help them meet their quality improvement goals.

[Linking on-site technical assistance with other professional development](#)

Emerging evidence shows that on-site technical

assistance is most effective when it is linked with other professional development, allowing teachers to practice applying new knowledge and skills in the presence of a supportive coach or consultant who can scaffold their learning (rather than only learning content in workshops or courses without opportunities for application) (Zaslow et al., 2009). In addition, having continuity between the technical assistance provided on-site and the professional development opportunities that staff engage in is important to both teach new skills and reinforce existing practices (Zaslow et al., 2009). These linkages may involve workshops or training, coursework, group meetings, or resource sharing (e.g., videos, online materials, readings). Unlike other features of QI programs, technical assistance and professional development have been systematically varied in a few research studies. These studies have found that coursework alone has a negligible impact on teacher outcomes but when linked with on-site technical assistance it can significantly improve quality practices (Neuman & Cunningham, 2009; Koh & Neuman, 2009; Mashburn et al., 2010).

Given the empirical findings, linking on-site technical assistance and PD should be a priority for QRIS-related QI initiatives, especially since QRIS often have training and other professional development components embedded in their rating standards. However, linking technical assistance with other professional development is often a missed opportunity in QRIS-related QI initiatives (Isner et al., 2011; Smith et al., 2012). Typically, the challenge is related to the lack of coordination and communication across systems and barriers to increasing accessibility of professional development for program staff (e.g., providing it at no or low cost, having sessions during evenings and weekends, finding convenient locations) (Tout et al., 2009; Expert Panel 8/7/14). QI initiatives can increase effectiveness by finding opportunities to create clear and intentional linkages between on-site technical assistance and professional development opportunities such as coursework, training, and professional learning communities.

[Focus on continuous quality improvement](#)

A focus on continuous quality improvement (CQI) to promote a culture of positive change and assessment of strengths and needs is a newly emerging component in QRIS. CQI emphasizes ongoing reflection and goal setting in order to support continued program improvement and build program capacity. CQI is a data-driven process (Wiggins & Mathias, 2013).¹¹ CQI has been gaining recognition in the QRIS field because of the focus on using data to make decisions about quality improvement priorities, and on developing the capacity

11. Note that CQI is closely connected to the practices related to data and evaluation described in the section on Implementation.

for ongoing assessment and improvements. CQI helps directors learn a process for gathering information and feedback that can be used for decision-making and for working toward set quality benchmarks and evidence-based practices (Mitchell, 2012). While CQI has growing appeal to program leaders and TA providers, there is a need for new tools to support and promote CQI. For example, professional development opportunities are needed to help TA providers learn strategies that can be used in their work with providers/programs. In addition, there is a growing need for CQI tools as programs are looking for effective strategies to assess their needs and evaluate their progress (Expert Panel, 8/7/14). Thus, while there is strong consensus from experts in the field regarding its importance, the literature on CQI within the ECE field is still limited.

Dosage

Dosage of services typically refers to the amount or quantity of technical assistance that is provided to a particular program, center, teacher or director in a QI initiative. Specifically, dosage is measured by determining the frequency of technical assistance (i.e., the number of times TA consultants meet with the staff to provide assistance), as well as the length of the on-site visits or sessions (i.e., the length of time the TA consultants spend with staff on-site or via other methods such as phone or web-based meetings). There is great variability in dosage related to technical assistance (coaching, consultation and mentoring) that is provided in QI initiatives. Approaches to dosage differ in both the frequency of the sessions (e.g., weekly or monthly) and the length of the sessions (e.g., 30 minutes or two hours). Some programs base the frequency of the sessions on the needs of the individual programs and participants while others determine an overall frequency target for the system as a whole (Isner et al., 2011). The literature indicates that the majority of initiatives report having weekly or bimonthly sessions (e.g., Isner et al., 2011).

There are also differences in how tailored the supports are to individuals and whether or not the dosage is matched with the goal(s) of the initiative. With some initiatives, there is a standard, set amount of support provided for everyone that focuses on a specific topic or area of focus. For example, one initiative specified that all teachers attend a two hour class twice a month on a specific topic (e.g., Landry, Anthony, Swank, & Monseque-Bailey, 2009). In other initiatives the dosage is varied, with support differing depending on the providers' strengths and needs, and/or based on the goals of the initiative (e.g., Bryant et al., 2009; Wesley et al., 2010).

While some studies have found positive associations related to higher dosage of support (e.g., Bryant et al., 2009; Powell, Diamond, & Burchinal, 2012; Shidler, 2009), the evidence does not provide clear guidance about a specific dosage of services needed to achieve positive outcomes. Therefore, it is recommended that dosage for on-site quality improvement support be matched with the specific goals of the initiative such that significant behavior changes requiring more support (changes in interactions, quality of individualized support) receive a higher dosage of technical assistance (Zaslow et al., 2009). For example, changes related to development of procedures and policies or improvement of the environment and materials are likely to require less support than changes to teacher-child interactions or behavioral management practices (which may require bi-weekly or weekly coaching sessions). Dosage should be tracked in the QI initiative data system so that analyses can be conducted to identify linkages between dosage and changes to practice.

Assessment of intensity

Intensity of quality improvement is closely related but distinct from dosage. It is calculated by assessing dosage of TA support (i.e., frequency and length of sessions) as well as the duration of the intervention over time. Intensity is especially important to consider in the context of QRIS because a QRIS typically develops long-term relationships with programs. Thus, it is helpful to measure intensity of services received. For example, a 25 hour dosage of technical assistance is quite different if it is delivered over one month of time compared to one year. In the coaching literature, interventions are often short-term, lasting only the length of a school year. In QRIS frameworks on the other hand, the duration of the intervention can last much longer, often several years. While it is assumed that initiatives with higher intensity are more effective at producing better outcomes, there is a lack of literature in the ECE field to support this hypothesis. Moreover, it is unknown what the threshold is for intensity; that is, how much and for how long technical support is needed to produce positive effects on teacher practices and children's outcomes. However, similar to the recommendations related to dosage, experts report intensity should be matched to the goals and needs of the program and initiative (Expert Panel, 8/7/14). QI initiatives can also capitalize on the long-term relationship with programs and identify targets for the intensity of services that change over time with the changing needs of the programs.



Improved Outcomes for Programs and Increased Support for Children's Optimal Development

A final essential feature of a QI initiative is a priority to target ECE program quality improvements that will increase support for children's optimal development (see the lower oval in Figure 1). This focus on children's development serves as a guiding principle for decision-making, goal-setting and outcome measurement. As noted in discussions of practices related to the goals and service model in a QI initiative, it is important to ground quality improvement work in changes that have the potential to promote meaningful gains in children's skills and competencies across developmental domains. As such, the QI initiative should incorporate not only general supports for teacher-child interactions but also specific content that can foster children's development (language and literacy, math, approaches to learning, social-emotional skills, and physical and mental health) and practices related to family engagement, curriculum, assessment, and effective teaching. The QI initiative should also take into account the unique context and population of children and families in the initiative and articulate how the work will support children from different racial, cultural, and linguistic backgrounds as well as children with special needs. Development of a theory of change for the QI initiative can help articulate how the initiative will target children's development. A theory of change can identify the pathways by which some activities will indirectly support children's development by focusing on features such as program leadership and continuous quality improvement that

provide a foundation for more direct pathways to children's development such as improved teacher-child interactions.

Conclusion: Using the Blueprint for QI Initiatives in ECE

The purpose of this report is to synthesize evidence and consensus in the ECE field to identify best practices and design considerations for QI initiatives. The research team developed a blueprint (Figure 1) to depict three areas of practices and considerations – Quality Foundational Elements, Implementation Efforts, and Activities – and their linkages to the broader ECE system and stable, adequate financing as well as to the intended outcomes of improved teacher practices and gains in children's development. The model contributes to the ECE literature by bringing together practices related not just to the immediate interactions between programs and TA providers but also on features of implementation and linkages to the ECE system.

One potential use of the blueprint is for developers and implementers of QI initiatives to use it as a “worksheet” against which they can assess the components of their program (see Figure 2 for a summary of key dimensions for QI initiatives with questions to guide reflection, planning and revision of QI initiatives). Though recommendations included in the blueprint are not prescriptive, they provide guidance and considerations for QI initiatives that can help promote a focus on the most likely candidates for supporting effective practice. The imprecision of some recommendations reflects the state of the literature which documents the effectiveness of overall packages of approaches but does not permit identification of effective individual features. While it is important to remember that the blueprint will need updating in the future as the knowledge base expands, it was supported by an expert panel as a reasonable and useful starting point for QI initiatives. It serves as a concise articulation of the key investments to consider for the design, implementation and evaluation of QI initiatives to support ongoing ECE program improvement and achievement of outcomes for children and families.

Figure 2. Blueprint for QI Initiatives in ECE: Summary of Key Dimensions and Questions to Guide Planning and Design

Dimensions		What is it?	Why is it important?	Questions to guide revision and planning
ECE System Financing and Connections	Access to adequate financing and connections between the QI initiative and the ECE system	Financial supports at all levels (system, programs, workforce and families). Linkages between the QI initiative and ECE system through formal or informal partnerships.	Stability and adequacy of funding are critical to QI initiatives. Connections between the QI initiative and the ECE system ensure common standards for quality improvement, access to system resources that can support quality improvement (e.g., coaching, consultation and other technical assistance; coursework; training) and motivation for participation (e.g., recognition in a QRIS, eligibility for participation in state pre-kindergarten program).	<ul style="list-style-type: none"> • Which external partners are engaged in the QI initiative? What are their roles, and how do they connect the initiative to the ECE system? • How does the initiative leverage support from other projects (e.g., training, coaching, and incentives)? How can linkages be strengthened? • What financial supports are available for the QI initiative? Are they adequate and sustainable?
QI Foundational Elements	Clear goals for quality improvement	A clearly articulated theory of change for how a QI initiative supports program quality, effective teaching and children's development.	QI initiatives often have the goal of improving child outcomes but may inadequately specify the mechanisms to achieve this goal. Research suggests that quality interventions with well-focused goals that are clearly linked to children's development are more likely to result in measureable gains for children than interventions with only a general goal to improve program quality. A QI initiative can also promote individualized goals within set parameters.	<ul style="list-style-type: none"> • What is the theory of change for the QI initiative? How does the theory of change connect activities to improved program quality, effective teaching and children's development? • Does the initiative allow for individualized goal development?
	Specified model	The use of a well-specified model (either formal or project-developed) to guide the delivery of QI supports	A specified model is critical to ensure that quality improvement supports are delivered with consistency. The model may be a formal, evidence-based model or it may be a project-developed approach that blends components of various models or theories and aligns with the goals of the initiative.	<ul style="list-style-type: none"> • Does the model used for the QI initiative align with goals? • Does the QI initiative have a manual to guide service delivery with programs?
	Incentives for participation	The financial and non-financial incentives offered at the program- or provider- level to motivate participation and improvement in the initiative.	Incentives are a helpful and straightforward method for engaging participants in a QI initiative. It is important to set parameters around how incentives may be used, align incentives with the goals of the QI program, and support programs in accessing the incentives.	<ul style="list-style-type: none"> • What incentives (financial and non-financial) are available to participants in the QI initiative? • Are the incentives aligned with the goals (e.g., are quality award amounts sufficient for programs to make meaningful investments in materials or training)?
	Focus on leadership	A focus on supporting and developing the leadership capacities of directors or program administrators.	Directors play a central role in ECE programs. Research has shown that their education, experience, and training directly influence their ability to facilitate quality improvement and maintain a high quality program. Given the vital role of the director and the growing body of literature on leadership, it is important that QI initiatives provide activities that are designed to support and develop the leadership skills and capacities of program directors or administrators.	<ul style="list-style-type: none"> • How is the director's/ administrator's role in supporting quality improvement articulated in the theory of change? • What supports are in place to help directors/administrators act as change agents and to promote capacity building in their programs?

Dimensions		What is it?	Why is it important?	Questions to guide revision and planning
QI Implementation Efforts	Selection and hiring of TA providers improvement	Qualifications for selecting and hiring TA providers, such as years of experience, education level, and prior training.	Empirical evidence is limited about the criteria for selecting TA providers and what their minimum qualifications should be. QI initiatives typically hire TA providers who have educational qualifications at higher levels than teachers and who have experience working in ECE programs, especially with the QI model used in the initiative. Job descriptions and the hiring process can emphasize skills in working with adult learners and demonstration of competencies using role playing and vignettes. The literature does suggest that minimum qualifications should be set and standardized across the initiative.	<ul style="list-style-type: none"> • What are the skills and competencies needed for TA providers in the QI initiative? Have these been described adequately in the job description? • If staff duties are being reassigned from another project, is a process in place to ensure that staff skills and competencies are aligned with the needs of the QI initiative? • Have role-play scenarios or vignettes been developed to facilitate a job interview?
	Training of TA providers	Ensuring that TA providers carry out the various quality improvement activities through provision of training and resources.	Training of TA providers and other staff in the QI initiative is an essential activity. It is important that staff receive initial training before they begin working with programs and ongoing training to ensure they stay up to date on QI practices that impact children's early learning and development.	<ul style="list-style-type: none"> • What processes are in place to ensure that staff in the QI initiative receive relevant initial and ongoing training? • Does the training include opportunities for application of new knowledge to practices with programs? • Do TA providers have access to written materials and resources to support the training?
	Reflective supervision of TA providers	Supportive oversight of TA providers by a supervisor or agency.	Reflective supervision ensures that meaningful services are delivered and provides a means for TA providers to debrief, share resources, and problem solve. It is important that regular supervision occurs through meetings with opportunities for sharing and reflection, peer interactions, and direct observations in the field.	<ul style="list-style-type: none"> • How is the supervisor's role articulated in the QI initiative? What modifications can be made to enhance the role of supervision? • What is the caseload of supervisors? Does it permit field observations? What changes can be made to allow field observations to happen?
	Data systems and case management	A method of collecting, tracking, storing and analyzing information related to the QI initiative.	Data systems can support decision-making and program management. Data systems should include the following: 1) unique ID numbers for programs to facilitate linkages with other data systems; 2) case management features that allow TA providers to enter service delivery information and track their caseloads; 3) historical tracking of information to facilitate evaluation of effective strategies; and 4) access to a variety of users so the work of the QI initiative is informed by common data.	<ul style="list-style-type: none"> • What process is used to track data in the QI initiative? Are resources available to create a data system or to link to an existing system? • What is the staff capacity to support a data system and to train other staff and programs on appropriate use of the data system? • Do different data users (administrators, supervisors, TA staff, ECE program staff) have access to the data?

Dimensions		What is it?	Why is it important?	Questions to guide revision and planning
QI Implementation Efforts (cont.)	Evaluation	Systematic collection and analysis of information to inform decisions, and increase understanding about how the program is working.	Evaluation is crucial for shaping QI program design and implementation, promoting accountability, determining effective strategies that lead to quality improvement, and informing continuous improvement of the QI program. An evaluation plan can articulate a “wish list” of short- and long-term evaluation questions.	<ul style="list-style-type: none"> • What is the staff capacity to conduct evaluation in-house? • What are the opportunities for engaging evaluation partners in the QI initiative?
	Readiness assessment process	An assessment to determine whether a program has the capacity to engage in a QI initiative (or component of the initiative).	Assessment of a program’s readiness to engage in quality improvement activities is useful for identifying needs and targeting resources. QI initiatives may use a formal observation of the environment, a checklist during an intake interview, or other informal methods to gather information about a program. Information from the tools can guide decisions about whether programs need additional supports before beginning their participation.	<ul style="list-style-type: none"> • Is a readiness assessment in place for the QI initiative? • What is the staff capacity to support programs that may need additional resources before engaging fully in the QI initiative? • What incentives are available to support participation in a preparation process (before beginning the QI initiative)?
QI Activities	Strategies used to meet the individualized needs of programs	Activities used to individualize technical assistance to meet the distinct needs of programs/providers.	The heart of individualized work with programs is the flexibility to use different strategies to support the needs of programs, classrooms and teachers in meeting the goals for improvement. Specific TA strategies include modeling, observation, assessment, reflection and provision of feedback.	<ul style="list-style-type: none"> • Does the QI initiative offer TA providers flexibility to use different TA strategies (within the parameters of the QI model)? • Is training provided to support TA providers in their use of different strategies?
	Linking on-site technical assistance with other PD	Linking on-site technical assistance with other professional development, such as training, coursework, group meetings, or resource sharing.	Research confirms that adults learn best when they have the opportunity to practice applying new knowledge and skills in the presence of a supportive coach or consultant who can scaffold their learning. Promoting continuity between the TA provided on-site and other professional development opportunities can foster new skills and practices.	<ul style="list-style-type: none"> • What opportunities exist in the QI initiative to link on-site technical assistance with training, coursework or learning communities? • What new partners could be included in the QI initiative to support these linkages?
	Focus on continuous quality improvement (CQI)	A program culture that promotes reflection, goal-setting, positive change and continual assessment of strengths and needs.	CQI is a data-driven process used to create an environment that supports ongoing reflection and change that can support program improvement and build program capacity over time. While there is strong consensus among experts in the field regarding the importance of CQI, the literature on CQI within the ECE field is limited.	<ul style="list-style-type: none"> • What opportunities exist in the QI initiative to build in training and tools that would incorporate a focus on CQI? • What new partners could be included in the QI initiative to support the inclusion of these tools?

Dimensions		What is it?	Why is it important?	Questions to guide revision and planning
QI Activities (cont.)	Dosage	The amount or quantity of technical assistance that is provided to a particular program, center, teacher or director in a QI initiative.	The ECE literature does not specify the amount of support needed to achieve positive outcomes; however, some studies have found positive associations related to a higher dosage of support. It is recommended that dosage for on-site support be matched with the specific goals of the initiative.	<ul style="list-style-type: none"> • How does the dosage of technical assistance match with the goals of the QI initiative? • What opportunities exist to increase the dosage to support harder-to-change skills and practices?
	Assessment of intensity	A calculation of the dosage (i.e., frequency and length of sessions) of on-site support and the duration of the intervention over time.	The limited ECE literature indicates that QI initiatives with higher intensity are more effective at producing better outcomes. Similar to dosage, intensity should be matched to the goals and needs of the program and initiative.	<ul style="list-style-type: none"> • How is technical assistance delivered to programs across time? • What opportunities exist to support programs with higher intensity services at the beginning of their participation in the QI initiative?
Improved Outcomes for Programs, Teachers and Children	A focus on outcomes for programs, teachers and children	A priority to focus on improvements to program quality and teaching that will support children's development.	It is important to ground quality improvement work in changes that have the potential to promote meaningful gains in children's skills and competencies across developmental domains. The QI initiative should also take into account the unique context and population of children and families in the initiative and articulate how the work will support children from different racial, cultural, and linguistic backgrounds as well as children with special needs. Development of a theory of change for the QI initiative can help articulate how the initiative will target children's development through direct and indirect pathways.	<ul style="list-style-type: none"> • How does the QI initiative support children's development? What are the direct and indirect pathways? • What features of the QI initiative can be strengthened or reframed to promote a greater focus on children's development? • What contextual and system features (e.g., QRIS quality indicators) need to be addressed to improve the focus on children's development?

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