Culture of Continuous Learning Project

Considerations for Incorporating the Breakthrough Series Collaborative as a Quality Improvement Methodology in Early Childhood Systems

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Overview

The need for new quality improvement strategies

Early care and education (ECE) leaders often consider new content, curricula, and models to include in their quality improvement (QI) toolkit. The purpose of this brief is to provide state and regional ECE leaders with an overview of a quality improvement methodology called the Breakthrough Series Collaborative (BSC) and to describe the potential to use the BSC in early childhood systems to help ECE programs build their capacity for continuous improvement and make sustained changes in evidence-based practices. The BSC centers equity in its approach to engaging staff at all levels in ECE programs. It is a promising approach for center-based ECE programs (with the potential to be used with home-based programs). While states are in a unique position of urgently managing pandemic relief funds and addressing high-priority needs for stabilization of child care programs in particular, they are also being challenged to address the needs of families and children (including families with low incomes) who have not had equitable access to ECE programs that provide high-quality care, even prior to the pandemic. Leaders are looking for innovations that can address the challenges in the current system.

Professional development is a primary strategy for QI

ECE systems currently address quality assurance and improvement for center-based programs with funding from the Child Care and Development Fund, Head Start/Early Head Start and state prekindergarten. QI approaches consist of both structural elements (such as policies, standards, and regulations) and process elements (such as training, technical assistance, and financial resources) to support quality. In ECE, the structures serve as the foundational and shared understanding of quality, and the process elements reflect the ways the system supports the implementation of those quality standards and policies. Professional development (PD) is a key strategy for QI.

PD strategies in ECE can be categorized according to two dimensions: whether they engage individuals or whole organizations/teams and whether they are designed to increase participant knowledge or support participants to implement changes in the workplace by applying knowledge to practice. When aligning current approaches with the ECE Professional Development Matrix (see Figure 1 that results from the intersection of the two dimensions), it is clear that quality improvement is typically focused on individual teachers'/caregivers' skills and competencies, while less attention and limited technical assistance are focused on the organizational structures and workplace environments that can foster application of skills to practice and sustain improvements over time.[1]

The Breakthrough Series Collaborative addresses gaps in current approaches

The BSC occupies a unique and important place in the continuum of workforce supports for QI. The BSC is designed to support the application of knowledge to practice by teaching teams of participants who work together to test practice changes that can lead to improved outcomes.[2] It does this by building organizational capacity for practice change within organizations and fostering a culture of continuous learning and distributed leadership.[3,4] This is a critical missing piece in the professional development offered in ECE systems.

When considering the BSC for inclusion in QI approaches, the following features are important to note:

- ***The BSC is a unique PD strategy.*** A BSC focuses on organizational systems and culture by recognizing that change in one part of a system requires changes in other parts of the system. The BSC delivers

coaching to teams in organizations, building shared goals and collaboration among staff and administrators and parents to implement changes and enhance the organizational capacity to sustain those improvements. It also establishes a broader learning collaborative network that brings teams together from across multiple programs participating in the BSC.
In this way, the BSC methodology supports collective practice change, distributed leadership, and organizational culture change to promote sustained and continuous improvement.

- ***The BSC centers equity.*** An equity-centered approach in ECE program quality improvement requires examination of systemic biases and unfair policies and working toward just outcomes for staff and the children they serve. Equity-centered practice creates "meaningful, ongoing opportunities for multiple voices with diverse perspectives to engage in leadership and decision making."[5] The BSC centers equity in its approach by engaging the expertise and affirming the assets of frontline staff. The BSC elevates the voices and leadership of those working most closely with children and families by including them as critical members of the BSC team.

- ***Initial evidence suggests the BSC is a promising strategy for ECE.*** Recent examination of the BSC in ECE programs shows promise for the method to put in place structures and relationships that foster inquiry, testing of new practices and spread of successful practices across ECE programs.

Action steps for ECE leaders

- ***Elevate equity as a process and a desired outcome.*** ECE leaders can emphasize the potential of the BSC to disrupt traditional hierarchies and power structures by equipping team members from all levels to test changes and intentionally focuses on leadership and team building to facilitate this process.

- ***Understand alignment of the BSC with existing system features.*** It is important to understand the BSC methodology and the extent to which it aligns with or duplicates other efforts. A BSC uses strategies including training, team coaching, professional learning communities and job-embedded professional development.

- ***Build capacity for a BSC.*** Embedding a BSC in a state or regional system requires building capacity to use the methodology. Many familiar structures in ECE can be leveraged to support this process including structures supported through CCDF quality initiatives and Head Start training and technical assistance.

- ***Conduct a system assessment.*** State or regional ECE leaders can review the available offerings in their system and place them along the quadrants in the ECE Professional Development Matrix. The system assessment can help with decision-making about where and how to situate a BSC in the system including how it can be sequenced with other professional development initiatives.

- ***Collect data to assess effectiveness.*** States embedding a BSC in their ECE system should identify data that can be collected to document the process and their progress over time in improving practice.

- ***Pair a BSC with approaches to support ECE programs and the workforce.*** As ECE leaders consider strategies to support programs and the workforce using pandemic relief resources (including funds from the American Rescue Plan), they have an opportunity to elevate quality improvement as a targeted activity. The BSC could be paired with initiatives to improve the financial security of ECE programs and the well-being of the workforce (including initiatives to support increased compensation).

Introduction

The purpose of this brief is to provide federal, state, and local ECE leaders with an overview of a quality improvement methodology called the Breakthrough Series Collaborative (BSC) and to describe the potential to use the BSC in early childhood systems to help ECE programs build their capacity for continuous improvement and make sustained changes in evidence-based practices. This brief focuses on quality improvement in center-based ECE contexts, though many of the general points made throughout are also applicable to quality improvement with home-based providers.

The Breakthrough Series Collaborative (BSC) methodology was first developed and used in the health care sector in the mid-1990s by the Institute for Healthcare Improvement and Associates in Process Improvement.[6] It is a professional development strategy that incorporates team coaching and professional learning communities to support practice improvement in organizational systems. It was brought into the child welfare sector in 2000 and introduced to the ECE field in roughly 2012. Since that time, BSCs have been implemented with center-based ECE settings, as well as with a family child care network.[7,8,9,10] A recent study demonstrated the feasibility of implementing the BSC in center-based ECE settings and provided promising descriptions of how the BSC supported positive changes in practices.[11]

We begin the brief by highlighting current structures and processes that support ECE quality in center-based settings and the challenges that make improvements difficult to produce and sustain. We present a framework for understanding gaps and opportunities in ECE systems for quality improvement strategies focused on professional development. We then turn to a description of the BSC and show how the features of this method align with quality improvement goals in ECE systems and also offer advantages over current methods. The intent is to show how incorporating the BSC methodology addresses gaps and challenges in the ECE program quality improvement ecosystem and supports practice change that is beneficial for young children and their families (particularly those who have experienced barriers to their well-being). We conclude with considerations for how to embed a BSC as a quality improvement method within early childhood systems.

Current Structures and Processes for Supporting ECE Quality in Center-Based Programs

A goal shared across the ECE system is the availability of early learning programs that deliver high quality services that meet the individual needs of children and their families.[a] State and regional systems addressing this goal are tied directly to federal and state funding sources that each have their own specific quality standards, monitoring protocols, professional development, improvement strategies and other resources such as grants and incentives to promote quality. ECE programs engage with these systems differently depending on their setting (center, home or school), their organizational context,[b] and their funding (parent fees, public funds, and private funds).

Three federal and state funding streams are prominent in the ECE system and shape quality improvement goals and practices in systems and in individual center-based programs: the Child Care and Development

[a] For example, supporting the development of high quality, accessible and equitable early learning programs is a general goal articulated in the Child Care and Development Block Grant Act of 2014, the Head Start Act of 2007, the Preschool Development Grants Birth to Five and the reported goals of state and local Quality Rating and Improvement Systems.

[b] In the National Survey of Early Care and Education, two facets of the organizational context of programs are documented. The *auspice* of center-based providers refers to whether a program is for-profit, not for profit or run by a government agency. *Sponsorship* of center-based providers refers to oversight provided to a program through funding or administrative structures. Details about how these categories intersect using data from the 2012 NSECE are available in this resource: https://www.acf.hhs.gov/sites/default/files/documents/opre/characteristics_of_cb_ece_programs_111014.pdf.

Fund (CCDF), Early Head Start/Head Start, and state prekindergarten programs. Table 1 describes each funding stream.

Table 1. Public Funding Related to Quality Assurance and Improvement for Center-based ECE Programs[c]

Public Funding Related to Quality Assurance and Improvement for Center-based ECE Programs
The Child Care and Development Fund (CCDF)[12] The Child Care and Development Block Grant is funded at $5.91 billion for Fiscal Year 2021. Lead agencies are required to spend a portion of their CCDF award on activities related to quality improvement. This "quality set aside" was increased from four percent to nine percent in provisions outlined in the CCDF Final Rule of 2016. Lead agencies must also spend three percent of their award on increasing the supply and quality of care for infants and toddlers. Quality activities can support ECE programs regardless of whether they serve children receiving child care subsidies. Ten quality activities are outlined in the CCDBG Act of 2014 and the Final Rule.[d] Workforce development and training, Quality Rating and Improvement Systems (QRIS)[e], and compliance of health standards are the most commonly reported quality activities on the Quality Performance Report (a required report that lead agencies complete to document their quality expenditures). In FY2019, states and territories spent $1.2 billion on quality activities which was 12% of federal and state expenditures. Supplemental funding for CCDF through the American Rescue Plan Act of 2021 is not subject to the quality set-aside requirements.
Early Head Start/Head Start[13] Federal funding for Head Start in fiscal year 2021 was $10.75 billion.[14] Head Start funding is allocated directly from the federal government to local grantees. The Head Start Program Performance Standards provide a comprehensive set of operating requirements for programs including provisions related to monitoring and continuous improvement. Training and technical assistance are provided through National Centers, a Regional Training and Technical Assistance Network and through funding provided directly to grantees. In fiscal year 2020, $250 million was allocated to training and technical assistance. The National Head Start Association and state affiliates also provide training, technical assistance and other resources to Head Start grantees.
State Pre-Kindergarten[15] State funding for pre-kindergarten programs was more than $9 billion in the 2019-2020, with an average state funding per child of $5,499. More than 1.64 million children were enrolled. Only 4% of enrolled children are in state programs that meet all ten of the quality benchmarks for pre-kindergarten programs assessed by the National Institute for Early Education Research (NIEER).[16]

Table 2 provides an overview of the ways ECE systems address quality assurance and improvement for center-based programs in each of the funding streams. The approaches consist of both structural elements (such as policies, standards, and regulations) and process elements (such as training, technical assistance,

[c] The breakdown of funding available for quality assurance and improvement in state prekindergarten programs (as a percentage of total funding) is not available.
[d] See https://www.acf.hhs.gov/sites/default/files/documents/opre/state-and-territory-child-care-apr-2021.pdf for an analysis of quality activities.
[e] The term QRIS is used in this table because it is referenced in the Quality Performance Report. In Table 2 and throughout the report, we use the term QIS to be more inclusive of current state and local efforts.

and resources) to support quality. In ECE, the structures serve as the foundational and shared understanding of quality, and the process elements reflect the ways the system supports the implementation of those quality standards and policies. These systems typically align the structures (policies, regulations) to the supports for the process of quality improvement.

Table 2. Structures and Processes for Supporting Quality in Center-Based Programs

	Structures for Quality Program Standards and Monitoring	Processes for Quality Improvement Approaches and Available Resources
CCDF Quality Initiatives[f]		
Licensing Regulations	In most states, child care centers are required to be licensed. Licensing regulations and enforcement vary by state and outline basic provisions and practices for children's health and safety, staff qualifications, routines and activities. Licensing may be operated directly by a state agency or through contracts with county/local agencies. Programs pay a modest fee to become licensed.	Some licensing agencies provide technical assistance to support compliance with licensing regulations and reduce the number of corrective actions that are cited.
Quality Improvement System (QIS)[g]	State QIS develop a set of quality standards and indicators on which programs are assessed. In most states, programs receive a rating after completing the assessment process. Participation in over half of state QIS is voluntary and open to all licensed programs, but some states require participation for programs that serve children receiving subsidies.[17] Head Start and state pre-kindergarten programs are eligible to participate in most state QIS but may have different requirements.[18] QIS assessments and ratings may be conducted by state agencies and/or their partners including child care resource and referral agencies, universities and other organizations.[19]	State QIS provide training and technical assistance (including coaching, consultation, mentoring, peer-to-peer learning and professional learning communities) to support programs in meeting the quality standards.[20] Technical assistance is provided to directors or staff, but usually not both. Technical assistance is typically conducted by QIS partner organizations. Programs may be prioritized for technical assistance based on their initial quality rating or assessment of their needs. Participation for programs is typically free, though coverage of classrooms while teachers participate in technical assistance may need to be paid for by the program. The content of technical assistance is tied to the QIS programs standards. Programs may receive quality improvement grants, awards and free materials through their participation in the QIS.

[f] The activities listed under CCDF Quality Initiatives align with four of the ten activities included in the CCDF Final Rule.
[g] We use the term Quality Improvement System to cover the systemic initiatives that states implement to assess quality and support improvement. Because states are making changes to their Quality Rating and Improvement Systems to replace the word *rating* with *recognition* or to remove the word rating entirely to focus on *improvement*, we use QIS as a term that is more inclusive of current efforts.

	Structures for Quality Program Standards and Monitoring	Processes for Quality Improvement Approaches and Available Resources
Workforce Training, Technical Assistance and Supports for Well-Being	States contract with statewide, regional and local organizations, and institutions of higher education to deliver training and technical assistance to support the workforce in meeting some pre-service qualifications and attaining required hours of in-service/continuing education. States may invest in particular curricula and models (e.g., the Pyramid Model, Strengthening Families, Creative Curriculum, business training) and offer training to a subset of programs. States may also develop certifications and credentials for individuals to improve the skills and competencies of the workforce. Some professional development may be offered at low or no cost to programs.	Training and technical assistance to support the application of knowledge to practice may be delivered through the QIS or directly to programs and individual staff (regardless of their participation in the QIS), depending on the initiative. These services are delivered by regional or local organizations or by individual contractors. Using federal pandemic relief dollars, states can address low wages of the workforce through wage supplements and retention incentives. They can also increase coaching, mental health consultation and other supports for staff well-being.
Accreditation	National accreditation is open to centers in compliance with state regulations. Some states provide financial support (by paying all or a portion of the accreditation fees) for centers that seek accreditation from a state or national entity that sets standards for program quality. Participation in accreditation systems has dropped with the availability of state/local QIS.	States may offer technical assistance to help programs meet accreditation standards. About half of all states report investing in this quality activity.

	Structures for Quality Program Standards and Monitoring	Processes for Quality Improvement Approaches and Available Resources
Early Head Start/ Head Start		
	The Head Start Program Performance Standards describe the requirements for grantees.[21] The standards include provisions related to all facets of governance, program operations, and financial and administrative management. Standards related to staff include a requirement to implement "a systemic approach to staff training and development" and "a research-based, coordinated coaching strategy." Standards for program operations also include ongoing assessment of program goals and using data for continuous improvement. Evidence suggests that Head Start programs have progress to make in using data for program improvement.[22] Grantees must report on their program annually through the Program Information Report.[23]	The Head Start Training and Technical Assistance (TTA) System[24] includes National Centers which develop resources and training that are delivered across the system. The Regional TTA Network offers TTA directly to grantees through four types of specialists: early childhood, grantee, health, and systems. Each local grantee has a portion of their grant set aside for TTA to be delivered per the Head Start Program Performance Standards and their own locally developed TTA plan. Services through the National and Regional TTA system are free to grantees which allows them to use their grants to pay for other resources in their state or local community. Using federal relief dollars, Head Start grantees have the opportunity to expand, for example, coaching and access to peer learning communities.
State Pre-Kindergarten		
	State pre-kindergarten policies and regulations outline staff qualifications, requirements for annual continuing education and details about the curriculum and assessment approaches used in the classroom. Staff qualifications for pre-kindergarten teachers are typically lower than those for staff teaching older children. State prekindergarten programs submit reports to the state documenting their compliance. Some states and/or districts may conduct on-site visits to monitor operations.	State pre-kindergarten programs based in schools have access to district-level professional development (which may include training, peer learning groups, and networked improvement communities).[25] In some cases, these opportunities may not be focused on the needs of staff working with young children.[26] State pre-kindergarten programs based in community centers not affiliated with a school may have access to technical assistance provided through the QIS or other state initiatives. Even if available, staff in community centers are not often able to participate in district-provided opportunities because of schedules and lack of coverage for their classrooms.

Overall, despite investments and progress in quality improvement (demonstrated, for example, through increases over time in the number of ECE program participants in state and local QIS and in increases in the observed quality of Head Start classrooms), concerns remain about persistently low- to mid-range scores on traditional assessments of observed program quality in child care and Head Start programs and the extent to which QI is focused on skills and environments that support children's development.[27]

A review of the current context for ECE programs and the workforce offers a partial explanation for why improvements are not more robust given the level of investment:

- While the COVID-19 pandemic exacerbated conditions for the ECE workforce (especially staff of color), low compensation and lack of workplace supports (e.g., benefits, paid planning time, career pathways) created economic insecurity and turnover among the ECE workforce, particularly staff working in child care centers, that preceded the pandemic.[28]

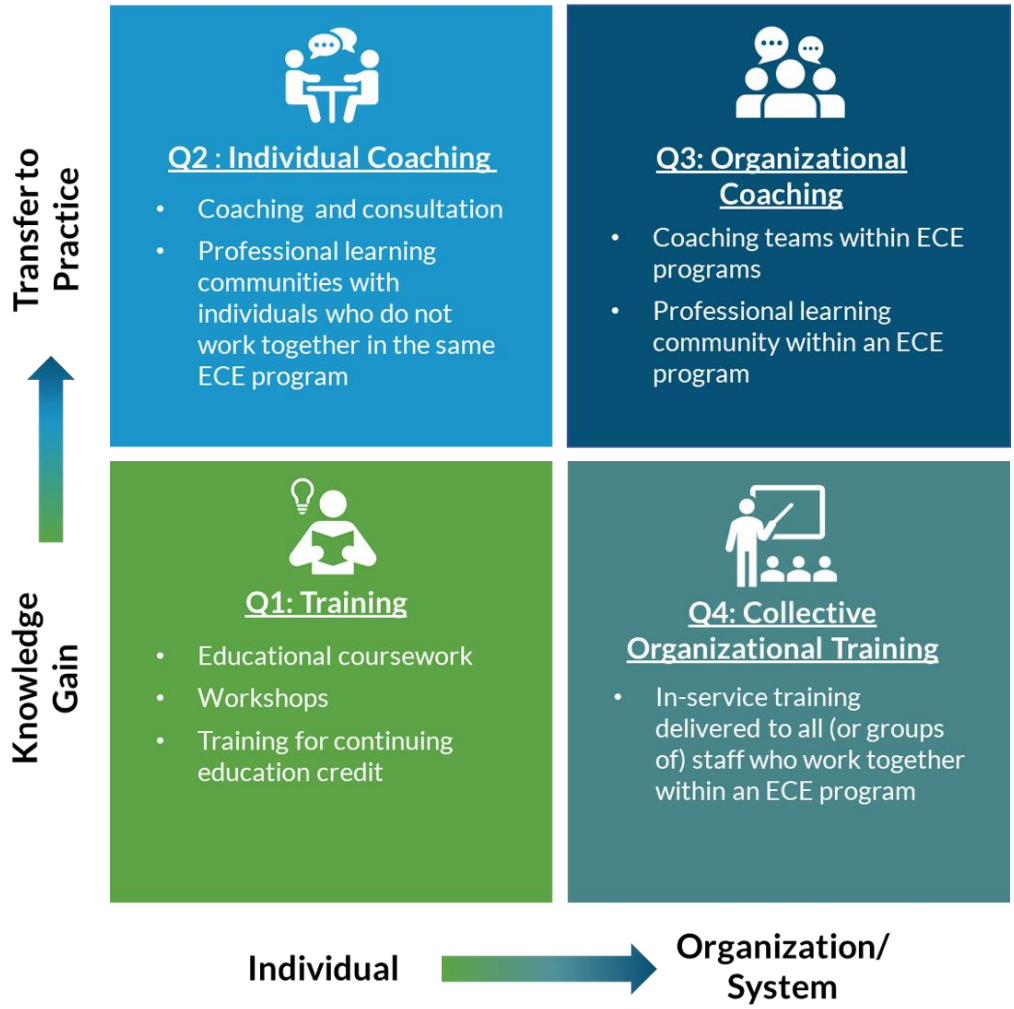
- Some studies have identified conditions of the child care and Head Start work environment that are associated with job stress, burnout, and depressive symptoms which are detrimental to staff themselves and the children and families they serve.[29,30,31] Lack of planning time, leadership capacity, limited opportunities for collaboration, and low levels of psychological safety create lower quality environments for children and make it challenging for teachers and administrators to engage in meaningful quality improvement.[32]

Acknowledging the challenging context for ECE programs and the workforce, it is useful to analyze how quality improvement (QI) is currently delivered and how the BSC could enhance existing processes and achieve a greater impact on quality. As described in Table 2, ECE systems support quality improvement in a variety of ways including professional development (coaching, professional learning communities, training), financial incentives for ECE programs, wage supplements or other financial supports for individuals, and access to resources. This brief focuses on one of the most widely implemented ways ECE systems support QI — professional development — and describes how the BSC fills critical gaps in the PD strategies most commonly used to support sustained practice change in ECE programs.

Improving quality through professional development: The ECE Professional Development Matrix

The Professional Development Matrix shown in Figure 1 covers the range of professional development (PD) strategies ECE systems can use to support program quality improvement. This matrix, consisting of four quadrants, presents the PD strategies according to two characteristics: whether they engage individuals or whole organizations/teams and whether they are designed to increase participant knowledge or support participants to implement changes in the workplace by applying knowledge to practice. The boxes on the left side of the matrix (Quadrants 1 and 2) are approaches that engage individuals, whereas the boxes on the right side (Quadrants 3 and 4) engage whole organizations or teams of people from an organization or a system. Training and coaching delivered to individuals fall on the left side, whereas approaches that engage organizations through coaching or training for a team or all the staff within a program fall on the right side. The boxes in the bottom row of the matrix (Quadrants 1 and 4) focus on increasing knowledge while the boxes in the top row of the matrix (Quadrants 2 and 3) address the transfer of knowledge to practice.

Figure 1. Professional Development Matrix for Quality Improvement



Source: Authors

The matrix offers a multidimensional continuum for understanding the range of PD strategies ECE systems can use. For example, a PD strategy may fall somewhere in the continuum between quadrants or squarely in a single quadrant. Each quadrant represents an important strategy, and each strategy plays a role in the continuum of professional development that is needed to support program quality improvement. The matrix serves as an initial schematic that can support dialogue in the ECE field. The authors expect to refine and revise the matrix over time.

The Professional Development Matrix highlights the purpose or expected outcome for the different types of professional development. For example, the purpose of individual training is to increase knowledge about a particular subject or content area. The purpose of training all or groups of the staff in an ECE program together is to build relationships and shared or collective knowledge.[33] The purpose of coaching or peer learning communities is to support the transfer of knowledge into one's practice.[34,35,36] Coaching can be delivered to individuals or, alternatively, to teams from within an ECE program. Professional learning communities (PLCs) can engage individuals who work in different programs, or they can operate within a program with groups of people who work together.

Quadrant 1 (Q1): Training

A common approach to improving quality is workforce training. Training can increase participants' knowledge, is an important part of professional development, and is the most widely available form of professional development in many ECE systems. Training is a valuable strategy for building core professional knowledge, especially among staff who have not had the opportunity to obtain a degree or professional credential. It has a place as one approach to foundational workforce development and can be an effective strategy for improving certain skills such as providing CPR and complying with health and safety rules. However, for most skills used with children in a classroom, training alone is not likely to result in practice change.[37]

Quadrant 2 (Q2): Individual Coaching

QI strategies can build on foundational training by layering in additional approaches that support professionals to translate their knowledge into new practices that result in higher levels of classroom and program quality. Coaching and peer learning are two such strategies that can support practice change. They can be used after or in combination with training to foster and sustain improvement. They can be delivered to individuals or to teams and organizations. Coaching in ECE is typically delivered to individuals, and thus falls within Quadrant 2. This approach may support an individual to make changes in their practice; however, research suggests individual change may not be sustainable without parallel changes within the organizational context in which the individual works,[38,39,40,41] pointing to the need for the strategies in Quadrant 3. For example, a concern among some QIS leaders is that coaching individuals on the standards or observational tools can result in practice changes that are not sustained because they are not embedded in the structures and processes of the program.[42] They may also promote point-in-time demonstration of skills instead of skills that become part of everyday routines.

Quadrant 3 (Q3): Organizational Coaching

Coaching can also be delivered to teams of administrators and teaching staff within an ECE program, building shared goals and capacity for improvement. This approach is rooted in the understanding that changing practice requires both individual and organizational system change.[43] It therefore focuses on building collective capacity for leading change and improvement among people in various roles who work together. This approach is sometimes referred to as job-embedded professional development.[44,45] When peer learning groups, sometimes called professional learning communities (PLCs), are formed among the staff within an ECE program, they similarly contribute to a culture of continuous learning that can enable and sustain practice change.[46,47] The Breakthrough Series Collaborative is an evidence-based example of this strategy and will be described in detail in the next section.

Quadrant 4 (Q4): Collective Organizational Training

Collective training engages multiple staff from within an ECE program in training together. This builds collective knowledge, fosters shared goals for improvement, and can contribute to collaborative efforts to change and improve practices. This form of training may be less common in ECE systems. For example, Douglass, Carter, Smith and Killins studied one state's professional development system's services and found that educators almost always engaged in professional development trainings in isolation from others with whom they worked, and only rarely were they collectively trained in ways that might enhance their capacity to implement change in the contexts of their programs.[33]

A commonality across state and regional ECE systems is that quality improvement is typically focused on teachers'/caregivers' skills and competencies, reflecting quadrants 1 and 2 primarily. Coaching, consultation, and mentoring offer strategies to help individual teachers and directors meet the quality standards outlined in the QIS, the Head Start Program Performance Standards or prekindergarten standards (including scores on observational tools and implementation of curricula), while less attention and limited technical assistance are focused on the organizational structures and workplace environments that can foster application of skills to practice and sustain improvements over time.[48]

The Breakthrough Series Collaborative

The BSC is a Q3 strategy

The Breakthrough Series Collaborative (BSC) is a structured, evidence-based quality improvement methodology that is used to support organizations and systems to improve practice in a specified content area or domain of practice. It fits in Quadrant 3 (Organizational Coaching) of the Professional Development Matrix (Figure 1).

The BSC occupies a unique and important place in the continuum of workforce supports for quality improvement. The BSC is designed to close the gap between knowledge and practice by teaching teams of participants who work together to apply their knowledge into their day-to-day practice to achieve improved outcomes. [49] It does this by building organizational capacity for practice change within organizations and fostering a culture of continuous learning and distributed leadership.[50,51] This is a critical missing piece in the professional development offered in ECE systems.

The BSC is grounded in system theory that recognizes that quality improvement is a collaborative endeavor, and that an individual-level intervention is unlikely to result in sustained positive outcomes in the context of a complex system with multiple relationships and roles. A BSC focuses on organizational systems and culture by recognizing that change in one part of a system requires changes in other parts of the system. The BSC delivers coaching to teams in organizations, building shared goals and collaboration among staff and administrators and parents to implement changes and enhance the organizational capacity to sustain those improvements. It also establishes a broader learning collaborative network that brings teams together from across multiple programs participating in the BSC. In this way, the BSC methodology supports collective practice change, distributed leadership, and organizational culture change to promote sustained and continuous improvement.

The BSC centers equity

An equity-centered approach in ECE program quality improvement requires examination of systemic biases and unfair policies and working toward just outcomes for staff and the children they serve. Equity-centered practice creates "meaningful, ongoing opportunities for multiple voices with diverse perspectives to engage in leadership and decision making,"[52] The BSC is based on the premise that those who are closest to the work (in this case, ECE center directors, educators, and family members) know best what changes will lead to improvement and what it takes to implement those changes. As such, the BSC centers equity in its approach to engaging the expertise and affirming the assets of frontline staff. It elevates the voices and leadership of those working most closely with children and families and supports administrators to act as facilitative leaders.[53] It has the potential to disrupt traditional hierarchies and power structures by equipping team members from all levels to test changes and intentionally focuses on leadership and team building to facilitate this process.

The BSC methodology has five key elements in its theory of change

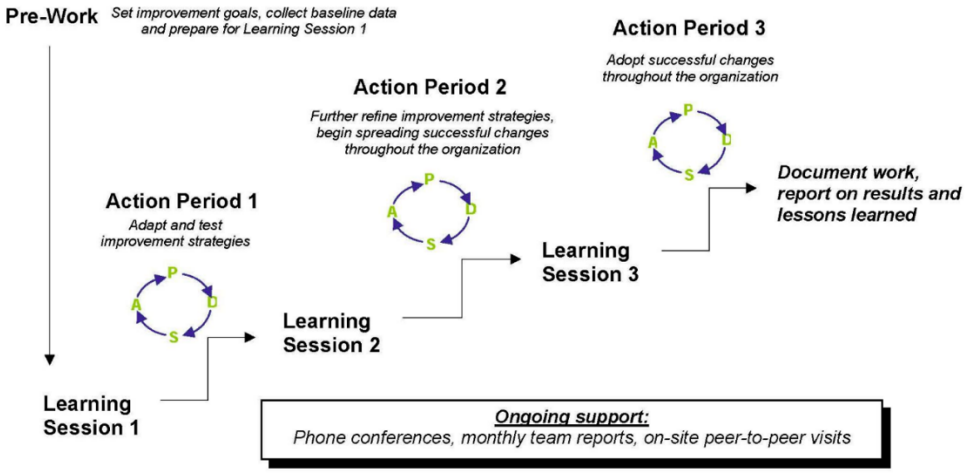
The BSC methodology's integration of five key elements sets it apart from other continuous quality improvement approaches that may rely on just one or two of these elements.[54] The five interdependent elements are: (1) *shared goals* (the Collaborative Change Framework) that describe the shared aim of the BSC, a set of measures to help teams track progress and a diagram that identifies the evidence-based intervention that results in improvement; (2) a network of teams from each program that form a *shared peer learning* environment; (3) *cross-role teams* within each program that include teachers, administrators, and parents; (4) a set of *continuous quality improvement* protocols (the Model for Improvement) that are used to test changes; and (5) supports provided by *expert coaches*. All five of these elements are essential - the interplay among them is how a BSC is hypothesized to achieve results.[55] While each of them is a CQI strategy on its own and can be used alone, using the five strategies *together in combination* makes the approach a BSC.

The BSC process and structure

A BSC is typically delivered over a 12- to 18-month period and led by a trained and certified improvement advisor (see Figure 2 for a visual depiction of the BSC process). It engages teams from multiple organizations in a collaborative learning community or network. Each organization forms a cross-role team of 5-7 individuals (administrators, teaching and other staff, and parents) to participate. In a typical BSC, these participating teams come together to attend quarterly day-long Learning Sessions that include training, technical assistance, and collaborative learning activities. They learn about improvement science, evidence-informed practices related to the content area focus of the BSC, and share successes and challenges with one another. In addition to the cross-role teams *within* each program, individuals participate in affinity groups made up of individuals who play the same role *across* the programs. For example, administrators in each program participate in an affinity group facilitated by the expert coaches.

Between these quarterly Learning Sessions, the teams participate in Action Periods during which they use Plan-Do-Study-Act (PDSA) cycles to test ideas and collect data to determine how well the changes worked and their progress towards the shared aim of the BSC. Participants learn by doing, and through that process, they shift both their attitudes and behaviors. Teams learn and build confidence that the changes they are testing on a small-scale result in improvement, and then share and spread what they learn within their organizations. Overall, the teams aim to embed changes within the practices and routines in their programs (including professional development, hiring, policies, procedures, etc.) to sustain the changes and quality outcomes.

Figure 2. The Breakthrough Series Collaborative Process



Note: Adaption of a figure developed by the Institute on Healthcare Improvement.
Source: Institute for Healthcare Improvement, ©2018. www.IHI.org

In summary, the BSC quality improvement methodology uses coaching, training, and PLCs that embed equity in the process. It integrates these PD strategies and delivers them not to individuals but to the cross-role teams in a structured and sequenced way to achieve impact. It trains and coaches teams together to equip the teams to work and learn together about how to improve quality. This enables teams to engage in job-embedded professional development where they are actively testing new practices and using data to drive improvement and continuous learning.

Evidence about the BSC

The BSC has been used with success in health care and other fields for several decades.[56] Overall, the literature examining the implementation and outcomes of the BSC demonstrates consistent evidence of improving practices in health care, child welfare, and mental health service provision by facilitating the implementation of evidence-based practices and building the infrastructure to support quality improvement efforts.[57,58,59,60,61,62] Recent examination of the BSC in ECE programs shows promise for the method to put in place structures and relationships that foster inquiry, testing of new practices and spread of successful practices across ECE programs.[63,64] The recent federally-funded Culture of Continuous Learning study of the feasibility of implementing a BSC in ECE programs revealed that it has promise for supporting improvement in the ECE sector (placeholder CCL Final Report). For example, BSC participants reported they had acquired new knowledge about making and sustaining improvements using the tools and skills obtained through the learning collaborative. When program teams identified successful practice changes, they shared information with other teams. Teams adopted new practices related to, for example, family engagement strategies, options for recognizing staff contributions, and techniques for supporting staff well-being under stress.

Considerations for Implementing the BSC in ECE Systems

The BSC differs from other quality improvement programs, methods, and activities typically used in ECE programs by its focus on building capacity for 1) continuous improvement rather than compliance, 2) equity by involving center staff and administrators (and often parents too) and using their opinions in decision-

making about quality improvement activities to create a more just and fair program for staff and children, and 3) impact and sustainability by embedding improvement activities within a broader organizational context and collaborative network that is working towards a common goal and actively shares learning. This section outlines considerations for embedding the BSC methodology within ECE systems to better harness its potential for ECE programs.

Aligning a BSC with existing system features

An important consideration for introducing a new methodology in a system is the extent to which it aligns with or duplicates other efforts. Table 3 presents each of the BSC core service components, the annual dosage, and indicates who facilitates each component, and identifies participant groups. The table demonstrates how the BSC relies on existing professional development strategies but also uses less common strategies (e.g., team coaching).

Table 3. Overview of the BSC Service Components and Alignment with Professional Development Strategies

Service Components Delivered in a BSC	Type of Professional Development Strategy	Annual Dosage	Facilitated By	Participants
Learning Sessions	Training + PLC + team coaching	4-5 full days (30-35 hours)	BSC Staff and Coaches	All teams (administrators, educators, staff, families)
Affinity Groups	PLC + team coaching	50 hours	BSC Staff and Coaches	All teams (administrators, educators, staff, families)
Action Periods	Job embedded professional learning	Embedded in work routines over the year	BSC Team Members in their ECE Programs	Teams within their organizations

Source: Authors
Note: PLC=professional learning community

Conducting a system assessment

The Professional Development Matrix (Figure 1) can serve as a tool for analyzing the current array of professional development and other supports that are available for quality improvement. State and regional ECE leaders can review the available offerings in their system and place them along the continuum shown in Figure 1. If offerings in Quadrants 3 (Organizational Coaching) and 4 (Collective Organizational Training) are less robust than those in Quadrants 1 and 2, a BSC could be an effective strategy to embed. State and regional ECE leaders can also review data describing outcomes for the existing strategies in their system. Reports indicating a gap between knowledge and practice can inform decisions about how a BSC could be launched. Ultimately, the system assessment can help with decision-making about where and how to situate a BSC in the system including how it can be sequenced with professional development initiatives. For example, if the state is hosting a foundational training on family engagement, a BSC could be offered as a way to support the translation of new knowledge into practice and organizational routines.

Building capacity for a BSC

The Culture of Continuous Learning Study demonstrated that a BSC focused on social and emotional learning is feasible to implement with center-based programs. Embedding a BSC in a state or regional system requires building capacity to use the methodology. Many familiar structures in ECE can be leveraged to support this process. For example, CCDF administrators currently contract with local, regional, and state-level organizations and/or institutes of higher education to administer the quality improvement supports in their QIS, including coaching, consultation and professional development advising. These organizations could house the implementation team for the BSC and could perhaps build capacity among a current cohort of coaches. Specialized training and preparation are needed to support *Improvement Consultants* who can lead an individual BSC. This preparation may take a few years to be completed fully, so states may choose to identify consultants from other states/localities who could support an initial launch. State and regional ECE decision-makers should work closely with BSC experts to discuss the types of content that a BSC could support.

Collecting data to assess effectiveness

As decision-makers consider opportunities for strengthening quality improvement across ECE systems, it will be important to consider where there may be gaps or a misalignment between the services delivered and the desired outcomes of these quality improvement services. It is likely that systems may identify a need for more strategies that fall in quadrants 3 (Organizational Coaching) and 4 (Collective Organizational Training), and contribute to a more integrated approach to supporting staff competencies and application of knowledge to practice. States and regions embedding a BSC in their ECE system should identify data that can be collected to document the process and their progress over time in improving practice.

Centering equity

At a time when many state leaders are reviewing and strengthening and centering equity more firmly in the work, the BSC offers both a QI approach that embeds equity in the structures for leading change and can also be used to address anti bias and equity goals in ECE programs as the focal content area for a BSC. For example, in a recent BSC focused on supporting children's social and emotional learning, the collaborative change framework was based on the Pyramid model (a set of evidence-based practices to support children's social and emotional development).[65] It included a component focused on creating a context of racial justice and cultural responsiveness. The evidence-based practices in this component are aimed at nurturing positive adult-child relationships; supporting positive adult-adult relationships (staff-staff and staff-families); promoting positive identity development for children; and reducing inequities in perception of and response to children's behaviors, including decisions about disciplinary actions.

Pairing a BSC with approaches to support ECE Programs and the workforce

Quality improvement methods may be less likely to succeed if they don't address compensation, benefits, and other workplace conditions that make it challenging to support the well-being of early educators. New approaches to quality improvement could be paired with initiatives to improve the financial security of ECE programs and the well-being of the workforce. The COVID-19 pandemic exposed already low compensation and lack of workplace supports (e.g., benefits, paid planning time, work environment, career pathways) for the ECE workforce, especially staff of color and those working in community-based child care programs. Economic insecurity and turnover among the child care workforce create unstable conditions that can undermine improvement efforts. During the pandemic, the financial conditions for child care programs deteriorated further as costs increased (to pay for health and safety provisions) while revenue decreased (due to lower use of centers among families). As ECE leaders consider strategies to support programs and the workforce using pandemic relief resources (including funds from the American Rescue Plan), they have

an opportunity to elevate quality improvement as a targeted activity. A BSC equips organizations to effectively adapt structures and evidence-based practices to achieve improved outcomes within programs' unique local contexts, changing conditions, and populations served. Quality improvements generally are not expected to be successful without attention and adaptation to the implementation context and the conditions causing stress and instability for the ECE workforce.[66,67]

Conclusion

ECE leaders often consider new content, curricula and models for inclusion in their quality improvement toolkit. With a growing evidence base in ECE, the BSC is a promising approach for center-based ECE programs (with the potential to be used with home-based programs). While states are in a unique position of urgently managing pandemic relief funds and addressing high priority needs for stabilization of child care programs in particular, they are also being challenged to address the needs of families and children who haven't had equitable access to ECE programs that provide high quality care, even prior to the pandemic. Leaders are looking for innovations that can address the challenges in the current system. As states and regions begin to develop pilots of the BSC, it will be critical to collect quantitative and qualitative data to ensure a deeper understanding of how the BSC is being implemented and to identify the necessary changes to the infrastructure that will improve its effectiveness.

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