Quality Support Infrastructure in Early Childhood: Still (Mostly) Missing

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Abstract

Support for early care and education among policy makers and the public is at an unprecedented high. As investments in early care and education programs in the United States continue to rise, the issue of quality becomes increasingly critical. This article addresses the need for adequate infrastructure to support high-quality early care and education—a need that was brought to the forefront by James Gallagher and Richard Clifford in their 2000 article in *Early Childhood Research & Practice* (http://ecrp.uiuc.edu/v2n1/gallagher.html). The present article provides an update and emphasizes the critical roles of infrastructure in establishing and enforcing standards, supporting quality, and ensuring quality and accountability. Progress in developing the mechanisms and systems to support and ensure quality in several states is assessed, and the perils of expanding early childhood programs in the absence of such systems are examined. Also discussed are strategies for building capacity and strengthening the various functions of infrastructure in order to successfully support the expansion of universal prekindergarten and other early care and education initiatives. The article emphasizes the importance of being able to demonstrate that these initiatives truly benefit the children who participate in them.

Introduction

In 2000, *Early Childhood Research & Practice* published an article by James Gallagher and Richard Clifford of the Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill, titled "The Missing Support Infrastructure in Early Childhood." The authors outlined the full range of functions that support high-quality care and education for young children and noted that states and communities lacked adequate structures to ensure that these activities are carried out effectively. They called for a deliberate, focused effort to create the necessary infrastructure to support the functions that ensure and sustain quality. The issues outlined in Gallagher and Clifford's article were identified as "critical" by the journal's editors and sparked a great deal of dialogue in the early care and education field.

As we approach the end of the first decade of the 21st century, the issue of building infrastructure to grow and sustain high-quality early care and education warrants renewed attention. Support for early care and education among policy makers and the public is at an unprecedented high. A number of factors are propelling this trend, including rising numbers of mothers with young children who are in the workforce, welfare reform with its stringent rules for parental employment, and widespread dissemination of scientific discoveries regarding brain development in infants and young children. In addition, business and policy leaders are beginning to understand the potential economic benefits of high-quality early care and education, such as preparation of the future workforce and cost savings from reduced public expenditures in areas such as special education and juvenile incarceration. Recognition of these potential benefits is a major force behind the rapid expansion of state-funded preschool programs across the nation (Lynch, 2007; Heckman & Masterov, 2004; Karoly et al., 1998; Rolnick & Grunewald, 2003).

As investments in early care and education care continue to rise, the issue of quality becomes increasingly critical. There is a great deal of evidence to show that only those programs that meet high standards produce significant and lasting benefits to the children they serve (Gilliam & Zigler, 2004; Gomby, Larner, Stevenson, Lewit, & Behrman, 1995; Brown & Scott-Little, 2003). In addition, while there is little dispute within the professional community regarding the critical elements that define high-quality early care and education, that is, well-prepared teachers, small teacher-child ratios, stimulating and developmentally appropriate curricula and settings (Shonkoff & Phillips, 2000), many of the systems to promote and ensure quality remain fragmented and inadequate. As a result, the individuals, programs, and organizations at the frontlines are often left scrambling to find and access the training, technical assistance, and other resources needed to deliver services that effectively meet the needs of the children and families they serve. In many locales, these resources are nonexistent (Kagan & Neuman, 2000; Stoney, Mitchell, & Warner, 2006).

Gallagher and Clifford (2000) observed that "One of the most striking characteristics of the current programs for young children outside the home is the absence of a comprehensive infrastructure or support system to stand behind the delivery of services to the child and family." Without the proper infrastructure, it is impossible to ensure that early care and education will provide maximum benefits to the children and that precious public dollars will be well spent. The purpose of this paper is to examine the role of infrastructure in promoting and ensuring quality in the current environment, to discuss trends and progress in this area, and to propose strategies for designing and building effective infrastructure where fragmentation and chaos currently exist.

Rising Investments: Rising Expectations

Demand for child care is rising because of a variety of factors, including economic conditions that have made it difficult for many families to live on one income, women attaining higher levels of education, and the implementation of welfare reform, with its strict time limits for receiving benefits and requirements that recipients participate in job training or work. Since the advent of welfare reform in the mid-1990s, the number of low-income children participating in child care has steadily grown, placing additional demands on this system to address the multiple needs that these children and their families present (Duncan & Brooks-Gunn, 2000; Johnson & Theberge, 2007).

With the increasingly important role that child care plays in our society, demand is also rising for evidence that these programs provide high-quality educational experiences. As research findings on brain development and the impact of caregiver-child interactions are disseminated to an ever-broadening audience, parents as well as policy makers have become increasingly savvy regarding the issue of quality. This is a very positive development; however, it also places additional pressure on programs to demonstrate that they are of sufficient quality and truly benefit participating children (Stoney et al., 2006).

Growing investment in prekindergarten programs is also helping to bring the issue of quality to the forefront. Over the past few years, state-funded prekindergarten programs for children ages 3 to 5 have been steadily expanding. At least 38 states and the District of Columbia have prekindergarten initiatives, serving over a million children at a cost of more than $3.7 billion. The number of children served and corresponding expenditures are expected to climb, as more states progress toward making prekindergarten programs available to all preschool-age children (Barnett, Hustedt, Friedman, Boyd, & Ainsworth, 2007).

The expansion of state-funded prekindergarten programs is driven largely by a desire to improve school readiness, especially among children from disadvantaged families. Policy leaders are concerned about the United State's future ability to compete in a global economy, given rising levels of education in many other parts of the world, an increasingly technology-based economy, and other factors. A growing number of economists and business leaders are embracing universal prekindergarten as a promising approach to promoting economic development, citing recent studies that demonstrate the potentially significant returns on the public dollars invested in such programs. Several studies have shown that, in the long term, savings in costs related to school failure, child abuse, crime, and other social problems, along with taxes paid on higher earnings, more than outweigh the costs of providing high-quality state-funded prekindergarten programs (Lynch, 2007; Heckman & Masterov, 2004).

These developments have brought new attention and resources to the field of early care and education; they have also brought heightened expectations for quality and for measurable outcomes. It is important to note that the encouraging cost-benefit analyses of prekindergarten programs are based on "high-quality" programs and utilize data from comprehensive model programs, including Perry Preschool and Chicago Parent-Child Centers, and not the typical state-funded prekindergarten program (Lynch, 2007; Karoly et al., 1998). Many of those in the early care and education field understand that it is unrealistic to expect such superior results from programs that have significantly fewer resources and are less comprehensive than these models. This distinction is likely to be lost, however, on the public and on political leaders embracing the concept of universal prekindergarten as a wise economic development strategy. These audiences will be looking for outcomes that show a "return on investment" of public dollars allocated to prekindergarten programs, regardless of whether these programs have sufficient resources to produce optimal outcomes.

We can anticipate that expectations for indicators of quality and measurable results will continue to rise in proportion to levels of public expenditures for early care and education programs, especially given the increasing demand—from government and from the public—for increased accountability in K-12 education (Scott-Little, Lesko, Martella, & Milburn, 2007). This heightening of expectations along with increasing investment of public dollars pose a serious public policy challenge, given the current variability in the quality of these programs (Loeb, Fuller, Kagan, & Carrol, 2004). Unless strategies to ensure quality and document results are implemented across the full spectrum of early care and education programs, there is grave risk of losing the hard-won support of political leaders and the public.

A "System" in Name Only?

The current system for promoting and ensuring high-quality state-funded prekindergarten and other early education and care programs has grown up in phases over time, with a variety of funding mechanisms and goals. An assortment of federal programs, each with its own goals and objectives, provide funds to support quality. These programs include Head Start and Early Head Start, Early Intervention, and Child Care Block Grants (Gallagher, Clifford, & Maxwell, 2004). Funding from these sources as well as from individual states is channeled through a variety of state agencies, including departments for education, health, child protection, and public welfare. In recent years, private philanthropy has increased its support of quality improvement efforts, with United Way's *Success by Six* initiative and several large foundations making significant investments in this area (United Way, 2008; Coffman, Wright, & Bruner, 2006). Unfortunately, the funds available from all sources have been inadequate in proportion to what it really takes to promote, sustain, and ensure a statewide system of high-quality early care and education.

Leaders in the early care and education field increasingly recognize the perils of attempting to expand state-funded prekindergarten and other programs in the absence of a comprehensive and well-coordinated system to promote and ensure quality. This recognition has spawned a number of initiatives to improve systems that support quality. Several states, including Massachusetts and Pennsylvania, have merged responsibility for the administration of various early care and education initiatives into a single state agency. North Carolina and Oklahoma were among the first of a growing number of states to launch carefully designed evaluations of outcomes for children participating in early care and education programs. Through the Build Initiative, a group of private foundations are supporting work in five states—Illinois, Minnesota, New Jersey, Ohio, and Pennsylvania—toward constructing a comprehensive system for early care and education (Build Initiative, 2004; Coffman et al., 2006). The *State Preschool Yearbook*, published by the National Institute for Early Education Research (NIEER), tracks these and many other developments and provides annual progress reports for every state (Barnett et al., 2007). Although these and other efforts are promising, they represent only the beginning stages of what is needed to ensure high-quality programs for all participating children. Increasingly, early care and education experts are calling for each state to create a well-functioning system for supporting quality, rather than isolated improvements or simply a reorganization of the chaotic and inadequate systems that currently exist (Coffman et al., 2006; Stoney et al., 2006).

The Critical Role of Infrastructure

The attention and resources that are now directed toward expansion of state-funded prekindergarten programs provide an opportunity to create a system to ensure quality in all early care and education programs. To do so will require a strong commitment to building the infrastructure necessary to support high levels of quality. As defined in the *Encarta Dictionary* (2008), infrastructure is "the most basic level of organizational structure in a complex body or system that serves as a foundation for the rest." In government, as well as in the private sector, infrastructure often refers to the mechanisms that support planning, communication, coordination, and accountability. It is upon these mechanisms that systems for constructing bridges and roads and manufacturing products are built. Until recently, little attention has been given to the development of comparable infrastructure in human services and education; therefore, it is not surprising that there are few such mechanisms in place to adequately support the delivery of early care and education. Yet the capacity for planning, evaluation, and other critical functions is essential to effectiveness across the spectrum of human service and education programs (Letts, Ryan, & Grossman, 1999; Coffman et al., 2006).

The infrastructure needed to support high-quality state-funded prekindergarten and other early care and education services has three fundamental roles: (1) establish and enforce program and child outcome standards, (2) create and sustain a system to support elements of quality, and (3) ensure quality through mechanisms for accountability and continuous quality improvement. While several states have made strides in establishing program quality standards and, to a lesser extent, enforcing those standards, as well as in increasing professional development opportunities, progress in building an effective system for supporting quality is lagging. In addition, mechanisms to facilitate accountability and continuous quality improvement remain largely unaddressed. To ensure quality across the entire spectrum of programs, structures must be put in place to fulfill these three roles and provide effective coordination of all quality support activities.

Establishing and Enforcing Standards

Every state has established its own minimum criteria for safety and quality in early care and education through its licensing standards. However, early care and education professionals have long recognized that licensing standards, which vary widely across states, are inadequate for ensuring the level of quality necessary for programs to have lasting, positive impacts (Gallagher, Rooney, & Campbell, 1999). As a result, organizations such as the National Association for the Education of Young Children (NAEYC) and the Maternal and Child Health Bureau (MCHB) of the U.S. Department of Health and Human Services have developed more rigorous standards for program quality. NAEYC also provides voluntary accreditation to programs that meet their standards (Scott-Little et al., 2007; U.S. General Accounting Office, 2002). States that have funded prekindergarten programs have developed program standards that are typically higher than state licensing standards, but these also vary widely. The National Institute for Early Education Research (NIEER) recently established standards, known as benchmarks, to measure states' policies related to quality in prekindergarten programs. Like those of NAEYC and MCHB, NIEER's standards are based on research and accepted principles of best practice in early childhood programs (Barnett et al., 2007). While the adoption of voluntary standards has been instrumental in raising the quality of individual programs across the country, there are still significant gaps between standards for best practice and the quality of services provided by most programs in most states (U.S. General Accounting Office, 2002). The current economic downturn is likely to further hamper the ability of states to promote and monitor program quality, because funding for these activities is often viewed as less essential than funding that directly supports early care and education slots.

A recent response to the call for higher, more consistent standards has been the emergence of Quality Rating and Improvement Systems (QRIS), which provide "star ratings," similar to those for hotels and restaurants, to denote the level of quality achieved by individual early care and education programs. The number of stars awarded corresponds with the programs' demonstrated success in meeting widely accepted standards for quality. As of April 2008, 16 states were operating statewide Quality Rating and Improvement Systems, and at least 20 others were in the process of exploring or developing such systems (National Association for the Education of Young Children, 2009). Quality Rating and Improvement Systems are promising mechanisms for assisting parents in identifying and choosing high-quality programs for their children. However, only a handful of states have integrated their QRIS with their licensing standards, and the role that these systems will play in the expansion of prekindergarten programs remains to be seen (Mitchell, 2005).

A number of forces have pushed states to move beyond program standards and adopt early learning standards that define expected outcomes for children's learning and overall development. In 2002, NAEYC and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) issued a joint statement that addresses the content of early learning standards and guidelines for their implementation, as well as noting that appropriate supports must be developed to ensure that these standards have the desired, beneficial effects on young children. As of May 2002, 27 states had child-based outcome standards; by the end of 2007, all 50 states had adopted standards for prekindergarten (Scott-Little, Kagan, & Frelow, 2003b; Council of Chief State School Officers [CCSSO], 2007). In addition, 14 states have published early learning standards for infants and toddlers, and 8 other states were in the process of developing infant and toddler standards (Scott-Little et al., 2007).

Supporting Quality

The establishment of program and child outcome standards is only the first step toward improving quality. States must also develop the mechanisms for ensuring compliance with these standards and for addressing situations in which programs fail to comply. They must also make certain that the tools and resources that contribute to quality are readily available to all providers of early care and education services. As is the case with standards, there is also a great deal of variation among states in their progress toward developing systems for supporting quality.

Quality support systems include education and training for program personnel as well as ongoing technical assistance to programs and individual care providers. Research supports the widely held view that personnel who are well prepared through education, training, and support are essential to achieving high quality (Burchinal, Cryer, Clifford, & Howes, 2002). State-funded preschool programs reflect this knowledge in that teacher preparation requirements for these programs tend to be higher than in child care programs (Barnett et al., 2007). However, adequately prepared staff members are still too often the exception, rather than the rule, in most early care and education settings. Part of the reason for this is that the standards in many states do not require teachers in these settings to have a specific level of education. It is also the result of inadequate, poorly coordinated personnel development programs and the absence of adequate career ladders that support ongoing improvement of one's skills and expertise and provide opportunities for advancement (Gallagher & Clifford, 2000; Helburn, 1995; Ackerman, 2005).

The issue of teacher preparedness is complicated by the reality that only about half of the teachers working in Head Start and in private early care and education centers have an associate's or bachelor's degree (U.S. Government Accounting Office, 2002). Those without degrees face a number of barriers to obtaining a degree, including the competing demands of work and their own families and a lack of confidence in their ability to be successful in higher education. Yet, many of these individuals are highly experienced and

deeply committed to their work (Ackerman, 2005). A critical function of quality support infrastructure is to provide access to professional development resources, as well as the supports that are needed for currently practicing personnel to succeed in higher education programs.

Another important component of quality support systems is technical assistance—on-site consultation and training that help the staff at centers and schools, as well as individual providers, to explore different approaches to working with children and address areas in which quality improvements are needed. This type of assistance provides opportunities for hands-on learning and problem solving in areas such as classroom design, effective use of teaching materials, and working with children with unique needs. Technical assistance also serves to reduce the isolation experienced by smaller programs and individual providers and to assist personnel in continuously upgrading their knowledge and skills. In many communities, these services, like those aimed toward personnel preparation, are often delivered in a haphazard, poorly coordinated manner, if they exist at all. A key challenge is ensuring that technical assistance is delivered where it is most needed and will be of greatest benefit (Gallagher, Danaher, & Clifford, 2009).

Ensuring Quality and Accountability

Of the three essential roles of quality support infrastructure, the area of quality assurance and accountability appears to be the least developed. As with the human services and education sector in general, program evaluation in early care and education is often neglected in favor of more compelling activities such as program expansion. However, the call for increased accountability continues to rise and is likely to intensify as expenditures of public funds for the expansion of prekindergarten programs increase. Equally important is the capacity of programs to determine the impacts that they are having on the children they serve and to make modifications in the services provided based on program evaluation results. This process is known as continuous quality improvement (Mclaughlin & Kaluzny, 2006).

In 2000, Gallagher and Clifford described numerous challenges faced by states and individual early care and education programs as they attempt to increase accountability, including a lack of program evaluation expertise and access to necessary tools. These challenges have persisted. Moreover, factors outside of the early care and education setting, for example, the rate and trajectory of each individual child's development, family, and community influences, etc., have significant impacts on children's development and well-being and further complicate efforts to measure program results (Gallagher & Clifford, 2000; Scott-Little et al., 2003a).

Given the complexity of these and other factors, most programs require assistance from outside organizations in order to develop and implement credible program evaluation and continuous quality improvement systems. Infrastructure is needed to coordinate evaluation activities for various types of programs, provide training on program evaluation methods, and support individual programs in developing continuous quality improvement systems. The 2007 report of the National Early Childhood Accountability Task Force recommends that states develop the infrastructure necessary to support accountability in their prekindergarten programs, calling for a unified system with coherent standards that are linked to standards-based efforts in elementary education.

Critical Functions for Supporting Quality

The importance of implementing standards and supporting and ensuring quality is widely recognized in the early care and education field. In order to fulfill these roles, states must give priority to building the infrastructure necessary to coordinate and manage the functions essential to the success of early care and education programs. These critical functions include the following:

- Planning
- Personnel Development
- Training and Technical Assistance
- Program Evaluation and Continuous Quality Improvement
- Coordination and Communication

Planning

Building effective infrastructure to support quality must begin in the same way that all good systems are developed—with a clear, realistic plan that sets forth goals and objectives to be achieved within specified time frames. Stakeholders at every level must be engaged, including parents, teachers, program directors, family child care providers, representatives of nonprofit and for-profit centers, public schools, and Head Start. The planning process should also engage representatives of early intervention and family support programs, child protective services, and children's mental health services. Many of the families served by early care and education programs are also participating in services from these other systems, and coordination is essential to the effectiveness of the services each family receives. Equally important is meaningful representation of various racial and ethnic groups as well as participants from a wide range of geographic areas. Policy makers and political leaders, representatives of higher education, and experts in the field of early care and education should also participate in the planning process. Because it may be necessary to re-tool and, perhaps, abandon some of the structures and mechanisms that currently exist, the buy-in and support of various constituencies is vital, as is their expertise (Coffman et al., 2006; Doctors, Gebhard, Jones, & Wat, 2007).

Conducting a comprehensive needs assessment is an important early step in the planning of infrastructure to support early care and education. Identifying and mapping the quality support resources that currently exist and assessing their scope and effectiveness are appropriate ways to begin the process of needs assessment. The overall structure of the current quality support system must be critically analyzed to determine which aspects are most effective, which are least effective, and where gaps occur (Weigel & Martin, 2006).

This type of planning process emphasizes the *mechanisms* for delivering quality support services, rather than the more typical focus on specific resources and programs. Utilizing the results from needs assessment, participants should establish goals and objectives for the development of effective infrastructure; in other words, they should create a vision for "the most basic level of organizational structure" to support high-quality early care and education. It is important that objectives are measurable and are linked to time lines and estimates of the resources required to achieve each objective. Beyond designing the quality support infrastructure itself, systemwide planning should be an ongoing process in order to respond effectively to changes in resources, needs, and opportunities.

Personnel Development

A range of issues related to personnel development could be effectively addressed given adequate and appropriate infrastructure. For instance, mapping and coordination of various training and degree programs would begin to bring order and direction to the current hodgepodge of resources. Identifying professional development resources that are currently available and examining them in the context of current needs would reveal how these resources are distributed and where duplication and gaps exist. Representatives of higher education, resource and referral agencies, state education and human services agencies, and other organizations, could work collaboratively to design a personnel development system that is responsive to the needs of personnel at all levels of early care and education service delivery (Ackerman, 2005; Coffman et al., 2006; Gallagher & Clifford, 2000).

A number of states have begun to address the issue of teacher preparedness through replication of the T.E.A.C.H. Early Childhood® program. Founded in North Carolina, T.E.A.C.H. provides funding for tuition and other related expenses for professionals seeking higher education. The program helps to make advanced education accessible by offsetting costs for substitute teachers and for health insurance while participants are enrolled in college courses. In addition, financial incentives are provided to those who complete coursework. In North Carolina, as well as in other states, T.E.A.C.H. is supported by combining federal, state, and private sources of funding (Center for Law and Social Policy, 2008). In Oklahoma, the Scholars for Excellence in Child Care Program stations coordinators at public higher education institutions throughout the state to assist professionals in applying to degree programs and obtaining scholarships and other forms of financial assistance, while REWARD Oklahoma provides salary incentives to those who complete additional education (Oklahoma State Regents for Higher Education, n.d.; University of Oklahoma, n.d.). Both North Carolina's and Oklahoma's programs are compelling examples of how the creation of appropriate infrastructure can improve the accessibility of advanced education for early care and education personnel. At least 20 additional states have adopted T.E.A.C.H., while several others are implementing similarly comprehensive approaches to promoting teacher preparedness (Child Care Services Association, 2009).

Training and Technical Assistance

Inservice training and technical assistance are also important in raising and maintaining the quality of early care and education. These services are often delivered on-site or near programs and customized to the specific needs of one or more programs. Inservice training can help ensure that best practices are incorporated in the classroom, while technical assistance helps programs to meet the needs of children with disabilities and challenging behavior, and to effectively engage families.

A mechanism at the state level for coordinating various funding streams and ensuring that the resources available for training and technical assistance are well utilized is another important function of infrastructure. Centralizing this process could reduce duplication of efforts and extend the reach of these scarce but critical resources. It could also utilize information from needs assessment activities to determine the types of training and technical assistance that are needed by personnel with varying levels of expertise and experience, and to ensure that this support is customized to regional, cultural, and linguistic differences (Coffman et al., 2006; Gallagher et al., 2009). During the past few years, a number of states have made significant progress in centralizing and/or improving the organization of technical assistance and other quality support functions (LeMoine, 2008; Mitchell & LeMoine, 2005).

Program Evaluation and Continuous Quality Improvement

Infrastructure should include a system for both evaluating the results of programs and for using evaluation information to improve program quality and effectiveness. This requires a commitment to get beyond "going through the motions" of collecting and reporting data and develop a well-crafted system for determining the degree to which goals and objectives are being met. It also requires a plan for using this information to identify areas in which improvements are needed and ensuring that necessary improvements are made. Participants in the planning process must make decisions about what will be measured, how it will be measured, and how the results will be analyzed. In addition, those responsible for overseeing the evaluation must determine the various groups and constituencies with whom results will be shared, as well as what actions will be taken based on evaluation findings (Jinnah & Walters, 2008; Rossi, Lipsey, & Freeman, 2004).

Past efforts to evaluate early care and education programs have focused largely on inputs—that is, characteristics of programs such as teacher credentials, classroom size and attributes, and curriculum. Increasingly, states are moving toward an approach that focuses on outputs—assessing the outcomes experienced by children who participate in specific programs. As previously noted, all states have adopted child-based outcome standards for preschool programs, and several have adopted similar standards for infants and toddlers (CCSSO, 2007; Scott-Little et al., 2007). Development of child-based outcome standards provides a framework for building accountability systems that go beyond measuring program quality based on program characteristics to assessing the impact that programs have on the experiences and abilities of participating children. The results of this type of program evaluation are likely to be far more compelling to parents, policy makers, and funding organizations than results that articulate program characteristics alone. These systems must be carefully designed to take into account the variability in children's learning and development and the potential effects of factors such as cultural backgrounds and income levels of participating children and their families. In addition, consideration must be given to the additional personnel, time, training, and financial resources required to develop, implement, and maintain a system for evaluating outcomes from a wide range of early care and education programs (National Early Childhood Accountability Task Force, 2007; Committee on Developmental Outcomes and Assessments for Young Children, 2008; Scott-Little et al., 2003b, 2007).

One of the earliest comprehensive evaluation systems was developed for North Carolina's More at Four Prekindergarten Program. Evaluators track characteristics of More at Four participants and sites across the state and use random sampling to assess the quality of services provided, outcomes for participating children, and program factors that appear to be associated with better outcomes (Peisner-Feinberg & Schaff, 2007). By combining universal reporting on certain variables with the measurement of other factors through random sampling, this evaluation demonstrates that meaningful, large-scale evaluation of early care and education programs is feasible. New Mexico utilizes an observational child assessment tool that incorporates 33 indicators in seven domains of learning and development. Teachers rate all participating children three times per year and use a portfolio-based tool to provide narrative descriptions of children's performance on a smaller set of indicators. The state provides training sessions to sharpen teachers' skills in observing children and additional sessions to help teachers use assessment data in curriculum planning (National Early Childhood Accountability Task Force, 2007). California's Desired Results for Children and Families system tracks progress on not only children's learning and development but also the degree to which programs succeed in engaging and helping families. There is also a version of Desired Results to meet the specific needs of children with disabilities. The California Department of Education utilizes outcome information to track individual program quality as well as for planning training and technical assistance (California Department of Education/WestEd, n.d.).

These and other accountability initiatives in a number of other states hold much promise, because they have the capacity to provide taxpayers and policy makers with evidence that funding for prekindergarten programs is well spent, while also identifying specific aspects of programs that appear to lead to better outcomes. This information can be used to make improvements in programs, increasing their capacity to provide effective services. Personnel in early care and education programs should have access to information about their program's strengths and weaknesses; they should also have assistance in interpreting evaluation results and utilizing them to make improvements. These are the key mechanisms of an effective continuous quality improvement system.

Communication and Coordination

Effective, systemwide communication and the coordination of various components of the quality support system are also critical functions of infrastructure. These activities must be well organized in order for programs and individual professionals to access vital information and resources. Movement in a number of states toward a single, centralized agency to oversee and manage various early care and education activities seems likely to improve coordination and communication at the state level. However, whether these new structures will be effective or sustainable has yet to be seen. Making improvements across the system, especially at the community level, is even more challenging given the numerous local and regional entities that play a role in supporting quality. Resource and referral agencies, training systems, higher education, and local school districts are often involved in delivering training and other services to support quality, and the creation of a single entity at the state level does not necessarily address gaps and duplication of effort in local communities. It is therefore essential that infrastructure address communication and coordination across the entire system.

There are choices to be made as to which types of community-based organizations are best suited to plan, coordinate, and evaluate quality support activities at the local level. For instance, in some states, it may be most feasible to enhance the capacity of an existing array of resource and referral agencies that have historically played a coordinating role. In others, it may be preferable to create new entities to serve as quality hubs, where training, technical assistance, professional development, and supports for continuous quality improvement are centralized within each community or region. These entities could also coordinate planning and communication at the community level. Organizing these functions at the local and/or regional level could go a long way toward making the system to support high-quality early care and education more coherent, responsive, and effective.

Coordination and collaboration across systems are also important, given the multiple needs that children and their families bring to early care and education settings. Children with health needs or severe behavioral problems and families that are homeless or experiencing domestic violence often need resources beyond what an individual child care program can provide. Linkages with organizations that provide mental health, early intervention, housing, health care, and other services are necessary. Through good communication and joint service planning, collaboration across systems can help ensure optimal outcomes for children with multiple needs. In addition, social service and health care agencies often play an important role in providing consultation, training, and support to early education and care personnel. The design of infrastructure to support quality must take the facilitation of relationships across systems and disciplines into account. At the state level, this is likely to take the form of interdepartmental agreements. At the community level, there must also be clarification of the roles that various organizations will play and how issues such as payment and confidentiality will be handled. Quality hubs or other similarly organized entities could facilitate cross-systems collaboration for a given region or community.

New technology has brought efficient, cost-effective mechanisms for sharing information within and between communities and state agencies. Email and Web sites are already widely utilized to inform programs and individuals about upcoming professional development opportunities and new regulations; and many organizations offer online registration for conferences and courses. A number of states are also utilizing electronic systems for collecting demographic, financial, and other data from early care and education programs. Additional tools that are currently not as well utilized include Web-based training and education, technical assistance via live chat, and teleconferences (Clark, 2004). My Teaching Partner, for instance, provides Web-based teaching resources and activities as well as individualized, online technical assistance. An additional function of infrastructure would be to support communication, learning, and resource sharing—especially across rural or geographically large regions—through the use of these and other technological advances.

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Discussion

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Since 2000, when Gallagher and Clifford spotlighted the urgency of building infrastructure, substantial progress has been made in a number of states toward improving and

supporting high-quality early care and education. Quality Rating and Improvement Systems have been developed, scholarship and other professional development incentives have been created, and a number of states have centralized oversight of the early care and education system within a single agency or an official coordinating body of some kind.

Accompanying this progress is growing evidence and increasing awareness that levels of quality are closely related to the benefits children derive from participating in early care and education programs. Most quality support systems, however, still lack the resources, coordination, and planning capacity that are needed for success and sustainability. Too often, individual components are planned and created in isolation of one another. Program quality standards, for instance, are developed without assurance that the professional development resources available are sufficient for individuals and programs to meet those standards. Moreover, even in states that have consolidated numerous functions within a single state agency, the regional and local mechanisms for supporting and ensuring quality are not yet well aligned. That is not to say that substantial strides have not been made. Six states profiled by the State Early Childhood Policy Technical Assistance Network (SECPTAN), for instance, are working toward defining effective planning roles at the state and community levels (Coffman et al., 2006). Lessons learned in these states and others will offer a wellspring of guidance on system development to early care and education leaders throughout the country.

Overhauling inadequate and ineffective quality support systems and building infrastructure to support quality requires substantial funding, creativity, and—most of all—persistence. These tasks are especially daunting given the growing demand for high quality absent the resources necessary to recruit and retain highly qualified professionals and to provide other quality enhancements. This challenge is made even greater by the reality that it is acutely difficult to inspire passionate support for something as bureaucratic sounding as infrastructure. The financial costs, which are likely to vary greatly from state to state, will not be small. However, a strong case can be made that in the long run a well-designed and coherent system will be far more cost efficient than the current patchwork of quality supports.

Early care and education leaders face difficult choices in deciding to advocate for sufficient funds to build high-quality infrastructure, as opposed to serving more children. In making these choices, it is important to keep in mind that the expansion of prekindergarten and the corresponding rise in expectations regarding the quality of early care and education pose danger as well as opportunity. The danger is that programs will fail to deliver the high level of quality and tangible outcomes that are increasingly demanded of them. In addition to shortchanging the children served, this would likely result in reduced financial support from disillusioned policy makers as well as the public. The opportunity, on the other hand, is in utilizing the spotlight currently focused on early learning to garner the political will and sufficient resources to build the infrastructure necessary for supporting and sustaining quality across the spectrum of early care and education programs. Our nation's children deserve nothing less.

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