Markers that Matter: Success Indicators in Early Learning and Education

Hallie Preskill, Ph.D., Nathalie Jones and Afi Tengue

FSG

Discovering better ways to solve social problems

Discovering better ways to solve social problems

FSG is a nonprofit consulting firm specializing in strategy, evaluation, and research.

Our international teams work across all sectors by partnering with corporations, foundations, school systems, nonprofits, and governments in every region of the globe. Our goal is to help companies and organizations—individually and collectively—achieve greater social change.

Working with many of the world's leading corporations, nonprofit organizations, and charitable foundations, FSG has completed more than 400 consulting engagements around the world, produced dozens of research reports, published influential articles in *Harvard Business Review* and *Stanford Social Innovation Review*, and has been featured in *The New York Times*, *Wall Street Journal*, *Economist*, *Financial Times*, *BusinessWeek*, *Fast Company*, *Forbes*, and on *NPR*, amongst others.

Learn more about FSG at www.fsg.org.

Acknowledgements

FSG appreciates the time and intellectual contributions of the many experts involved in developing this report. Each invited expert has an extensive background in early childhood care and education and brings diverse perspectives. Many have lent their expertise to other projects with similar goals, and we appreciate their points of view on the contribution and value of this report to the early learning field. We also thank the W.K. Kellogg Foundation for its support of this project and for its commitment to the importance of early childhood development to advance reading proficiency, high school graduation, and pathways to meaningful employment for all children. This work would not have been possible without the support and guidance of Huilan Krenn, Ph.D., Program Officer.

Authors

Hallie Preskill, Ph.D., Managing Director

Hallie.Preskill@fsg.org

Nathalie Jones, Consultant

Nathalie.Jones@fsg.org

Afi Tengue, Associate

Afi.Tengue@fsg.org

With research support from:

Rajni Chandrasekhar

Victor Kuo, Ph.D.

Roxann Stafford

This report was first published July 17, 2013.

Markers that Matter: Success Indicators in Early Learning and Education by FSG is licensed under a Creative Commons Attribution-NoDerivs 3.0 Unported License. Permissions beyond the scope of this license may be available at www.fsg.org.

Table of Contents

Executive Summary 2

The Time Is Now 4

Distilling and Framing Indicators for an Evolving Field 11

Indicators and Emerging Themes 16

Using Indicators to Connect Actors and Drive Change 25

Where to Go from Here: Using this Report 33

References 35

Appendix A: Methodology 37

Appendix B: List of Interviewed Experts 40

Appendix C: Interview Guide - Select Questions 42

Appendix D: Prompting Questions for Expert Review of Draft Indicators 44

Executive Summary

The field of early learning is complex, dynamic, and critical to the individual and collective success of children in the United States. From birth to age 8, the fundamental building blocks that prepare children for a lifetime of learning and development are established. National, state, and local efforts have increased attention on the importance of early learning, but in the process, they have also created a proliferation of related indicators and standards. With an overabundance of measures, there is increasing confusion about how to define and measure positive early childhood outcomes. At the same time, this field and the country are changing. We know more about how the young brain develops, including the range of domains (cognitive, social-emotional, physical) and array of actors (families, school and care settings, communities) that are part of healthy development. The field needs indicators that reflect this evolving understanding and that also address a changing country. Despite increasing racial and cultural diversity in the United States, particularly among children, there are few indicator efforts that reflect and appreciate this diversity and that address disparities that affect a growing population. The early learning field is poised to benefit from a synthesized set of indicators that can serve as a platform for communication and collaboration among actors working on behalf of *all* young children.

This report is the result of a multi-phased process to identify and vet a set of early childhood indicators and emerging themes to support the early learning field. Our research focused on identifying a set of early learning indicators and emerging themes that aim to support the variety of actors in this space by:

- Emphasizing a **systems view of early childhood**, where indicators reflect the various layers that affect young children (such as families, education and care settings, and communities) and actors that influence the range of domains that are part of “whole child” development from birth to age 8
- Addressing the critical and growing importance of **issues of equity**, as the population of young children in the U.S. reflects increasingly diverse racial and cultural backgrounds
- Highlighting the role of indicators to serve as a common language and foster **communication and collaboration** in a field that has been historically fragmented

The resulting indicators and emerging themes reflect a distillation of many existing efforts to define early learning indicators. We began with interviews with 40 early childhood experts and conducted a literature review in early learning and related fields. We then reviewed over 1,100 indicators from 11 existing indicator sets, from which we synthesized and prioritized 48 indicators based on our analysis and expert input. In addition to distilling these indicators, we identified gaps where new themes are emerging and further research is needed to develop additional indicators, particularly in the area of racial and cultural equity.

The potential value of this set of indicators comes from their relevance and utility to the broad range of actors who support the healthy development of young children. Using these measures is highly context-dependent and is driven by how a given effort aims to help young children, and where indicators can

inform a common understanding of and guide coordination toward a shared goal. This report highlights two examples where indicators have helped to support collaboration on behalf of better outcomes for young children in Bremerton, Washington and Boston, Massachusetts.

Ultimately, this report is intended to spark thinking, conversation, and action about the potential role of indicators to support the healthy development of young children—not just in Bremerton and Boston, but in communities across the country. The indicators and themes identified reflect a broad understanding of a changing field—where the health of a whole system enables the healthy development of young children, where indicators can be used to understand and address inequities across racial and cultural groups, and where a common language facilitates enhanced communication and coordination on behalf of all kids. This report aims to inspire the range of early childhood actors to see the value of early learning indicators in their work and to motivate them to use existing and emerging indicators to ensure that all children are nurtured, supported, and prepared for success in school, work, and life.

The Time Is Now

Exciting changes are afoot in the early learning field. National attention on the importance of early learning—from policy makers and others—has never been greater. The population of young children in the U.S. is becoming increasingly diverse, as the country's racial, ethnic, and socio-economic make-up shifts. At the same time, we know more about what constitutes early learning, including the importance of different domains of development and the role of early childhood in setting the stage for success later in life. The field of early learning is complex, with many actors—including parents and families, early childhood care and education and social service providers, program evaluators, funders, and policymakers, as well as researchers and academics—that affect young children. Each actor plays a part in supporting healthy child development, often pursuing different outcomes with different definitions of success. As a result, the field is often described as fragmented, with myriad actors working in disconnected ways and without alignment toward a shared goal. Given this complexity and fragmentation, early learning indicators can serve as a common language and platform for collaboration among actors seeking to achieve positive outcomes for young children.

This report is the product of an effort to assess and synthesize the current state of indicators in the early learning field and to identify gaps in what currently exists. Through our research, FSG distilled over 1,100 existing indicators to 48 indicators (also called markers) and identified gaps and emerging themes in an evolving field. The indicators, emerging themes, and resulting recommendations reflect **three priorities** for the early learning field:

- The need to understand early learning in the context of a **complex ecosystem**, including the system layers and actors that affect the five domains of whole child development from birth to age 8
- The critical and growing importance of issues of **racial and cultural equity**
- The role of indicators in **supporting communication and collaboration** in a historically fragmented field

In a field that is highly complex, indicators can create a common language and understanding, foster collaboration, and support data-driven change to improve outcomes for all children.

Attention on early learning from policy makers, practitioners, and others is growing. The importance of early childhood is becoming clearer as we learn more about early brain development and its implications for success later in life.

The attention that early learning is increasingly receiving from policy makers, practitioners, funders, researchers, and others highlights its role in laying the foundation for success later in life. With 700 neural connections made every *second* between the ages of 0 and 3, the quality of the brain architecture is determined early and provides the building blocks for a lifetime of brain development that follows (Center on the Developing Child, n.d.). In his 2013 State of the Union address, President Obama emphasized the connection between early learning and lifelong success when calling for universal high-quality preschool for all children: “In states that make it a priority to educate our youngest children… studies show students grow up more likely to read and do math at grade level, graduate high school, hold a job, and form more stable families of their own” (Obama, 2013). This focus has grown among those outside of the policy arena as well. In communities across the country—from Seattle, Washington to Broward County, Florida; Northfield, Minnesota to San Antonio, Texas—cross-sector initiatives are emerging to support “cradle-to-career” success of young people (Strive Network, n.d.). These initiatives, pioneered by Strive in Cincinnati and implemented in dozens of urban and rural communities nationwide, highlight the importance of early childhood as foundational to success in school, work, and life. In addition to better understanding brain development and a favorable policy arena, researchers, including Nobel Laureate James Heckman, have pointed to the impact of early learning on the long-term economic outcomes for individuals (Heckman, 2008) and for the country (Shankoff & Phillips, 2000).

Demographics of the United States are shifting, with greater racial and cultural diversity, more families living in poverty, and more dual-parent families where both parents work and rely on childcare from others. With increasing diversity, pervasive disparities in development and achievement affect large and growing numbers of children of color.

While interest in early learning grows, the picture of young children in the U.S. is changing dramatically. Families across the country have been hard hit by the economic downturn in recent years. As individuals and families struggle to make ends meet, more children are living in poverty. In 2010, over 16 million children accounted for 36 percent of the poor in this country (United States Department of Commerce, 2011). Increasingly, both parents in two-parent families are working outside the home, and labor force participation among mothers with young children has increased steadily, growing from 34 percent of mothers with children under the age of three in 1975 to 60 percent in 2006. With more parents working outside the home, young children are increasingly placed in the care of others—including other family members, friends or neighbors, or care and education centers. In 2006, 73 percent of two-year-olds were cared for by someone other than a parent on a weekly basis, creating a childhood development “ecosystem” that extends far beyond the home (Halle et al., 2009).

Along with the increase in poverty and growing reliance on non-parental childcare, the country's racial and ethnic make-up is also shifting, particularly among children. In 2009, 55 percent of all children in the U.S. were non-Hispanic white. Today, a majority of babies born are children of color and by 2030, more than half of the population under 18 will be children of color. Growth in the Latino population in the U.S. is particularly dramatic. In 2010, Latinos in the U.S. numbered over 50 million, accounting for more than half of the country's population growth since 2000. Among children, these shifts are even greater. As of 2010, Latinos accounted for 23 percent of the population under age 18; by 2035, one in three children will be Latino (National Council of La Raza, 2011).

With socioeconomic and racial/ethnic shifts in the U.S., pervasive academic achievement gaps between these groups will increasingly threaten the individual success of a large and growing population of children, and the collective success of the country. Disparities in development and achievement are established early and persist through school, with research demonstrating that half of the achievement gaps (between students of color and white students, and low-income and non-low-income students) in twelfth grade can be attributed to gaps that already exist in first grade (Jencks and Phillips, 1998). Though a majority of public school children from all socioeconomic, racial, and ethnic backgrounds are not proficient in reading or math in fourth and eighth grade, a staggering 75 percent of Black and Latino students lack these skills (Children's Defense Fund, 2012).

Experts interviewed for this project indicated the growing emphasis on early childhood among groups working on equity issues to prevent such gaps before they begin. The National Council of La Raza, for example, now includes six early learning indicators (including families that read to children, enrollment in early care or education programs, and prenatal care and birth weight) to their Latino Child Well-being Databook to emphasize disparities between Latino children and the general population that affect the country's youngest children. As the face of the country changes, equitable opportunities are critical to supporting the success of children from all backgrounds, which are widely and increasingly varied.

Knowledge about the process of early learning is evolving, where "whole child" development occurs across multiple domains and is affected by the environments and actors with which children interact every day.

The field's understanding of the healthy development for a changing population of young children is also shifting. "School readiness" is no longer limited to the cognitive skills children bring with them to the kindergarten door. Rather, it includes a range of domains that contribute to a child's ability to learn and

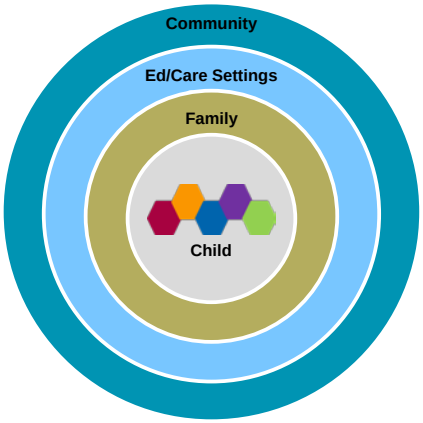
thrive in school, including social and behavioral skills. Knowledge of how different capacities develop and relate to one another is growing and has brought the importance of "whole child" development into focus. Whole child development requires attention to each of five developmental domains, as described below (adapted from Rhode Island KIDS COUNT, 2005).

Developmental Domains

- **Social Emotional Development** includes a child's behavioral health and development, including the ability to interact and self-regulate. Relevant capacities include self-perception, ability to understand the feelings of others, and to understand and interpret one's own feelings.
- **Cognitive Development** reflects thinking and problem-solving and understanding of objects and the way the world works. This domain includes mathematical knowledge, abstract thought, and imagination.
- **Language Development and Literacy** includes communication and emergent literacy capacities, such as listening, speaking, vocabulary, print awareness, story sense, early writing, and connection between letters and sounds.
- **Approaches to Learning** describe a child's disposition to use skills and knowledge and include enthusiasm, curiosity and persistence.
- **Physical Development** reflects health status, growth and disabilities, and includes physical capacities such as gross and fine motor skills and conditions before, at, and after birth.

Whole child development occurs within an early childhood ecosystem, which includes the environments and settings ("layers") that surround young children and the multitude of actors that affect them.

Figure 1. Layers of the Early Childhood System

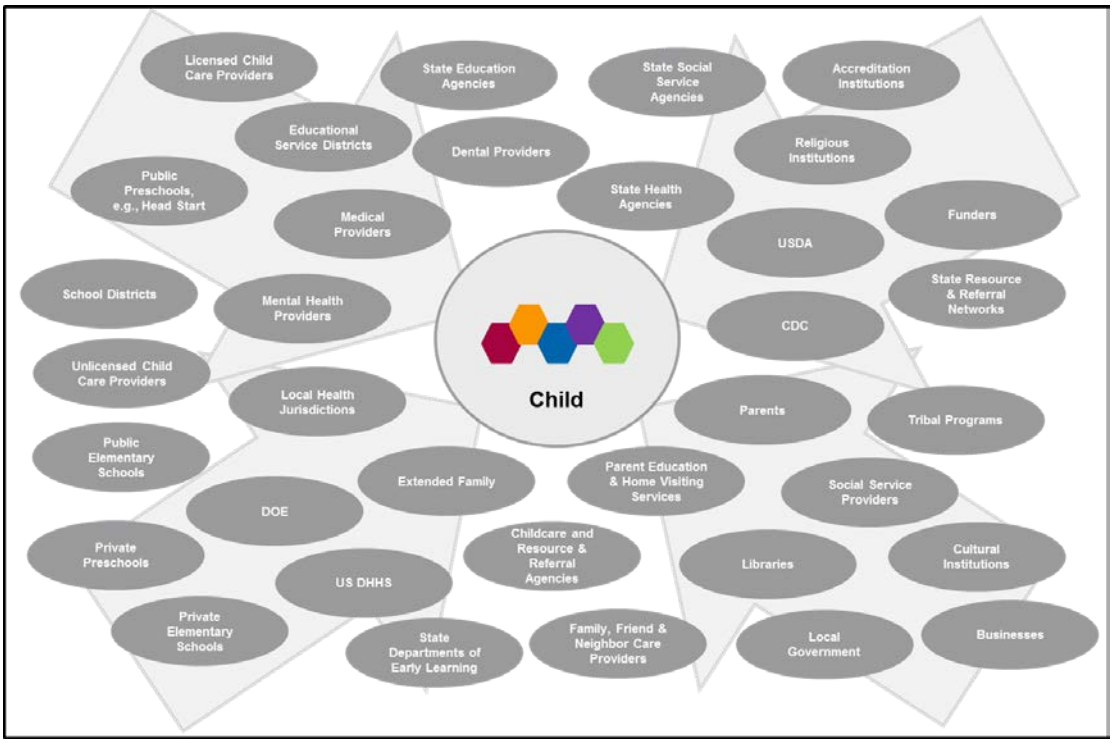


Development across the five domains is affected by a wide range of actors and environments with which young children interact every day. This perspective represents a system view of early childhood, where the success of young children is considered in the context of the various environments that impact them, including the family, education and care settings, and the broader community. The child is at the center, with the surrounding layers affecting healthy development in interdependent ways (Bronfenbrenner, 1979) (*See Figure 1*). In this

view, each part of the early childhood system includes programs, policies, and strategies that meet certain needs related to child development. For the system to operate well, each layer or component must operate effectively and reach all children for whom it was designed. To improve outcomes for children, the system's components must be connected to leverage collective strengths and achieve better outcomes than would be possible through each component acting alone (Coffman, 2007).

There are actors within each layer of the early childhood system that have a role to play in supporting young children across the five domains of development. Given the breadth of domains and the system layers that affect development, it is not surprising that the number of individuals who play some sort of role in supporting young children is large and incredibly diverse. Figure 2 reflects a system map of the wide range of actors that influence the development of young children across the five domains, within and across the layers of the early childhood system.

Figure 2. Actors in the Early Childhood System



In a complex and fragmented field, connections matter.

The different layers and actors that support healthy development point to a recognized need to increase collaboration and alignment in a traditionally fragmented field. The field's fragmentation reflects the number and diversity of settings and actors that affect young children and the multi-faceted nature of healthy development. Supporting young children relies on those working in formal and informal education

settings, healthcare (including physical and mental), a range of social and human services, as well as parents, extended family, and others who may be part of a child's home environment.

Experts interviewed for this report indicated a range of issues that have contributed to a fragmented field, including a lack of shared identity or common purpose; a sense of competition, particularly for funds; and a lack of awareness of opportunities for alignment. These challenges are compounded by the fact that the number and types of early childhood actors depend on the context and vary widely across communities and states.

> "*We need to be more strategic about getting the parts that constitute early care and education to work together. Our approach is so siloed. We think 'those are parents,' [and] 'over there are education and care centers,' as if kids don't actually experience all of those settings. We need to create [shared] ideas about what we want the kids to be."* – Expert interviewee

Despite this historic challenge, there are promising examples of collaboration and alignment within communities and across systems. For example, as early learning is increasingly considered on a continuum of development that begins at birth (or even before) and continues to age 8, there are new efforts to align how children are supported in their youngest years (ages 0–5) with what happens when they reach school (ages 5–8). Similarly, communities across the country are bringing together a wide range of actors—including parents, families, education and care providers, social service agencies, businesses, and funders—to align efforts toward a common goal, such as school readiness. Examples of two such initiatives are highlighted later in this report.

Indicators have a role to play in an evolving field by providing a shared language and understanding among actors. Indicators provide a starting point for conversation, connections, and collaboration toward a common goal of improved outcomes for young children.

The changes in the field and the country provide an opportunity to assess and refine how early childhood development is defined and measured. With increased attention on early learning, indicators have proliferated at the national, state, and local levels. The federal Race to the Top Early Learning Challenge grant competition focused attention on the identification and use of common indicators in the earliest years. Meanwhile, states have their own standards and competencies for young children in pre-K programs and the K–12 system; a recent survey found that every state had adopted or was developing its own standards for children younger than kindergarten age (Scott-Little, Lesko, Martella, and Milburn, 2007). These efforts are in addition to those that are focused nationally or across multiple localities, which include the 11 indicator sets (and over 1,100 indicators) that were analyzed for this report. Beyond the sheer number of indicator efforts, each has its

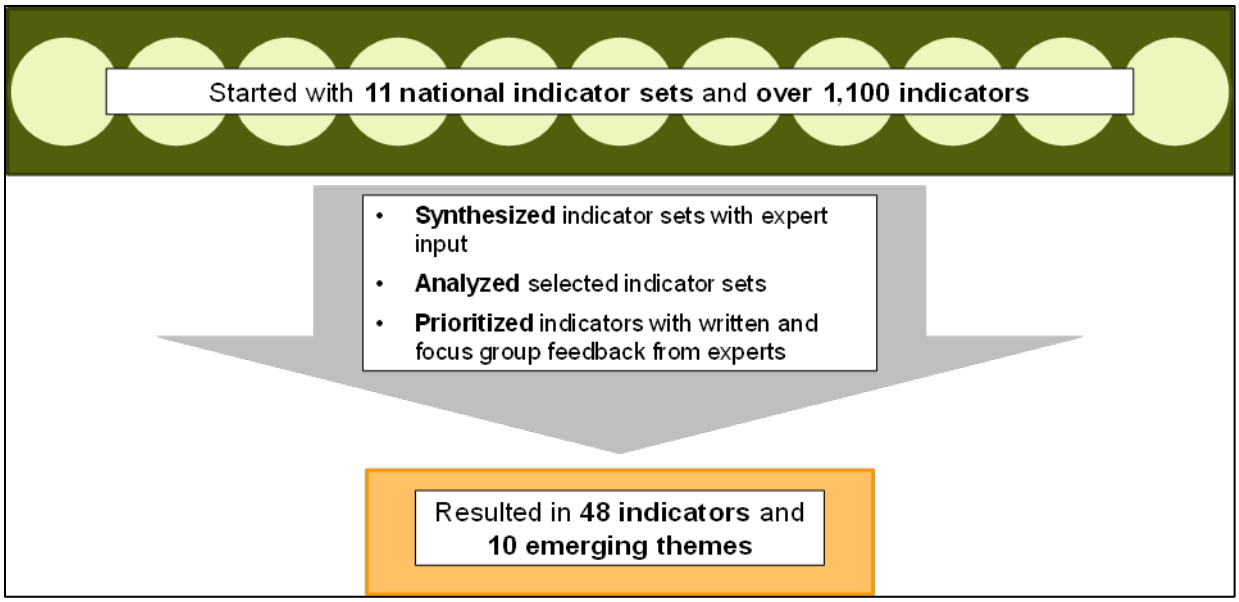
> *"There is no shortage of high-quality, well-developed indicators—it is more the opposite, there are a lot and there is not consensus on what's best to use where. It's a bit of a Tower of Babel problem. Can we help agencies in choosing indicators to use and communicate with each other?"* - Expert interviewee

own approach to and treatment of the various dimensions of early learning, including developmental domains, stages of development from birth to age 8, and the various system layers and actors that support healthy development. Assessing and synthesizing the wide range of existing indicators can support this field during an exciting time of change. Understanding and distilling the breadth of indicators that are important to a wide range of actors fosters shared understanding, enables clear communication, and supports greater collaboration for an evolving field.

Distilling and Framing Indicators for an Evolving Field

With the changes occurring in the early learning field and the country, the W.K. Kellogg Foundation commissioned FSG to research, synthesize, and vet a set of key early learning indicators (also referred to as early learning success markers) that reflect existing field definitions and categories of healthy development and highlight emerging themes for further exploration. Emerging themes point to important gaps in existing indicators and particularly highlight the need for indicators that reflect the increasing racial and cultural diversity among young children and their families in the U.S. The indicators included in this report were distilled from more than 1,100 indicators originating from 11 national indicator sets developed by highly regarded organizations and individuals, with input from over two dozen expert advisors. The result is a set of 48 indicators and 10 emerging themes that can help inform conversations, collaboration, and action on behalf of young children in communities and states, and across the country. An overview of our methodology is provided in Figure 3 and the sidebar that follows, with more detail in Appendix A.

Figure 3. Distilling Indicators and Emerging Themes



Overview of Methodology *(See Appendix A for a more detailed description.)*

Interviews with Experts: FSG conducted interviews with 40 experts representing parents; teachers and child care providers; health care providers; communities of color; national, state, and local policy makers; and researchers to learn about the existing state of indicators in the early learning field. *(See Appendix B for interview list and Appendix C for interview questions.)* We initially interviewed several individuals with expertise in early learning indicators and used a snowball sampling method to identify additional interviewees.

Inclusion of Indicator Sets: Our research team collated more than 100 documents from the fields of childcare, childhood development, education, health, literacy, and multicultural studies. These documents included indicators of successful child development and well-being, factors surrounding the child that contribute to their success, and relevant policy and research trends. Because a wide range of indicator sets were identified during our review, eleven indicator sets were included for further analysis based on five criteria:

1. The set was suggested by an expert whom we interviewed.
2. The set of indicators covered multiple domains of a child's development, such as physical, cognitive, and social-emotional.
3. The set included indicators relating to multiple system layers, such as the child, family, education and care settings, and the community.
4. The set considered racial, ethnic, or cultural diversity in the design and intended use of its indicators.
5. The indicator set was intended for use nationally or in multiple localities.

Analysis of Indicator Sets: After identifying indicator sets that are highly regarded in the field and that address the different domains and system layers affecting early learning and development, we analyzed the indicator sets to identify indicators that were most common among them. This identification process included: 1) listing every indicator as they appeared in each set; 2) identifying duplicates; and 3) tallying how many times a unique indicator appeared among the eleven indicator sets. From the approximately 1,100 indicators that were initially listed, we identified 62 indicators that had multiple tallies.

Collection and Analysis of Expert Feedback: Over two dozen experts provided written feedback to prompting questions regarding the preliminary list of 62 indicators. Written responses addressed the inclusion or exclusion of specific indicators; the overall balance of indicators across the system layers of child, family, education and care settings, and community; the degree to which the indicators reflected an emphasis on racial equity; and factors facilitating the use of indicators. *(See Appendix D for prompting questions.)*

Focus Groups: In addition to requesting written feedback, we conducted two focus groups with early learning experts to assess the extent to which a draft set of 62 indicators addressed racial and cultural diversity in the way they were stated and/or could be used.

Suggestions and comments from experts were captured and synthesized, and guided the development of a final list of indicators. Based on expert input, indicators were refined from 62 to 48, with 10 additional emerging themes.

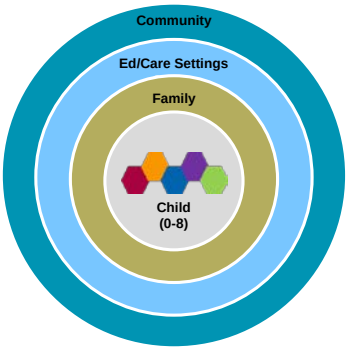
In light of changes in the early learning field and the country, our work focused on how this effort can make a new and valuable contribution to an evolving field. The indicators and emerging themes presented here reflect three key priorities:

- The need to understand early learning in the **context of a complex ecosystem**, including the system layers and actors that affect the five domains of whole child development from birth to age 8
- The critical and growing importance of **issues of equity** for young children with increasingly diverse racial and cultural backgrounds
- The role of indicators in **fostering communication and collaboration** in a historically fragmented field

Indicators and emerging themes identified reflect the ecosystem that supports whole child development from birth to age 8.

Given the complexity of early learning and the range of factors that affect it, taking a systems view of indicators is important. The whole system extends beyond child-focused indicators to include indicators that reflect the state of the different layers of the system, including families, education and care settings and communities. Indicators relevant to the different early childhood system layers and actors also reflect the different dimensions of the process of healthy development, which occurs over time—increasingly viewed as a continuum of development that begins before birth and extends to age 8—and across the domains of whole child development. In taking a systems view of the process and influencers of healthy development, the indicators and emerging themes presented here aim to:

> *"We can't just focus on the child. We need an ecological approach that takes into account supporting the family and the broader community."*
> – Expert interviewee



- Reflect the system layers that affect children's healthy development (with indicators grouped by system "layer")
- Include indicators of a child's development across five domains
- Address indicators along the 0-to-8 continuum, which lays the foundation for lifelong success

Indicators and emerging themes highlight the critical importance of racial and cultural equity for a population of young children that is increasingly diverse.

As our country becomes more racially and ethnically diverse, particularly among children, there is increasing urgency to consider how existing indicators and emerging themes do and should address racial, cultural, and linguistic equity. Despite this need, efforts to define indicators that account for the

> *"The things that are measured and the way they are measured are from a white perspective—like cultural expectations of the roles of girls and boys, discipline, how adults are involved in the classroom, and the relationship between home and school. The things that we measure as important for family involvement aren't necessarily where families are at."* – Expert interviewee

experiences of different groups have been limited and there remains a critical need for indicators that reflect and can inform support for an increasingly diverse population of young children. Most sets of early childhood indicators do not address racial and cultural disparities that often carry throughout a child's development and life, including the many existing indicators that are based on norms that do not take into account the differences across racially, ethnically, and linguistically diverse communities. Though indicators do not reflect inherent racial or cultural qualities, indicators can reveal different norms among groups, such as parental expectations regarding obedience and self-expression, attitudes about individual versus collective achievement, or the importance of spirituality. As new indicators are developed, it is important to account for racial and cultural norms and beliefs that affect the growth and development of young children within different populations.

The equity-focused indicators and emerging themes presented in this report draw on different efforts to address racial and cultural equity (and inequity) and related concepts, particularly around cultural competence. The National Center for Cultural Competence at Georgetown University's Center for Child and Human Development, for example, defines cultural competence as "a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals, and enables that system, agency, or those professionals to work effectively in cross-cultural situations" (Cross, Bazron, Dennis & Isaacs, 1989). One expert interviewed for this report noted the need for culturally appropriate indicators for care and education settings that promote children's "ability to negotiate culturally diverse environments or code-switching," and their sense of self-identity. These concepts reflect new thinking that focuses on how to account for the quality of the interaction between diverse adults and children to foster cultural identity. Similarly, other interviewees noted the importance of interactions among school leaders and parents, where principals and teachers welcome and honor parent participation to help create a culturally competent environment.

The indicators and themes presented here incorporate these important efforts in this area, and highlight the fact that existing indicators do not sufficiently address issues of racial and cultural equity. Many of the emerging themes reflect an ongoing need to develop indicators that reflect and respect the growing diversity of the country's young children and their families. As these themes are further explored and new indicators are developed, it is critical to consider and use them in ways that can help to support the success of all young children. Ultimately, indicators designed and used to further the development and education of all children should foster equitable opportunities and address systemic barriers that hold children back.

> *"From a cultural perspective, more work needs to be done on family and parent engagement indicators. [We need to figure out] how you create indicators that are influenced by cultural expectations and norms."* – Expert interviewee

The value of indicators comes from their potential to connect actors and drive change.

The third key perspective of this report emphasizes the role indicators can play as a point of collaboration in a historically fragmented field. Indicators provide a common language to initiate, sustain, and strengthen connections among actors who affect young children, and can help to plan and deliver services and education to them. More detail on how indicators can be used in this way (with examples of how indicators have supported collaboration in two community-based efforts) follows the presentation of indicators and emerging themes.

A Note on Assessment

In order to use indicators, they must first be measured or assessed. Assessment strategies, or the specific ways in which indicators are measured, and measurement tools used vary. The scope of this project was to distill existing indicators for use by a range of actors. How they are measured or assessed is context dependent. Measurement strategies should be driven by what information is desired, by whom, and for what purpose, and should account for opportunities to align to existing measurement efforts at the local, state, or national level. It is important to assess existing and needed data collection tools and methods, as well as the resources and capacity needed to accomplish measurement-related objectives. Additional resources, such as the National Research Council's *Early Childhood Assessment: Why, What, and How?* (Snow and Van Hemel, 2008), provide excellent overviews of various assessment tools available and some of their advantages and disadvantages. Guidelines and criteria to build systems and infrastructure needed to support assessment have also been analyzed and described by others, such as the *BUILD Initiative* (Bruner and Emarita, 2009). Finally, assessment tools sensitive to racial and cultural differences are few, and experts cited efforts to develop new tools to address these very concerns, such as the work of the National Council of La Raza and the Coalition of Schools Educating Boys of Color.

Indicators and Emerging Themes

Using a multi-pronged methodology to assess, synthesize, and vet indicators, we distilled the following set of 48 markers (indicators) and 10 emerging themes to reflect the report's three key priorities:

- The indicators and themes address the early childhood ecosystem, and the five domains and the 0–8 continuum of development.
- They highlight new and emerging work to define indicators of racial and cultural equity.
- They are intended to help foster conversation, collaboration, and change among actors working to support healthy development of all children.

The indicators and emerging themes are organized around the four layers of the early childhood system: the child (as the center of the system); families; program, care centers, schools, and family care; and communities. Within each layer, emerging themes reflect areas that were suggested by experts as being ripe for further research and development. Many of them highlight the need for new indicators that reflect the importance of racial and cultural equity, and experts noted the opportunity to define indicators that emphasize the assets of an increasingly diverse population of children and families. They stressed that this emerging work is a chance to depart from a common deficit-based approach to disparities among groups. As future efforts continue to develop and refine indicators that mark success among children, these emerging themes should be given additional attention and may stimulate new research.

Technical Notes on Indicators

- **Definition of "indicator":** For the purposes of this project, an indicator (or marker) is defined as *an observable measure of the condition of an entity*. An entity may be a child, a family, an education or care setting, a community, or a group of these entities. The condition may be the existence of an attribute, a capacity, or a behavior or interaction. Indicators are framed with "percent," indicating a proportion of entities relative to some larger population of entities. For example, child-level indicators are stated as the "percent of children" with the assumption that the proportion of children exhibiting a particular condition would be relative to a neighborhood, a city, a state or region. The specific scope of the "numerator" and the "denominator" depends on the context in which the indicators are being considered.
- **Developmentally appropriate indicators:** The 48 indicators are categorized according to system layers: child; families; programs, care centers, schools, and family care; and community. Organizing indicators according to system layer enabled developing a brief list of indicators with reduced redundancy. In contrast, identifying and arranging indicators by age range (0 to 8) or developmental stage (e.g., newborn, infant, toddler, pre-Kindergarten, Kindergarten, and early grades) would generate more indicators due to some conditions being stated progressively across age spans or stages. In general, the indicators in this report are applicable to children at some or multiple points within the 0 to 8 age range, unless a specific age is otherwise noted in the stated indicators. Furthermore, in some instances, multiple experts recommended that a specific age range or grade be noted for a particular indicator; in these cases, indicators are appropriately specified. Examples include birth weight, immunization history, and teacher/child ratios.
- **Wording of indicators:** Where possible, a "positive" version of an indicator is used (e.g. "percent of children *with* health insurance" instead of "percent of children *without* health insurance"). Existing research reflects both forms, and affirmative statements are used where possible to keep with an asset-based approach to identifying success markers. In some instances, multiple versions of an indicator existed among multiple indicator sets. In those cases, the simplest or most concise version was selected. In general, indicator statements are worded as they were originally found in source documents.

Context is key to guiding the adoption and use of indicators. How indicators are identified, measured, and used depends on what is to be understood, for what purpose, and by whom. These indicators can be adapted and built upon to meet the needs of a given situation.

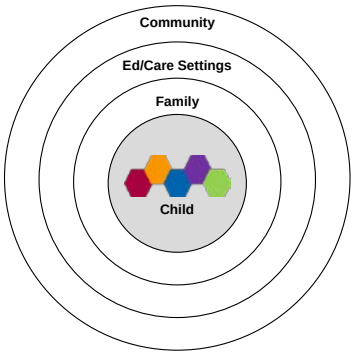
These 48 indicators and 10 emerging themes are intended to help stimulate conversations and foster collaboration in a range of contexts, and should not be treated as static and inflexible. To be useful, these

markers (indicators) need to be considered, adapted, and built upon in the context in which they will be used. While many of these indicators are common in the early learning field, there are countless others that can add to or complement them depending on where, for what purpose, and by whom they are being used. As communities change, indicators should evolve and respond to shifting needs and priorities, thereby creating a sense of ownership of and commitment to markers that matter. Particularly in local, place-based efforts, indicators should be adopted and tailored, rather than imposed. Local actors are most knowledgeable about their communities—including characteristics, needs, and resources—and are best able to understand the relevance of indicators to initiate conversations and inform action to support their youngest residents. After indicators are selected, appropriate data collection methods should be identified in accordance with the information that is needed and how it will be used. Part of determining a data collection approach includes identifying where data already exist and can be readily accessed, as well as the need to develop new assessment instruments (e.g., survey, observation protocol, test) best suited to collecting that information.

Context is also important for understanding how equity issues should factor into the identification and use of indicators. Relevant indicators should be identified according to what a community hopes to achieve with respect to racial, cultural, or socio-economic equity. For example, the implications of if and how to use potential indicators might be different for a community that is largely homogeneous in terms of race, culture, language, and socio-economic status, compared to one that is very diverse along one or more of these dimensions. Equity should be part of both the selection and analysis of indicators, as disaggregating markers by sub-group (e.g., race/ethnicity, language group, socio-economic status) can help to reveal disparities among groups. When considering indicators and the (explicit or implicit) expectations and values they entail, the context helps to inform if such markers and corresponding practices are relevant given the local population.

1. Child: Indicators and Emerging Themes

Child-level indicators reflect the key domains of socio-emotional development, cognition and general knowledge, language development and literacy, approaches to learning, and health and physical well-being.



Indicators

1.1 Percent of infants born weighing more than 5.5 pounds

1.2 Percent of children with health insurance

1.3 Percent of children who receive coordinated, ongoing, comprehensive care within a medical home

1.4 Percent of children with age-appropriate fine motor skills

1.5 Percent of children ages 19–35 months who have been fully immunized

1.6 Percent of children with detected developmental delays at kindergarten entry

1.7 Percent of children with chronic health problems at kindergarten entry

1.8 Percent of children at kindergarten entry who can count beyond 10, sequence patterns, and use nonstandard units of length to compare numbers

1.9 Percent of children recognizing basic shapes at kindergarten entry

1.10 Percent of children recognizing the relationships between letters and sounds at kindergarten entry

1.11 Percent of children with blood lead levels at or below 10 micrograms per deciliter

1.12 Percent of children who use an expanding vocabulary, speak clearly, and use conventional grammar

1.13 Percent of children with reading proficiency at the fourth grade as measured by the state's reading proficiency test

1.14 Percent of children who demonstrate knowledge about self, including racial identity, social class, self-perceived abilities, and culture

1.15 Percent of children who exhibit positive social behaviors when interacting with their peers

1.16 Percent of children who regulate their own emotions and behaviors, manage feelings, follow limits and expectations, and take care of their own needs appropriately

1.17 Percent of children who actively engage in learning activities

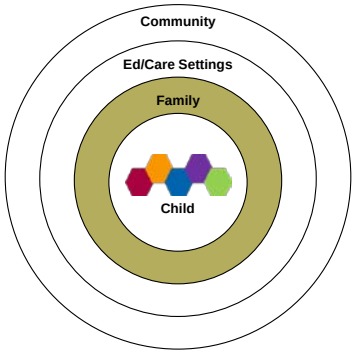
1.18 Percent of children with moderate to serious difficulty following directions

Emerging themes

Children's inclusive behavior of others: The extent to which children's behavior includes other children who are different from them racially, linguistically, and culturally

2. Families: Indicators and Emerging Themes

Indicators of families reflect the key areas of maternal, parent, or guardian well-being, family socio-economic level; parenting practices; and family structure. *(It should be noted that these indicators reflect a common but also narrow concept of family, as they relate primarily to parents and guardians.)*



Indicators

2.1 Percent of children living in families with income below the federal poverty threshold

2.2 Percent of births to teens ages 15 to 17

2.3 Percent of births to women who receive late or no prenatal care

2.4 Percent of births to mothers with less than a grade 12 education

2.5 Percent of mothers experiencing depression

2.6 Percent of children in out-of-home placement (foster care) who have no more than two placements in a 24-month period

2.7 Percent of births to unmarried women

2.8 Percent of substantiated child abuse and neglect cases

2.9 Percent of families reading to young children at least once a day

Emerging themes

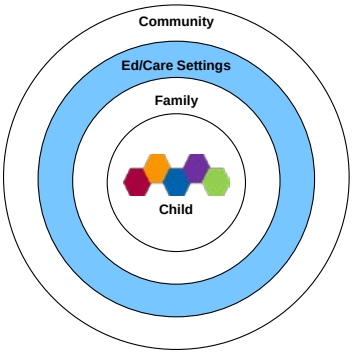
Family, parental access to resources: The extent to which parents or guardians actively access and engage with resources, including informational, educational, cultural, and financial

Family, parental levels of chronic stress: Family conditions such as parents or guardians working multiple jobs, absence of a partner, or absence of a social network for extended periods of time

Family, parenting of children in culturally appropriate ways: Parents' or guardians' beliefs and behaviors with children regarding respect, obedience, and participation in social and educational activities; parents' expectations and behaviors according to a child's gender

3. Programs, Care Centers, Schools, and Family Care: Indicators and Emerging Themes

Indicators of childcare programs; care centers; schools; and family, friends, and neighborhood care reflect the key areas of physical environment, workforce characteristics, and care provider or teacher-child interaction.



Indicators

3.1 Percent of 3-to-4 year olds enrolled in a center-based early childhood care and education program

3.2 Percent of care and education settings that have varied opportunities for children to read books in an engaging manner in group or individualized settings at least twice a day in full day programs

3.3 Percent of care and education settings that provide varied opportunities and materials to build an understanding of numbers, number names, and their relationship to object quantities and symbols

3.4 Percent of care and education settings with age- and developmentally appropriate materials and equipment indoors and outdoors for children throughout the day

3.5 Percent of care and education settings implementing validated effective curricula for social skills development

3.6 Percent of care and education centers that provide children opportunities to develop a sense of competence and positive attitudes toward learning, such as persistence, engagement, curiosity, and mastery

3.7 Percent of care and education settings that have an outdoor play area that is protected by fences or by natural barriers to prevent access to streets and to avoid other dangers, such as pits, water hazards, or wells

3.8 Percent of care and education settings with an average teacher/child ratio of: 1:4 for infants, 1:6 for toddlers, 1:10 for preschoolers, and 1:12 for kindergarteners

3.9 Percent of early childhood teachers with a bachelor's degree and specialized training in early childhood

3.10 Percent of care and education settings with at least one staff member who has a certificate showing satisfactory completion of pediatric first-aid training

3.11 Percent of care and education settings that have access to mental health consultation

3.12 Percent of care and education settings with teaching staff who help children follow a predictable but flexible daily routine by providing time and support for transitions

3.13 Percent of care and education settings where teaching staff interact with children to assess their strengths and needs to inform curriculum development and individualize teaching

3.14 Percent of care and education settings where teaching staff are active in identifying and using any teaching practices, curriculum approaches, or materials that are affirming with respect to gender, sexual orientation, age, language, ability, race, or religion

3.15 Percent of care and education settings where teaching staff, program staff, or both work as a team to implement daily teaching and learning activities, including individualized family or education plans

3.16 Percent of care and education settings that have multiple strategies to involve and support parents

3.17 Percent of care and education settings that have a work environment for staff, including classrooms and staff rooms, that are comfortable, clean, and in good repair

Emerging themes

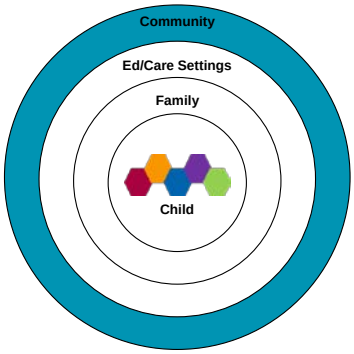
Programs, Care Centers, Schools, and Family Care settings exhibiting teacher-child interactions in culturally appropriate ways: Care providers' and teachers' beliefs and behaviors with children regarding respect, obedience, participation, and time; staff expectations and behaviors according to a child's gender

Programs, Care Centers, Schools, and Family Care workforce characteristics, backgrounds: Care providers' and teachers' racial and ethnic background and ability to speak in a child's home language and to engage with family and community members of children whom they are serving

Programs, Care Centers, Schools, and Family Care settings' inclusiveness of diversity: The extent to which there is representativeness from diverse racial, cultural, and language groups in planning and governing processes related to young children and their development

4. Community: Indicators and Emerging Themes

Community indicators reflect the resources and institutions found locally, and the conditions that circumscribe those resources and institutions, available to children and their families. These resources include support agencies, and the social, cultural, economic, and physical environment.



Indicators[1]

4.1 Percent of families with children paying more than 30 percent of their income for housing

4.2 Percent of children living in a neighborhood in which more than 20 percent of the population lives in poverty

4.3 Percent of children needing and receiving emergency housing services

4.4 Percent of children receiving child care subsidies

Emerging Themes

Community and neighborhood safety: The extent to which acts of violence occur within a neighborhood or community

Neighborhood stability: The level of home ownership, lease to purchases, and long-term rental agreements in a neighborhood or community

Community and neighborhood food choices: The extent to which a community has grocery stores with healthy food choices

[1] Demographic characteristics are not included among community indicators, but are presumed to be an important part of the context in which indicators are adopted and used.

Using Indicators to Connect Actors and Drive Change

The value of indicators comes from their potential to forge, sustain, and strengthen connections among actors.

Often times, when indicators are developed, they can be seen as an end in and of themselves. Indicators considered in isolation have limited value and potential. Using indicators requires a consideration of the broader community context, an understanding of the range of actors affecting those indicators, and a motivation to make the connections and decisions necessary to affect change. Experts interviewed during this project compared the experience of using indicators to that of using a compass. Indicators point to the right direction but the next step requires a map of how indicators can and should be used to chart a path forward. This report aims not only to identify indicators and emerging themes, but also to demonstrate how indicators support conversations and actions among the range of system actors who affect the long-term success of children. Indicators can inform how early learning is understood, defined, and communicated by a range of individuals and organizations, and create a platform for conversation and collaboration to support the healthy development of all children.

> *"There is no reason why agencies have to be fragmented. They all have different missions, but they are serving the same child. With an indicator-driven approach, [actors] agree to, own, and work toward to the same set of goals."*
> – Expert interviewee

Indicators can highlight inequities and inform action to address them.

The use of indicators as a touch point for conversation and collaboration benefits from an understanding of the specific children that actors seek to affect. Identifying the population of children that is the focus of a given effort (at the community, state, or even national level) is important for selecting the indicators that are relevant to those circumstances. Part of this understanding should reflect the demographics and backgrounds of children, bring equity issues into focus, and inform action steps to address them. Indicators should be used to identify disparities with the goal of refocusing resources and taking action to change and improve systems. While disparities among children from different racial, cultural, and socio-economic backgrounds continue to exist, it is critical to consider how indicators can be used to help solve inequities rather than to perpetuate them.

Indicators are being used in collaborative community-based efforts across the country to support coordination and alignment across actors working toward a common goal.

This report includes examples of how two communities have used early childhood indicators in collaborative approaches that focus on supporting the healthy development of all children. These

examples demonstrate the importance of context in using indicators. Identifying indicators of interest, how to assess them, and what to do with the resulting information depends on a community's assets and needs, and the interests and motivations of the stakeholders involved. This exciting work is happening in a wide variety of contexts, in communities across the country. The stories that follow show how communities are using indicators to connect and support early childhood actors and to understand inequities and inform efforts to address them. These efforts emphasize the importance of common outcomes and indicators to support actions that are tailored to address community needs and leverage specific assets.

The examples highlighted here demonstrate the role of indicators in:

- **Connecting and aligning pre-K and K–3 efforts to create a P-3 system in Bremerton, Washington.** This effort builds on a strong history of partnership between the school district and preschool partners. The partnership focuses on indicators of early literacy and builds on past collaboration aimed at supporting social emotional development and early math skills.

- **Creating a cross-sector, citywide school readiness initiative in Boston, Massachusetts.** The Thrive in 5 initiative focuses on preventing the achievement gap before it starts and supporting all Boston children to be school ready by 2018. Thrive in 5 uses indicators to guide and refine progress, and connects stakeholders at the city and neighborhood level to coordinate and align efforts toward this common goal.

Creating a P-3 System in Bremerton, Washington[2]

Indicators prompted action between Bremerton School District and its community partners to improve early literacy skills.

Bremerton uses indicators across <u>domains</u> of development:

- Percent of children recognizing the relationships between letters and sounds at kindergarten entry
- Percent of children who use an expanding vocabulary, speak clearly, and use conventional grammar
- Additional indicators of social emotional development and early math skills

Bremerton, Washington is a small community of about 40,000 people located on the Kitsap Peninsula on Puget Sound. A military community, Bremerton is home to the third largest naval base in the United States and sits a one-hour ferry ride away from downtown Seattle. The Bremerton School District (BSD) serves 5,000 students, who have become increasingly low-income and non-white in recent years. In 2011–12, 63 percent of BSD students qualified for free

[2] FSG interview with Linda Sullivan-Dudzic of Bremerton School District, March 29, 2013.

or reduced price lunch (Office of Superintendent of Public Instruction, 2011).

In 2001, Bremerton School District was faced with a mixed blessing. Districts across Washington State were to receive additional funds to help students achieve new learning standards, and BSD wanted to make an informed decision about how to make the best use of the additional resources. Indicators of early literacy prompted the district to recognize it had a problem on its hands. Data on early literacy indicators among Bremerton kindergartners showed that only 4 percent had essential pre-reading skills, such as recognizing letters, using an expanding vocabulary, speaking clearly, and using conventional grammar.

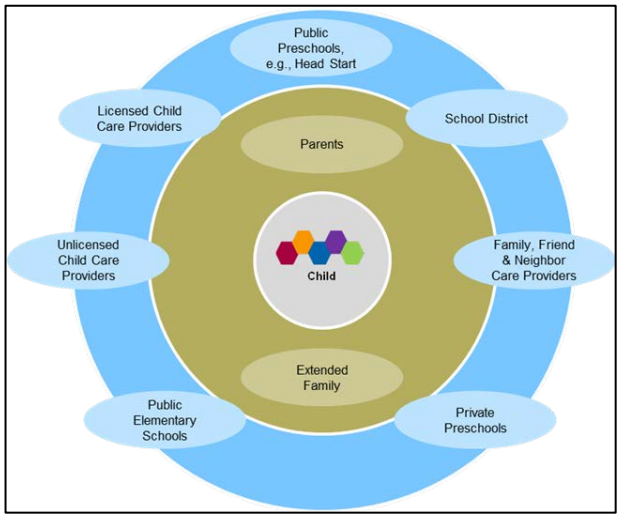


Figure 4. System Connections in Bremerton

Indicators provide a common understanding and point of conversation and collaboration between the district and its partners.

As Bremerton looked at early literacy indicators, the data were eye-opening and highlighted a lack of alignment between what children were learning before they got to school and what was expected of them in kindergarten. BSD recognized an opportunity to better coordinate with local pre-K providers and to build on a longstanding partnership between the district's elementary schools and community's early care and education providers and families. (*See Figure 4.*) The existing partnership between the district and pre-K partners had yielded significant gains in supporting healthy social emotional development, demonstrating the importance of working together to affect outcomes for young children. In looking at the early literacy data, there was a clear opportunity to work in partnership and build on past success. The district and its community partners had important roles to play in supporting pre-reading skills and BSD decided to put two-thirds of the additional state funding into early learning to build a"P-3" system. This would allow the partnership to continue working on preschool children's social emotional development, while aligning standards and expectations for early literacy skills from preschool to third grade.

The district and its community partners developed a collaborative and multi-pronged approach to early literacy. BSD offered its partners curricula, coaching support, professional development opportunities, and access to student test results. Looking at literacy indicators is now a cornerstone of both individual conversations and group meetings with pre-K and elementary teachers. In conversations with individual teachers, district staff members assess foundational literacy skills of incoming students, including those who are excelling and those who are struggling. They seek to understand from preschool teachers what they have done to support excellence and discuss how to incorporate those techniques more broadly. They also discuss students who are struggling and take an asset-based approach to understanding where there are gains from which to build. In addition to one-on-one meetings, BSD convenes preschool

providers as a community of practice, where they look collectively at early literacy data and learn with their peers about successful strategies and challenges.

Building upon its community of practice, Bremerton has incorporated learning walks as a hallmark of this approach, where teachers from preschool to third grade have the opportunity to visit other classrooms to see what is happening with students before and after they reach their classroom. Indicators of literacy and math skills (e.g., percent of children at kindergarten entry who can count beyond 10, sequence patterns, and use nonstandard units of length to compare numbers; percent of children who recognize basic shapes at kindergarten entry), as well as social emotional development (e.g., percent of children who regulate their own emotions and behaviors, manage feelings, follow limits and expectations, and take care of their own needs appropriately; percent of children who demonstrate knowledge about self, including racial identity, social class, self-perceived abilities, and culture), help the teachers understand the skills and abilities future students will bring, and the progress that past students have achieved. Teachers share strategies between grades and set teaching goals based on data for their past and future students.

Outcomes of Bremerton's P-3 Partnership

- Early literacy has increased from 4% to 52%, and 63% at its highest
- Two schools have received state recognition for closing the achievement gap for low-income students
- Bremerton is training 35 districts across the state on building P-3 systems

Bremerton's work on early literacy work is yielding results for young children and closing gaps in readiness and achievement for low-income children.

Bremerton's P-3 system has produced impressive gains on indicators of early literacy. They have made great strides from when only 4 percent of students had the early literacy skills they needed for kindergarten. In the 2012–13 school year, 52 percent of students demonstrated early literacy skills. At the highest point to date, 63 percent of kindergarten children demonstrated these skills, which reflects the importance of context in using indicators and interpreting data. In this case, the decline in early literacy from 63 to 52 percent attests to the reality of the tighter financial constraints of more families in recent years, with fewer families sending their students to two years of preschool. Bremerton's efforts are also affecting the achievement gap for low-income students. Kindergartners at Naval Avenue Elementary School, the district's most heavily low-income school, perform at the same level as students at other schools. Early literacy indicators for children coming from Head Start programs, which serve low-income children, show student readiness comparable to students coming from private preschools. The district's success in improving literacy and closing achievement gaps has been widely recognized, and two elementary schools have won the state Office of the Superintendent of Public Instruction's (OSPI) award for closing the achievement gap. BSD is also influencing efforts elsewhere in the state, and the district received support from OSPI and the Bill and Melinda Gates Foundation to train 35 other districts statewide to create a P-3 system based on Bremerton's model.

Engaging Families for School Readiness in Boston, Massachusetts[3]

Indicators frame early learning needs and opportunities for supporting Boston's underserved children and families.

Often considered "the ultimate college town," the city of Boston is home to 625,000 people and over 60 colleges and universities, which collectively serve more than 250,000 students. New England's largest city, Boston has become increasingly diverse, and as of 2010 is a "majority minority" city, with 53 percent of the population being people of color. Among the city's youngest residents, these shifts are particularly apparent. Of the city's 38,000 young children between the ages of 0 and 5, 29 percent are Latino, 29 percent are white, 28 percent are African American, 6 percent are Asian, 5 percent are multiracial, and 3 percent are of some other race. Economic disparity in Boston is significant, and over one in four children five or younger (27%) live at or below the poverty line. Forty-four percent of children five or younger have at least one foreign born parent. Among women who recently gave birth, 37 percent did not have any education beyond a high school diploma.

Boston's shifting demographics, educational outcomes, and economic dependence on the success of its young people point to a stark challenge facing the city today: large and pervasive achievement gaps among the city's children. In 2007, 54 percent of white students were proficient on the Massachusetts 3rd grade reading assessment, compared to 27 percent of African American students and 25 percent of Latino students. In high school, these gaps persist and become increasingly difficult and costly to close. Such indicators of racial inequity prompted a call to action from Boston Mayor Thomas M. Menino and the United Way of Massachusetts Bay and Merrimack Valley in 2006. They recognized that in order for the city to thrive in the future, they had to invest in the young people of today and prevent achievement gaps before they start. These city leaders emphasized the science, economics, and a moral imperative pointing to a focus on the city's youngest children, and encouraged an inclusive and community-based approach. Thus was born Thrive in 5, a cross-sector citywide initiative focused on supporting all Boston children to be school-ready.

Indicators provide a touchstone in defining, measuring, and informing progress for a citywide, cross-sector approach to school readiness.

The Thrive in 5 initiative, led by a backbone organization of the same name, adopted a "School Readiness Equation" in pursuit of its goal of making 100 percent of Boston's children ready for school by kindergarten entry by 2018. *(See Figure 5.)* The school readiness equation takes a system approach to

Figure 5. Boston's School Readiness Equation

[3] FSG Interview with Thrive in 5 representatives Mary Coonan, Donna Friedman, Katie Madrigal, Randal Rucker & Jane Tewksbury, April 1, 2013.

supporting young children and accounts for the various puzzle pieces that need to be aligned if the school readiness goal is to be realized. Working with a range of entities, including parents and families; early education, care, and health providers; community organizations; and businesses, Thrive in 5 has developed strategies within each part of the equation. The initiative engages a range of partners to coordinate and align their actions, with shared goals and indicators to track progress and provide insight into where gains are being made and where changes are needed. Within a large and complex system of actors, the Thrive in 5 indicators serve as a common language to strengthen relationships and guide practice.

Boston Children Thrive and the Thrive in 5 School Readiness Equation include indicators across the different layers of the early childhood system, including:

- Percent of families living in poverty
- Indicators of family and parental access to resources
- Indicators of family isolation/chronic stress
- Child-level school readiness indicators related to cognitive, pre-academic, and emotional development

Part of the Thrive in 5 initiative is to invest in Boston communities that are home to children most likely to be affected by the achievement gap. This effort is called Boston Children Thrive (BCT) and aims to support young children by working with parents, families, and caregivers in their role as advocates for their children's school readiness and healthy development and as leaders in their community's school readiness efforts. BCT seeks to affect a range of family-, community- and child-level indicators. An evaluation of Thrive in 5 includes indicators of family access to resources and parental chronic stress and isolation, and will connect these to child-level indicators of cognitive, pre-academic, and social emotional development. Over time, the evaluation will seek to relate these indicators to children's developmental gains.

BCT communities engage parents, other relatives, and family, friend, and neighbor care providers and connect them with parent education, school readiness resources, and other social services. *(See Figure 6.)* BCT communities provide:

- Improved coordination among community-based organizations
- More opportunities for families to engage in positive, learning-focused adult-child interactions
- Multiple ways for families of young children to access information through

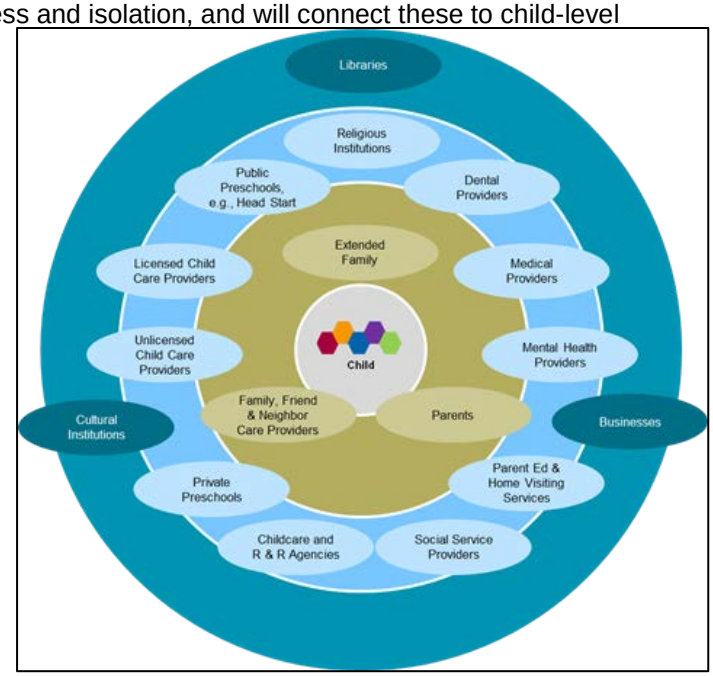


Figure 6. Boston Children Thrive System Connections

people they trust

- Expanded and enhanced supports for families based on each community's strengths and needs
- Opportunities for parents to become leaders in their community's school readiness efforts

In providing these supports, the five neighborhood-based efforts draw on indicators to inform and refine their work. Supported by a "hub" agency, each community looks at demographic indicators (including children living in poverty, children from different racial and ethnic groups, and foreign born and/or non-English speaking families) to focus their efforts on children most likely to be affected by the achievement gap. The communities have outreach targets, track data to understand their reach into priority demographic groups, and learn from this information about how to work with parents as they gain knowledge and develop as leaders in the city's school readiness campaign. For example, the East Boston BCT initiative used family engagement data to see that they were penetrating one corner of the neighborhood but missing a housing development where there were many families with young children. As a result, the housing development became a target area for subsequent outreach and engagement efforts.

In addition to using demographic indicators to target outreach, BCT neighborhoods are using indicators of parent access to resources to refine service offerings. Reflecting together at the end of the initiative's first year, Thrive in 5 and its BCT partners recognized that the data they were collecting on families in BCT was limited. They knew how many families were partaking in the various community-based activities, but they knew nothing about who these families were, whether they were participating in more than one activity, or how their participation was changing over time. As a way to incentivize family participation and collect more useful data on the families served, BCT instituted a swipe card system to enroll and track family participation in school readiness activities. Every BCT family receives a card that they scan each time they participate in a school readiness activity. Families receive points for participation, and the hub agency tracks points to award school readiness prizes. These data give the hub agency a much clearer picture of the families they serve, the depth of involvement, and the demand for different services. At the same time, families are encouraged to use resources they may not otherwise have accessed. Over time, Thrive in 5 will have data on indicators of school readiness to understand how the efforts to target and connect families to relevant resources are affecting the school readiness of young children.

Indicators demonstrate the results Boston Children Thrive is having in reaching the city's most underserved families.

Indicators of participant demographics and access to resources have been used to affect change on a number of levels in BCT communities. Families are increasingly accessing the resources that are available to them, agencies are better targeting isolated and disconnected families, and BCT is affecting how other neighborhood-based organizations are approaching their work.

In the BCT neighborhood of Dudley, data collected from the Dudley Children Thrive (DCT) swipe card system show that the large majority of families are accessing the school readiness resources available to them. Ninety-four percent of families enrolled in DCT have participated in one school readiness activity, and half have participated in more than one. All of the BCT hub agencies are using these data to inform what programs to offer in a way that responds to community demand. Similarly, in East Boston Children Thrive (EBCT), data have indicated that the demand for play groups was exceeding supply. Thrive in 5 therefore provided resources to EBCT to hire parent leaders to lead play groups at the library and a homeless shelter. Indicators of parent access to resources also informed a decision to move play groups to a higher need part of the Dudley neighborhood as a way to provide equity of access to families across the city.

These indicators also allow Thrive in 5 and its BCT partners to track how well they are engaging households with children who are most likely to be affected by the achievement gap. Fifty-five percent of families enrolled in BCT speak a language other than or in addition to English, compared to 44 percent for Boston as a whole. Eighty percent of those enrolled are families of color, compared to 72 percent of the neighborhoods as whole. Forty-seven percent of enrolled families have educational attainment of a high school diploma or less, compared to 33 percent of the neighborhoods as a whole. Over time, Thrive in 5 will connect the indicators of family outreach to indicators of children's school readiness. These indicators will demonstrate how engaging and supporting BCT's target families is translating to improved outcomes for BCT's target children in pursuit of getting all of Boston's children ready for success in school and in life by 2018.

Outcomes of Boston Children Thrive

- BCT hub agencies are using data to better target resources
- 94 percent of enrolled families in one BCT neighborhood have participated in school readiness activities
- BCT is disproportionately enrolling families most likely to be affected by achievement gaps:
    - 80 percent are families of color
    - 55 percent speak a language other than or in addition to English
    - 47 percent have educational attainment of a high school diploma or less

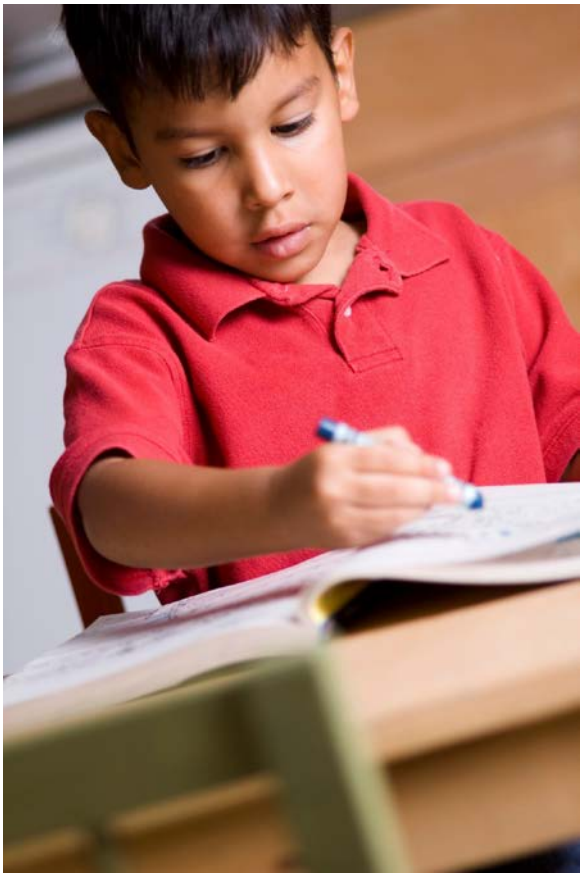
Where to Go from Here: Using this Report

These examples show how indicators can serve the needs of practitioners, researchers, evaluators, policy makers, and others in the early learning field to help define child success and factors that support young children's growth and development. This report's indicators, emerging themes, and stories of "indicators in use" are intended to initiate conversations and spark new ways of thinking about early learning indicators. Specifically, the indicators, themes, and perspectives presented here aim to support collaboration in the early learning field, by informing conversations, decisions, and actions to improve outcomes for young children.

However, the value of indicators comes only from their use, which is largely driven by context. How indicators can be used to affect change depends on the needs, purpose, and actors involved within a given situation. The indicators and themes presented here are relevant across a range of actors and situations and are meant to start to a conversation rather than provide a resolution. Illustrative uses of how these indicators and themes can be used (independently or in collaboration) are described in the table that follows.

Stakeholders	Illustrative Uses
Practitioners	• Inform programmatic priorities, including types and capacity of services offered • Guide identification and outreach to target populations • Frame outcomes desired and track progress toward outcomes
Evaluators	• Reflect program/initiative goals and outcomes • Define common indicators to evaluate across programs/initiatives • Define baseline/starting point and provide means to track progress over time and inform recommendations
Funders	• Inform assessment of needs and opportunities, goal-setting, and strategic priorities • Provide alignment/common indicators across grantees and across multiple funders
Researchers	• Highlight emerging themes that warrant further inquiry • Provide indicators to incorporate into early learning and education research
Policy Makers	• Guide policy priorities with regard to needs and assets of constituent communities • Identify impact and influence of policy decisions related to early childhood • Inform advocacy efforts and public awareness campaigns
Across stakeholder groups, indicators can serve to: • Provide a common language for describing the development of young children and the environments (e.g., family, care and education settings, communities) affecting that development • Create a platform for collaboration by framing shared outcomes and goals • Enable alignment across actors to inform actions, track progress, and make adjustments over time	

The first years of life are a period of critical importance for putting young children on a path that can support them through the rest of their lives. Virtually everyone has a role to play in shaping how the young children in their lives learn, grow, and thrive. In these wide-ranging roles and the ecosystem that encompasses them, indicators can help individuals and groups of actors better understand their purpose and inform the actions they take on behalf of the healthy development of young children. Again, indicators are a compass, not a map. They can give direction, but it takes many different actors with a common language and shared understanding to reach the destination: a nation where children—all children—are nurtured, supported, and prepared for success in school, work, and life.



References

Bronfenbrenner, U. (1979). The Ecology of Human Development: Experiments by Nature and Design. Cambridge, MA: *Harvard University Press*.

Bruner, C. and Emarita, B. (2009). Building public early childhood data systems for a multi-ethnic society: Issues & opportunities. Available at: www.buildinitiative.org/content/diversity-and-equity.

Center on the Developing Child, Harvard University. *Child Development Fact Sheet*. Retrieved May 28, 2013 from http://developingchild.harvard.edu/download_file/-/view/441/.

Children's Defense Fund. (2012). State of America's Children® Handbook 2012. Washington, D.C.: *Children's Defense Fund*.

Coffman, J. (2007). A framework for evaluating systems initiatives. Boston, MA: *BUILD Initiative*.

Cross, T., Bazron, B., Dennis, K., and Isaacs, M. (1989). Towards a culturally competent system of care, Volume I. Washington, DC: *Georgetown University Child Development Center, CASSP Technical Assistance Center*.

Halle, T., Hair, E., Nuenning, M., Weinstein, D., Vick, J., Forry, N., & Kinukawa, A. (2009). Primary Child Care Arrangements of U.S. Infants: Patterns of Utilization by Poverty Status, Maternal Work Schedule, and Child Care Assistance. Bethesda, MD: *Child Trends*.

Heckman, J. J. (2008). Return on investment: Cost vs. benefits. Chicago: *The University of Chicago*.

Jencks, C. and Phillips, M. (1998). The Black-White Test Score Gap. Washington, DC: *Brookings Institution Press*.

National Council of La Raza. (2011). *Toward a More Vibrant and Youthful Nation: Latino Children in the 2010 Census*. Retrieved May 28, 2013 from http://www.nclr.org/index.php/publications/toward_a_more_vibrant_and_youthful_nation_latino_children_in_the_2010_census/.

Obama, Barack (Speaker). (2013). *President Obama's 2013 State of the Union Speech* [Transcript]. Retrieved May 28, 2013 from http://swampland.time.com/2013/02/12/president-obamas-2013-state-of-the-union-speech-transcript/.

Office of Superintendent of Public Instruction. (2011). *Bremerton School District Report Card*. Retrieved March 27, 2013 from http://reportcard.ospi.k12.wa.us/summary.aspx?schoolId=119&reportLevel=District&orgLinkId=119&yrs=2011-12&year=2011-12.

Rhode Island KIDS COUNT. (2005). Getting ready: Findings from the National School Readiness Indicators Initiative. Providence, RI: *Rhode Island KIDS COUNT*.

Scott-Little, C., Lesko, J., Martella, J., Milburn, P. (2007) Early Learning Standards: Results from a National Survey to Document Trends in State-Level Policies and Practices. Champaign, IL: *Early Childhood Research Practice. Volume 9 Number 1*.

Shankoff, J. P. and Phillips, D. A. (Eds.). (2000). From neurons to neighborhoods: The science of early childhood development. Washington, D.C.: *National Academy of Sciences*.

Snow, C. and Van Hemel, Susan (2008). Early Childhood Assessments: Why, What & How. Washington, DC: *National Research Council of the National Academies*.

Strive Network. *Cradle-to-Career Network.* Retrieved May 28, 2013 from http://strivenetwork.org/strive-network.

United States Department of Commerce. (2011). *Income, Poverty & Health Insurance Coverage in the United States: 2010* (USCB Publication No. P60-239). Washington, D.C.: DeNavas-Walt, C., Proctor, B., Smith, J. Retrieved from http://www.census.gov/prod/2011pubs/p60-239.pdf

Appendix A: Methodology

Methodology

The methodology used to identify, synthesize, and vet the indicators and emerging themes presented in this report is detailed below.

Interviews with Experts: FSG conducted interviews with 40 experts representing parents; teachers and child care providers; health care providers; communities of color; national, state, and local policy makers; and researchers (see Appendix B for interview list and Appendix C for interview questions) to learn about the existing state of indicators in the early learning field. We initially interviewed several individuals with expertise in early learning indicators and used a snowball sampling method to identify additional interviewees.

Inclusion of Indicator Sets: Our research team collated more than 100 documents from the fields of childcare, childhood development, education, health, literacy, and multicultural studies. These documents included indicators of successful child development and well-being, factors surrounding the child that contribute to success, and relevant policy and research trends. Because a wide range of indicator sets were identified during our review, eleven indicator sets were included for further analysis based on five criteria:

1. The set was suggested by an expert whom we interviewed.
2. The set of indicators covered multiple domains of a child's development, such as physical, cognitive, social-emotional.
3. The set included indicators relating to multiple system layers, such as the child, family, education and care settings, and the community.
4. The set considered racial, ethnic, or cultural diversity in the design and intended use of its indicators.
5. The indicator set was intended for use nationally or in multiple localities.

Eleven sets of indicators were included for further analysis and came from the following sources:

1. *Getting Ready: Findings from the National School Readiness Indicators* Initiative by Rhode Island KIDS COUNT, 2005
2. *State Indicators for Early Childhood*, by Project Thrive at the National Center for Children in Poverty, 2008 and 2009
3. *ChildTrends Databank*, by ChildTrends (databank accessed 2012)

4. *The Early Development Instrument* (EDI) by the Offord Centre for Child Studies, 2012
5. *Teaching Strategies GOLD* by Teaching Strategies LLC, 2010
6. *Latino Child Well-Being in Numbers and Trends* by the National Council of La Raza, 2010
7. *National Head Start Early Learning Framework* by National Head Start, 2010
8. *Guidance on NAEYC Accreditation Criteria*, by the National Association for Education of Young Children, 2011
9. *Early Childhood Environment Rating Scale Revised*, ECERS-R suite (ITERS, ECERS, FCCRS, SECRS), by Harms and colleagues, 2005
10. *Classroom Assessment Scoring Systems, CLASS suite (CLASS K–3, Pre-K, Toddler),* Building Success Markers for Early Learning and Education Indicator Report by Pianta and colleagues, 2008
11. *America's Children: Key National Indicators of Well-Being* by the Federal Interagency Forum on Child and Family Statistics, 2011

Analysis of Indicator Sets: After identifying indicator sets that are highly regarded in the field and that address the different domains and system layers affecting early learning and development, we analyzed the indicator sets to identify indicators that were most common among them. This identification process included: 1) listing every indicator as they appeared in each set, 2) identifying duplicates, and 3) tallying how many times a unique indicator appeared among the eleven indicator sets. From the approximately 1,100 indicators that were initially listed, we identified 62 indicators that had multiple tallies.

Collection and Analysis of Expert Feedback: Over two dozen experts provided written feedback to prompting questions regarding the preliminary list of 62 indicators (prompting questions included in Appendix D). Written responses addressed the inclusion or exclusion of specific indicators; the overall balance of indicators across the system layers of child, family, education and care settings, and community; the degree to which the indicators reflected an emphasis on racial equity; and factors facilitating the use of indicators. Suggestions and comments were captured in a table and coded to identify indicators to exclude and revise as well as broader framing issues to include. Reviews for each indicator were synthesized and used to guide the development of a final list of indicators. In some cases, indicators were deleted from the list given multiple expert opinions to do so. In other cases, suggested revisions to indicators were made based on experts' knowledge of particular domains or system levels. Indicators were not necessarily excluded if experts noted the challenge of accessing data or measuring indicators, or if they speculated about the existence of data.

Focus Groups: In addition to requesting written feedback, we conducted two focus groups with early learning experts to assess the extent to which a draft set of 62 indicators addressed racial and cultural diversity in the way they were stated and/or could be used. Prompting questions to which focus group participants responded included: "To what extent do the indicators presented sufficiently reflect a racial

equity lens?" and "Should indicators specify attributes of specific racial or linguistic groups? Or should indicators be stated generally?" Focus groups were also opportunities to consider how indicators can be used to facilitate action. Transcripts of focus groups were incorporated into an overall analysis of expert feedback.

Suggestions and comments from experts were captured and synthesized, and guided the development of a final list of indicators. Based on expert input, indicators were refined from 62 to 48, with 10 additional emerging themes. The 48 indicators and emerging themes identified for inclusion were divided into four categories to reflect the "layers" of the early childhood system: child, families, care and education settings, and communities. We assigned indicators to categories using our judgment as informed by conversations with experts and reviews of the literature.

Appendix B: List of Interviewed Experts

Michelle Albert	Harvard University, Center on the Developing Child
Steve Barnett	National Institute for Early Education Research
Erika Beltran	National Council of La Raza
Steve Border	Grand Valley State University, Community Research Institute
Charlie Brunner	Child and Family Policy Center
Elizabeth Burke Bryant	Rhode Island Kids Count
Hedy Chang	Attendanceworks
Steffanie Clothier	National Conference of State Legislators
Julia Coffman	Center for Evaluation Innovation
Dennis Culhane	University of Pennsylvania, Kids Integrated Data System
Nancy Donelan-McCall	University of Colorado Denver School of Medicine
Cheryle Dyle-Palmer	Parents as Teachers National Center
Jim Edwards	Grand Valley State University, Community Research Institute
Linda Espinosa	University of Missouri – Columbia
Bonnie Freeman	National Center for Family Literacy
Stacie Goffin	Goffin Consulting
Tawara Goode	Georgetown University
Neal Halfon	UCLA, Center for Healthier Children, Families, and Communities
Clyde Hertzman	Human Early Learning Partnership
Lauren Hogan	National Black Child Development Institute
Ruth Kagi	Washington State Legislature, 32nd District
Blythe Keeler Robinson	Early Learning Coalition of Miami-Dade/Monroe
Carlise King	California ChildCare Research and Referral Network
Fran Kipnis	UC Berkeley, Center for the Study of Child Care Employment
Lisa Klein	Birth to Five Policy Alliance
Antonia Lopez	National Council of La Raza
Katherine Magnuson	University of Madison School of Social Work
David Murphey	Child Trends
Milagros Nores	National Institute for Early Education Research
James Radner	University of Toronto, Boreal Institute
Shao-Chee Sim	Charles B. Wang Community Health Center
Sarita Siqueros Thornburg	Puget Sound Educational Services District
Catherine Snow	Harvard Graduate School of Education
Kyle Snow	National Association for the Education of Young Children
Daisy Ta-Chuan Tsao	Charles B. Wang Community Health Center

Kathryn Tout	Child Trends
Ron Walker	Coalition of Schools Educating Boys of Color
Catherine Walsh	Rhode Island Kids Count
Albert Wat	National Governors Association
Hiro Yoshikawa	Harvard Graduate School of Education

Appendix C: Interview Guide - Select Questions

Background Remarks

- FSG was recently awarded a grant by the W. K. Kellogg Foundation to identify key indicators of success in early care and education from age 0 to 8. Our work aims to build from and complement existing work in this field.
- We plan to identify commonly used indicators, locate the gaps and limitations of these indicators, and make recommendations for future refinements to those indicators. Through a widespread and intensive vetting process, the project will result in a set of success markers that are broadly recognized and accepted among diverse communities in the field.
- In our preliminary reviews of research and subject matter experts, you were identified as a key expert with extensive knowledge of the early care and education field. Thank you in advance for sharing your perspectives, experiences, and recommendations regarding success indicators of children from age 0 to 8.
- Participation is voluntary. Do you have any questions for us before we get started?

Questions

1. What has been **your experience** in the field of early learning, particularly around indicator development?
2. How would you describe the **current state of affairs among developing indicators** for success in early learning? What do you anticipate as **key trends affecting the field's development** in the next few years?
3. Who are the **major actors** in the field of early care and education? Who is currently focused on **developing indicators** for children ages 0 to 8?
4. To what extent have you seen indicators being **used to guide research and practice** in the field of early learning?
5. What role should the **federal, state, and neighborhood/community-level** actors play in indicator development and use?
6. In what ways is the field of **early learning and care fragmented**? What would help in reducing this level of fragmentation?
7. To what extent do you think current indicator development efforts **reflect diverse perspectives** (e.g., racial, ethnic, cultural)?

8. If they don't, why do you think this is missing?
9. What might be done to better include such perspectives in future indicator and outcome work?
10. What **initiatives or programs** have you seen to be successful in addressing cross-systems fragmentation in early learning? What are good ways of bringing people together to work toward the same outcomes in early learning?
11. **Who else** would be helpful to speak to with regards to developing shared indicators in early learning?

Appendix D: Prompting Questions for Expert Review of Draft Indicators

Question 1a: From the list of **Child Outcomes**, which indicators should be **excluded**? Provide criteria for your decision in your response.
1b: To what extent are the ***most critical*** aspects of whole child development represented in this set of **child outcomes indicators**?

Question 2a: From the list of **Families** indicators, which indicators should be **excluded**? Provide criteria for your decision in your response.
2b: To what extent are the ***most critical*** aspects of **families** represented in this set of **indicators**?

Question 3a: From the list of **Care Centers and Schools** indicators, which indicators should be **excluded**? Provide criteria for your decision in your response.
3b: To what extent are the ***most critical*** aspects of **care centers and schools** represented in this set of indicators?

Question 4a: From the list of **Communities and Policies** indicators, which indicators should be **excluded**? Provide criteria for your decision in your response.
4b: To what extent are the ***most critical*** aspects of **communities and policies** represented in this set of indicators?

Question 5: To what extent do the indicators presented in this entire document address **racial equity**? What recommendations would you make to ensure racial equity is met?

Question 6: To what extent is this **overall draft list of indicators balanced** in representing child outcomes and factors at family, care center and school, and community levels that impact a child's success?

Question 7: Please provide **any additional comments** about how indicators can be designed or used to ensure that all children are successful in education and life.

All statements and conclusions, unless specifically attributed to another source, are those of the authors and do not necessarily reflect those of the other organizations or references noted in this report.

For questions or comments on this report, please contact:

Hallie Preskill, Ph.D.
Managing Director, FSG
Hallie.Preskill@fsg.org

FSG

FSG is a nonprofit consulting firm specializing in strategy, evaluation, and research, founded in 2000 as Foundation Strategy Group. Today, FSG works across sectors in every region of the world—partnering with foundations, corporations, nonprofits, and governments—to develop more effective solutions to the world's most challenging issues.