



## **Learning about Infant and Toddler Early Education Services (LITES): Summarizing the Research and Gaps on Compelling Models**



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# **Learning about Infant and Toddler Early Education Services (LITES): Summarizing the Research and Gaps on Compelling Models**

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**EXPERT PANEL MEMBERS**

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We would like to thank the following members of our expert panel for their assistance with the LITES compelling models task. The views expressed in this publication do not necessarily reflect the views of these members.

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## EXECUTIVE SUMMARY

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### Purpose and scope of LITES

A growing body of research indicates that high quality early learning experiences can promote young children’s development (Camilli et al. 2010; Duncan and Magnuson 2013). Recent research bringing together neuroscience, child development, and economics has made the case that children’s early experiences are deeply influenced by poverty and have impacts on their cognitive, social-emotional, and physical health outcomes that extend into the school years and beyond (Camilli et al. 2010; National Scientific Council on the Developing Child 2007; Halle et al. 2009; Yoshikawa et al. 2013). These findings have emphasized the need for high quality early learning experiences for disadvantaged children that can promote development and reduce achievement gaps. Research is building about the effectiveness of preschool programs for preparing disadvantaged children for entry into kindergarten and beyond, yet less is known about effective program models to support infant and toddler early learning. Therefore, the Office of the Assistant Secretary for Planning and Evaluation (ASPE), in partnership with the Office of Planning, Research and Evaluation, within the U.S. Department of Health and Human Services, funded Mathematica Policy Research and its partners to conduct the Learning about Infant and Toddler Early Education Services (LITES) project. LITES aimed to identify replicable program models that support infant and toddler early learning in out-of-home early care and education (ECE) settings to inform future research, policy, and program directions at the federal, state, and local levels.

LITES includes two main components: (1) a systematic review to identify effective program models in out-of-home ECE settings that support infant and toddler early learning, and (2) a scan of the field for program models that are of interest (or “compelling”) for supporting these domains of infant/toddler development, but lack rigorous research examining impacts on children’s outcomes. For both components, we examined infant and toddler early learning models that targeted children’s cognitive, language, and/or social-emotional/behavioral development. For the systematic review, we conducted a comprehensive literature review to identify studies with eligible research designs, rated the quality of the studies, and examined evidence of effectiveness on children’s outcomes. In contrast, for the compelling models scan, we identified models through a nomination process and discussion with a small group of experts in the field<sup>1</sup> This report focuses on the compelling models identified in that scan. To learn more about the scope, methodology, and findings for the systematic review, please refer to Monahan et al. 2015

Together, the two components provide a picture of available models to support infant and toddler early learning, including those with rigorous evidence of effectiveness on child outcomes and those considered compelling in the field but lacking rigorous research evidence. This latter

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<sup>1</sup> We developed the compelling models nomination process to identify models considered compelling by ECE experts. Because it was a nomination process, this report does not provide a representative or exhaustive list of all possible replicable program models that support infant and toddler early learning in out-of-home ECE settings and lack rigorous research.

component is a unique contribution of LITES since most systematic reviews do not include a category of models without rigorous research on the identified outcomes of interest. LITES, however, does not provide an all-inclusive review of all available infant and toddler early learning models nor the full range of descriptive research conducted on them. An exhaustive scan for all potential programs was beyond the scope of this report. For example, models in the systematic review whose studies were all rated as low quality were *not* considered for or included in the compelling models report. The models with only low-rated studies are described in Appendixes A and B of Monahan et al. 2015.

## Methods

We defined “compelling models” as models that are viewed by the ECE field as having potential for promoting infant and toddler early learning in out-of-home settings, but have not yet been rigorously evaluated. The primary distinction between the models included in this report and those included in the LITES systematic review is the availability of research examining the impact of the models on child outcomes in the domains of language, cognition, and/or social emotional/behavioral development. To identify potential compelling models, we disseminated a call for nominations to electronic mailing lists for practitioners and researchers in ECE and related fields, and we solicited nominations directly from ECE experts. We sought well-specified models<sup>2</sup> that included a defined package of components to support infant and toddler early learning, or professional development to help caregivers support infant and toddler early learning. Services had to broadly target infants and toddlers and/or their out-of-home caregivers; programs that narrowly targeted children with specific diagnosed disabilities or medical conditions were not included.

The nomination process yielded 24 relevant models. To prioritize them, we applied four criteria: (1) the model had at least one descriptive study of child outcomes with potentially positive findings; (2) the model had at least one impact study with positive findings on *interim* outcomes (structural features of care, caregiver-child interaction, caregiver skills or knowledge of child development, or global ECE quality); (3) the model had documentation to support replication (such as training manuals or implementation guidelines); or (4) the model had been used in at least two independent sites or, for curricula, in at least five percent of Early Head Start programs.<sup>3</sup> In consultation with ASPE, ACF, and an expert work group, we selected models that met at least two of these criteria for further examination<sup>4</sup>

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<sup>2</sup> We defined *well-specified models* as those that had: (1) clear inclusion and exclusion criteria that define the population for which the model is intended, (2) a clear description of the model components or features that must be present, and (3) clear practice guidance to promote consistency of service delivery (such as the availability of implementation guides and staff training materials, requirements for staff qualifications, or the availability of ongoing technical assistance; Fixsen et al. 2013).

<sup>3</sup> We deemed five percent to be a reasonable cut point as the number of programs using each curricula dropped considerably below the cut point.

<sup>4</sup> For the LITES systematic review (see Monahan et al. 2015), models were included if their studies used an eligible research design and examined impacts on specified child outcomes. Studies in the systematic review were rated based on the internal validity of the research. Studies were rated ‘low’ if they had an eligible design but did not meet review standards. Models included in the systematic review were *not* eligible for consideration in this compelling

## Results

Based on the prioritization criteria, LITES identified 13 compelling models to support infant and toddler early learning in out-of-home ECE settings that show potential for the field but have not yet been rigorously evaluated (Box 1). Two of the models provide direct early learning services<sup>5</sup> to infants and toddlers; six models focus primarily on working with caregivers through coaching, modeling, or consultation to help them support infant and toddler early learning; and five models are infant/toddler curricula.<sup>6</sup> Although the 13 models are distinct enough to warrant sorting them into these three categories, there is some unavoidable overlap. For example, the direct early learning models, as well as some curriculum models, include coaching or consultation for caregivers.

### Box I. Compelling models prioritized for inclusion in the report

Models that provide direct early learning services to children:

- Early Learning Readiness Program for Informal Family, Friend, and Neighbor Caregivers
- Educare

Models that primarily focus on professional development for caregivers:

- Early Childhood Consultation Partnership
- Expanding Quality in Infant Toddler Care course and EQ RELATE Model of Coaching
- First Beginnings (Philadelphia Inclusion Network)
- Infant Caregiver Mentoring Project
- Seeds to Success
- Smart Support

Curricula models:

- Assessment, Evaluation, and Programming System, Second Edition, Curriculum for Birth to Three Years
- The Creative Curriculum for Family Child Care, Second Edition
- The Creative Curriculum for Infants, Toddlers & Twos, Third Edition
- Hawaii Early Learning Profile 0-3
- HighScope Infant-Toddler Curriculum

Across the 13 models, the range of target outcomes include children's development (9 models), caregiver knowledge and skills (3 models), and environment quality (3 models; Appendix B, Table B.1). Of the nine models targeting children's development, seven (including

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*(continued)*

models report. None of the models that only had studies rated low in the systematic review were nominated for the compelling models component. In addition, the project schedule did not allow time for the research team to add models with only low-rated studies to the list of models under consideration for the compelling models scan.

<sup>5</sup> For LITES, we considered direct early learning services to be services targeted directly to infants and toddlers to support their early learning and intended to influence children's cognitive, language, and/or social-emotional/behavioral development.

<sup>6</sup> For purposes of this project, we used the definition of *curriculum* Epstein et al. (1996) used in their review of models of early childhood education. They defined curriculum as a set of education practices that are recommended from a specific theoretical viewpoint. Further, we focused on models that included documentation to support implementation of the practices.

all five curriculum models) target multiple domains of development, including language, cognition, and social emotional/behavioral development and two (both mental health consultation models) target only children's social emotional/behavioral development. Although only three models specifically target caregivers' knowledge and skills, all 13 models include supports for caregivers (such as offering training, coaching, or consultation or implementation guides and other materials) to help them support children's development and/or improve program quality.

Within categories of models we identified common features. Specifically, the models primarily focused on professional development for caregivers were most often relationship-based, one-on-one interventions that were offered to caregivers in ECE settings and were focused on achieving specific and articulated objectives. Most of the models were intensive with services offered weekly or biweekly and substantial in duration lasting from four to six months. According to the research literature, these features may represent effective practices in professional development (U.S. Department of Education 2010). All five curricula models are linked to child assessment tools; the assessments are designed to guide caregivers in how they individualize services for children. These models also include preschool versions (some of which have been rigorously evaluated) allowing for continuity of approaches from birth to age 5 years.

The 13 compelling models we profile in this report are in different stages of development. The level of specification in the compelling models we profiled varied, both across models and across implementation components (Table ES.1). For example, all 13 models specified target populations of infants, toddlers, and/or their caregivers, as well as target outcomes for those populations. Most also had available implementation guides, training materials, and qualified trainers. Almost half of the models had fidelity standards and systems for monitoring fidelity. However, even the models with written materials to support implementation could benefit from additional guidance about the components that need to be in place to implement the model with fidelity. This would require developing standards that include minimum specifications for the model to provide consistent service delivery. For example, developers might consider not only making training available, but also setting minimum specifications for the types and levels of training required by staff implementing the model. Without this information, researchers and practitioners may not have the information they need to understand whether the model is being implemented in adherence with the developer's specifications. In addition, in some instances a practitioner may want to adapt an existing model for use with a different population (for example, dual language learners) but have little guidance or support on how to do this.

**Table ES.1. Overview of documented implementation components**

Implementation component	Number of compelling models
The model developer has specified the following:	
Target outcomes	13
Target population	13
Dosage of services	8
Program length	9
Staff education requirements	3
Staff training requirements	6
Supports for implementation	13
Implementation/operation manuals	11
Training materials	12
Qualified trainers	12
Fidelity standards	6
Systems for monitoring fidelity	6

Because we focused on identifying models that had not yet been part of an impact study to examine children’s outcomes, we anticipated finding primarily implementation or descriptive research on these models. Eight of the 13 models had at least one research study, although most had only one study (Table ES.2).<sup>7</sup> None of the curricula models had existing research. Four models had studies examining implementation (Early Childhood Consultation Partnership [ECCP], Early Learning Readiness Program [ELR], Smart Support, and Seeds to Success); two models had descriptive studies measuring children’s outcomes (Educare and Smart Support); and four models had descriptive studies of *interim* outcomes (ELR, Educare, First Beginnings, and Smart Support). The research also included three randomized controlled trials (RCTs) measuring *interim* outcomes (Expanding Quality in Infant Toddler Care and EQ RELATE coaching model, Infant Caregiver Mentoring Project, and Seeds to Success)<sup>8</sup> At the time this report was written, impact studies examining child outcomes were also under way for two models: ECCP and Educare. Because results were not yet available for these impact studies, however, these two models were not included in the LITES systematic review. Across the five descriptive and three impact studies of interim outcomes, the outcome domains measured included observed quality

<sup>7</sup> We only report findings from studies that focused on infants and toddlers and their caregivers. Specifically, we report findings on children’s outcomes for infants and toddlers, or interim outcomes for infant and toddler caregivers or settings where infants and toddlers received care (structural features of care, caregiver-child interaction, caregiver skills or knowledge of child development, or global ECE quality). We include findings from implementation studies if they reported on care settings for infants and toddlers.

<sup>8</sup> These models were *not* eligible for the LITES systematic review because the impact studies measured only interim outcomes. To be eligible for the systematic review, the models had to have eligible research designs examining the impact of the models on child outcomes in the domains of language, cognition, and/or social emotional/behavioral development.

(seven studies) and caregiver knowledge and skills (four studies)<sup>9</sup> Across the two descriptive studies of child outcomes both measured social-emotional/behavioral development and one also measured school readiness and vocabulary. The three models with impact studies of interim outcomes were all professional development models; the findings pointed to the potential of these models to improve observed quality and increase caregiver knowledge and skills.

**Table ES.2. Overview of research on compelling models, by study type**

Model	Implementation study	Descriptive study: child outcomes	Descriptive study: interim outcomes <sup>a</sup>	Impact study: interim outcomes	Impact study underway: child outcomes
Early Childhood Consultation Partnership (ECCP)	✓				✓ <sup>b</sup>
Early Learning Readiness (ELR) Program	✓		✓		
Educare		✓	✓		✓ <sup>c</sup>
Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching				✓ <sup>d</sup>	
First Beginnings <sup>e</sup>			✓		
Infant Caregiver Mentoring Project <sup>e</sup>				✓ <sup>f</sup>	
Seeds to Success <sup>e</sup>	✓			✓	
Smart Support	✓	✓ <sup>g</sup>	✓ <sup>g</sup>		

<sup>a</sup>Interim outcomes are those *other than* child outcomes that are thought to be related to child development. For LITES, this included the following domains: global ECE quality, structural features of care, caregiver-child interaction, and caregiver knowledge of child development.

<sup>b</sup>Results from a small pilot impact evaluation of ECCP became publically available in December 2014, after the analyses for the LITES systematic review and compelling models profiles were complete.

<sup>c</sup>Data collection is in progress for the first phase of an impact study on Educare, which follows children through age 3; the youngest children in the study turn 3 in September 2015.

<sup>d</sup>The study of EQIT included comparison groups of convenience. Within the EQIT intervention group, participants were randomly assigned to receive different amounts of coaching.

<sup>e</sup>First Beginnings and the Infant Caregiver Mentoring Project are not currently active. After the Seeds to Success demonstration period concluded, it was used to develop a new system called Early Achievers, which is currently in operation.

<sup>f</sup>The study of the Infant Caregiver Mentoring Project used a randomized design, but reported analyses of pre-post differences within groups.

<sup>g</sup>Smart Support presented study results in an infographic provided by the developer rather than a research report.

Although many of the models have begun the process of building a research base, additional research on out-of-home ECE models for infants and toddlers is essential for moving the field

<sup>9</sup> The total number of descriptive studies measuring interim outcomes is five because one model, First Beginnings, has two studies.

forward. The compelling models that are well-specified and have some existing research evidence might be ready for impact studies that examine their effects on children's outcomes. The two models that are currently the focus of impact studies could be tested with different subgroups of caregivers (for example, family child care providers and center-based providers) or children (for example, dual language learners and monolingual English speakers) to identify the groups for which particular strategies are most effective. Others might require a full spectrum of research, including implementation studies, outcome studies, and rapid cycle evaluations, to test the feasibility of staff training and implementation procedures, develop standards for high-fidelity implementation and measures to monitor fidelity, and assess whether the models show potential for producing intended outcomes. In addition, research is needed on the components of the models that are most important to achieving desired child outcomes. Such a process of model development and initial testing could lay the groundwork for rigorous evaluation to identify effective models and model components that have strong potential to improve outcomes for infants and toddlers and prepare them for further learning as they transition into preschool.

Since the process of developing and testing models requires time and resources, several innovative strategies should be considered for supporting model development. Recent attention has been given to the use of rapid cycle evaluations as a cost-effective strategy for guiding decision making (Cody and Asher 2014; Metz et al. 2015). By leveraging data available in administrative records, model developers can test interventions more quickly than evaluations that require collecting data. Because the outcomes need to be observable in a short period of time, it is most useful in looking at outputs and impacts on intermediate outcomes. Rapid cycle evaluations can be particularly useful in testing potential solutions to implementation difficulties. For example, this type of evaluation could be used to test interventions for increasing ongoing attendance rates of informal caregivers participating in ELR (such as altering the time of day events are offered, offering transportation, or using text message reminders); ELR administrative data could serve as a data source for tracking whether the interventions led to increased attendance. In this way, it is a powerful tool for informing decision makers about ways to continually improve program models.

Model developers and other decision-makers may also be able to collaborate with networks of researchers to implement these types of evaluations. For example, the Network for Infant/Toddler Researchers (NITR) sponsored by OPRE, collaborative innovation and improvement networks (CoIINs), and Early Learning Labs could serve as forums for supporting development of ECE models for infants and toddlers. These networks bring together practitioners, researchers, and experts for mutual learning. Early Learning Labs aim to accelerate experimentation and development of scalable early learning interventions.

## Key Findings

- LITES defined “compelling models” as models that are viewed by the ECE field as having potential to promote infant and toddler early learning in out-of-home settings, but have not yet been rigorously evaluated. LITES prioritized models that met at least two of the following four criteria:
  1. At least one descriptive study of child outcomes with potentially positive findings (2 models met this criteria)
  2. At least one impact study with positive findings on *interim* outcomes (3 models met this criteria)
  3. Documentation to support replication (all 13 models met this criteria)
  4. Used in at least two independent sites or, for curricula, in at least five percent of Early Head Start programs (all 13 models met this criteria)
- LITES examined infant and toddler early learning models that targeted children’s cognitive, language, or social-emotional/behavioral development. LITES identified compelling models through a nomination process and discussion with a small group of experts in the field. Together with the systematic review, the two components provide an extensive picture of available models to support infant and toddler early learning, including those with rigorous evidence of effectiveness on child outcomes and those considered compelling in the field but lacking rigorous research evidence. LITES, however, does not provide an exhaustive review of all available infant and toddler early learning models nor the full range of descriptive research conducted on them.
- LITES identified 13 compelling models to support infant and toddler early learning in out-of-home ECE settings that have potential for the field but not yet rigorously evaluated.
  - 2 models provide direct early learning services to infants and toddlers.
  - 6 models provide coaching, modeling, or consultation to help caregivers support infant and toddler early learning.
  - 5 models are infant/toddler curricula.
- The outcomes targeted by the compelling models include children’s development (9 models), caregiver knowledge and skills (3 models), and environment quality (3 models).
  - Of the nine models targeting children’s development, seven (including all five curriculum models) target multiple domains of development including language, cognition, and social emotional/ behavioral development and two (both mental health consultation models) target only children’s social emotional/ behavioral development.
  - Although only three models specifically target caregivers’ knowledge and skills, all 13 models include supports for caregivers (such as offering training, coaching, or consultation to caregivers, or implementation guides and other materials).
- The level of specification of the compelling models varied. All models could benefit from additional guidance on how to implement with fidelity. Staff in many infant and toddler ECE settings may be using models with limited training or support, potentially resulting in wide variation in implementation.
- Eight of the 13 models had at least some research, usually a single implementation or descriptive study. Two models had descriptive studies measuring child outcomes and four had descriptive studies measuring interim outcomes. Three models had impact studies examining interim outcomes, and impact studies examining child outcomes were under way for two models. None of the curricula models had existing research.
  - Across the five descriptive and three impact studies of interim outcomes, the outcome domains measured included observed quality (seven studies) and caregiver knowledge and skills (four studies).
  - Across the two descriptive studies of child outcomes both measured social-emotional/behavioral development and one also measured school readiness and vocabulary.
  - The three models with impact studies of interim outcomes were all professional development models; the findings pointed to the potential of these models to improve observed quality and increase caregiver knowledge and skills.
- A full spectrum of implementation and outcome research is needed to develop well-specified ECE models, test the feasibility of implementation, develop fidelity standards and measures, and assess whether the models show potential for improving infant/toddler early learning outcomes. This research would lay the groundwork for rigorous evaluation to test model effectiveness.

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## I. INTRODUCTION

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A growing body of research indicates that high quality early learning experiences can promote young children’s development and help to reduce achievement gaps (Camilli et al. 2010; Duncan and Magnuson 2013). Recent research bringing together neuroscience, child development, and economic perspectives has made the case that children’s prenatal and early experiences are deeply influenced by poverty, with impacts on cognitive, social-emotional, and physical health outcomes that extend into the school years and beyond (Camilli et al. 2010; National Scientific Council on the Developing Child 2007; Halle et al. 2009; Yoshikawa et al. 2013). These findings have emphasized the need for high quality early learning experiences for disadvantaged children that can promote young children’s development and reduce achievement gaps. Research is building about the effectiveness of preschool programs for preparing children for entry into kindergarten and beyond, yet less is known about effective program models to support infant and toddler early learning. Therefore, to help inform research, policy, and program directions at the federal, state, and local levels, the Office of the Assistant Secretary for Planning and Evaluation (ASPE), in partnership with the Office of Planning, Research and Evaluation (OPRE), within the U.S. Department of Health and Human Services, funded Mathematica Policy Research and its partners to conduct the Learning about Infant and Toddler Early Education Services (LITES) project.

The project includes a systematic review to identify effective out-of-home early care and education (ECE) models for infants and toddlers (Monahan et al. 2015). The systematic review is designed to identify models for infants and toddlers with the strongest evidence of effectiveness in improving children’s outcomes in the domains of cognitive, language, and social emotional/behavioral development. The LITES project also includes a scan of the field for infant-toddler ECE models that are of interest (or “compelling”) for supporting infant/toddler development in these domains, but currently lack rigorous research examining impacts on children’s developmental outcomes. For both components, we examined infant and toddler early learning models that targeted children’s cognitive, language, and/or social-emotional/behavioral development. For the systematic review, we conducted a comprehensive literature review to identify studies with eligible research designs, rated the quality of the studies, and examined evidence of effectiveness on children’s outcomes. In contrast, for the compelling models scan, we identified models through a nomination process and discussion with experts in the field.<sup>10</sup> This report focuses on the compelling models scan.

Together, the two components provide a picture of available models to support infant and toddler early learning, including those with rigorous evidence of effectiveness on child outcomes and those considered compelling in the field but lacking rigorous research evidence. This later component is a unique contribution of LITES since most systematic reviews do not include a category of models without rigorous research on the identified outcomes of interest. LITES, however, does not provide an all-inclusive review of all available infant and toddler early

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<sup>10</sup> We developed the compelling models nomination process to identify models considered compelling by ECE experts. Because it was a nomination process, this report does not provide a representative or exhaustive list of all possible replicable program models that support infant and toddler early learning in out-of-home ECE settings and lack rigorous research.

learning models nor the full range of descriptive research conducted on them. An exhaustive scan for all potential programs was beyond the scope of this report. For example, we did not consider models with only studies rated as low quality in the systematic review for the compelling models scan. The models with only low-rated studies are described in Appendixes A and B of Monahan et al. 2015.

Recognizing that some ECE models for infants and toddlers have only preliminary evidence, this report focuses on what can be learned from these compelling models that are of interest to the field. The purpose of this scan for compelling program models is to identify and highlight models that warrant further consideration by researchers, policymakers, and practitioners due to their potential for contribution to the field. These include models with studies that do not have sufficiently rigorous designs, such as descriptive outcome studies; models for which rigorous evaluations are under way but not yet completed; models with high quality implementation studies but no impact evaluations; and other models that lack rigorous evidence but are compelling to the field and warrant further study. In this report, we describe these compelling models, examine and summarize the evidence supporting each of them, and identify associated research gaps. The report provides an overview of newly developed and existing models in the field that may be ready for more rigorous evaluation. An understanding of these models and gaps in the research can move the field toward more rigorous, high quality research designs to better assess the effectiveness of program models designed to support infant and toddler early learning.

For this project, we defined *compelling models* as models that are viewed by the ECE field as having potential for promoting infant and toddler early learning in the domains of cognitive, language, or social-emotional/behavioral development, but have not yet been rigorously evaluated to examine impacts on these outcomes. To ensure potential replication in new settings, we focused the project on well-specified models that included a defined package of components of infant and toddler early learning services or professional development to help caregivers support infant and toddler early learning.<sup>11</sup> We defined *well-specified models* as those that had: (1) clear inclusion and exclusion criteria that define the population for which the model is intended, (2) a clear description of the model components or features that must be present, and (3) clear practice guidance to promote consistency of service delivery (such as the availability of implementation guides and staff training materials, requirements for staff qualifications, or the availability of ongoing technical assistance; Fixsen et al. 2013).

This report profiles 13 compelling infant and toddler ECE models that were identified through the LITES search methodology (see section B below), summarizes available research on these models, and suggests additional research needed to inform model development and support replication, and ultimately to demonstrate evidence of effectiveness (see Box I.1). Many of these models have been replicated but have not yet been rigorously evaluated. A few of the models have descriptive studies examining children's outcomes or rigorous evaluations examining

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<sup>11</sup> Out-of-home early learning services for infants and toddlers often draw on a series of theoretical approaches, such as Reggio Emilia and Montessori, and practices, such as continuity of care and primary caregiving. These approaches and practices are implemented in a range of configurations and intensities across settings, thus making them difficult to replicate consistently without further specification. Therefore, LITES does not feature these approaches and practices in this report, even though they are prevalent in the field.

interim outcomes,<sup>12</sup> but all lacked publically available rigorous evaluations examining effects on children's outcomes.<sup>13</sup> Two are models that provide direct early learning services to infants and toddlers. Six models focus primarily on working with caregivers through coaching, modeling, and/or collaborative consultation to help them support children's early learning,<sup>14</sup> and an additional five models are curricula implemented in programs for infants and toddlers.<sup>15</sup> Although the models broadly fall into the three categories described, in practice, there is overlap across the categories. For example, most of the direct early learning models and curriculum models we profiled include staff training, and some include ongoing support in the form of coaching or other consultation. In addition, two of the models focused on working with caregivers include a curriculum model that participants implemented in their ECE settings.

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<sup>12</sup> Interim outcomes are those *other than* child outcomes that are thought to be related to child development. For LITES, this included the following domains: global ECE quality, structural features of care, caregiver-child interaction, and caregiver knowledge of child development.

<sup>13</sup> To be eligible for the systematic review, the models had to have eligible research designs examining the impact of the models on child outcomes in the domains of language, cognition, and/or social emotional/behavioral development.

<sup>14</sup> The models profiled employ varying approaches to ongoing support, including coaching, mentoring, and consultation beyond a one-time training. *Coaching* is a relationship-based process led by an expert with specialized skills and knowledge, who often serves in a different professional role than the recipient(s) (National Association for the Education of Young Children and National Association of Child Care Resource and Referral Agencies 2011). *Mentoring* involves guidance from a more experienced teacher to a less-experienced mentee to increase professional capacity and effectiveness. *Consultation* is a collaborative problem-solving process typically focused on addressing a specific issue or topic. Mentoring and coaching are often used interchangeably to describe individualized professional development interventions that involve establishing a relationship between a mentor or coach and learners, conducting observation and assessment, demonstration and practice, and on-the-job guidance (Head Start Bureau, 2001; Hanft et al., 2005). Throughout this report, we use the model developers' own language when referring to these models.

<sup>15</sup> For purposes of this project, we used the definition of *curriculum* Epstein et al. (1996) used in their review of models of early childhood education. They defined a curriculum as a set of education practices that are recommended from a specific theoretical viewpoint. Further, we focused on models that included documentation to support implementation of the practices.

### **Box I.1. Compelling models prioritized for inclusion in the report**

Models that provide direct early learning services to children:

- Early Learning Readiness Program for Informal Family, Friend, and Neighbor Caregivers
- Educare

Models that primarily focus on professional development with caregivers:

- Early Childhood Consultation Partnership
- Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching
- First Beginnings (Philadelphia Inclusion Network)
- Infant Caregiver Mentoring Project
- Seeds to Success
- Smart Support

Curricula models:

- Assessment, Evaluation, and Programming System, Second Edition, Curriculum for Birth to Three Years
- The Creative Curriculum for Family Child Care, Second Edition
- The Creative Curriculum for Infants, Toddlers & Twos, Third Edition
- Hawaii Early Learning Profile 0-3
- HighScope Infant-Toddler Curriculum

Across the 13 models, the range of target outcomes include children’s development (9 models), caregiver knowledge and skills (3 models), and environment quality (3 models; Appendix B, Table B.1). Of the nine models targeting children’s development, seven (including all five curriculum models) target multiple domains of development, including language, cognition, and social emotional/behavioral development and two (both mental health consultation models) target only children’s social emotional/behavioral development. Although only three models specifically target caregivers’ knowledge and skills, all 13 models include supports for caregivers (such as offering training, coaching, or consultation for caregivers, or implementation guides and other materials) to help them support children’s development and/or improve program quality.

Within categories of models we identified common features. Specifically, the models primarily focused on professional development for caregivers were most often relationship-based, one-on-one interventions that were offered to caregivers in ECE settings and were focused on achieving specific and articulated objectives. Most of the models were intensive with services offered weekly or biweekly and substantial in duration lasting from four to six months. According to the research literature, these features may represent effective practices in professional development (U.S. Department of Education 2010). All five curricula models are linked to child assessment tools; the assessments are designed to guide caregivers in how they individualize services for children. These models also include preschool versions (some of which have been rigorously evaluated) allowing for continuity of approaches from birth to age 5 years.

In the remainder of this chapter, we describe the criteria we used to identify and select compelling models. Chapter II includes detailed profiles of the 13 models that we identified, including information about model implementation and existing research. In Chapter III, we describe the research gaps and recommend directions for future research to fill these gaps and build the knowledge base.

## A. Defining out-of-home infant and toddler ECE services

We focused this scan of the field on models designed to improve children's outcomes either directly by providing out-of-home early learning services to children, or indirectly by working with children's out-of-home caregivers to help them support early learning.<sup>16</sup> We considered models that focused on multiple domains of children's development, such as cognitive, language, or social-emotional/behavioral domains, as well as targeted interventions that could be layered on top of another model and focused on improving children's outcomes in a single domain or improving caregiver practice in a single area.

As discussed earlier, we focused on well-specified models. We set this requirement because the translation from science to practice is a critical step for practitioners to implement models consistently and in adherence with a developer's intent (Wandersman et al. 2008). In addition to translating science into practice, support systems (such as pre-service and in-service training) are needed to help practitioners replicate models as intended (Wandersman et al. 2008) Well-specified, replicable models can be rigorously evaluated, and if found to be effective, can be adopted by other ECE service providers to support children's healthy development. Defining a model so that it can be replicated by others requires a degree of model specification, as well as the development and use of measures to assess whether it was implemented with fidelity, in adherence with model specifications (Dane and Schneider 1998; O'Donnell 2008).

To be considered eligible for LITES, models also had to meet the following inclusion criteria:

- The target population for the model had to include infants and toddlers, defined as children from birth to age 36 months.<sup>17</sup> Models could include other age groups as well; for example, they could target children from birth to age 5.
- Models had to be targeted broadly to infants and toddlers and/or their adult out-of-home caregivers. Models targeted narrowly to infants and toddlers with diagnosed disabilities or specific medical conditions were not included in the review.<sup>18</sup> However, models targeted

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<sup>16</sup> Program models that provide infrequent or supplemental home visits were considered for inclusion in the review, but only if the primary service setting was out-of-home care. Program models that provide supplemental services in areas such as nutrition, health and developmental screening, supports for parents, and referrals to other community resources were considered for inclusion in the review, but only if the primary focus was on services delivered outside the child's home to support infant and toddler early learning. Program models that provide professional development to adult out-of-home caregivers were considered for inclusion in the review as long as the professional development involved intervening directly with caregivers, took place in the caregiving setting or a similar setting, and focused on helping caregivers support infant and toddler early learning. Other indirect services—such as parenting, family self-sufficiency, or referral services—were not included, because they do not target children's early learning in out-of-home care settings.

<sup>17</sup> Programs that enroll families before the child's birth were considered in the review, as long as the primary focus of the model was supporting children's early learning in out-of-home ECE settings.

<sup>18</sup> The federal government makes specific investments in special education and to support the development of children with disabilities. The focus of this review is to identify effective program models for supporting early learning among a broad range of infants and toddlers.

toward broad groups of at-risk infants and toddlers (for example, children from low-income families or low-birth weight children) were eligible for inclusion.

- The majority of services had to be provided outside of the child’s own home. Models could be implemented in center-based settings, such as ECE classrooms or child care centers, or in home-based settings such as family child care homes or informal caregivers’ homes.

The primary distinction between the models included in this report and those included in the LITES systematic review is the availability of eligible research examining the impact of the models on child outcomes in the domains of language, cognition, and/or social emotional/behavioral development. For compelling models, we were interested in models that showed potential for promoting the early learning of infants and toddlers, but lack studies with eligible designs examining impacts on children’s outcomes from which causality can be inferred.<sup>19</sup> The systematic review, in contrast, included only models that had at least one impact study examining children’s outcomes. More information about the specific eligibility criteria for the systematic review can be found in the systematic review report (Monahan et al. 2015).

## **B. Identifying and selecting the 13 compelling models**

In consultation with ASPE and an expert work group, Mathematica developed a process for identifying and selecting models for inclusion. The process involved two steps: (1) identifying compelling models through a call for nominations and outreach to experts, and (2) selecting models to profile by applying prioritization criteria.

### **1. To identify models, we relied on input from the field solicited through a call for nominations and outreach to experts**

We relied on two primary strategies for identifying compelling models. First, we disseminated a call for nominations to a selected group of electronic mailing lists for practitioners and researchers in ECE and related fields (Appendix Table A.1). The call for nominations described the purpose of the project and the types of models of interest, and provided instructions for submitting a nomination. We disseminated the call for nominations on May 30, 2014. It was open for eight weeks, with an end date of July 25, 2014.

We also solicited nominations from a range of experts in ECE and related fields. The primary role of the expert work group was advising us on our approach to identifying and selecting compelling models (Table I.1). We also asked them for suggestions of models we should consider. We worked with ASPE and the expert work group to identify other practice and research experts to contact. We ultimately conducted brief, informal telephone discussions with three additional experts to ask for their input (see Table I.1). Finally, our federal project officers solicited recommendations from colleagues within ASPE and ACF.

Multiple experts recommended that we include curriculum models used in infant and toddler ECE. To identify curricula commonly used by infant/toddler caregivers, we examined two

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<sup>19</sup> Consistent with the LITES systematic review, we defined impact studies as those with an RCT, matched comparison group design, regression discontinuity design, or single-case design.

sources. First, we reviewed findings from the Early Head Start Family and Child Experiences Survey (known as Baby FACES), a descriptive study of a representative sample of Early Head Start programs and the children and families they serve. Second, we reviewed data from the Head Start Program Information Report, which contains self-reported administrative data from all Early Head Start programs nationally. Across both sources, we identified relevant curricula used by at least 5 percent of Early Head Start programs.

Finally, we reviewed models that were screened out of the LITES systematic review because they lacked impact studies examining children’s outcomes. Together, these processes yielded a total of 64 nominated models (Appendix Table A.2 lists each model and the nomination source).

**Table I.1. LITES compelling models expert work group members**

Expert	Affiliation
<b>Expert work group members</b>	
Clancy Blair	New York University
James Elicker	Purdue University
Diane Horn	University of Oklahoma-Tulsa
Julia Isaacs	Urban Institute
Brenda Jones Harden	University of Maryland
Pamela Morris	New York University
Kathy Thornburg	University of Missouri
<b>Practice and research experts</b>	
Jennifer Boss	Early Head Start National Resource Center, ZERO TO THREE
Rachel Chazan Cohen	University of Massachusetts, Boston
Sandra Petersen	Early Head Start National Resource Center, ZERO TO THREE

Next, we reviewed information on each model identified to determine whether it fit within the scope of the LITES project. Using the inclusion criteria described above as our guide (age of target population; broadly targeted all infants/toddlers or non-parental caregivers of infants/toddlers; most services provided outside of the child’s own home), we screened out 43 of the 64 models. See Appendix Table A.2 for more detailed information about the reasons models were screened out. Models were screened out for a variety of reasons, primarily because they were implemented in the child’s home or targeted parents rather than out-of-home caregivers. In the case of curricula, if they did not meet the prevalence requirement (used in at least 5 percent of Early Head Start programs as determined by examining data from the Head Start Program Information Report and Baby FACES), they were also screened out.

## **2. We prioritized models for review that had suggestive favorable evidence and strong potential for replication**

We applied four criteria to prioritize which of the remaining 21 models to profile. These criteria address different ways in which a model could be considered compelling. The first two criteria highlight models with suggestive favorable evidence on child outcomes or interim outcomes. The second two criteria emphasize models that have strong potential for replication. The four criteria are:

- 1. Descriptive Research:** The model had at least one descriptive study (meaning a study without a comparison group) that measured children’s outcomes. Of particular interest were

studies that showed potentially positive findings in at least one of the following child outcome domains: cognitive, language, or social-emotional/behavioral development.

2. **Interim Outcomes:** The model had at least one study measuring impacts on interim outcomes thought to be closely related to children’s early learning in out-of-home ECE settings, including the following:
  - Structural features of out-of-home ECE settings, including child-to-staff ratios; group size; caregiver qualifications; professional development; the physical environment and furnishings; schedules/routines; and health, safety, and nutrition practices
  - Caregiver–child interaction in out-of-home ECE settings, including sensitivity/responsiveness, learning and language supports/instruction, positive regard/warmth, behavior guidance, support for peer interaction, and areas of concern in interactions
  - Out-of-home caregiver skills or knowledge of infant-toddler caregiving practices
  - Global ECE quality
3. **Well-Specified:** The model was well-specified and had documentation available to support replication; documentation could come from at least one study of any design or model materials, such as implementation or training guides or a model’s website.<sup>20</sup>
4. **Prevalent:** The model was prevalent in the field. For curricula, we set a threshold of reported use in at least 5 percent of Early Head Start programs (see above). For other models, we set a minimal threshold of use in at least two independent sites.

The LITES team ranked models based on the number of criteria they met. In consultation with ASPE, ACF, and an expert work group of researchers, we determined that models that met two or more of these criteria would be most compelling to the field and should be highlighted in this report. This process resulted in a final list of 13 models. Table I.2 lists all 21 models and shows which of the four criteria each met, and also indicates the 13 that met more than one criterion and were therefore profiled in this report. The 13 selected models that met more than one criterion are also described in detail in Chapter II.

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<sup>20</sup> As described earlier in this chapter, we defined *well-specified models* as those that had: (1) clear inclusion and exclusion criteria that define the population for which the program is intended, (2) a clear description of the program components or features that must be present, and (3) clear practice guidance to promote consistency of service delivery (such as the availability of implementation guides and staff training materials, requirements for staff qualifications, or the availability of ongoing technical assistance; Fixsen et al. 2013).

**Table I.2. Screened in models and prioritization criteria**

Model	Descriptive study measuring children's outcomes	Study measuring impacts on interim outcomes	Well-specified with documentation to support replication	Prevalent
<b>Models that met more than one criterion and were selected for inclusion</b>				
<b>Models that provide direct early learning services to children</b>				
1. Educare	✓		✓	✓
2. Early Learning Readiness (ELR) Program for Informal Family, Friend and Neighbor Caregivers			✓	✓
<b>Professional development models</b>				
3. Early Childhood Consultation Partnership			✓	✓
4. Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching		✓	✓	✓
5. First Beginnings (Philadelphia Inclusion Network)			✓	✓
6. Infant Caregiver Mentoring Project		✓	✓	✓
7. Seeds to Success		✓	✓	✓
8. Smart Support	✓		✓	✓
<b>Curricula models</b>				
9. Assessment, Evaluation, and Programming System			✓	✓
10. The Creative Curriculum for Family Child Care			✓	✓
11. The Creative Curriculum for Infants, Toddlers & Twos			✓	✓
12. Hawaii Early Learning Profile 0-3			✓	✓
13. HighScope Infant-Toddler Curriculum			✓	✓
<b>Models that met one or no criteria and were excluded</b>				
14. Ball State University Child Study Center				
15. Comprehensive Child Development, Inc.				✓
16. Cuyahoga County Early Childhood Initiative				✓
17. Emotional Beginnings				
18. Piper Center for Family Studies and Child Development at Baylor University				
19. Promethean Foundation (Pro-Kids)				✓
20. Responsive Infant/Toddler Practice within a Suite of Inquiry				
21. San Diego State University Children's Center				

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## II. COMPELLING MODELS: COMPONENTS AND EXISTING RESEARCH

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In this chapter, we present profiles of the 13 models we identified as compelling to the field and prioritized for inclusion in this report. Each profile includes as much information as possible about model implementation, including an overview of the model and its core components, the target population, targeted outcomes, dosage and program length, requirements for staff, and the types of supports available for replication. The profiles also discuss existing and ongoing research, if any was identified. Appendix B lists the model components and implementation guidelines across all 13 models.

To gather information about the models for the profiles, we conducted a literature search and reviewed publically available materials. We conducted a targeted literature search on the names of selected models to identify any existing research. Relevant research included causal studies that measured only interim outcomes, descriptive studies that measured children’s outcomes, and implementation studies. Appendix C describes the literature search methods and results. We also conducted Internet searches to identify publically available information about model implementation, such as websites, implementation guides, and training materials. To ensure the accuracy of the information about implementation, we sent the profiles to the model developers for review and inquired about any research that was conducted on the models or as part of model development.<sup>21</sup>

We begin by presenting the two models that provide direct early learning services to children:

1. Early Learning Readiness Program for Informal Family, Friend, and Neighbor Caregivers
2. Educare

We then present profiles for the six models that primarily focus on professional development for caregivers:

1. Early Childhood Consultation Partnership
2. Expanding Quality in Infant Toddler Care course and EQ RELATE Model of Coaching
3. First Beginnings (Philadelphia Inclusion Network)
4. Infant Caregiver Mentoring Project
5. Seeds to Success
6. Smart Support

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<sup>21</sup> We specifically asked developers for information that we were missing about models (for example, dosage and program length). In the model profiles, we note if the developers did not clarify information that was missing when they responded to our inquiries.

Finally, we profile the five curricula models:

1. Assessment, Evaluation, and Programming System, Second Edition, Curriculum for Birth to Three Years
2. The Creative Curriculum for Family Child Care, Second Edition
3. The Creative Curriculum for Infants, Toddlers & Twos, Third Edition
4. Hawaii Early Learning Profile 0-3
5. HighScope Infant-Toddler Curriculum

## **DIRECT EARLY LEARNING SERVICES MODELS**

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## **EARLY LEARNING READINESS (ELR) PROGRAM FOR INFORMAL FAMILY, FRIEND, AND NEIGHBOR CAREGIVERS**

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### **A. Overview**

#### **1. Overview, model components, and content**

The Early Learning Readiness (ELR) Program for Informal Family, Friend, and Neighbor Caregivers is designed to promote the healthy development and school readiness of children, both directly and by increasing the skills and knowledge of their caregivers. It is targeted to children receiving care in informal child care settings, and their informal caregivers. These children and their caregivers participate together in the program through sessions that are facilitated and held in a group setting. Sessions are held at a community location selected for its accessibility, such as a church, community center, public housing or apartment building, YMCA, or library. A typical session consists of the following: (1) an opening circle time where the children and caregivers read stories and sing songs together; (2) time to explore a range of activities at 13 interest centers; and (3) a closing circle to review the day's learning. During the sessions, facilitators talk with caregivers about the interest centers, how the activities encourage learning in children, and the role caregivers can play in promoting learning and development using the activities. In addition, activities at each center include written guidance for caregivers that list learning concepts, vocabulary words, and questions caregivers can ask the children. Session content features monthly, culturally sensitive themes and is designed to align with local standards for school readiness. Volunteers assist sites with several aspects of running the program, including recruiting participants, setting up the sessions, and translating for participating caregivers whose primary language is not English. The program also collaborates with local community partners to provide additional resources and supports. The ELR program is run by the YMCA of the USA (Y-USA) and is based on the Tutu and Me program model that was developed by the Partners in Development Foundation to work with informal caregivers (primarily grandparents) in Hawaii (Partners in Development Foundation 2014).

#### **2. Target population, including available languages**

- The ELR program serves children from birth to age 5 who receive informal care from family members, friends, and neighbors, as well as their informal caregivers. The program targets low-income families and populations, although it is not clear whether income requirements are used to determine eligibility.
- The program serves children whose families speak one or more of a variety of languages at home. The majority of ELR participants speak Spanish, but in some communities other languages are also represented, including Russian, Chinese, Somali, Arabic, Vietnamese, Japanese, and Hindi. Volunteers and fellow caregivers help translate when caregivers experience language barriers related to program participation.

#### **3. Targeted outcomes**

- The ELR program is designed to promote the healthy development and school readiness of children, both directly and by increasing the skills and knowledge of their caregivers.

#### **4. Dosage and program length**

- The program is offered twice per week and each session is two hours. In most sites, the program is offered for 38 to 42 weeks during the school year.

#### **5. Staff requirements, including staff type, education, and experience**

- In each site, the program is led by a local ELR supervisor and is implemented by one or more facilitators.
- Y-USA recommends that local ELR supervisors and facilitators have a background in early childhood, education, or social work. Specific skills vary by site, with hiring decisions made at the local level.

#### **6. Supports for implementation**

- The program has a training plan for newly hired local staff that includes in-person training sessions, online modules on broader topics such as development and achievement gaps, and webinars on specific program components. These materials are posted to an online community that all ELR staff can access.
- Y-USA technical advisors are available to coach, monitor, and support local staff.
- National program staff (from Y-USA) conduct site visits to local programs to assess program fidelity and quality, especially for new sites and groups. Local staff also monitor and report on key fidelity and quality indicators to national program staff each month during the program year. Fidelity standards address the materials/environment, circle time, interest centers, and administration. Quality measures assess the quality of interactions, engagement, and content covered during sessions. Training for new staff covers fidelity measures and evaluation; this information is also available for local sites on the online community maintained by Y-USA for local ELR staff.
- Y-USA is piloting a mentoring program that partners local YMCA leaders who have successfully implemented the program with staff at sites that are new or have struggled with the program.

#### **7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- The program operates at local YMCA sites in 26 states across the country. Sites are located in neighborhoods with low educational achievement, high concentrations of poverty, or a large population of new U.S. residents.

### **B. Summary of existing research**

Y-USA conducts an annual internal evaluation of the ELR program, using data collected from local ELR sites. The evaluation assesses program implementation and participant outcomes and is used to inform program improvement efforts. Table 1 provides an overview of the 2013–2014 ELR program evaluation (Y-USA 2014). Below we discuss the findings from the 2013–2014 study.

- Each month, local ELR supervisors reported whether their site met a series of program-developed fidelity indicators and quality measures. Fidelity items determine the extent to

which the local site's program aligns with the original Tutu and Me model for materials/environment, circle time, the 13 interest centers, and program administration. The quality items rate the program content, the engagement of participating children and caregivers, and the interactions between children, caregivers, and facilitators. The median percentage of fidelity indicators met each month ranged from 86 to 95 percent, and the median percentage of quality measures met each month ranged from 94 to 100 percent. Site visits from national program staff in the fall and spring of the program year found that sites met a median of 86 percent of the same fidelity indicators and 94 percent of the same quality indicators in both the fall and spring.

- Attendance data showed that 15 percent of caregivers attended more than 40 sessions (the median number of sessions offered was 72), whereas 48 percent attended fewer than 10 sessions.
- Caregivers were surveyed during the program year and at the end of the year. Although only 23 percent of participating caregivers responded to the end-of-year survey, most of these respondents reported that the program improved their caregiving knowledge and behaviors, and that they were very satisfied with the program. For example, 90 percent of the 415 caregivers responding to the survey agreed that the program helped them understand more about how to have positive relationships and interactions with young children in their care, and another 9 percent said they somewhat agreed with this statement. Seventy-seven percent of caregivers rated program activities as excellent, with the remaining 23 percent rating them as good.
- Finally, ELR staff reported on outcomes of children ages 3 to 5 in five developmental domains (physical well-being and development, social and emotional development, language and literacy development, cognition and general knowledge, and approaches to learning) at the beginning and end of the year using a program-developed observation form. In addition, caregivers of children ages 3 to 5 were surveyed on how the program had helped the skills and behavior of children in their care. However, we did not review these findings because they applied to preschool-age children only, which made them outside the scope of this report.

### **C. For more information**

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YMCA of the USA. "Sharing Our Success: 2013-2014 Early Learning Readiness Evaluation Report." Chicago, IL: September 30, 2014.

**Table 1. Overview of existing research, ELR**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Y-USA 2014	Implementation; pre-post	1,986 children and 1,820 caregivers in 94 groups at 36 local sites attended at least once	<i>Characteristics of caregivers who attended at least three times</i> (range of n = 1,021 to 1,298 with data): Median age 32; 94 percent female; 59 percent Hispanic/Latino, and 10 percent African American/Black; 56 percent language other than English primarily spoken at home; 50 percent high school education or less	Program-developed indicators of fidelity (materials/environment, activities, administration) and quality (program content, participant engagement, participant/facilitator interactions)	Program-reported administrative data from monthly self-reports by local sites and data collected during local site visits conducted by Y-USA staff in fall and spring of the program year
		1,640 children and 1,414 caregivers attended at least three times		Program attendance	Program-reported administrative data
		415 caregiver end-of-year survey respondents	<i>Characteristics of children who attended at least three times</i> (range of n = 1,413 to 1,533 with data): Mean age 2.7; 4 percent under age 1, 39 percent age 1-2, and 57 percent age 3-5; 51 percent female, 56 percent Hispanic/Latino, and 11 percent African American/Black; 56 percent language other than English primarily spoken at home	Caregiver self-report on the role of the program on caregiving knowledge and behavior and, for caregivers of children ages 3 to 5 only, on child skills and behavior; caregiver satisfaction with program	Survey of caregivers

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## EDUCARE

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### A. Overview

#### 1. Overview, model components, and content

The Educare Learning Network is a national network of schools that provide full-day, full-year early care and education to low-income children from birth to age 5. The Educare model contains several core features, which are grouped into four domains: (1) data utilization, (2) high quality teaching practices, (3) embedded professional development, and (4) intensive family engagement.

Under a system of continuity of care, children stay with the same teaching team and cohort of children from program entry until they transition to Educare's Head Start services at age 3. Children then stay with a second team until they transition out of Educare and into elementary school at age 5. Within each teaching team, every child has a primary caregiver who is assigned no more than four infants and toddlers or nine preschoolers, which is designed to allow caregivers to develop a close rapport with each child and family. Three adults are assigned to each classroom of eight infants and toddlers or 17 preschoolers. Groups of staff from up to four classrooms are supervised by master teachers who provide mentoring, coaching, and support to classroom teachers.

The Educare network does not use any one early childhood curriculum; rather, local Educare sites choose their own curriculum. It must be research-based and focus on pre-literacy, early math, and social-emotional skills, and integrate development of these skills with arts activities. In addition to direct early care and education, Educare schools offer on-site family engagement services, provided by full-time family support supervisors and specialists, to promote parent involvement. These staff also coordinate referrals for parents to other services. The Educare model emphasizes an interdisciplinary approach in which staff from different roles work together to promote child and family well-being, and the use of reflective practice and supervision among staff.

Each Educare school is a public-private partnership and blends private dollars with funding from federal Early Head Start and Head Start, and state and local education and child care funding. Some Educare schools offer prenatal services through Early Head Start.<sup>22</sup> The Ounce of Prevention Fund and Buffett Early Childhood Fund oversee and support the Educare Learning Network of schools.

#### 2. Target population, including available languages

- Educare serves at-risk children from birth to age 5 and their families. Families must meet Head Start income requirements to qualify for enrollment (this means the family's gross

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<sup>22</sup> The Early Head Start model is included in the LITES systematic review (Monahan et al. 2015). Although some Educare programs may receive funding from Early Head Start, Educare is a distinct model of early education services and does not yet have rigorous research examining its impacts on children's outcomes. Therefore, we profile it as a compelling model in this report.

income must not be more than 100 percent of the federal poverty guidelines). Children with special needs are encouraged to apply.

- In addition to children from monolingual English-speaking homes, many Educare schools serve dual language learners, which mostly includes children from homes where Spanish is the primary language used.

### **3. Targeted outcomes**

- Educare aims to prepare low-income children to succeed in school, career, and life. Each local site selects a research-based curriculum focused on the development of skills as they relate specifically to language and literacy, social-emotional development, early math concepts, problem-solving, and motor development.
- Family engagement work aims to strengthen parents' abilities to support their child's learning as an educator and nurturer, as a leader and advocate for their child, and to promote family well-being after they leave Educare.

### **4. Dosage and program length**

- Educare provides full-day, full-year services. Children attend Educare schools a minimum of six hours per school day; specific operational hours of a school are determined based on the feedback from each school's community needs assessment and parents' work and school schedules. Children can participate for up to five years (from 6 weeks old to kindergarten entry).

### **5. Staff requirements, including staff type, education, and experience**

- Each classroom has a lead teacher with a minimum of a bachelor's degree in early childhood education; an assistant teacher with a minimum of an associate degree in early childhood education; and a teacher aide with a high school diploma/GED and a credential in child development or training in infant and toddler development.
- Master teachers have master's degrees in early childhood education; for birth-to-age-3 classrooms, they have special training in infant and toddler development.
- Family support supervisors have master's degrees in social work or a related field, and family support specialists have bachelor's or master's degrees in social work, health, or a related field.

### **6. Supports for implementation**

- Groups interested in starting an Educare school in their community must work with the Ounce of Prevention Fund and Buffett Early Childhood Fund to plan and implement the school.
- The national Educare staff help local partners fully implement the model over time through strategies that include intensive technical assistance, consultation, training, and a professional learning community of leaders at Educare schools.

## 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies

- There are 20 Educare schools located in 17 communities across 13 states and the District of Columbia. Within each community, the schools are operated by local partnerships of philanthropic organizations, Head Start and Early Head Start providers, school districts, and other partners.

## B. Summary of existing research

Since 2005, Educare has partnered with the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill and local research institutions in Educare communities to conduct an ongoing implementation study of the Educare model. Every Educare school participates in this study, for which a brief was published in 2012 containing findings for the 2007–2008 to 2010–2011 school years (Yazejian and Bryant 2012). The brief included findings on overall infant/toddler classroom quality based on the Infant/Toddler Environment Rating Scale-Revised (ITERS-R; Harms et al. 2003). For preschool classrooms, the corresponding measure was the Early Childhood Environment Rating Scale (Harms et al. 2005), and the Classroom Assessment Scoring System (Pianta et al. 2008) is also used in preschool classrooms to measure the quality of emotional support, instructional support, and classroom organization. The brief’s findings on children’s outcomes include school readiness from the Bracken Basic Concepts Scale (Bracken 1998, 1984); vocabulary based on the Peabody Picture Vocabulary Test (PPVT; Dunn and Dunn 2007); and social and emotional skills using the Devereux Early Childhood Assessment (DECA; LeBuffe and Naglieri 1999). Outcomes for children were measured at the end of their participation in the program (as they were leaving for kindergarten), whether they started in Educare at an earlier or later age.

Table 1 provides an overview of this study, whose main findings are discussed below.

- Across 12 Educare schools studied in 2010–2011, 70 percent of infant and toddler classrooms scored a 5 or above on the ITERS-R scale of 1 to 7, with an average quality rating of 5.3. In comparison, 24 percent of classrooms in the nationally representative Early Childhood Longitudinal Study-Birth Cohort scored a 5 or above on the ITERS-R (Mulligan and Flanagan 2006).
- The average Bracken school readiness score for English-speaking children upon exiting Educare for kindergarten from 2007–2008 to 2010–2011 was 95.8, compared to a national average of 100 for all children (not just at-risk children). The average Bracken score for children from Spanish-speaking homes was 88.5. For both language groups, children who entered Educare earlier had higher average scores at program exit than children who entered later. For example, English- and Spanish-speaking children who entered Educare at age 1 had average Bracken scores of 98.5 and 98.1, respectively, at program exit compared with 93.6 and 87.8 for children who entered at age 4. These differences by age of entry were statistically significant at the 0.001 level.
- The average PPVT scores for English- and Spanish-speaking children upon exiting Educare for kindergarten from 2007–2008 to 2010–2011 was 95 and 82.5, respectively, compared with a national average of 100 for all children. As with school readiness, children had higher average PPVT scores if they enrolled in Educare at younger ages. Of those who entered

Educare at age 1, English- and Spanish-speaking children had average PPVT scores of 98.2 and 95.1, respectively, at program exit, while the scores for children who entered at age 4 were 94 and 81.5 at program exit. These differences by age at entry were also statistically significant at the 0.001 level.

- Educare children entering kindergarten demonstrated social-emotional skills on the DECA that were average or above average. The brief containing implementation study findings did not include more detailed information on the DECA results.

Another study (Du 2014) used a qualitative research design to explore the nature of public-private partnerships in early care and education, using Educare as an example. The study interviewed seven respondents involved with developing a partnership to create an Educare school in California about their perceptions of the use of these partnerships, as well as about teacher quality and supports. Because the study used an exploratory approach and did not directly examine Educare implementation or outcomes, it fell outside the scope of this report.

Finally, an RCT of the Educare model began in 2010 and is currently under way, but is not yet complete. Five Educare schools and 225 children are participating in the study, which randomly assigns children to either attend or not attend an Educare school. The first phase of the study will collect data on children's outcomes through age 3; a planned second phase would assess outcomes in preschool and first grade. The youngest children in the study will turn 3 in September 2015.

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Educare Schools: <http://www.educareschools.org/home/contactus.php>

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**Table 1. Overview of existing research, Educare**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Yazejian and Bryant 2012	Implementation; descriptive outcome	More than 1,800 children total through spring 2011; 12 schools and 78 infant-toddler classrooms in 2010–2011; approximately 1,140 children with data on child outcomes from 2007–2008 to 2010–2011	Children from 2007–2008 to 2010–2011: 66 percent English speaking and 34 percent dual language learners	Classroom quality: ITERS-R School readiness: Bracken Basic Concepts Scale Vocabulary: PPVT Social and emotional skills: DECA	Classroom observations Child assessments Child assessments Child assessments

## **CAREGIVER PROFESSIONAL DEVELOPMENT MODELS**

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## **EARLY CHILDHOOD CONSULTATION PARTNERSHIP (ECCP)**

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### **A. Overview**

#### **1. Overview, model components, and content**

The Early Childhood Consultation Partnership (ECCP) is an early childhood mental health consultation program that operates statewide in Connecticut. The program is designed to build the capacity of caregivers (primarily non-parental caregivers such as center-based educators and family child care providers, but in some cases parental caregivers as well) by offering support, education, and on-site consultation to help them meet the social-emotional needs of children in their care. It is designed to address a continuum of care that includes promotion, prevention, and early intervention.

Services provided by ECCP consultants range in scope and can consist of (1) child-specific services, which help non-parental caregivers and family members meet the needs of a particular child; (2) core classroom services, which help a teacher or caregiver meet the needs of their classroom (and include some child-specific services); or (3) intensive center services, which help center staff build capacity to address the needs of the full center (and may include child-specific and classroom services). These services are primarily provided to child care centers and their caregivers and staff, but family child care providers can also receive child-specific services. Child-specific services also involve some work with family members, both directly through in-home observation and support and indirectly through facilitating the partnership between the child's non-parental caregivers and family members.

ECCP consultants are embedded in the communities they serve. They act as a mental health resource to a variety of early childhood community groups, conduct mental health consultation groups that meet each month, and provide specific training on social-emotional, behavioral, and mental health topics. The monthly meetings and trainings, as well as brief telephone consultations, are also available to family child care providers or other community providers. Finally, ECCP publishes brief resources (structured as postcards or one-page documents) for use by caregivers.

To guide this work, ECCP developed a set of six competencies that define the knowledge, skills, and attributes consultants need to possess:

1. Demonstrated knowledge of early childhood development, mental health, and early care and education
2. Engagement, relationship building, and collaboration with families and non-parental caregivers
3. Observation, screening, and data collection skills
4. Technical assistance that involves action plan development and strategy implementation
5. Knowledge of community systems, partnerships, and resources
6. Reflective practice

ECCP is funded by the Connecticut Department of Children and Families. Advanced Behavioral Health, Inc., a nonprofit behavioral health and management company, developed the model and oversees program implementation.

## **2. Target population, including available languages**

- ECCP serves children from birth to age 5 and their non-parental caregivers in early care and education settings, which include both center-based care and family child care homes. In some cases, the program also provides services to children's families, including services within children's homes. ECCP aims to support children who are at risk of developing a mental health disorder or of being suspended or expelled.
- All families, non-parental caregivers, and programs of children birth to age 5 are eligible for ECCP services. To be eligible specifically for intensive center services, a center must be located in an urban area and serve more than 150 children.
- ECCP services are available in English and Spanish. Postcards and one-page resources for caregivers are available in English and Spanish, and some are also available in Chinese.

## **3. Targeted outcomes**

- The ECCP model is designed to build the capacity of non-parental caregivers and families so they can improve outcomes for their children. These outcomes include social, emotional, and mental wellness, preventing at-risk children from developing mental health disorders, and avoiding suspensions or expulsions of at-risk children.

## **4. Dosage and program length**

- The length of consultation services ranges from 6 weeks for child services to 12 to 14 weeks for classroom services to 9 months for center services.
- All services are conducted on a weekly basis; the length of each visit varies based on the visit type, ranging from 1.5 to 3 hours.

## **5. Staff requirements, including staff type, education, and experience**

- ECCP consultants must have a master's-level degree in a human services field, such as social work, counseling, or child development, and preferably are licensed mental health providers. They also must have previous experience involving early childhood and mental health, including at least two years of field experience in one of these areas.
- Consultants are supervised by the ECCP leadership team, who are licensed mental health professionals and have experience with early childhood mental health consultation.

## **6. Supports for implementation**

- ECCP's infrastructure includes a program manual used to ensure fidelity to the model and uniform service delivery. ECCP also uses a centralized information system for program operations, data collection, and reporting. The data from this system are used to create plans for delivering services, for quality assurance, and to promote fidelity to the model.
- New consultants go through an orientation and receive an initial series of trainings in early childhood mental health consultation during their first six months. After this initial phase, consultants are provided additional trainings as continuing education and receive regular

supervision from the ECCP leadership team that has clinical, reflective, and administrative components. Training modules are based on the set of six competencies developed by ECCP to guide consultants' work.

- ECCP is a copyrighted and proprietary model. The ECCP model and license, including the information system, manual, consultant training, and support for implementation, are available through Advanced Behavioral Health, Inc.
- 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**
- ECCP is provided statewide in Connecticut by partnering with community-based child behavioral health agencies throughout the state. These agencies employ the ECCP consultants, who provide services in their local communities.
  - ECCP is also provided in Nassau County, New York, through NASSAU THRIVES, a program offering support to early care and education settings affected by Hurricane Sandy. Advanced Behavioral Health, Inc. contracts with Docs for Tots, a nonprofit, pediatrician-led organization focused on policy issues involving young children, for the administration of the ECCP component of NASSAU THRIVES.

## **B. Summary of existing research**

ECCP's first year of implementation was the subject of a process evaluation (Fink and Wakai 2003). This evaluation collected program administrative data on fidelity and services delivered, surveyed consultants who provided services and the classroom teachers who received them, and conducted qualitative case studies to describe results from program implementation. Table 1 provides an overview of this study, whose main findings are discussed below.

- ECCP administrative data showed that consultants delivered approximately as many intensive center and core classroom services as planned. Consultants delivered intensive center services to 11 centers, compared with 11 anticipated, and delivered core classroom services to 50 classrooms in those centers, compared with 55 anticipated. Core classroom services were also projected to be delivered to 44 classrooms in additional centers that were not receiving intensive center services, and 43 classrooms actually received these services. Overall, 93 classrooms received classroom-level services, compared to a projection of 99 classrooms. However, only 171 children received child-specific services (either in conjunction with center or classroom services or as stand-alone services), compared to a projected service level of 385 children.
- Most teachers reported on a survey that ECCP activities were very helpful to them. For example, 79 percent reported that making decisions about which children needed individual assessment and intervention was very helpful, with 21 percent reporting it was somewhat helpful. Because surveys were mailed four to six weeks after the program ended, teachers were asked about their sustained use of information from two project activities: their classroom ratings on the Infant/Toddler Environment Rating Scale (Harms et al. 1990), and the goals and steps in their classroom action plan. Eighty percent replied they used the classroom ratings and 87 percent replied they used the action plan goals and steps at least once per week.

- Teachers also gave positive responses on the survey in several other areas. For example, in response to questions about children’s behavior, 38 percent of teachers reported great improvement in children about whom they were concerned, and another 43 percent reported modest improvement. Teachers reported similar results for improvements in behavior by their class as a whole. When asked about improvement in the responsiveness of their classroom practice to their children’s social and emotional needs, 41 to 57 percent of teachers reported a great improvement depending on the area mentioned (such as supporting interactions or promoting staff resilience). Finally, 88 percent of teachers said they believed the program would reduce the chance that children exhibiting difficult behaviors would be terminated or suspended in the future.

ECCP has also undergone three evaluations led by Dr. Walter Gilliam (Yale University) that used RCT designs; however, two of these (Gilliam 2007 and Gilliam 2014) involved children ages 3 and 4, so they are out of the scope of this report. The third pilot evaluation (Gilliam 2014) involved a small number of two-year-olds (15 treatment and 17 control) in infant/toddler settings (birth to age 2) and examined children’s outcomes. Because the results of this small pilot evaluation were not publically available until December 2014, this model was not included in the LITES systematic review. The pilot study found suggestive evidence of decreased hyperactivity for toddlers; the small sample size may have impeded the authors’ ability to detect a statistically significant impact. The study also found that ECCP resulted in greater levels of home-school collaboration and family involvement for toddlers receiving child-specific services. The study did not find statistically significant impacts on classroom quality or teacher-child interactions, as measured by the Classroom Assessment Scoring System (CLASS; Pianta et al. 2008).

### **C. For more information**

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**Table 1. Overview of existing research, ECCP**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Fink and Wakai 2003	Process/implementation	11 consultants (8 respondents)  89 lead teachers of classrooms receiving services (39 respondents)  11 sites, 93 classrooms, and 171 children receiving services (either linked with other levels of services or stand-alone)  3 case studies	Children receiving specific services: “vast majority” previously engaged in physically aggressive behaviors; 28 percent previously referred for special education or other specialized services; 4 percent for whom behavior led to end of most recent child care arrangement	Services planned and provided  Self-reports involving classroom environment and practices, child behavior, sustainability of program activities, referrals to mental health services, and child terminations and suspensions  Qualitative description of implementation	Program administrative data  Surveys of consultants and teachers  Case studies (featuring interviews and observations of program activities by research team)

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## **EXPANDING QUALITY IN INFANT TODDLER CARE (EQIT) COURSE AND EQ RELATE MODEL OF COACHING**

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### **A. Overview**

#### **1. Overview, model components, and content**

As part of a broader Colorado initiative on expanding the quality and availability of care for infants and toddlers (known as the Expanding Quality in Infant Toddler Care [EQ] Initiative), the Expanding Quality in Infant Toddler Care (EQIT) course provides training for caregivers of infants and toddlers to improve their knowledge and skills. Course content covers the importance of brain development in the first three years of life; the social-emotional, cognitive, language, and physical development of infants and toddlers; relationship-based care and relationship-based approaches to guiding children’s behavior; partnerships with families; quality curriculum and environments; and health, safety, and nutrition. Completion of the course meets some state licensing requirements, and, when possible, partnerships with local community colleges allow for course participation to result in college credit. These partnerships are also used to encourage participants to consider additional formal coursework. Class sizes are intended to be 20 or fewer caregivers. An orientation may be held before the course begins to introduce instructors, provide an overview of the course, set course expectations, and provide additional information. Participants are also offered the option of receiving on-site coaching through the EQ RELATE coaching model to supplement the course.<sup>23</sup> The coaching supports participants in reflecting on the skills and knowledge learned in the course and integrating this information into the care they provide to their infants and toddlers.<sup>24</sup>

The larger EQ Initiative’s goals involve strengthening the skills and knowledge of caregivers and other professionals working with infants and toddlers by facilitating the professional development of these caregivers, as well as building capacity, leadership, and collaboration at the local level. In addition to the EQIT course, the initiative offers training, coordination, and other support on the Touchpoints approach, the Cradling Literacy curriculum, infant and toddler assessments, and other professional development opportunities. Along with the rest of the EQ Initiative, the EQIT course and EQ RELATE coaching model are overseen by the Colorado Department of Education.

#### **2. Target population, including available languages**

- The EQIT course and EQ RELATE coaching model are designed to help any Colorado caregiver or other individual who works with infants and toddlers in group settings, whether in center-based care, family child care, or another setting. Participants must be able to speak

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<sup>23</sup> The title “RELATE” is not an acronym, but emphasizes the importance of relationships in the coaching model.

<sup>24</sup> We included the EQIT course because it has a clearly defined coaching component, which was delivered in the caregiving setting. This report profiles caregiver professional development models only if they took place in a care setting. Therefore, we did not conduct a full search for all professional development courses offered to infant and toddler caregivers in all setting types.

and write in the language in which the class is offered (English and Spanish). They are not required to have previously completed any formal college coursework.

- The course is offered in English and Spanish. Course handouts are available in English and Spanish.

### **3. Targeted outcomes**

- As part of the EQ Initiative, the EQIT course and EQ RELATE coaching model aim to increase the quality of care for infants and toddlers by improving the knowledge and skills of their caregivers in multiple areas, including supporting children’s social-emotional, cognitive, and physical development.

### **4. Dosage and program length**

- The EQIT course consists of 16 three-hour modules, for a total of 48 hours of direct class time. It is most commonly conducted as a six-hour class taught on every other Saturday over a 16-week period, but can be scheduled differently depending on local needs and preferences. To facilitate the integration of course content into participants’ work, no more than six hours may be taught per week unless there are extenuating circumstances.
- Coaching is offered during the period of the course, and for course graduates, for up to one year following course completion. The number of hours offered to each participant is determined on an individual basis and may depend on the availability of funding.

### **5. Staff requirements, including staff type, education, and experience**

- The EQIT course features team teaching, and at least two qualified instructors must be present at every session.
- Course instructors must complete an 80-hour train-the-trainer course, which includes additional written work, and have previously completed the EQIT course or a similar infant-toddler course. They must obtain approval to be an intermediate-level trainer from Colorado’s trainer approval system. Other requirements include having at least one year of experience working with infants and toddlers; having experience working with families of infants and toddlers; having experience teaching, coaching, or supervising adults; and having knowledge of local programs and resources related to infants and toddlers.
- Coaches must complete an additional two days of training on the EQ RELATE coaching model and tools before offering any coaching. All instructors are encouraged to take this training, even if they do not plan to actively provide coaching. Additional follow-up support is available after completing the coaching training.
- Instructors are expected to continue their professional development by participating in training seminars and other learning opportunities offered by the EQ Initiative. They must attend a minimum of six hours of these opportunities annually to continue teaching the course.

### **6. Supports for implementation**

- The EQ Initiative has an implementation handbook for use by course instructors and other local staff. The course has a detailed written curriculum, materials, and supporting resources. Each training team receives a resource library of DVDs, videos, and books.

- For the coaching component, some materials (such as a sample coaching agreement, a coaching log, visit forms, and participant journals) are available.
  - A local team of instructors must be approved by state EQ Initiative program staff to be able to offer the course.
  - The EQ Initiative has an online reporting system that local teams must use to submit information on training and coaching activities, including the number of hours of coaching received by each participant, on a quarterly basis.
  - Local changes to the course curriculum must be discussed in advance, documented, and approved by state EQ Initiative program staff. A collection of approved alternate activities for some components is currently being developed; these activities can be substituted locally without obtaining specific approval.
- 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**
- The EQIT course and EQ RELATE coaching model are implemented across Colorado by local Early Childhood Councils, who work with the training teams who are approved to offer the course.

## **B. Summary of existing research**

The EQIT course and EQ RELATE coaching model were evaluated in a study (Moreno et al. 2015) that compared five groups of infant/toddler caregivers. The first three groups consisted of caregivers enrolled in the EQIT course who were randomly assigned to receive either no coaching, 5 hours of coaching, or 15 hours of coaching. Coaching began during the course and ended no more than two months after the course concluded. The other two groups consisted of caregivers enrolled in the standardized community college course on infant-toddler theory and practice required by Colorado for certain child care workers, and caregivers not enrolled in any course (the no-intervention group). The study selected sites where the EQIT course was perceived to be delivered with high fidelity; EQIT course and community college course enrollees in these sites were recruited to participate in the study during the first course meeting. The no-intervention group was formed by recruiting caregivers using lists of licensed centers and home-based providers from the state. Participants in the five groups were assessed on (1) teacher-child interactions using the infant and toddler Classroom Assessment Scoring System (CLASS; Hamre et al. 2011); (2) infant-toddler knowledge using a study-designed test (Green et al. 2011); and (3) attitudes and beliefs using an instrument of parenting self-efficacy (Bandura 1993) modified for the study for use with infant and toddler caregivers. Measures were collected at pretest (within two weeks of recruitment), posttest (four to six months after pretest, when the course and/or coaching were complete), and follow-up (four months after posttest). Table 1 provides an overview of the study. Below we discuss the findings from the study.

- Across all outcomes, the three EQIT groups and the community college group showed change that was positive and statistically significant in at least one outcome, whereas the no-intervention group tended to exhibit decreases over time for several outcomes. The 15-coaching-hour EQIT group displayed the strongest pattern of positive change over time.

- Using a construct of emotional-behavioral support created from specific dimensions of the infant CLASS and toddler CLASS, overall differences in the changes over time of scores for the five groups were close to but not statistically significant at the 0.05 level.
  - The community college and 15-coaching-hour EQIT groups showed consistent increases from pretest through follow-up; average effect sizes were about 0.33 and some were statistically significant.
  - The no-coaching EQIT group increased from pretest to posttest and decreased (by a smaller magnitude) from posttest to follow-up for an overall increase in score, whereas the no-intervention and five-coaching-hour EQIT groups decreased from pretest to posttest and increased (by a smaller magnitude) from posttest to follow-up for an overall decrease in score.
  - The 15-coaching-hour EQIT group experienced the largest improvement over time. The change from pretest to follow-up for this group was significantly greater compared to the change for the other four groups combined, for the no-intervention group, and for the five-coaching-hour EQIT group. However, the change for the 15-coaching-hour EQIT group was not significantly greater than the change for the community college group or for the no-coaching EQIT group. The 15-coaching-hour EQIT group also had the highest score at follow-up, although the significance of this score compared to the follow-up scores for the other groups was not tested.
- Infant CLASS and toddler CLASS dimensions were also used to create a construct for support for language and literacy. Here, the overall differences in the changes over time of scores for the five groups were statistically significant at the 0.01 level. The no-coaching and 15-coaching-hour EQIT groups exhibited consistent increases from pretest through follow-up that were generally statistically significant. The other three groups showed essentially no change in score from pretest to follow-up. Again, the 15-coaching-hour EQIT group experienced the largest improvement over time, one that was significantly greater compared to the change for the other four groups combined and for each individual group except the no-coaching EQIT group. The 15-coaching-hour EQIT group also had the highest score at follow-up, although the researchers did not examine whether this score was significantly different from the scores for the other groups.
- Using the scores on the test of infant-toddler knowledge, the differences in the changes over time of scores for the five groups were not statistically significant. The no-coaching and 15-coaching-hour EQIT groups showed statistically significant increases, with the latter group demonstrating the most positive effect.
- Differences in the changes over time on the measures of self-efficacy for the five groups were also not statistically significant. The community college, five-coaching-hour EQIT group, and 15-coaching-hour EQIT group had statistically significant increases from pretest to posttest. However, all five groups showed decreases from posttest to follow-up, resulting in scores similar to pretest levels.

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**Table 1. Overview of existing research, EQIT & EQ RELATE**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Moreno et al. 2015	Comparison groups, with random assignment of coaching dosage within EQIT group	183 caregivers; 161 at posttest and 136 at follow-up; analysis of outcomes using data across all three time points had 120 caregivers (22 no intervention, 23 community college, 28 no-coaching EQIT, 26 5-coaching-hour EQIT; 21 15-coaching-hour EQIT)	Combined sample: mean age 33; 99 percent female; 74 percent white; 11 percent high school education or lower, 25 percent some college credit, 28 percent additional certificate or associate degree, and 35 percent bachelor's degree or higher; 11 percent Child Development Associate credential; mean years of experience with infants (4.8) and toddlers (6.3); mean salary \$18,000	CLASS (emotional-behavioral support and support for language and literacy)  Study-designed test of knowledge  Attitudes and beliefs regarding self-efficacy as a teacher	Observations conducted by research staff  Study-administered questionnaire  Surveys of participants

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## **FIRST BEGINNINGS (PHILADELPHIA INCLUSION NETWORK)**

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### **A. Overview**

#### **1. Overview, model components, and content**

First Beginnings is a professional development program for caregivers of infants and toddlers in out-of-home settings (centers and family child care homes) that features both training and on-site consultation designed to increase the quality of care children received. Along with similar programs for preschool educators and family care providers, the First Beginnings curriculum was developed and offered as part of the Philadelphia Inclusion Network (PIN). Specifically, First Beginnings consists of the following components:

- Participants take a group training class, which is delivered as a series of core modules and a selection of supplemental modules. Topics include caregiver-child relationships, strategies for promoting learning and development, inclusion and diversity, and working with families.
- Outside of class time, participants complete a project that involves reflecting on and writing about an infant or toddler in their care identified by them as having a special need.
- On-site observation visits are conducted before and after the program to collect measures of the quality of the participants' classroom environments and their interactions with the children in their care.
- Participants receive on-site consultation visits, which follow a specific protocol that includes a self-assessment, identification of areas for improvement, and a written follow-up plan. During the initial consultation visit, information from the first observation visit is provided to participants and used to help identify the areas for improvement. Consultation strategies include providing/reviewing resources or materials, brainstorming, modeling, and discussion.

First Beginnings and the other PIN professional development programs were developed by the Child and Family Studies Research Programs at Thomas Jefferson University. The program is not currently active, but its materials are available online.<sup>25</sup>

#### **2. Target population, including available languages**

- PIN primarily serves caregivers of children from birth to age 5. The First Beginnings curriculum is specifically for caregivers of infants and toddlers (birth to age 3). In studies of the PIN curricula, participating caregivers tended to have extensive experience providing care, and most did not have a college degree.
- The PIN training curricula are designed to support caregivers working in child care settings in low-income urban areas.

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<sup>25</sup> Since the completion of the PIN programs, the developers have also created training and materials for caregivers on creating adaptations for routines and activities for children in their care, including infants and toddlers (Campbell et al. 2012; Milbourne and Campbell 2007; Campbell and Milbourne 2014). The materials are based on lessons learned from the PIN program.

- PIN is designed to support caregivers in improving child care quality for all children, with an emphasis on the inclusion of children with disabilities or special needs.
  - PIN curricula and services are conducted in English.
- 3. Targeted outcomes**
- The PIN training program is designed to increase the quality of care provided to children.
- 4. Dosage and program length**
- The modules in the First Beginnings group training class are offered over a three- to four-month period. Program materials mention that the training includes seven modules, but in one study of First Beginnings, five modules were taught. Each module is three hours. PIN materials mention that class sizes usually do not exceed 20 to 25 participants. In the study of First Beginnings, group sizes ranged from 25 to 30 participants.
  - The on-site consultation takes place during the same three- to four-month period as the training; a total of three visits are conducted, timed to occur before or after a specific module. Each visit is one hour.
- 5. Staff requirements, including staff type, education, and experience**
- PIN does not have specific requirements for the instructors teaching the training class other than prior experience providing training. Instructors include parents of children with special needs, early intervention staff, early childhood educators or staff, or consultants who specialize in providing training or technical assistance in a range of areas. Modules within a particular group training class can be taught by multiple instructors working together.
  - Consultation visits are made by the training instructors, by others with early intervention or early childhood backgrounds, or by the staff coordinating the PIN training. In one study of First Beginnings, all eight consultants had at least three years of experience with child care, and half had master's degrees whereas the others had bachelor's degrees.
- 6. Supports for implementation**
- PIN has an instructor guide, trainer guide, and consultation guide. The First Beginnings modules and other sessions have written materials for participants and instructors. Although the program is not currently active, these materials are available online to support replication.
  - The staff coordinating the PIN training are responsible for ensuring continuity during the program, as sessions can be taught by different instructors. This could include orientation and review meetings for instructors, or mentoring and coaching the instructors on activities and teaching strategies. The PIN training coordinators also oversee the consultation (unless they provide it directly) and work with the consultants at the start of the program to go over how the consultation will be provided.
  - In a study of First Beginnings, the consultants participated in a three-hour training session before the start of the program.

## **7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- When active, First Beginnings and the other PIN curricula were offered in the Philadelphia area by the program developer (the Child and Family Studies Research Programs at Thomas Jefferson University). The developer also disseminated the PIN materials to organizations interested in offering the program in other locations, including to early intervention consultants in Pennsylvania.

## **B. Summary of existing research**

The First Beginnings program for infants and toddlers was evaluated in two studies, which are listed in Table 1. We summarize each study and its findings below.

In one study (Campbell and Milbourne 2005), participating caregivers received either the full First Beginnings curriculum including the on-site consultation, or the curriculum without the consultation component. Participants were recruited from child care programs in specific zip codes in Philadelphia; those who registered were placed in one of five training courses depending on their location. Participants in four of the five courses were offered consultation; the caregivers in these four groups who received consultation formed the consultation group, and the no-consultation group consisted of the caregivers in the fifth group as well as caregivers in the first four groups who did not actually receive consultation (primarily because their program directors refused). The Infant/Toddler Environment Rating Scale (ITERS; Harms et al. 1990) and Arnett Caregiver Interaction Scale (Arnett 1989) were used to assess the quality of caregivers' classroom environments and of their interactions with children before and after their participation in the program.

- The average of the overall mean score on the ITERS for consultation group classrooms increased from 3.20 before the program to 3.49 after, whereas the average of the overall mean score for no-consultation group rooms decreased from 3.43 before the program to 3.35 after. The difference between the pre-post changes for each group was statistically significant at the 0.01 level, although this could not be clearly attributed to participation in the consultation group.
- ITERS scores also provided quality ratings of inadequate (overall mean score below 3), adequate (3 to 4.99), or good (5 or above). The percentage of consultation group rooms rated adequate or good quality increased from 62 to 71 percent; for the no-consultation group, a decrease from 73 to 69 percent was found. Classrooms were also defined as experiencing observable change if their quality rating changed (or if their rating was good and they experienced a 1-point change in overall mean score). Twenty-one percent of the consultation group classrooms showed an observable change, compared with 8 percent of the classrooms in the no-consultation group.
- The consultation group's mean score became more favorable on three of the four factors in the Arnett Caregiver Interaction Scale from before the program to after, and less favorable on the fourth factor. The no-consultation group's mean score became more favorable on two of the four factors and less favorable on the other two factors over time. Differences in pre-post changes for each group were not statistically significant for any of the four factors.

A second study (Campbell et al. 2005) evaluated the overall First Beginnings program and the corresponding PIN curriculum for preschool-age children. This study was similar to the first study and the two had overlapping samples. Potential participants (which could include program directors and nonteaching staff in addition to caregivers) were recruited, and those who registered participated in one of eight training courses using the First Beginnings curriculum. The classroom quality of participating caregivers and their interactions with children were measured using the ITERS and Arnett Caregiver Interaction Scale. Unlike the first study, this research only compared pretest and posttest results for the overall group of participants. Without a comparison group, this study design offers no way to assess what participants' outcomes would have been in the absence of the training and consultation. Therefore, we cannot make causal inferences that the First Beginnings program *caused* the observed effect.

- The average of the overall mean score on the ITERS for First Beginnings participants' classrooms increased from 3.20 before the program to 3.48 after. This was statistically significant at the 0.001 level, with an effect size calculated as 0.52.
- The number of classrooms rated adequate or good increased from 62 percent before the training to 72 percent after. Twenty-two percent of classrooms experienced an observable change in quality.
- Mean scores on three of the four Arnett Caregiver Interaction Scale factors showed almost no change (0.05 points or less on a scale ranging from 1 to 4) after the program, whereas the fourth factor (permissiveness) became less favorable afterwards by 0.26 points.

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**Table 1. Overview of existing research, First Beginnings**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data Collection methods
Campbell and Milbourne 2005	Comparison group (not randomly assigned)	180 caregivers in 114 rooms in 60 programs; 123 caregivers in consultation group, 37 in no-consultation group, 20 caregivers with no posttest results	Consultation group vs. no-consultation group: mean age 41 vs. 38; 99 percent vs. 100 percent female; 91 percent vs. 85 percent African American; 79 percent vs. 71 percent high school education or lower and 18 percent vs. 26 percent associate degree or higher; 5 percent vs. 0 percent child development credential; 14 percent vs. 9 percent educational certificate; mean experience in child care 9.8 vs. 7.4 years	ITERS  Arnett Caregiver Interaction Scale	Observations conducted by trained observer  Observations conducted by trained observer
Campbell et al. 2005	Descriptive/pre-post	First Beginnings: 178 total participants; 154 participants in 70 rooms in 45 centers completed all requirements	First Beginnings: mean age 40; 98 percent female; 89 percent African American; 77 percent high school education or lower and 21 percent associate degree or higher; 4 percent Child Development Associate credential; 18 percent teacher certificate; mean experience in child care 9.6 years	ITERS  Arnett Caregiver Interaction Scale	Observations conducted by trained observer  Observations conducted by trained observer

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## **INFANT CAREGIVER MENTORING PROJECT**

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### **A. Overview**

#### **1. Overview, model components, and content**

The Infant Caregiver Mentoring Project is designed to improve the quality of infant and toddler child care programs through the use of mentoring. Participants in the project are paired with an experienced early childhood professional who serves as their mentor in a one-on-one relationship. The mentoring emphasizes a relationship-based, problem-solving approach. In the first part of the program, the mentor spends time getting to know the participant and observing him or her on site to develop a trusting relationship. After both parties feel comfortable, the mentor begins working more actively with the participant. Mentors focus on being open-minded, collaborative, and supportive of caregivers who are attempting new ideas and strategies. The mentoring program was developed by the Capital Area Early Childhood Training Institute (CAECTI) at The Pennsylvania State University (Penn State). This demonstration project is not currently active, although a manual is available online.

#### **2. Target population, including available languages**

- Mentoring participants are Pennsylvania caregivers from center-based child care programs serving children from birth to younger than age 3. All of the child care centers are licensed by the state.
- A majority of caregivers participating in a study of the program had no more than a high school education. These caregivers had an average of almost six years of experience in the early childhood field.
- The mentoring program is conducted in English.

#### **3. Targeted outcomes**

- The program focuses on improving the overall quality of the child care environment, especially the quality of caregiver–child interactions and the sensitivity of caregivers to the needs of their children.

#### **4. Dosage and program length**

- Mentoring occurs over a four-month period.
- Participants receive approximately 20 hours of mentoring per month for 4 months for a total of 80 hours.

#### **5. Staff requirements, including staff type, education, and experience**

- Mentors have a minimum of five to seven years of experience in the early childhood field as both a director and a teacher.

#### **6. Supports for implementation**

- The Infant Caregiver Mentoring Project has a manual that defines the program, its goals, and policies. It also has content and references for topics such as relationship building, adult learning, attachment, language development, play, and creating partnerships with parents.

Mentors also use a variety of tools and forms to guide their work with participants, such as a mentoring log, videotaped observations, participant self-assessments, individualized professional development plans, and charts documenting classroom routines and materials. Although the project is not currently active, the manual is available online to support replication.

- Mentors complete seven days of training before the program starts. The topics covered during the training include building relationships as a mentor, other skills to be effective as a mentor, and infant and toddler development.
  - Mentors and mentoring staff meet every two weeks to monitor the status of the overall program and ensure a consistent approach. Mentors also meet with the director of the mentoring program on a weekly basis to discuss their progress with each participant.
- 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**
- When active, the mentoring program was implemented by the developer (CAECTI at Penn State) at child care centers in south central Pennsylvania. The program did not include any family child care providers.

## **B. Summary of existing research**

The Infant Caregiver Mentoring Project was a demonstration project developed and evaluated by CAECTI at Penn State (Fiene 2002). Caregivers were recruited to participate in the study and those who agreed to participate were randomly assigned to a group that received the mentoring intervention or to a comparison group. The evaluation compared results from four measures taken before and after the period during which the treatment group received the mentoring (the comparison group received the mentoring after data collection was complete). The Infant/Toddler Environment Rating Scale (ITERS; Harms et al. 1987) and Arnett Caregiver Interaction Scale (Arnett 1989) were used to observe caregivers on the overall quality of their classroom and interactions with children, and the Knowledge of Infant Development Inventory (KIDI; MacPhee 1981) and the Bloom Scales of Organizational Climate (Bloom 1989) were used to survey caregivers on their knowledge of infant development and perceptions of their center. Table 1 provides an overview of the study. Below we discuss the findings from the study.

- For both the mentoring and comparison groups, the pre-post differences on all four measures (the ITERS, Arnett scale, KIDI, and Bloom scale) were not statistically significant.
- The mentoring group experienced changes from pretest to posttest on two ITERS subscales, routines (average increase in total score = 5 points) and learning activities (average increase = 3 points), that were statistically significant at the 0.005 and 0.05 level, respectively. This group also experienced changes on two Arnett subscales, sensitivity (average increase in total score = 5 points) and appropriate discipline (average increase = 2 points) that were statistically significant at the 0.001 and 0.05 level, respectively. The comparison group experienced one statistically significant change from pretest to posttest, on the ITERS interactions subscale (average decrease = 2 points, significant at the 0.02 level).

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**Table 1. Overview of existing research, Infant Caregiver Mentoring Project**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Fiene 2002	Randomized controlled trial	52 caregivers	Mean age 36; 77 percent white; 57 percent high school education only, 16 percent some college credit, 21 percent Child Development Associate credential or associate degree, and 7 percent bachelor's degree or higher  Mean experience as a caregiver = 6 years; average salary \$10,000 to \$15,000	ITERS  Arnett Caregiver Interaction Scale  KIDI  Bloom Scales of Organizational Climate	Observations conducted by research staff  Observations conducted by research staff  Surveys of caregivers  Surveys of caregivers

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## SEEDS TO SUCCESS

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### A. Overview

#### 1. Overview, model components, and content

Seeds to Success is a coaching model for providing quality improvement services within a pilot child care quality rating and improvement system. It supports licensed family child care providers, center-based teachers, and child care center directors in improving: (1) the quality of early care and education and (2) staff access to professional development and training. The coaching model, the Consultative Coaching Program for Early Learning Professionals, was developed in 2008 by Thrive by Five Washington, Washington State's public-private partnership for early learning. The goal of the Consultative Coaching Program is to train coaches to develop a trusting relationship with early learning professionals and help them reflect on their practice (1) in the classroom or in their business and (2) during interactions with the other providers in that setting, with families, and with the children in their care. The Seeds to Success coaches aim to help the professionals stay motivated to attain their quality improvement goals and help establish skills and behaviors that support continuous quality improvement. Providers and coaches develop quality improvement plans that are used to guide the coaching sessions. The plans are based on results of a baseline observation of setting quality. Providers are also eligible to receive quality improvement grants and funds for professional development and to cover the costs of child care for providers' own children, release time, and books.

The Seeds to Success Modified Field Test was conducted in 2009 in two communities (Boller et al. 2010a, 2010b; Del Grosso et al. 2010). The demonstration project also expanded into three additional communities in 2009 (Joseph et al. 2010). After the demonstration period, the state Department of Early Learning assumed all administration of Seeds to Success and used it to develop the current iteration of Washington's quality rating and improvement system, which now operates throughout the state and is called Early Achievers. Coaching remains a hallmark of the program. The Early Achievers coaching model is described as practice-based coaching and has three main components, which are similar to the Seeds coaching model: (1) shared goals and quality improvement plans, (2) focused observations guided by the goals and quality improvement plans, and (3) reflecting and sharing feedback. Under Seeds, the coaching and quality improvement grants were provided to providers with all five quality ratings (levels 1 through 5). In Early Achievers, however, these supports are only provided to providers at levels 3 through 5. This reflects Early Achievers' revised structure for quality ratings, under which providers begin at level 1, complete designated activities to achieve a level 2 rating, and can then earn points through on-site evaluations in several standard areas to reach ratings between levels 3 and 5. Early Achievers also includes professional development, technical assistance, and other supports for providers. The focus of this profile is on the year 1 field test only.

#### 2. Target population, including available languages

- The Seeds model targets licensed family child care providers, center-based teachers, and child care center directors caring for children birth to age 5.
- Coaching is offered in English and Spanish. Written materials are available in English only.

### **3. Targeted outcomes**

- The Seeds model is intended to improve the quality of care provided by participating child care providers.

### **4. Dosage and program length**

- The Seeds to Success Modified Field Test had a six-month implementation period.
- Center directors, classroom teaching staff, and family child care providers are eligible to receive up to eight hours of in-person coaching per month. Coaching hours for center classrooms are divided between lead teachers and assistants, with more hours intended for lead teachers.

### **5. Staff requirements, including staff type, education, and experience**

- For the coaches, the implementing agencies seek individuals with experience and expertise in early childhood development, child care, culturally appropriate practice, and adult learning theories. In addition, the agencies seek bilingual individuals to work with the providers in their communities.

### **6. Supports for implementation**

- In preparation for implementation, coaches participate in multiple training sessions, including trainings on coaching, the Environment Rating Scales (ERS),<sup>26</sup> and the administrative data system used to track the provision of coaching.
  - During the implementation period, coaches are supervised by the site coordinators at the implementing agencies during team and one-on-one meetings. During the field test, in one community, coaches' supervision was offered weekly. In the other community, supervision was offered monthly. Coaches also have the opportunity to meet with a mentor coach.
  - The implementing agencies use an administrative data system to track the provision of coaching, including the amount of coaching participants receive, the content of the coaching, and how the coaching aligns with stated goals in the participants' quality improvement plans.
7. Overview of the locations where model has been or is currently implemented, including types of implementing agencies
- For the field test, the Seeds model was implemented in two Washington State communities in family child care homes and child care centers.

## **B. Summary of existing research**

An impact and implementation evaluation of the Seeds model was conducted in 2009 (Boller et al. 2010b). The impact evaluation was designed to determine whether the coaching model and financial incentives implemented as part of Seeds affected the quality of services provided by participating child care businesses (in both family home and center settings),

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<sup>26</sup> The Environment Rating Scales include the Infant/Toddler Environment Rating Scale-Revised (ITERS-R; Harms et al. 2003), the Early Childhood Environment Rating Scale-Revised (Harms et al. 1998), and the Family Child Care Environment Rating Scale-Revised (Harms et al. 2007).

compared with those businesses that did not receive Seeds. Across two communities, 52 family child care providers and 14 centers that volunteered to participate were randomly assigned into treatment and control groups. The treatment group received the intervention described in this profile; the control group received funds only for professional development opportunities and supports. The goals of the implementation study were to determine whether Seeds met its goals of providing intensive, high quality coaching and other supports to participating providers and to capture the lessons learned about implementation during the field test.

Data sources for the Seeds impact study included classroom observations, self-administered questionnaires for center directors and educators (lead and assistant teachers), and interviews with family child care providers. Observations conducted at the start (baseline) and at the end (follow-up) of the field test included the ERS, the Arnett Caregiver Interaction Scale (Arnett 1989), and counts of children and adults to calculate child-adult ratios and group sizes. Data sources for the Seeds implementation study included (1) interviews and focus groups with site coordinators, coaches, and child care staff during site visits conducted by the evaluation team in June and November 2009; and (2) service use data collected by coaches and site coordinators from June through December 2009 and analyzed by the evaluator in winter 2010.

Table 1 provides an overview of the study. The main impact study findings include the following:

- Family child care providers in the treatment group were not more likely than providers in the control group to be enrolled in an education or training program. However, Seeds did improve center-based lead and assistant teacher enrollment in an education or training program, and significantly more lead teachers in the treatment group than in the control group attended college courses at least weekly.
- At follow-up, family child care providers and center-based lead and assistant teachers in the treatment group were significantly more likely than those in the control group to report visits from a coach at least weekly.
- At follow-up, there was no consistent pattern of positive impacts of Seeds on family child care providers' educational attainment. More center-based teachers in the treatment group than in the control group earned three credits in the past six months, but Seeds had no impact on completion of a postsecondary degree for center lead teachers and assistants.
- Lead teachers in the treatment group were significantly less likely than lead teachers in the control group to leave their centers during the study period (19 percent of treatment group lead teachers who completed baseline questionnaires left by follow-up, versus 45 percent in the control group).
- Child care businesses in the treatment group had significantly higher child care observed quality scores at follow-up than businesses in the control group. For both family child care providers and child care centers in the treatment group, the ERS total score and most of the ERS subscale scores were significantly higher than control group scores. Among infant and toddler center-based classrooms, the ITERS-R total scores for the treatment classrooms was significantly higher than for the comparison classrooms (4.65 versus 2.85, respectively).

The main implementation study findings include the following:

- The coaches and providers were able to implement the intensive coaching component of the Seeds model. On average, the amount of coaching providers received adhered to the Seeds model; however, participants had a range of experiences. On average, family child care providers, center directors, and lead teachers received 6 to 11 hours of coaching per month.
- Across all providers, quality improvement grants were most commonly used for supplies and materials. During focus groups, providers described using funds to pay for (1) materials, including books and art materials; (2) larger items, such as child-size tables and outdoor play equipment; and (3) safety improvements.
- According to administrative data, across communities, one-third to one-half of family child care providers and at least one staff person in each child care center received funding for professional development opportunities for their staff.
- During focus groups, providers described several barriers that deterred them from using the professional development opportunities, including (1) limited availability of trainings and classes, particularly near their places of employment or homes; (2) lack of trainings and classes that provided new or relevant information; and (3) low perceived “payoffs” to professional development, because salaries were unlikely to increase as a result of completion of professional development.

### **C. For more information**

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### **D. References**

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**Table 1. Overview of existing research, Seeds to Success**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Boller et al. 2010b	Randomized controlled trial; implementation study	52 family child care providers and 14 child care centers initially randomly assigned  49 family child care providers (26 treatment and 23 control) and 14 child care centers (7 treatment and 7 control) participated in study	<i>Family child care providers:</i>  Average age 45; 57 percent Hispanic, 15 percent white non-Hispanic, and 26 percent other race or ethnicity; 45 percent less than a high school education and 14 percent associate degree, bachelor's degree, or completed graduate work; average years of experience in current job more than 6 years	Infant/Toddler Environment Rating Scale-Revised (Harms et al. 2003); the Early Childhood Environment Rating Scale-Revised (Harms et al. 1998); the Family Child Care Environment Rating Scale-Revised (Harms et al. 2007).	Observation
			<i>Child care center staff:</i>  Average age: center directors 43, lead teachers 35, assistant teachers 29; child care center staff most frequently white non-Hispanic; associate degree, bachelor's degree, or higher: center directors 56 percent, lead teachers 30 percent, assistant teachers 17 percent; average years of experience in current job: center directors 6 years, lead teachers 4 years, assistant teachers 3 years	Arnett Caregiver Interaction Scale (Arnett 1989)	Observation
				Counts of the children and adults	Observation
				Center directors and educators (lead and assistant teachers): demographics and participation in training and education	Self-administered questionnaires
				Family child care providers: demographics and participation in training and education	Interviews
				Program implementation	Executive interviews and focus groups with site coordinators, coaches, and child care staff
	Service receipt	Service use data collected by coaches and site coordinators			

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## **SMART SUPPORT (EARLY CHILDHOOD MENTAL HEALTH CONSULTATION)**

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### **A. Overview**

#### **1. Overview, model components, and content**

Smart Support is Arizona’s system of early childhood mental health consultation. It partners mental health consultants with early care and education providers to promote the social and emotional development of the children in their care, and to help them respond to children with behavioral challenges. A consultant first meets with a provider to explain the consultation services, confirm such services are appropriate for the provider’s needs, and verify that the provider remains interested in receiving these services. If so, the consultant works with the provider to develop an individualized plan that describes how services will be provided.

Three types of consultation can be provided in different combinations depending on provider needs and preferences: (1) program consultation focuses on the provider’s entire setting; (2) classroom consultation works with a teacher to improve his or her skills or outcomes in the classroom; and (3) child-centered consultation involves helping staff and parents develop a plan to support care for a child exhibiting difficult behaviors. Services provided by consultants may also include training as well as referrals to other services and resources. Regardless of the specific services offered, Smart Support uses several core components, tools, and techniques as its framework for consultation. These include the Teaching Pyramid Model from the Center on the Social and Emotional Foundations for Early Learning as well as the FAN approach developed by Dr. Linda Gilkerson at the Erikson Institute to guide interpersonal communication with caregivers.<sup>27</sup> Southwest Human Development, a nonprofit provider of early childhood services, designed and administers the program.

#### **2. Target population, including available languages**

- Smart Support works with child care providers for children from birth to age 5, including child care centers and preschools as well as family child care providers. To be eligible, a provider must be licensed or regulated by the appropriate Arizona state agency. Smart Support can also provide mental health consultation to home visiting and family, friend, and neighbor programs.
- Smart Support primarily offers services in English and has a limited capacity to provide services in Spanish.

#### **3. Targeted outcomes**

- Smart Support’s activities are intended to improve several short-term outcomes, including: the emotional climate in programs and classrooms; staff interactions with parents and other staff (this includes teachers and non-teaching staff such as administrators); teacher attitudes, beliefs, and knowledge; teacher–child relationships; child behavior; involvement with early intervention services; and reduced risk of expulsion.

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<sup>27</sup> The term “FAN” is not an acronym but refers to the shape of the visual representation of the approach.

- The intended long-term outcome is an increased capacity of early childhood settings to meet children’s social and emotional needs.

#### **4. Dosage and program length**

- The period of service is not set at the beginning of the program; rather, consultants encourage providers to work with them to set specific goals at the beginning of services, with the idea that the consultation will end after the consultant and provider agree that these goals have been met. The average length of participation is approximately one year, but this varies and can range from several months to much longer than one year.
- The primary component of consultation consists of in-person, on-site visits from the consultant, which are required to occur at a regular day and time. Visits usually occur weekly and last two to three hours. When appropriate, visits can be offered more or less frequently than weekly.

#### **5. Staff requirements, including staff type, education, and experience**

- Mental health consultants must have a master’s-level degree in a mental health discipline. They must have experience working with young children and their families and caregivers.
- Supervisors of mental health consultants must have a license in a mental health field and at least five years of experience working with children, groups of children, or their families and caregivers. They must also have supervisory experience using reflective supervision or a similar approach.

#### **6. Supports for implementation**

- Smart Support has an implementation manual, a logic model, and a database with forms, data collection reports, and resources. The implementation manual describes in detail the step-by-step process for providing consultation, to ensure consistent service delivery and fidelity to the Smart Support model.
- New consultants go through a week-long orientation that includes 16 classroom hours, and shadow with experienced consultants. Their first year of employment serves as an extended orientation and includes the completion of a series of trainings on attachment, trauma, self-regulation, and other subjects as well as quarterly meetings that review key aspects of the consultation model. Other ongoing professional development activities for all consultants include a monthly book club, regular training opportunities (which may be required, or optional training that a consultant can request to attend), and weekly meetings with supervisors that use a reflective supervision approach.
- After completing the initial week-long Smart Support orientation, supervisors receive three hours of training per week for one month to support them in fully assuming their supervisory role. This training covers all aspects of the supervisory process. During this time, they also discuss topics in child development in small groups, shadow with experienced consultants to observe them in different stages of consultation, and sit in or participate in other meetings.
- Supervisors are responsible for ensuring fidelity to the Smart Support model. This primarily occurs through the weekly reflective supervision meetings with consultants that incorporate both case-based reflective discussion and administrative oversight to form a blended model of supervision.

- Supervisors also participate in their own weekly meetings with senior Smart Support leadership that use reflective supervision; they also have their own monthly book club.
- 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**
- Smart Support operates in Arizona in areas whose regional councils of First Things First (the state's early childhood development system) dedicate some of their funding for the program. These regions contain a large proportion of the state's population.
  - Mental health consultants are hired by Southwest Human Development or another agency, depending on the location in the state. Southwest Human Development supervises and trains all consultants and supervisors.

## **B. Summary of existing research**

Smart Support's first year of implementation in 2010–2011 was the subject of an evaluation report (Shivers n.d.). This evaluation collected administrative data on program activities; information on the characteristics of the mental health consultants who provided services; surveys and self-assessments from teachers, child care program directors, and consultants; teacher-reported child data; and observations of classroom environments. Information collected from participating teachers and administrators was obtained at the beginning of the program and six months later, while they were still receiving services. The component of the study involving implementation is summarized in Table 1 and findings are discussed below. Only 21 percent of teachers in the first-year evaluation reported caring for infants and toddlers (birth to age 3).

- According to administrative data on services delivered, Smart Support mental health consultants visited teachers once per week on average, spending an average of 2.3 hours on site per week. Each consultant also facilitated an average of 6 training sessions and made an average of 21 referrals (which could be for children or families, or for directors, teachers, or child care programs). Consultants worked with teachers to create an average of 2.9 written action plans for specific children per teacher.
- Consultants' average age was 41, 94 percent were female, and all held a master's degree or higher. Consultants' primary field of expertise was either in mental health (49 percent), education (30 percent), or both (21 percent). Their average experience providing early childhood-related services was 11.1 years; average experience providing consultation, coaching, or training was 6.5 years; and average experience providing early childhood consultation was 5.4 years.
- Consultants were asked to self-rate their level of consulting knowledge and skills using a scale with five domains: basic knowledge, systems change, personal characteristics, communication, and collaborative problem solving (Buysse and Wesley 2005). On the scale of 1 (low) to 5 (high), consultants' average overall score was 4.32. The average score on each domain was greater than 4, with personal characteristics having the highest score and basic knowledge the lowest score.
- The report also included findings from the other sources, such as teacher-reported child data and observations of classroom environments. However, we did not review these findings because they are not disaggregated by child age and only 21 percent of participants cared for

infants and toddlers. In addition, several of the measures seem to only apply to preschool-age children and classrooms, which made them outside the scope of this report.

Smart Support has also released a one-page summary of evaluation findings of services provided from 2010 to 2014 (Southwest Human Development and Indigo Cultural Center 2015). Data involving 799 teachers and 1,028 children from 411 child care programs (94 percent of which were center-based providers) were collected at baseline and after 6 months and 12 months of Smart Support services. Positive, statistically significant results were found for several outcomes, including classroom emotional climate, teacher-child relationships, and children's self-regulation. However, an evaluation report containing these findings has not yet been produced.

### **C. For more information**

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### **D. References**

Buysse, V., and P.W. Wesley. Consultation in Early Childhood Settings. Baltimore: Brookes, 2005.

Shivers, E.M. "Smart Support Year 1 Evaluation Report: 2010-2011." Phoenix, AZ: Indigo Cultural Center, Inc., Institute for Child Development Research & Social Change, n.d.

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Southwest Human Development. "Smart Support: Mental Health Consultation for Child Care Providers." Available at <http://www.swhd.org/training/early-childhood-training/smart-support>. Accessed December 3, 2014.

Southwest Human Development and Indigo Cultural Center. "Summary of Smart Support Evaluation Findings 2010-2014." Phoenix, AZ: Southwest Human Development. Provided January 6, 2015.

**Table 1. Overview of existing research, Smart Support**

Study citation	Study design	Sample size/unit of analysis	Sample characteristics	Measures	Data collection methods
Shivers n.d.	Implementation; pre-post	47 consultants; 305 teachers at 199 child care centers and 14 family child care providers receiving services; 243 teachers at 147 child care centers and 5 family child care providers in evaluation	Centers/providers: mean of average daily attendance 55; 24 percent nationally accredited; 49 percent serving mostly low-income families and 29 percent serving mostly low- to mid-income families  Teachers: mean age 36; 98 percent female; 53 percent white and 31 percent Latino; 52 percent high school education or lower, 21 percent Child Development Associate credential or relevant associate degree; 21 percent bachelor's degree or higher; mean experience as a caregiver 10 years	Program activities  Consultant characteristics  Consultant Knowledge and Skill Inventory (self-assessment)	Program administrative data  Questionnaire completed by consultants  Questionnaire completed by consultants

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## **CURRICULA MODELS**

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**ASSESSMENT, EVALUATION, AND PROGRAMMING SYSTEM (AEPS), SECOND EDITION, CURRICULUM FOR BIRTH TO THREE YEARS**

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**A. Overview****1. Overview, model components, and content**

The *Assessment, Evaluation, and Programming System (AEPS), Second Edition, Curriculum for Birth to Three Years* provides activities that are arranged to meet the changing needs of children as they develop. The curriculum is designed to support caregivers in matching a child's goals and activities with activity-based intervention strategies based on the child's age and current level of development. These strategies involve working on goals and objectives within the children's routine (for example, mealtimes, bathing, and dressing), planned activities (for example, activities organized by an adult, such as painting), and spontaneous activities that capitalize on children's daily interactions with their social and physical environments to facilitate skill development. The curriculum is linked to the AEPS Test, an assessment designed to help teachers select and evaluate goals and objectives that are most appropriate for each individual child in key developmental areas. Overall, AEPS includes two sets of assessment and curriculum materials, one for children birth through age 3 and one for children age 3 through 6. The system is supported by a web-based data management system known as AEPSi, which caregivers can use to enter assessment information; link this information to goal development, intervention, and evaluation; and produce a variety of reports, including those that meet federal reporting requirements. AEPS was developed by Diane Bricker, Ph.D., and colleagues from the University of Oregon and is published by Brookes Publishing.

**2. Target population, including available languages**

- The curriculum is targeted to professionals (including early childhood educators in general, as well as special education teachers, early interventionists, family service coordinators, administrators, physical therapists, speech-language pathologists, and occupational therapists) working with children birth to age 3. AEPS was specifically developed for use with children who have disabilities or are at risk for developmental delays, but it can be used with all children.
- AEPS Curriculum for Birth to Three Years is only available in English.

**3. Targeted outcomes**

- AEPS Curriculum for Birth to Three Years targets outcomes in the following areas: fine motor, gross motor, adaptive, cognitive, social-communication, and social.<sup>28</sup>

**4. Dosage and program length**

- Information about dosage and program length is not specified by the curriculum.

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<sup>28</sup> The adaptive area consists of goals and objectives involving feeding, personal hygiene, and undressing.

## **5. Staff requirements, including staff type, education, and experience**

- The curriculum is designed to be implemented by professionals, but education or experience requirements for staff are not specified on the AEPS website, and the developer did not clarify whether there are any requirements.

## **6. Supports for implementation**

- AEPS Curriculum for Birth to Three Years includes an overview that provides background information about the curriculum and describes guidelines for using the curriculum.
- Trainers are available to conduct training seminars on the AEPS assessment and curriculum materials at implementing agencies. Training topics on the AEPS curriculum include the content and organization of the curriculum; how to link the AEPS assessment and curriculum; how to use the curriculum within an activities-based approach; individualizing instruction for young children using the curriculum; and working on goals and objectives within daily routines and planned intervention activities. Training topics can be modified to meet the needs of the participating professionals who will use AEPS.
- Fidelity guidelines and tools for monitoring fidelity of the AEPS Curriculum for Birth to Three Years are not specified on the AEPS website, and the developer did not clarify whether these are available.

## **7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- AEPS Curriculum for Birth to Three Years is implemented in early intervention/Individuals with Disabilities Education Act (IDEA) Part C programs, early child care programs, and Early Head Start programs.

## **B. Summary of existing research**

We did not identify any research on the AEPS Curriculum for Birth to Three Years that fell within the scope of this report.<sup>29</sup>

## **C. For more information**

Brookes Publishing  
800-638-3775

<http://www.brookespublishing.com>

Contact information for regional sales representatives is listed on the website:

<http://www.brookespublishing.com/customer-service/contact-us/>

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<sup>29</sup> The existing research base includes studies of the psychometric properties of the AEPS assessment tools (inter-observer and test-retest reliability, internal consistency, and congruent validity); most studies focused specifically on children with disabilities.

**D. References**

Brookes Publishing Company. *The Assessment, Evaluation and Programming System (AEPS®), Second Edition, Curriculum for Birth to Three Years*. Available at: <http://products.brookespublishing.com/Assessment-Evaluation-and-Programming-System-for-Infants-and-Children-AEPS-Second-Edition-Curriculum-for-Birth-to-Three-Years-P474.aspx>. Accessed December 4, 2014.

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**THE CREATIVE CURRICULUM® FOR FAMILY CHILD CARE, SECOND EDITION**

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**A. Overview****1. Overview, model components, and content**

The Creative Curriculum for Family Child Care, Second Edition, is a curriculum designed to help family child care providers: (1) set up the learning environment; (2) plan developmentally appropriate routines and activities for every day of the week; (3) promote children’s learning and development in the areas of social-emotional, physical, language, cognitive, literacy, mathematics, science and technology, social studies, the arts, and English-language acquisition; and (4) build partnerships with parents. The curriculum includes two volumes. Volume 1: The Foundation covers the research that informed the development of the curriculum, how children develop and learn, organizing the home and daily schedule, caring and teaching, and building partnerships with families. Volume 2: Routines and Experiences discusses routines and experiences that promote development and learning of children birth to age 12 and describes strategies providers can use to implement these routines and experiences. The curriculum’s learning objectives are intended for children birth through kindergarten, with the understanding that older children will have learning objectives from school. To make it easier for caregivers to implement activities, the curriculum also includes 68 Creative Curriculum LearningGames offering suggestions for helping families and caregivers interact with children, a list of necessary materials, and ways to adapt the activities to children’s ability levels; a DVD about caregiving in the family child care setting and how children learn; and a CD-ROM with copies of forms and letters to parents. Versions of the curriculum for infant and toddler and preschool center-based classrooms are also available. The Creative Curriculum for Family Child Care was developed by Diane Trister Dodge, M.S., founder of Teaching Strategies, and colleagues Sherrie Rudick, M.S., and Laura J. Colker, Ed.D.

**2. Target population, including available languages**

- The curriculum is targeted to family child care providers caring for children birth to age 12.
- The 68 Creative Curriculum LearningGames are available in Spanish and English; the CD-ROM includes Spanish and English versions of forms and letters to parents.

**3. Targeted outcomes**

- The Creative Curriculum for Family Child Care targets learning and development in the areas of social-emotional, physical, language, cognitive, literacy, mathematics, science and technology, social studies, the arts, and English-language acquisition for children birth to age 12.

**4. Dosage and program length**

- Information about dosage and program length is not specified by the curriculum.

**5. Staff requirements, including staff type, education, and experience**

- No requirements for staff are specified on the Creative Curriculum website, and the developer did not clarify whether there are any requirements.

## 6. Supports for implementation

- The curriculum includes implementation guidelines and training sessions designed to help family child care providers foster development and learning objectives among the children in their care.
- Providers using the curriculum or overseeing settings using the curriculum are encouraged to familiarize themselves with the curriculum materials, including the two volumes and the LearningGames. The DVD on caregiving and learning also helps providers understand the purpose and use of the curriculum materials.
- Teaching Strategies offers a one- to two-day training for providers on The Creative Curriculum for Family Child Care. Trainings are offered on site in community locations.
- Tools for monitoring fidelity of The Creative Curriculum for Family Child Care are not specified on the Creative Curriculum website, and the developer did not clarify whether these tools are available. Teaching Strategies does offer coaching and fidelity resources for the preschool version of the Creative Curriculum and the preschool version of its comprehensive assessment, *Teaching Strategies GOLD*.

## 7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies

- The Creative Curriculum for Family Child Care may be used in a variety of settings, including rural and urban locations.
- The curriculum is intended for implementation by a variety of family child care providers, including daily or bi-weekly programs. Separate versions of the curriculum are available for center-based providers serving infants and toddlers and preschool-aged children. Family child care providers serving *only* infants and toddlers or *only* preschool-aged children may also use the versions of the curriculum developed specifically for those age groups, instead of The Creative Curriculum for Family Child Care.

## B. Summary of existing research

We did not identify any research on The Creative Curriculum for Family Child Care.

## C. For more information

Teaching Strategies

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<http://shop.teachingstrategies.com/page/71035-creative-curriculum-family-child-care.cfm>

Contact information for regional sales representatives is listed on the website:

<http://teachingstrategies.com/sales/regional-managers/>

## D. References

Teaching Strategies. “The Creative Curriculum<sup>®</sup> for Family Child Care: Second Edition.”

Available at: <http://shop.teachingstrategies.com/page/71035-creative-curriculum-family-child-care.cfm>. Accessed December 4, 2014.

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## **THE CREATIVE CURRICULUM® FOR INFANTS, TODDLERS & TWOS, THIRD EDITION**

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### **A. Overview**

#### **1. Overview, model components, and content**

The Creative Curriculum for Infants, Toddlers & Twos, Third Edition is an early childhood education curriculum that is designed to help teachers (1) set up the learning environment; (2) plan developmentally appropriate routines and experiences for every day of the week; (3) promote children’s social-emotional, language, cognitive, and physical development, as well as content area learning in literacy, mathematics, science and technology, social studies, and the arts; and (4) build partnerships with families. The curriculum comprises three foundational volumes and several additional resources, including Book Conversation Cards; Mighty Minutes for Infants, Toddlers & Twos; Intentional Teaching Cards; The Creative Curriculum Learning Games; and Highlights Hello magazines. Volume 1: The Foundation outlines the research that informed the development of the curriculum and discusses the five central components of nurturing care and teaching. Volume 2: Routines and Experiences discusses routines and experiences that promote development and learning of children birth to age 3 and explains how teachers can plan to implement these routines and experiences intentionally while maintaining the flexibility to respond to the changing interests and abilities of young children. Volume 3: Objectives for Development & Learning, Birth Through Third Grade describes skills, knowledge, and behaviors that promote the continuing development and learning of infants and toddlers and includes guidance to help teachers observe children effectively. It also describes (1) 38 objectives for development and learning, (2) two dedicated objectives for English-language acquisition for preschool- and elementary-aged children, (3) developmental progressions that show widely held expectations for children, and (4) research findings relating to each objective and strategies for teaching responsively. Related materials that are available separately from the curriculum include two training videos, Celebrating Language and Literacy for Infants, Toddlers & Twos, which explores the development of early literacy skills in the context of caring relationships with adults, and Strategies for Early Language and Literacy Development, which demonstrates how everyday routines, experiences, and environments support children’s language development. Other materials include guides for families on ways they can extend classroom activities at home and Teaching Strategies GOLD, an observational assessment for children from birth through third grade. Versions of the curriculum for center-based preschool classrooms and family child care providers are also available. The Creative Curriculum for Infants, Toddlers & Twos was developed by Diane Trister Dodge, M.S., founder of Teaching Strategies, and colleagues Kai-leé Berke, M.S., Sherrie Rudick, M.S., and Heather Baker, M.L.S. The third edition of the curriculum was recently published; previously, the most recent version was the second edition, revised.

#### **2. Target population, including available languages**

- The curriculum is targeted to caregivers of children birth to age 3.
- The curriculum is available in English and Spanish.

### 3. Targeted outcomes

- The Creative Curriculum for Infants, Toddlers & Twos targets 38 objectives for development and learning, including those related to social-emotional, language, cognitive, and physical development, as well as content area learning in literacy, mathematics, science and technology, social studies, and the arts.

### 4. Dosage and program length

- Information about dosage and program length is not specified by the curriculum.

### 5. Staff requirements, including staff type, education, and experience

- No requirements for staff are specified on the Creative Curriculum website, and the developer did not clarify whether there are any requirements.

### 6. Supports for implementation

- The curriculum includes implementation guidelines and strategies designed to help teachers foster development and learning objectives among the infants and toddlers in their care. Training materials are available, including DVDs and a training guide.
- Staff using the curriculum or overseeing classrooms using the curriculum are encouraged to familiarize themselves with the curriculum materials. The Guide to The Creative Curriculum for Infants, Toddlers & Twos also helps providers understand the purpose and use of the curriculum materials. Online, self-guided tutorials are also available to help Teaching Strategies GOLD users explore the purpose and use of the curriculum's learning and development objectives.
- Teaching Strategies offers a variety of professional development opportunities on the curriculum for teachers and administrators. Sessions are generally available either at an implementing agency site or at Teaching Strategies' Professional Development Center.
  - Training topics for teachers on The Creative Curriculum for Infants, Toddlers & Twos include: how to observe and plan responsively and partner with families to inform teaching and caregiving; how to use the objectives for development and learning to plan a responsive and developmentally appropriate program; strategies based on trust and mutual respect for supporting families; how materials and experiences support young children's development of language and literacy skills; how to use the routines to build trusting relationships with children and promote development and learning; and how to observe and plan experiences to scaffold children's learning.
  - Training for administrators focuses on how to effectively build teams and support teachers in implementing the curriculum.
- Currently, Teaching Strategies offers coaching and fidelity resources only for the preschool version of the curriculum and the preschool version of its comprehensive assessment, *Teaching Strategies GOLD*. However, it plans to publish *Coaching to Fidelity, Infants, Toddlers & Twos Edition*, by the end of 2015.

**7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- Information about the locations where the curriculum is implemented is not specified on the Creative Curriculum website, but it does note that it has been implemented across the country.
- The Creative Curriculum for Infants, Toddlers & Twos is used by center-based early childhood programs of various types, lengths, and settings. These include rural Migrant and Seasonal Head Start programs, urban Early Head Start programs, and other center-based Early Head Start programs. A separate version of the curriculum is available for family child care providers.

**B. Summary of existing research**

We did not identify any research on The Creative Curriculum for Infants, Toddlers & Twos.

**C. For more information**

Teaching Strategies

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**D. References**

Teaching Strategies. “The Creative Curriculum<sup>®</sup> for Infants, Toddlers & Twos: Second Edition, Revised.” Available at: <http://shop.teachingstrategies.com/page/76108-Creative-Curriculum-Infants-Toddlers-Twos.cfm>. Accessed December 4, 2014.

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## **HAWAII EARLY LEARNING PROFILE (HELP) 0-3**

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### **A. Overview**

#### **1. Overview, model components, and content**

The Hawaii Early Learning Profile (HELP) 0-3 is a comprehensive, ongoing, curriculum-based assessment process for use by providers working with infants and toddlers and their families. The HELP 0-3 system includes: (1) the assessment; (2) a family interview designed to assess children's developmental skills and behaviors and identify family concerns, priorities and resources; (3) the HELP Activity Guide, a curricular resource that includes activities linked to each skill assessed by the HELP assessment, which caregivers can use with children; (4) HELP at Home, a curriculum designed for providers to individualize and give to families to use with their children; and (5) HELP When the Parent has Disabilities, an activity guide adapted to accommodate parents who have disabilities. The curriculum components can be used by families (guided by providers) or out-of-home caregivers. The HELP 0-3 system covers 685 developmental skills and behaviors across the following six domains: cognitive, language, gross motor, fine motor, social-emotional, and self-help. HELP 0-3 products are cross-referenced through skill identification numbers for easy linking between assessment and curriculum materials. Programs implementing HELP 0-3 can choose to use KinderCharts.net, an online system designed to measure children's developmental progress in essential domains. Although KinderCharts is a separate system, it is directly aligned with the HELP 0-3 assessments, so providers can enter assessment results and use KinderCharts to produce a variety of progress reports, including reports that meet Early Head Start requirements. Versions of the assessment and curriculum for children ages 3 to 6 are also available. The materials are published by the VORT Corporation.

#### **2. Target population, including available languages**

- HELP 0-3 is designed for use by parents and non-parental caregivers of children birth through age 3 as well as for use by Individuals with Disabilities Education Act (IDEA) Part C early intervention providers for infants and toddlers who have developmental concerns.
- The assessment and Activity Guide are available in English only; however, some supporting materials, such as HELP at Home, are available in Spanish.

#### **3. Targeted outcomes**

- HELP 0-3 targets outcomes in the following domains: cognitive, language, gross motor, fine motor, social-emotional, and self-help.

#### **4. Dosage and program length**

- HELP 0-3 provides materials relevant for a three-year period (from birth to age 3). The frequency of assessment and intervention is based on individual needs.

#### **5. Staff requirements, including staff type, education, and experience**

- There are no staff requirements, but if HELP 0-3 is being used for the Part C assessment process, staff should meet their state's definition of qualified personnel, which may include specific licenses or certifications. If HELP 0-3 is being used as a curricular program for

children who do not have significant developmental delays or disabilities, then any staff with experience and knowledge of infant-toddler development can implement the curriculum.

## **6. Supports for implementation**

- Inside HELP is an administration and reference manual that provides assessment guidelines and procedures needed to implement all components of the HELP 0-3 system. Additional instructions are provided in each individual product.
- Onsite and online training opportunities on the HELP 0-3 system are available through VORT (see the website for more information).
- Fidelity guidelines and tools for monitoring fidelity of the HELP 0-3 system are not specified on the HELP website, and the developer did not clarify whether these are available.

## **7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- HELP 0-3 is being implemented throughout the United States.
- HELP 0-3 is implemented by a range of agencies including child care centers, Early Head Start programs, Part C providers, and hospitals. The HELP website does not specify whether the system is also intended for use by family child care providers, and the developer did not clarify whether this is the case.

## **B. Summary of existing research**

We did not identify any research on the HELP 0-3 curriculum materials that fell within the scope of this report.<sup>30</sup>

## **C. For more information**

VORT Corporation  
888-757-VORT (8678) (toll-free) or 650-322-8282  
<http://www.vort.com>

## **D. References**

VORT Corporation. “HELP: 0-3 years (Hawaii Early Learning Profile).” Available at: <http://www.vort.com/HELP-0-3-years-Hawaii-Early-Learning-Profile/>. Accessed December 3, 2014.

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<sup>30</sup> The existing research base includes studies of the psychometric properties of the HELP assessment tools (interobserver and test-retest reliability, congruent validity and internal consistency); one study focused on using the HELP in home-based programs.

# HIGHSCOPE INFANT-TODDLER CURRICULUM

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## **A. Overview**

### **1. Overview, model components, and content**

The HighScope Infant-Toddler Curriculum uses a process of active learning—called active participatory learning—that consists of experiences and exploration with people, materials, events, and ideas. During active learning, caregivers scaffold (support and gently extend) infant and toddler learning by encouraging them to investigate the world around them. Learning and development are anchored by long-term, trusting relationships with caregivers. The curriculum is organized around six content areas and includes guidance for caregivers on teaching practices designed to support children’s growth and learning. The six content areas are: (1) approaches to learning; (2) social and emotional development; (3) physical development and health; (4) communication, language, and literacy; (5) cognitive development; and (6) creative arts. The teaching practices include adult–child interactions, arrangement of the physical environment, the use of daily schedules and routines, and observations and planning for children. The curriculum is linked to HighScope’s comprehensive online child assessment tool, called the Child Observation Record (COR) Advantage, which covers development from birth through kindergarten. Preschool and elementary school versions of the curriculum are available. The HighScope Educational Research Foundation developed the HighScope Infant-Toddler Curriculum.

### **2. Target population, including available languages**

- The curriculum is targeted to children birth to age 3 and their out-of-home caregivers. Materials are also available to help families extend early learning from the classroom into the home.
- The curriculum manual, *Tender Care and Early Learning: Supporting Infants and Toddlers in Child Care Settings* (Post et al. 2011), is available in English and Spanish. COR Advantage is also available in English and Spanish, as are many of the support materials and resources (for example, DVDs).

### **3. Targeted outcomes**

- The HighScope Infant-Toddler Curriculum targets 42 key developmental indicators across six content areas: (1) approaches to learning; (2) social and emotional development; (3) physical development and health; (4) communication, language, and literacy; (5) cognitive development; and (6) creative arts.

### **4. Dosage and program length**

- The curriculum is appropriate for part-day and full-day programs.

### **5. Staff requirements, including staff type, education, and experience**

- HighScope programs adhere to the staffing requirements of the appropriate licensing agency and/or program auspices (such as Early Head Start).
- HighScope offers a wide range of in-person and online staff development options. Caregivers who complete a rigorous 20-day training program can meet the requirements for

HighScope teacher certification, based on demonstrated curriculum knowledge and documented teaching practices.

- Programs in which all lead caregivers are certified and which have met additional standards for parent involvement, staff development, ongoing assessment, and management and operations can also earn HighScope program accreditation.

## **6. Supports for implementation**

- The HighScope Infant-Toddler Curriculum manual (Post et al. 2011) includes implementation guidance, and accompanying teacher idea books and DVDs provide support for the implementation of key teaching practices. The manual is available in English and Spanish, and the DVDs are offered in English and include Spanish subtitles.
- HighScope offers a range of training options, including workshops, weeklong and multiweek trainings, and online offerings. The multiweek training course, required to become a HighScope certified teacher, is four weeks (20 days) spread across a 12-month calendar year and is offered onsite and at HighScope's headquarters. COR Advantage training is also available in-person and online.
- HighScope also offers customized on-site training and technical assistance for programs, as well as on-site observation and feedback, followed by mentoring and coaching.
- HighScope's Infant-Toddler Program Quality Assessment is designed to assess program quality and implementation of the HighScope Infant-Toddler Curriculum.

## **7. Overview of the locations where the model has been or is currently implemented, including types of implementing agencies**

- The HighScope Infant-Toddler Curriculum is implemented in programs throughout the United States, as well as internationally.
- The HighScope Infant-Toddler Curriculum is used in a wide variety of program settings including public and private, and nonprofit and for-profit agencies. Settings include private child care centers, state-funded early childhood programs, and Early Head Start programs.

## **B. Summary of existing research**

We did not identify any research on the HighScope Infant-Toddler Curriculum.

## **C. For more information**

HighScope Educational Research Foundation  
Email: [info@highscope.org](mailto:info@highscope.org)  
<http://www.highscope.org/>

## **D. References**

HighScope. "Infants and Toddlers." Available at <http://www.highscope.org/Content.asp?ContentId=62>. Accessed November 22, 2014.

Post, J., M. Hohmann, and A.S. Epstein. *Tender Care and Early Learning: Supporting Infants and Toddlers in Child Care Settings*. Ypsilanti, MI: HighScope Press, 2011.

### **III. GAPS IN THE KNOWLEDGE BASE AND IMPLICATIONS FOR FUTURE RESEARCH**

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LITES identified 13 compelling models that are of interest to the ECE field for supporting infant and toddler early learning in out-of-home care settings. The models are in different stages of development, and most, but not all, have engaged in some implementation or descriptive outcomes research. Yet, all could benefit from further development and evaluation. Once the models are well developed and producing potentially positive child outcomes as demonstrated through descriptive research (such as pre-test post-test designs), they should then be rigorously tested to assess their effects on child outcomes.

As anticipated, because this component of LITES focused on identifying models that had not yet been rigorously evaluated to examine impacts on children's outcomes, we found primarily implementation and descriptive research on these models. As reported in the model summaries, eight of the models had research studies (Table III.1). Those with research often had only one study.<sup>31</sup> The studies included implementation studies, descriptive outcome studies measuring interim and child outcomes, and, to a lesser extent, impact studies measuring interim outcomes. Two models had impact studies examining child outcomes that were underway at the time the scan was conducted.

None of the curricula models had research on implementation or outcomes. The preschool versions of HighScope and the Creative Curriculum have been rigorously evaluated, but not the infant and toddler curricula. Both AEPS and HELP had extensive research on the psychometric properties of the assessment tools that accompany the curriculum materials but not the curricula itself. Although the curricula had not been evaluated, the model developers note that the models were developed based on existing research evidence, including research on infant/toddler development, attachment, and brain development.

Despite the existence of some research on the compelling models, all could benefit from further development to specify how they should be implemented and how staff should be trained and supported to carry out these models with fidelity. Developing and testing the effectiveness of program models requires a range of research, including implementation, outcome, and impact studies. The type of research needed depends on the stage of each model's development. Implementation studies focus on assessing the feasibility of implementation and refining model specification, developing fidelity standards and measures, and assessing how the model may need to be adapted for different settings and target populations. Descriptive outcome studies can provide suggestive evidence about whether a model is producing expected outcomes and warrants more rigorous testing through an impact study.

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<sup>31</sup> We only report findings from studies that focused on infants and toddlers and their caregivers. Specifically, we report findings on children's outcomes for infants and toddlers, or interim outcomes for infant and toddler caregivers or settings where infants and toddlers received care. We include findings from implementation studies as long as they reported on care settings for infants and toddlers.

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Rapid cycle evaluations can serve a cost-effective strategy for guiding decision making (Cody and Asher 2014; Metz et al. 2015). By leveraging data available in administrative records, model developers can test interventions more quickly than evaluations that require collecting data. Because the outcomes need to be observable in a short period of time, it is most useful in looking at outputs (such as the number of coaching sessions completed) and impacts on intermediate outcomes (such as caregiver knowledge). Rapid cycle evaluations can be particularly useful in testing potential solutions to implementation difficulties. For example, this type of evaluation could be used to test interventions for increasing ongoing attendance rates of informal caregivers participating in ELR (such as altering the time of day events are offered, offering transportation, or using text message reminders); ELR administrative data could serve as a data source for tracking whether the interventions led to increased attendance.

Finally, impact studies can provide evidence as to whether a given early learning model or intervention is responsible for changes seen in measured child outcomes. For a complete picture, researchers can couple impact studies with implementation studies that measure fidelity. Measuring fidelity helps researchers interpret the results of impact studies; for example, it can help them determine whether a model seems to be ineffective because it was not implemented correctly or, conversely, whether findings should be attributable to the model because it was implemented according to the developer's specifications (Knoche et al. 2010). Together, findings from across the spectrum of research can provide information about what was implemented and whether it worked.

Since the process of developing and testing models requires time and resources, several innovative strategies, including rapid cycle evaluations, should be considered for supporting model development. Model developers and other decision-makers may also be able to collaborate with networks of researchers to implement these types of evaluations. For example, the Network for Infant/Toddler Researchers (NITR) sponsored by OPRE, collaborative innovation and improvement networks (CoIINs), and Early Learning Labs could serve as forums for supporting development of ECE models for infants and toddlers. These networks bring together practitioners, researchers, and experts for mutual learning. Early Learning Labs aim to accelerate experimentation and development of scalable early learning interventions.

**Table III.1. Overview of research on compelling models, by study type**

Model	Implementation study	Descriptive study: child outcomes	Descriptive study: interim outcomes <sup>a</sup>	Impact study: interim outcomes	Impact study underway: child outcomes
Early Childhood Consultation Partnership (ECCP)	✓				✓ <sup>c</sup>
Early Learning Readiness (ELR) Program	✓		✓		
Educare		✓	✓		✓ <sup>c</sup>
Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching				✓ <sup>d</sup>	
First Beginnings <sup>e</sup>			✓		
Infant Caregiver Mentoring Project <sup>e</sup>				✓ <sup>f</sup>	
Seeds to Success <sup>e</sup>	✓			✓	
Smart Support	✓	✓ <sup>g</sup>	✓ <sup>g</sup>		

<sup>a</sup>Interim outcomes are those *other than* child outcomes that are thought to be related to child development. For LITES, this included the following domains: global ECE quality, structural features of care, caregiver-child interaction, and caregiver knowledge of child development.

<sup>b</sup>Results from a pilot impact evaluation of ECCP became publically available in December 2014, after analyses for the LITES systematic review and compelling models profiles were complete.

<sup>c</sup>Data collection is in progress for the first phase of an impact study on Educare, which follows children through age 3; the youngest children in the study turn 3 in September 2015.

<sup>d</sup>The study of EQIT included comparison groups of convenience. Within the EQIT intervention group, participants were randomly assigned to receive different amounts of coaching.

<sup>e</sup>First Beginnings and the Infant Caregiver Mentoring Project are not currently active. After the Seeds to Success demonstration period concluded, it was used to develop a new system called Early Achievers, which is currently in operation.

<sup>f</sup>The study of the Infant Caregiver Mentoring Project used a randomized design, but reported analyses of pre-post differences within groups.

<sup>g</sup>Smart Support presented study results in infographic provided by the developer rather than a research report.

A consideration about the implementation of the compelling models, particularly curriculum models, is that many out-of-home early learning settings rely on multiple models or select specific practices from models to meet program needs. In a survey of National Association for the Education of Young Children (NAEYC) members, 46 percent of respondents reported using various curriculum models but did not identify a principal model. Different models may serve different purposes in a setting. Practitioners may also rely on multiple models in an effort to innovate and improve services. In addition, the prevalence of reliance on multiple models may point to the need for more multicomponent models that provide all the components needed in an out-of-home early learning setting for infants and toddlers. As indicated by Epstein et al. (1996), practitioners may feel the need to combine models to provide a complete package of professional development support for staff, curricula, and other early learning supports for children and families. In contrast, multicomponent models include all of these program dimensions.

Our scan of the field yielded two compelling multicomponent models (Educare and the Early Learning Readiness Program for Informal Family, Friend, and Neighbor Caregivers [ELR]). The other models were professional development interventions or curricula. This finding may reflect a current policy trend toward supporting out-of-home care early learning initiatives focused on professional development or quality improvement in existing settings, such as through Quality Rating and Improvement Systems (QRIS), rather than multicomponent models. This investment may reflect the reality that, since welfare reform, most low-income infants and toddlers are already in out-of-home care while their parents work and current policies support low-income working parents by providing vouchers that they can use at any ECE setting (as opposed to directing families into specific ECE models). As a result, the field is focusing on improving the settings in which children already receive care. Moreover, developing and testing a multicomponent model is expensive; finding the resources to do so may not be feasible for most model developers. In the remainder of this chapter, we describe the spectrum of research needed to develop and test the models.

### **A. Model specification**

Well-specified models have well-developed logic models in which services are closely linked with specific desired outcomes. They also have written materials and other supports available to guide implementation. The level of specification in the compelling models we profiled in this report varied, both across models and across implementation components (Table III.2). All models specified target outcomes and target populations. Most also had available implementation guides, training materials, and qualified trainers. Almost half of the models had specific training requirements for staff. For example, Smart Support has an implementation manual and a logic model. The implementation manual describes in detail the step-by-step process for providing consultation, to ensure consistent service delivery and fidelity to the Smart Support model. Smart Support consultants receive pre-service and in-service training, as well as ongoing supervision, to assist their work and fidelity to the model. In addition to these implementation supports, ECCP also uses a centralized information system for program operations, data collection, and reporting. The data from this system are used to create plans for delivering services, for quality assurance, and to promote fidelity to the model.

Even the models with written materials to support implementation could benefit from additional research to understand the mechanisms through which the models improve child or

caregiver outcomes, identify the components that require greater definition or structure to have a strong influence on participants, and identify different outcomes that might warrant further examination. This research could be used to develop detailed logic models before pilot tests or studies of models are launched, and to refine them as development proceeds.

**Table III.2. Overview of documented implementation components**

Implementation component	Number of compelling models
The model developer has specified the following:	
Target outcomes	13
Target population	13
Dosage of services	8
Program length	9
Staff education requirements	3
Staff training requirements	6
Supports for implementation	13
Implementation/operation manuals	11
Training materials	12
Qualified trainers	12
Fidelity standards	6
Systems for monitoring fidelity	6

## B. Implementation research

Implementation studies are informative throughout the development of a model, but particularly so in the early stages. These studies explore the feasibility of implementing models and model components and how models are implemented in the field. For example, implementation studies can explore the use of multiple models simultaneously in ECE settings and differences in implementation of the same model depending on how they select and combine model components. In addition, implementation research can inform the development of fidelity standards and measures for assessing fidelity to track the degree to which components are implemented. To study implementation, researchers rely on various methodologies depending on the goals of the study, such as qualitative case studies to learn about how models are implemented; planned variation studies that examine how outcomes vary depending on the model components implemented; or rapid cycle evaluations that test the impacts of changes to implementation and that can inform continuous quality improvement.

Of the 13 compelling models profiled in this report, 4 had studies examining implementation (ECCP, ELR, Smart Support, and Seeds to Success; Table III.1). These studies reported on how services were implemented, teacher and caregiver satisfaction with the services, and barriers to implementation. Understanding the feasibility of implementation (including how services were implemented, the challenges of model implementation, and whether and how those challenges can be met) can help developers to better specify and refine model implementation. For example, a component of the Seeds to Success model includes funds for professional development. The study identified several barriers that made feasibly implementing this component difficult, including (1) limited availability of trainings and classes, particularly near their places of

employment or homes; (2) lack of trainings and classes that provided new or relevant information; and (3) low perceived “payoffs” to professional development, because salaries were unlikely to increase as a result of completion of professional development (Boller et al. 2010). Understanding these barriers can inform refinements to the model.

In addition, implementation research can inform the development of fidelity standards and test measures of fidelity that can be used for ongoing monitoring and program improvement. Measuring fidelity can also help researchers interpret the results of impact studies; for example, it can help them determine whether a model seems to be ineffective because it was not implemented correctly or, conversely, whether findings should be attributable to the model because it was implemented according to the developer’s specifications (Knoche et al. 2010). When models are specified and the content, intensity, duration, and approach to delivery of services have been defined, research is needed to develop standards for levels of fidelity that must be achieved to produce desired outcomes.<sup>32</sup> For example, fidelity standards could include the minimum amount and quality of services needed to implement with fidelity, the time and training needed for out-of-home caregivers to achieve fidelity, and the support required to maintain it. About 40 percent of the compelling models specified fidelity standards or had systems for monitoring fidelity (see Table III.2). The studies of ELR and ECCP used administrative data to describe implementation fidelity; these studies did not, however, explore the levels of fidelity needed to produce desired outcomes (YMCA of the USA 2014; Fink and Wakai 2003).

### **C. Outcome and impact studies**

Outcome studies can assess the degree to which a model seems on track to achieve its intended outcomes. Outcome study methods fall along a spectrum that can be thought of as progressing from descriptive, to suggestive, to conclusive in assessing the influence of the model on the desired outcomes. The methods are all useful but address different purposes and research questions. Because causal impact studies require substantial time and resources, it may be prudent to conduct descriptive outcome or correlational studies first. If results are potentially positive, an impact study may be warranted. Only an impact study can conclusively attribute positive findings to the program model.

**Descriptive outcome studies.** These studies examine the changes in outcomes only for participants in the model; there is no comparison group. Such studies are useful as performance measures for monitoring to ensure that a model is “on track” to achieve goals but do not allow researchers to make causal inferences that the program model *caused* the observed effect. Two of the compelling models had a descriptive study measuring children’s outcomes (Educare and Smart Support), and four models had descriptive studies of interim outcomes (ELR, Educare, First Beginnings, and Smart Support; see Table III.1).

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<sup>32</sup> Planned variation studies can provide useful information to inform the development of fidelity standards by testing which model components (or combinations of components) are most effective for delivering specific content or by testing the relative impact of different conditions within a model (such as levels of staff training or dosage). To test different components, caregivers could be randomly assigned to variations of a model with different levels of training or coaching for staff. Such a study could shed light on the qualifications or levels of training and support needed to achieve desired outcomes.

The descriptive studies of both Educare and Smart Support showed potentially positive findings on children’s outcomes (Yazejian and Bryant 2012; Southwest Human Development and Indigo Cultural Center 2015). For example, the study of Educare found that more years of program attendance was associated with better school readiness and vocabulary skills. Similarly, the descriptive studies of interim outcomes pointed to the potential of the models to improve these outcomes. The studies of both ELR and Smart Support suggested the potential of the models to improve caregiver/consultant knowledge (YMCA of the USA 2014; Southwest Human Development and Indigo Cultural Center 2015). The study of Educare found higher levels of classroom quality as compared to national norms and the study of First Beginnings found improvements on pre- and post-measures of classroom quality (Yazejian and Bryant 2012; Campbell et al. 2005).

**Causal impact studies.** A conclusive test of effectiveness determines whether the model caused the differences between expected outcomes for the intervention and comparison group. Impact studies using well-executed designs such as RCTs, matched comparison group designs, regression discontinuity designs, and single case designs are needed to attribute findings to the model. To determine this causality, a study needs to examine the outcomes relative to what would have happened without the model. These studies rely on a comparison group that does not participate in the model but is otherwise similar to the group that does participate. When intervention and comparison groups are similar, the outcomes for both groups can be compared, and any differences can be attributed to the model.

Among the research on the compelling models, we identified three RCTs measuring interim outcomes (EQIT, Infant Caregiver Mentoring Project, and Seeds to Success). Across the studies, all three found higher observed quality in the intervention group versus the comparison group (Moreno et al. 2015; Fiene 2002; Boller et al. 2010). These findings indicate these caregiver professional development models are good candidates for impact studies examining whether the models can improve child outcomes. At the time this report was written, impact studies examining child outcomes were underway for two models: ECCP and Educare. Because the results were not yet available, however, these two models were not included in the LITES systematic review. The pilot study of ECCP, which was available after the completion of the LITES systematic review, found suggestive evidence of decreased hyperactivity for toddlers (Gilliam 2014). However, the small sample size may have impeded the authors’ ability to detect a statistically significant impact. These findings warrant further investigation through rigorous research.

#### **D. Conclusion**

This report profiled 13 models that are viewed by the ECE field as having potential to promote infant and toddler early learning in out-of-home settings, but have not yet been rigorously evaluated. The models include two that provide direct early learning services to infants and toddlers; six focused primarily on working with caregivers through coaching, modeling, and/or collaborative consultation to help them support children’s early learning; and an additional five models are curricula implemented in programs for infants and toddlers. Over half of the models are aimed at supporting children’s development across domains, including language, cognition, or social emotional/behavioral development. The models tend to target children and caregivers in a range of out-of-home ECE settings including both center-based and

home-based settings. Eight of the 13 models had at least some research, usually a single implementation or descriptive study. None of the curricula models had existing research. The three models with impact studies of interim outcomes were all professional development models; the findings pointed to the potential of these models to improve observed quality and increase caregiver knowledge and skills.

Although many of the models have begun the process of building a research base, additional research on out-of-home ECE models for infants and toddlers is essential for moving the field forward. Two models—Educare and ECCP—are currently the focus of impact studies. As a follow-up to these studies, models can also be tested with different subgroups of caregivers (for example, family child care providers and center-based providers) or children (for example, dual language learners and monolingual English speakers) to identify the groups for which particular strategies are most effective. Additional compelling models that are well-specified and have some existing research evidence, such as EQIT, Infant Caregiver Mentoring Project, Smart Support, and Seeds to Success, might be ready for impact studies that examine their impact on children’s outcomes. Others, including the five curriculum models, might require a full spectrum of research to test the feasibility of staff training and implementation procedures, develop standards for high-fidelity implementation and measures to monitor fidelity, and assess whether the models show potential for producing intended outcomes.

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**APPENDIX A**  
**IDENTIFYING COMPELLING MODELS**

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**Table A.1. Electronic mailing lists for the LITES call for nominations**

Group	Email or contact information
American Academy of Pediatrics	<a href="mailto:kidsdocs@aap.org">kidsdocs@aap.org</a>
American Education Research Association	<a href="mailto:aeainfo@vanderbilt.edu">aeainfo@vanderbilt.edu</a>
American Evaluation Association	<a href="mailto:info@eval.org">info@eval.org</a>
American Medical Association	<a href="mailto:mediarelations@jama-archives.org">mediarelations@jama-archives.org</a>
American Professional Society on the Abuse of Children	<a href="mailto:apsac@apsac.org">apsac@apsac.org</a>
American Psychiatric Nurses Association	<a href="mailto:tlantrip@apna.org">tlantrip@apna.org</a>
American Psychological Association	<a href="mailto:public.affairs@apa.org">public.affairs@apa.org</a>
American Public Health Association	<a href="mailto:comments@apha.org">comments@apha.org</a>
American Sociological Association	<a href="mailto:publications@asanet.org">publications@asanet.org</a>
Association for Psychological Science	<a href="mailto:amikulak@psychologicalscience.org">amikulak@psychologicalscience.org</a>
Association for Public Policy Analysis and Management	<a href="mailto:appam-l@list.s-3.com">appam-l@list.s-3.com</a>
Association of Maternal and Child Health Programs	<a href="mailto:info@amchp.org">info@amchp.org</a>
Center for Law and Social Policy	<a href="mailto:jrobinson@clasp.org">jrobinson@clasp.org</a>
Child Care and Early Education Research Connections	<a href="mailto:contact@childcarereseach.org">contact@childcarereseach.org</a>
Child Maltreatment Researchers Listserv	<a href="mailto:child-maltreatment-research-l@cornell.edu">child-maltreatment-research-l@cornell.edu</a>
Child Welfare Information Gateway	<a href="mailto:info@childwelfare.gov">info@childwelfare.gov</a>
Coalition for Evidence-Based Policy	<a href="mailto:danderson@coalition4evidence.org">danderson@coalition4evidence.org</a>
Collaborative for Understanding the Pedagogy of Infant/Toddler Development	<a href="mailto:vallotto@msu.edu">vallotto@msu.edu</a>
Early Head Start Research Consortium	<a href="mailto:ehs_research@listserve.icfi.com">ehs_research@listserve.icfi.com</a>
Evidence Based Home Visitation Programs	<a href="mailto:ebhv@listserve.icfi.com">ebhv@listserve.icfi.com</a>
Federal Inter-Agency Workgroup on Child Abuse & Neglect	<a href="mailto:catherine.nolan@acf.hhs.gov">catherine.nolan@acf.hhs.gov</a>
FRIENDS Listserv for Community Based Child Abuse Prevention Grantees and Interested Community Members	<a href="mailto:friendsnrc@lists.friendsnrc.org">friendsnrc@lists.friendsnrc.org</a>
Foundation for Child Development	<a href="mailto:info@fcd-us.org">info@fcd-us.org</a>
Future of Children	<a href="mailto:foc@princeton.edu">foc@princeton.edu</a>
Harvard's Center on the Developing Child	<a href="mailto:developingchild@harvard.edu">developingchild@harvard.edu</a>
Health Resources and Services Administration Traumatic Brain Injury Technical Assistance Center Listserv	<a href="mailto:tbiserv@list.nih.gov">tbiserv@list.nih.gov</a>
Healthy Start Eval Listserv (NIH)	<a href="mailto:healthystarteval@list.nih.gov">healthystarteval@list.nih.gov</a>
International Society for the Prevention of Child Abuse and Neglect	<a href="mailto:ispcan@ispcan.org">ispcan@ispcan.org</a>
The International Society on Infant Studies	<a href="mailto:lewkowic@fau.edu">lewkowic@fau.edu</a>
Maternal and Child Health, Early Childhood Comprehensive Systems Listserv	<a href="mailto:eccs@lists.ucdenver.edu">eccs@lists.ucdenver.edu</a>
Maternal and Child Health Training Listserv Members	<a href="mailto:mchtraining@list.nih.gov">mchtraining@list.nih.gov</a>
National Association for the Education of Young Children	<a href="mailto:membership@naeyc.org">membership@naeyc.org</a>
National Association for Welfare Research and Statistics	<a href="mailto:NAWRS2013@gmail.com">NAWRS2013@gmail.com</a>
National Association of Social Workers	<a href="mailto:membership@naswdc.org">membership@naswdc.org</a>
National Council on Family Relations	<a href="mailto:info@ncfr.org">info@ncfr.org</a>
Network of Infant/Toddler Researchers	<a href="mailto:nitr@lists.icfwebsiteservices.com">nitr@lists.icfwebsiteservices.com</a>
Partners in Maternal and Child Health Safety Net Listserv	Members contacted directly
Pew Charitable Trusts	<a href="mailto:info@pewtrusts.org">info@pewtrusts.org</a>
Prevent Child Abuse America	<a href="mailto:mailbox@preventchildabuse.org">mailbox@preventchildabuse.org</a>
Prevention Subcommittee Distribution List	Members contacted directly
Social Work Research Network (formerly called Institute for the Advancement of Social Work Research)	<a href="mailto:swrnet@bu.edu">swrnet@bu.edu</a>
Society for Prevention Research	<a href="mailto:info@preventionresearch.org">info@preventionresearch.org</a>
Society for the Psychological Study of Social Issues	<a href="mailto:spssi@spssi.org">spssi@spssi.org</a>
Society for Research in Child Development	<a href="mailto:info@srcd.org">info@srcd.org</a>
Society of Pediatric Nurses	<a href="mailto:spn@dancyamc.com">spn@dancyamc.com</a>
Zero to Three	<a href="mailto:0to3@presswarehouse.com">0to3@presswarehouse.com</a>

**Table A.2. Models considered for inclusion**

Model	Source	Reason for screening out
<b>Screened in</b>		
Assessment, Evaluation and Programming System	Data on curricula <sup>a</sup>	Screened in
Ball State University Child Study Center	Call for nominations	Screened in
Comprehensive Child Development, Inc.	ASPE recommendation	Screened in
The Creative Curriculum for Family Child Care	Data on curricula	Screened in
The Creative Curriculum for Infants, Toddlers & Twos	Data on curricula	Screened in
Cuyahoga County Early Childhood Initiative	Screened out of systematic review	Screened in
Early Childhood Consultation Partnership	Expert recommendation	Screened in
Early Learning Readiness Program for Informal Family, Friend, and Neighbor Caregivers	Call for nominations	Screened in
Educare	Expert recommendation	Screened in
Emotional Beginnings	Data on curricula	Screened in
Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching	Expert recommendation	Screened in
First Beginnings (Philadelphia Inclusion Network)	Expert recommendation	Screened in
Hawaii Early Learning Profile 0-3	Data on curricula	Screened in
HighScope Infant-Toddler Curriculum	Data on curricula	Screened in
Infant Caregiver Mentoring Project	Expert recommendation	Screened in
Piper Child Development Center for Family Studies and Child Development at Baylor University	Call for nominations	Screened in
Promethean Foundation (Pro-Kids)	Call for nominations	Screened in
Responsive Infant/Toddler Practice within a Suite of Inquiry	Call for nominations	Screened in
San Diego State University Children's Center	Call for nominations	Screened in
Seeds to Success	ASPE recommendation	Screened in
Smart Support	Expert recommendation	Screened in
<b>Screened out</b>		
The Anti-Bias Curriculum	Data on curricula	Did not meet 5 percent threshold <sup>b</sup>
AVANCE	ASPE recommendations	Primarily targets parents
Baby Signs	Expert recommendation	Targets parents
Beautiful Beginnings: A Developmental Curriculum for Infants and Toddlers	Data on curricula	Did not meet 5 percent threshold
Beyond the Delivery/Infant Massage	Call for nominations	Targets parents
Building Early Emotion Skills Curriculum	Call for nominations	Targets parents
Born to Learn/Parents as Teachers	Data on curricula	Home visiting curriculum
Celebrating Families! (0-3)	Call for nominations	Targets parents
Center for the Social and Emotional Foundations for Early Learning: Infant/Toddler Training Modules	Expert recommendation	Consists only of online trainings; lacking specific guidance on how materials should be implemented and/or support for implementation
Community Connections Preschool for All Program	Screened out of systematic review	Does not have an infant/toddler component; targets preschool children

Model	Source	Reason for screening out
Continuity of care	Call for nominations	Theoretical approach or general practice; not a replicable model without further specification
Developmental Learning Materials	Data on curricula	Infant/toddler curriculum not available; pre-K only
Domains Based Curriculum	Data on curricula	No information available
Early Childhood Research and Intervention Program	Screened out of systematic review	Targets children with medical and developmental disabilities
Early Learning Accomplishments Profile	Data on curricula	Assessment only
Games to Play with Babies	Data on curricula	Limited documentation available; handbook of activities only
Games to Play with Toddlers	Data on curricula	Limited documentation available; handbook of activities only
Growing Great Kids In Center-Based and Family Child Care Professional Development Program	Data on curricula	Consists only of online trainings; lacking specific guidance on how materials should be implemented and/or support for implementation
High Reach For Infants/High Reach For Toddlers and Twos	Data on curricula	Did not meet 5 percent threshold
Infant Toddler Project	Call for nominations	Draws largely on the Program for Infant/Toddler Care (see below)
Innovations	Data on curricula	Infant/toddler curriculum not available; preschool only
Just in Time Parenting	Call for nominations	Targets parents
Learning Activities for Infants	Data on curricula	No information available
LINKAGES: Building Strong Connections	Call for nominations	Targets parents
Montessori	Expert recommendation	Theoretical approach or general practice; not a replicable model without further specification
Ones and Twos	Data on curricula	No information available
Partners as Primary Caregivers	Data on curricula	No information available
Partners for a Healthy Baby (Florida State University)	Data on curricula	Home visiting curriculum
Partners in Learning	Data on curricula	No information available
Play and Learning Strategies curriculum	Expert recommendation	Parenting curriculum
Playgroup	Call for nominations	Targets parents
Playtime Learning Games for Young Children	Data on curricula	Limited documentation available; handbook of activities only
Program for Infant/Toddler Care	Data on curricula	Rigorous research examining children's outcomes exists, therefore included in systematic review
Reggio Emilia	Data on curricula	Theoretical approach or general practice; not a replicable model without further specification
Relaxation Techniques for Parents: Tools for Managing Stress	Call for nominations	Targets parents
Scholastic	Data on curricula	No information available
South Carolina Program for Infant/Toddler Care	Call for nominations	Draws largely on the Program for Infant/Toddler Care (see above)
Special Care Nursery	Call for nominations	Targets children with medical and developmental disabilities
Spilstead Model	Screened out of systematic review	Early intervention program, targets children with developmental needs
Talking to Your Baby	Data on curricula	Parenting curriculum
Tools of the Mind	Expert recommendation	Infant/toddler curriculum not available; preschool and older only

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Model	Source	Reason for screening out
Toronto First Duty	Screened out of systematic review	Does not serve infants and toddlers, only older children
University-Housed Half Day Care Model	ASPE recommendations	Model no longer implemented and no information available

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ASPE = Office of the Assistant Secretary for Planning and Evaluation.

<sup>a</sup>To identify commonly used curricula, we examined the Early Head Start Family and Child Experiences Survey (known as Baby FACES) and the Head Start Program Information Report (PIR).

<sup>b</sup>Using information from Baby FACES and the PIR, we screened out curricula used by less than 5 percent of Early Head Start programs.

## **APPENDIX B**

### **OVERVIEW OF COMPELLING MODELS**

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**Table B.1. Overview of compelling models**

Model name	Overview and key components	Targeted outcomes	Target population
<b>Models that provide direct early learning services to children</b>			
Early Learning Readiness (ELR) Program for Informal Family, Friend, and Neighbor Caregivers	ELR promotes early learning for children receiving care in informal child care settings, and supports their informal caregivers. These children and their caregivers participate together in the program through sessions that are facilitated and held in a group setting. A typical session consists of the following: (1) an opening circle time where the children and caregivers read stories and sing songs together; (2) time to explore a range of activities at 13 interest centers; and (3) a closing circle to review the day’s learning. During the sessions, facilitators talk with caregivers about the interest centers, how the activities encourage learning in children, and the role caregivers can play in promoting learning and development using the activities. In addition, activities at each center include written guidance for caregivers that list learning concepts, vocabulary words, and questions caregivers can ask the children. Session content features monthly, culturally sensitive themes and is designed to align with local standards for school readiness.	Child development and school readiness, both directly with children and by increasing the skills and knowledge of their caregivers	Low-income children from birth to age 5 who receive informal care from family members, friends, and neighbors, as well as their informal caregivers
Educare	The Educare Learning Network is a national network of schools that provide full-day, full-year early care and education to low-income children from birth to age 5. The Educare model contains several core features, which are grouped into four domains: (1) data utilization, (2) high quality teaching practices, (3) embedded professional development, and (4) intensive family engagement. Under a system of continuity of care, children stay with the same teaching team and cohort of children from program entry until age 3, and then stay with a second team until they transition out of Educare and into elementary school at age 5. Within each teaching team, every child has a primary caregiver, and each classroom has three adults with eight infants and toddlers. Groups of staff from up to four classrooms are supervised by master teachers who provide mentoring, coaching, and support to classroom teachers. Local Educare sites choose their own curriculum, which must be research-based and focus on pre-literacy, early math, and social-emotional skills, and integrate development of these skills with arts activities. Educare schools also offer on-site family engagement services, provided by full-time family support supervisors and specialists, to promote parent involvement. These staff also coordinate referrals for parents to other services.	Language and literacy, social-emotional development, early math concepts, problem-solving, and motor development for children; parents’ abilities to support their child’s learning and promote family well-being after they leave Educare	At-risk children from birth to age 5 and their families; families must meet Head Start income requirements to qualify
<b>Models that primarily focus on professional development for caregivers</b>			
Early Childhood Consultation Partnership (ECCP)	ECCP is an early childhood mental health consultation program that operates statewide in Connecticut. The program is designed to build the capacity of caregivers (primarily non-parental caregivers such as center-based educators and family child care providers, but in some cases parental caregivers as well) by offering support, education, and on-site consultation to help them meet the social-emotional needs of children in their care. It is designed to address a continuum of care that includes promotion, prevention, and early intervention.	Outcomes for children, including social, emotional, and mental wellness, and preventing at-risk children from developing mental health disorders or being	Children from birth to age 5 and their non-parental caregivers in early care and education settings, which include both center-based care and family child care homes; in some cases,

Model name	Overview and key components	Targeted outcomes	Target population
	<p>Services provided by ECCP consultants range in scope and can consist of (1) child-specific services, which help non-parental caregivers and family members meet the needs of a particular child; (2) core classroom services, which help a teacher or caregiver meet the needs of their classroom (and include some child-specific services); or (3) intensive center services, which help center staff build capacity to address the needs of the full center (and may include child-specific and classroom services).</p>	suspended or expelled	<p>children's families, including services within children's homes; ECCP aims to support children who are at risk of developing a mental health disorder or of being suspended or expelled</p>
<p>Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching</p>	<p>The EQIT course provides training for caregivers of infants and toddlers to improve their knowledge and skills. Course content covers the importance of brain development in the first three years of life; the social-emotional, cognitive, language, and physical development of infants and toddlers; relationship-based care and relationship-based approaches to guiding children's behavior; partnerships with families; quality curriculum and environments; and health, safety, and nutrition. Completion of the course meets some state licensing requirements, and, when possible, partnerships with local community colleges allow for course participation to result in college credit. These partnerships are also used to encourage participants to consider additional formal coursework. Class sizes are intended to be 20 or fewer caregivers. An orientation may be held before the course begins to introduce instructors, provide an overview of the course, set course expectations, and provide additional information. Participants are also offered the option of receiving on-site coaching through the EQ RELATE coaching model to supplement the course. The coaching supports participants in reflecting on the skills and knowledge learned in the course and integrating this information into the care they provide to their infants and toddlers.</p>	<p>Knowledge and skills of caregivers in multiple areas, including supporting children's social-emotional, cognitive, and physical development</p>	<p>Colorado caregivers or other individuals who work with infants and toddlers in group settings, whether in center-based care, family child care, or another setting</p>
<p>First Beginnings</p>	<p>First Beginnings is a professional development program for caregivers of infants and toddlers in out-of-home settings (centers and family child care homes) that features both training and on-site consultation designed to increase the quality of care children received. First Beginnings consists of four components:</p> <ol style="list-style-type: none"> <li>1. Participants take a group training class. Topics include caregiver-child relationships, strategies for promoting learning and development, inclusion and diversity, and working with families.</li> <li>2. Outside of class time, participants complete a project that involves reflecting on and writing about an infant or toddler in their care identified by them as having a special need.</li> <li>3. On-site observation visits are conducted before and after the program to collect measures of the quality of the participants' classroom environments and their interactions with the children in their care.</li> <li>4. Participants receive on-site consultation visits. Consultation strategies include providing/reviewing resources or materials, brainstorming, modeling, and discussion.</li> </ol>	<p>Program quality</p>	<p>Caregivers of infants and toddlers (birth to age 3) in centers and family child care homes</p>
<p>Infant Caregiver Mentoring Project</p>	<p>The Infant Caregiver Mentoring Project is designed to improve the quality of infant and toddler child care programs through the use of mentoring. Participants in the project are paired with an experienced early childhood professional who</p>	<p>Overall quality of the child care environment, especially the quality of</p>	<p>Pennsylvania caregivers from center-based child care programs serving</p>

Model name	Overview and key components	Targeted outcomes	Target population
	serves as their mentor in a one-on-one relationship. The mentoring emphasizes a relationship-based, problem-solving approach. In the first part of the program, the mentor spends time getting to know the participant and observing him or her on-site to develop a trusting relationship. When both parties feel comfortable, the mentor begins working more actively with the participant. Mentors focus on being open-minded, collaborative, and supportive of caregivers who are attempting new ideas and strategies.	caregiver–child interactions and the sensitivity of caregivers to the needs of their children	children from birth to younger than age 3
Seeds to Success	Seeds to Success is a coaching model for providing quality improvement services within a pilot child care quality rating and improvement system. It supports licensed family child care providers, center-based teachers, and child care center directors in improving: (1) the quality of early care and education and (2) staff access to professional development and training. The coaching model, the Consultative Coaching Program for Early Learning Professionals, was developed in 2008 by Thrive by Five Washington, Washington State’s public-private partnership for early learning. The goal of the Consultative Coaching Program is to train coaches to develop a trusting relationship with early learning professionals so that they can help early learning professionals reflect on their practice (1) in the classroom or in their business and (2) during interactions with the other providers in that setting, with families, and with the children in their care. The Seeds to Success coaches aim to help the professionals stay motivated to attain their quality improvement goals and help establish skills and behaviors that support continuous quality improvement. Providers and coaches develop quality improvement plans that are used to guide the coaching sessions. The plans are based on results of a baseline observation of setting quality.	Overall quality of care	Family child care providers, center-based teachers, and child care center directors caring for children birth to age 5
Smart Support	Smart Support is Arizona’s system of early childhood mental health consultation. It partners mental health consultants with early care and education providers to promote the social and emotional development of the children in their care, and to help them respond to children with behavioral challenges. A consultant first meets with a provider to explain the consultation services, confirm these are appropriate for the provider’s needs, and verify that the provider remains interested in receiving these services. If so, the consultant works with the provider to develop an individualized plan that describes how services will be provided. Three types of consultation can be provided in different combinations depending on provider needs and preferences: (1) program consultation focuses on the provider’s entire setting; (2) classroom consultation works with a teacher to improve his or her skills or outcomes in the classroom; and (3) child-centered consultation involves helping staff and parents develop a plan to support care for a child exhibiting difficult behaviors. Services provided by consultants may also include training as well as referrals to other services and resources.	Emotional climate in programs and classrooms; staff interactions with parents and other staff; teacher attitudes, beliefs, and knowledge; teacher–child relationships; child behavior; involvement with early intervention services; and reduced risk of expulsion; capacity of programs to meet children’s social and emotional needs	Child care providers caring for children from birth to age 5, including child care centers and preschools as well as family child care providers; consultation can also be provided to home visiting and family, friend, and neighbor programs
<b>Curricula models</b>			
Assessment, Evaluation, and Programming	AEPS is designed to support caregivers in matching a child’s goals and activities with activity-based intervention strategies based on the child’s age and current level of development. These strategies involve working on goals and objectives	Fine motor, gross motor, adaptive, cognitive, social-communication, and social	Professionals (including early childhood educators in general, as well as special education teachers,

Model name	Overview and key components	Targeted outcomes	Target population
System (AEPS), Second Edition, Curriculum for Birth to Three Years	within the children’s routine (for example, mealtimes, bathing, and dressing), planned activities (for example, activities organized by an adult, such as painting), and spontaneous activities that capitalize on children’s daily interactions with their social and physical environments to facilitate skill development. The curriculum is linked to the AEPS Test, an assessment designed to help teachers select and evaluate goals and objectives that are most appropriate for each individual child in key developmental areas. Overall, AEPS includes two sets of assessment and curriculum materials, one for children birth through age 3 and one for children age 3 through 6. The system is supported by a web-based data management system known as AEPSi.		early interventionists, family service coordinators, administrators, physical therapists, speech-language pathologists, and occupational therapists) working with children birth to age 3. Specifically developed for use with children who have disabilities or are at risk for developmental delays, but can be used with all children.
The Creative Curriculum for Family Child Care, Second Edition	The Creative Curriculum for Family Child Care, Second Edition, is a curriculum designed to help family child care providers: (1) set up the learning environment; (2) plan developmentally appropriate routines and activities for every day of the week; (3) promote children’s learning and development in the areas of social-emotional, physical, language, cognitive, literacy, mathematics, science and technology, social studies, the arts, and English-language acquisition; and (4) build partnerships with parents. To make it easier for caregivers to implement activities, the curriculum also includes 68 Creative Curriculum LearningGames offering suggestions for helping families and caregivers interact with children, a list of necessary materials, and ways to adapt the activities to children’s ability levels; a DVD about caregiving in the family child care setting and how children learn; and a CD-ROM with copies of forms and letters to parents. Versions of the curriculum for infant and toddler and preschool classrooms are also available.	Social-emotional, physical, language, cognitive, literacy, mathematics, science and technology, social studies, the arts, and English-language acquisition	Family child care providers caring for children birth to age 12
The Creative Curriculum for Infants, Toddlers & Twos, Third Edition	The Creative Curriculum for Infants, Toddlers & Twos, Third Edition, is an early childhood education curriculum that is designed to help teachers (1) set up the learning environment; (2) plan developmentally appropriate routines and experiences for every day of the week; (3) promote children’s social-emotional, language, cognitive, and physical development, as well as content area learning in literacy, mathematics, science and technology, social studies, and the arts; and (4) build partnerships with families. The curriculum comprises three foundational volumes and several additional resources, including Book Conversation Cards; Mighty Minutes for Infants, Toddlers & Twos; Intentional Teaching Cards; The Creative Curriculum LearningGames; and Highlights Hello magazines. Related materials available separately from the curriculum include two training videos on early language and literacy development; guides for families on ways they can extend classroom activities at home; and Teaching Strategies GOLD, an observational assessment for children from birth through third grade. Versions of the curriculum for center-based preschool classrooms and family child care providers are also available.	Social-emotional, language, cognitive, and physical development, as well as content area learning in literacy, mathematics, science and technology, social studies, and the arts	Caregivers of children birth to age 3
Hawaii Early	HELP 0-3 is a comprehensive, ongoing, curriculum-based assessment process	Cognitive, language,	Parents and non-parental

Model name	Overview and key components	Targeted outcomes	Target population
Learning Profile (HELP): 0-3	<p>for use by providers working with infants and toddlers and their families. The HELP 0-3 system includes (1) the assessment; (2) a family interview designed to assess children's developmental skills and behaviors and identify family concerns, priorities and resources; (3) the HELP Activity Guide, a curricular resource that includes activities linked to each skill assessed by the HELP assessment, which caregivers can use with children; (4) HELP at Home, a curriculum designed for providers to individualize and give to families to use with their children; and (5) HELP When the Parent has Disabilities, an activity guide adapted to accommodate parents who have disabilities. The HELP 0-3 system covers 685 developmental skills and behaviors across the following six domains: cognitive, language, gross motor, fine motor, social-emotional, and self-help. HELP 0-3 products are cross-referenced through skill identification numbers for easy linking between assessment and curriculum materials. Programs implementing HELP 0-3 can use KinderCharts.net, an online system designed to measure children's developmental progress in essential domains that is directly aligned with the HELP 0-3 assessments. Versions of the assessment and curriculum for children ages 3 to 6 are also available.</p>	gross motor, fine motor, social-emotional, and self-help	caregivers of children birth through age 3 as well as Part C early intervention providers for infants and toddlers who have developmental concerns
HighScope Infant-Toddler Curriculum	<p>The HighScope Infant-Toddler Curriculum uses a process of active learning—called active participatory learning—that consists of experiences and exploration with people, materials, events, and ideas. During active learning, caregivers scaffold (support and gently extend) infant and toddler learning by encouraging them to investigate the world around them. Learning and development are anchored by long-term, trusting relationships with caregivers. The curriculum is organized around six content areas and includes guidance for caregivers on teaching practices designed to support children's growth and learning. The six content areas are: (1) approaches to learning; (2) social and emotional development; (3) physical development and health; (4) communication, language, and literacy; (5) cognitive development; and (6) creative arts. The teaching practices include adult-child interactions, arrangement of the physical environment, the use of daily schedules and routines, and observations and planning for children. The curriculum is linked to HighScope's comprehensive online child assessment tool, called the Child Observation Record Advantage, which covers development from birth through kindergarten. Preschool and elementary school versions of the curriculum are available.</p>	Approaches to learning; social and emotional development; physical development and health; communication, language, and literacy; cognitive development; and creative arts	Out-of-home caregivers of children birth to age 3

**Table B.2. Overview of compelling model implementation guidelines**

Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
<b>Models that provide direct early learning services to children</b>					
Early Learning Readiness (ELR) Program for Informal Family, Friend, and Neighbor Caregivers	Twice per week; each session is 2 hours	38 to 42 weeks per year	Not specified, although a background in early childhood, education, or social work is recommended for local supervisors and facilitators	The program has a training plan for newly hired local staff that includes in-person training sessions, online modules on broader topics such as development and achievement gaps, and webinars on specific program components.	Training materials Qualified trainers Fidelity tools Systems for monitoring fidelity
Educare	Full-day (locally determined but minimum of 6 hours per day), full-year services	Up to 5 years (from age 6 weeks to kindergarten entry)	Each classroom has a lead teacher with a minimum of a bachelor's degree in early childhood education; an assistant teacher with a minimum of an associate degree in early childhood education; and a teacher aide with a high school diploma/GED and a credential in child development or training in infant and toddler development. Master teachers have master's degrees in early childhood education; for birth-to-age-3 classrooms, they have special training in infant and toddler development. Family support supervisors have	Not specified	Operation/ implementation manuals Training materials Qualified trainers Fidelity tools Systems for monitoring fidelity

Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
			master's degrees in social work or a related field, and family support specialists have bachelor's or master's degrees in social work, health, or a related field.		
<b>Models that primarily focus on professional development for caregivers</b>					
Early Childhood Consultation Partnership (ECCP)	Weekly, 1.5 to 3 hours depending on visit type	6 weeks for child services; 12 to 14 weeks for classroom services; 9 months for center services	ECCP consultants must have a master's-level degree in a human services field, such as social work, counseling, or child development, and preferably are licensed mental health providers.	ECCP consultants receive orientation and an initial series of trainings in early childhood mental health consultation during their first six months. After this initial phase, consultants are provided additional trainings as continuing education and receive regular supervision from the ECCP leadership team that has clinical, reflective, and administrative components.	Operation/ implementation manuals Training materials Qualified trainers Fidelity tools Systems for monitoring fidelity
Expanding Quality in Infant Toddler Care (EQIT) course and EQ RELATE Model of Coaching	The EQIT course is typically offered biweekly for 6 hours per class. Total direct class time is 48 hours.  The number of hours of coaching offered to each participant is determined on an individual basis and may depend on the availability of funding	The EQIT course is typically offered over a 16-week period  Coaching is offered during the course, and for course graduates, for up to one year following completion of the course.	Not specified	Course instructors must complete an 80-hour train-the-trainer course, which includes additional written work, and have previously completed the EQIT course or a similar infant-toddler course. They must obtain approval to be an intermediate-level trainer from Colorado's trainer approval system.	Operation/ implementation manuals Training materials Qualified trainers

Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
				Coaches must complete an additional two days of training on the EQ RELATE coaching model and tools before offering any coaching.  Instructors are expected to continue their professional development by annually participating in a minimum of 6 hours of training seminars and other learning opportunities offered by the EQ initiative.	
First Beginnings	Each training module is 3 hours; some classes include five or seven modules. On-site consultation consists of three 1-hour visits.	3 to 4 months	There are no requirements for instructors or consultants, although in one study of the program, consultants all held master's or bachelor's degrees.	There are no requirements for instructors or consultants, although in one study of the program, the consultants participated in a 3-hour training session before the program started.	Operation/ implementation manuals Training materials
Infant Caregiver Mentoring Project	Approximately 20 hours of mentoring per month; total of 80 hours	4 months	Not specified	Mentors complete seven days of training before the program starts. The topics covered during the training include building relationships as a mentor, other skills to be effective as a mentor, and infant and toddler development.	Operation/ implementation manuals Training materials Qualified trainers
Seeds to Success	Up to 8 hours of coaching per month	6 months	Not specified, although the implementing	In preparation for implementation,	Training materials Qualified trainers

Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
			agencies seek individuals with expertise in early childhood development, child care, culturally appropriate practice, and adult learning theories.	<p>coaches participate in multiple training sessions, including trainings on coaching, the Environment Rating Scales, and the administrative data system used to track the provision of coaching.</p> <p>During the implementation period, coaches are supervised by the site coordinators at the implementing agencies during team and one-on-one meetings. During the field test, in one community, coaches' supervision was offered weekly. In the other community, supervision was offered monthly. Coaches also have the opportunity to meet with a mentor coach.</p>	Fidelity tools Systems for monitoring fidelity
Smart Support	Weekly for 2 to 3 hours per visit	The average length of participation is approximately 1 year, but varies and can range from several months to much longer than 1 year	<p>Mental health consultants must have a master's-level degree in a mental health discipline.</p> <p>Supervisors of mental health consultants must have a license in a mental health field.</p>	New consultants go through a week-long orientation that includes 16 classroom hours, shadow with experienced consultants, and are expected to complete trainings on attachment, trauma, self-regulation, and other subjects as well as attend quarterly meetings that review key aspects of the	<p>Operation/ implementation manuals</p> <p>Training materials</p> <p>Qualified trainers</p> <p>Fidelity tools</p> <p>Systems for monitoring fidelity</p>

Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
				model over a 12-month period. Other ongoing professional development activities for all consultants include a monthly book club, regular training opportunities (which may be required, or optional training that a consultant can request to attend), and weekly meetings with supervisors that use a reflective supervision approach.	
<b>Curricula Models</b>					
Assessment, Evaluation, and Programming System (AEPS), Second Edition, Curriculum for Birth to Three Years	Not specified	Not specified	Not specified, although designed to be implemented by professionals	Not specified	Operation/ implementation manuals Qualified trainers
The Creative Curriculum for Family Child Care, Second Edition	Not specified	Not specified	Not specified	Not specified	Operation/ implementation manuals Training materials Qualified trainers
The Creative Curriculum for Infants, Toddlers & Twos, Third Edition	Not specified	Not specified	Not specified	Not specified	Operation/ implementation manuals Training materials Qualified trainers <sup>a</sup>
Hawaii Early Learning Profile (HELP): 0-3	Not specified	HELP 0-3 provides materials relevant for a three-year period (from birth to age 3)	There are no requirements, but staff using HELP for the Part C assessment process should meet their state's definition of qualified personnel. Any staff with knowledge of	Not specified	Operation/ implementation manuals Training materials Qualified trainers

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Model name	Dosage	Program length	Staff education requirements	Staff training requirements	Supports for implementation
			infant-toddler development can use HELP as a curricular program.		
HighScope Infant-Toddler Curriculum	Not specified	Not specified	There are no requirements for the curriculum, but HighScope adheres to the staffing requirements of the agency or program using the curriculum	None specified, although caregivers who complete a rigorous 20-day training program can meet requirements for HighScope teacher certification	Operation/ implementation manuals Training materials Qualified trainers Fidelity tools Systems for monitoring fidelity

<sup>a</sup> Currently, fidelity tools are not available for The Creative Curriculum for Infants, Toddlers & Twos, but the developer plans to publish them by the end of 2015.

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## **APPENDIX C**

### **LITERATURE SEARCH METHODS AND RESULTS**

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Our literature search was designed to locate published research on the 13 compelling models that we identified. In this appendix, we describe the methods we used to carry out the literature search, the screening procedures we used to identify relevant literature, and the results of the literature search.

### A. Targeted search for relevant literature

We searched for all relevant literature on the 13 compelling models. To maximize our search results, we implemented the following search techniques.

**Step 1. Develop focused search terms.** Building off the search terms used for the LITES systematic review, we worked closely with our librarians to develop search terms that captured the range of relevant literature on the compelling models (Table C.1). We included the model names as key search terms.

**Table C.1. Search terms used for the LITES compelling models literature search**

Category	ID	Search term
Search	--	Studies published in English only
Restrictions		Studies published during or after 1960
Model name	S1	Each model was searched individually
Activity	S2	[(early near educat*) or preschool or “pre-school” or childcare or “child care” or daycare or “day care” or “nursery school*” or “early learn*” or “nonparental care” or “non-parental care” or “early care” or “center based” or “center-based” or “infant care” or “toddler care” or “early childhood” or “child develop*] And (program* or intervention* or service* or model*)
Target group	S3	“birth to three” or “zero to three” or baby or babies or infan* or newborn* or toddler* or (birth near “36 mo*”) or (prenatal near “36 mo*”) or “birth to 3” or zero to 3” or “0 to 3”
Document type	S4	(stud* or studies* or evaluat* or research or trial or experiment* or “clinical trial” or “controlled clinical trial” or “controlled study” or “randomized control trial” or longitudinal stud* or “program evaluation” “quasi-experimental” “matched group comparison design” or “pre post” or “correlational” or “descriptive” or “implementation” or “case study”) and (effect* or efficac* or impact* or outcome* or evidence or implement* or fidelity or cost* or replic* or finding* or result*)
Combine terms	S5	S1 AND S2 AND S3 AND S4

Notes: When performing proximity searches (for instance, quality near child care), we recommend using a parameter that defines *near* as *within five words of* to optimize our ability to find relevant literature without capturing a large volume of irrelevant literature. Searches look back to 1960 only if a given database has literature of that age; otherwise, we begin the search at the earliest available date.

**Step 2. Database search.** Using the focused search terms, the Mathematica library staff initiated a search of titles, abstracts, subjects, and key words within numerous databases. Table C.2 lists each of the databases searched.<sup>33</sup> Mathematica librarians used advanced searching

<sup>33</sup> All databases were searched for all models with one exception. The search for Educare in Child Care and Early Education Research Connections resulted in an extremely high number of citations. As a result, we conducted a separate and more targeted screening process of these citations. The citations, with the exception of one citation that screened in, were not included in RefWorks and therefore are not included in the results listed in Table B.3.

techniques—such as proximity searches—to optimize our ability to find relevant literature (for example, requiring the words *early*, *childhood*, and *education* to be within five words of one another). Databases differ in how they organize content; therefore, the librarians tailored the search methods to the databases and checked the project search terms against keyword and subject terms for each database when possible to ensure we did not overlook relevant citations. The librarians saved literature search results in a designated project account created in RefWorks, an online (but private and password-protected) bibliographic management system that enables storing, scanning, and sorting a customized list of study citations and abstracts.

**Table C.2. Databases searched for the LITES compelling models literature search**

Academic Search Premier	Campbell Collaboration
Child Care and Early Education Research Connections	CINAHL with Full Text
Cochrane Central Register of Controlled Trials	Cochrane Database of Systematic Reviews
Cochrane Methodology Register	Database of Abstracts of Reviews of Effects
EconLit	Education Research Complete
E-Journals	ERIC
MedLine	PsycINFO
ProQuest Dissertations & Theses	SAGE Journals
SocINDEX with Full Text	Scopus

## B. Screening procedures

After we completed the search, trained staff conducted a multistep screening procedure to identify the most relevant citations. All screening was conducted in RefWorks. Citations screened out were assigned a disposition code describing the reason for their exclusion.

**Step 1. Preliminary screening.** In this step, we removed citations from our list that were not useful to the review.

- **Deduplication of citations.** When using the search terms across multiple databases, searches sometimes identified the same citation in more than one database. We retained only one copy of each citation, deleting the others from RefWorks.
- **Exclude publications that are not studies.** Screeners next eliminated any irrelevant non-study citations the search terms yielded (for example, letters to the editor, book reviews, or press releases). These were not considered further but remained in RefWorks labeled as *nonstudies*.
- **Not a model.** Screeners also eliminated studies that did not focus on one of the 13 named compelling models. These were not considered further but remained in RefWorks labeled as *not a named model*.

**Step 2. Screening.** After the removal of non-studies and studies that did not examine a named model, additional screening for relevance was necessary using the study abstracts and, if needed, the full text of the citation. For instance, some studies focused on a named model but the target population for the study was preschool-age children rather than infants and toddlers. We screened out studies for the following reasons:

- **Not policy relevant.** We excluded studies of early care and education (ECE) models delivered in a developing-world context.
- **Not a primary study.** We excluded summaries of studies reported elsewhere (for example, literature reviews or meta-analyses).
- **Target population out of range.** We excluded studies in which the children or families were not enrolled in the ECE services before the child reached age 36 months.

### C. Literature search results

Our search yielded 253 unduplicated studies. Of these, 7 studies screened in. The primary reason studies screened out was because they were not focused on a named model. In addition, we excluded 41 citations that were not studies. Table C.3 provides detailed information about the search and screening results.

**Table C.3. Literature search and screening results**

	Total
Total number of unduplicated studies	253
Screened in	7
Step 1: Screened out	
Not a study	41
Not a named model	176
Step 2: Screened out	
Not policy relevant	17
Not a primary study	3
Target population out of range	9

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