Supporting Competencies of the Infant and Toddler Workforce:
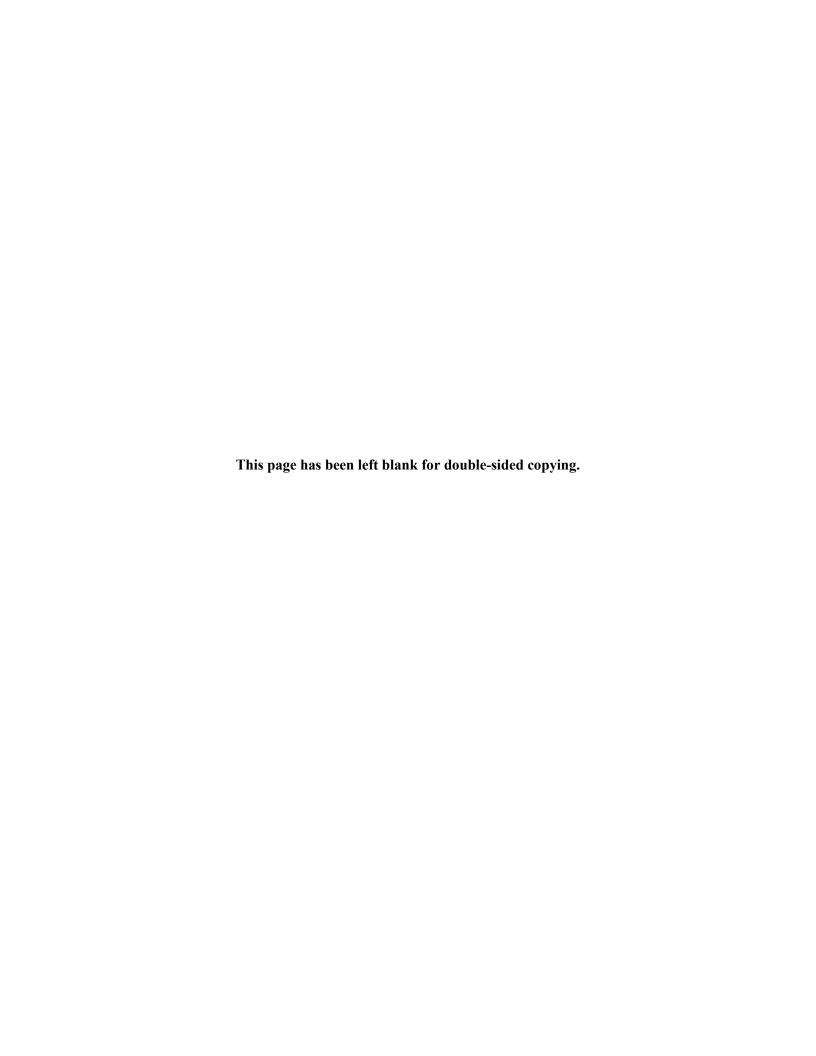## Case Studies of Competency Frameworks in Five States

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Supporting Competencies of the Infant and Toddler Workforce: Case Studies of Competency Frameworks in Five States

OPRE Report 2023-069

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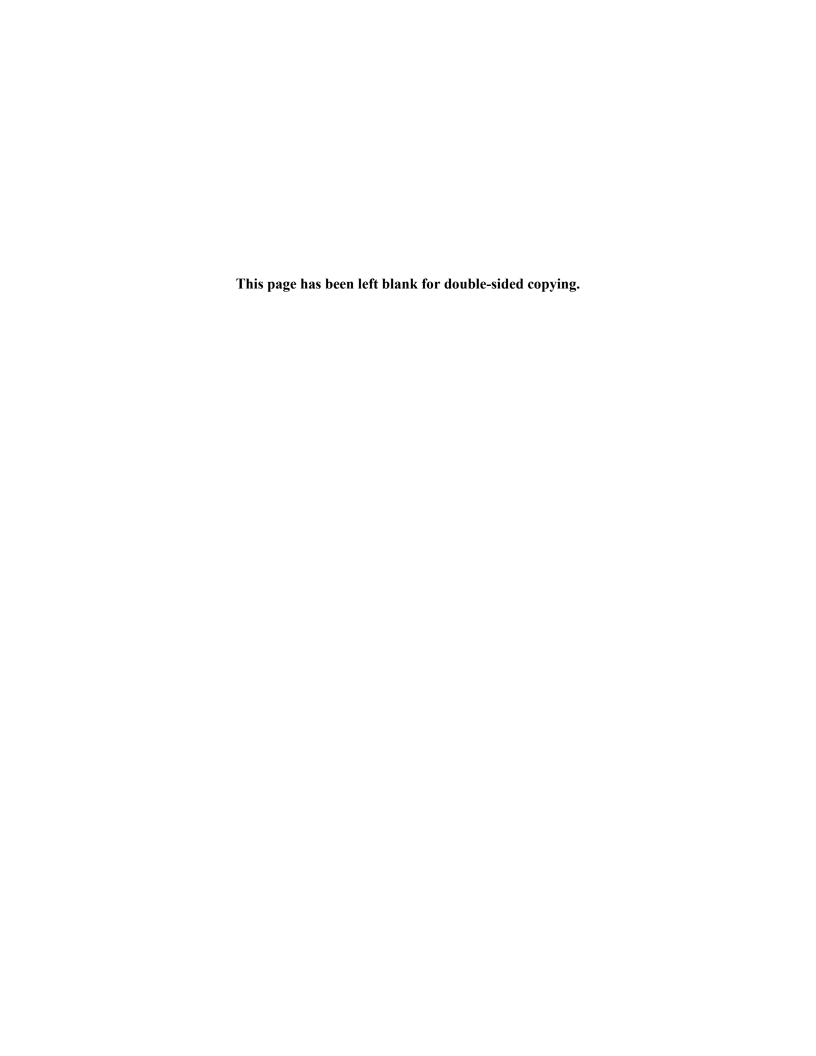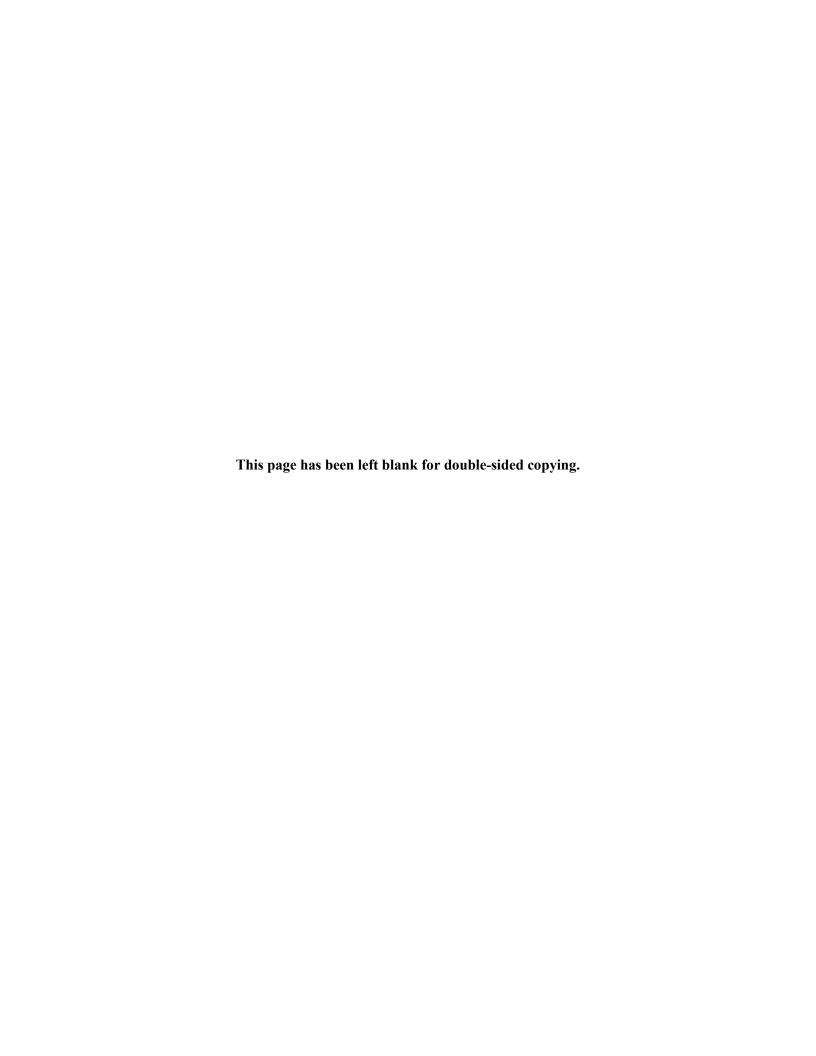
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Overview

Introduction

There is growing recognition among practitioners, policymakers, and researchers that the first three years of a child's life are a distinct developmental period, characterized by rapid brain development, reliance on relationships with adults, and extreme responsiveness to environmental variation. Research shows that high- quality infant/toddler (I/T) programs can support positive outcomes for children.

Competency frameworks have been identified as a promising approach to improving I/T care and education quality by defining what I/T teachers and caregivers need to know and be able to do, establishing a common language for assessing job performance, and providing a clear structure for professional development (PD). However, little is known about the processes and practices that facilitate successful use of competency frameworks and how competencies (that is, knowledge, skills, and attributes) in those frameworks are assessed.

The objective of this study was to examine different approaches to the implementation of competency frameworks and assessment of competencies to inform efforts at the system- and program-levels to support the competencies of the I/T workforce.

Primary Research Questions

- How have competency frameworks been developed and implemented?
- How have competencies been assessed?
- How do program and center directors, family child care providers, and teachers and caregivers of infants and toddlers use competency frameworks?
- What are key lessons learned related to the implementation of competency frameworks and assessment of I/T teacher and caregiver competencies?
- How can competency frameworks help build the capacity of the I/T workforce and support quality improvement?

Purpose

To support the quality of care for infants and toddlers, states and organizations have developed competency frameworks to outline specific competencies (that is, knowledge, skills, and attributes) that are essential to the practice of teaching and caring for infants and toddlers. The Infant and Toddler Teacher and Caregiver Competencies (ITTCC) project conducted in-depth case studies of competency frameworks implemented in five states to learn about the processes and practices that facilitate use of competency frameworks and how competencies in those frameworks are assessed.

This report provides a comprehensive picture of implementation of competency frameworks at the state level, from development to training and education, integration into ECE systems, use by programs, assessment, and monitoring and evaluation. The report also discusses broad lessons and key themes, based on the experiences of five states that represent a range of approaches to implementation.

Key Findings and Highlights

- Although all five states in the multicase study have taken steps to actively use their competency frameworks in ongoing efforts and innovations in online PD and training, as well as in some integration of competencies with state workforce development initiatives, the refinement of frameworks and processes surrounding them is ongoing.

- The competency frameworks have resulted in increased PD opportunities for I/T teachers and caregivers through a broad range of training options, partnerships with higher education institutions, and ongoing supports using coaches and professional learning communities. However, the extent of participation and the effectiveness of different modes or combinations of modes for delivering PD is not yet clear.

- In designing PD opportunities around competency frameworks, it is important to reduce burden for teachers and caregivers, particularly in terms of in terms of location, mode of training, cost, and timing.

- Integration of competency frameworks throughout state early care and education systems can help reduce burden and promote use by increasing alignment of requirements and incentives throughout the ECE system.

- There is a tension in balancing detail and specificity in the competencies within the frameworks with the need to have competency frameworks that feel accessible and easy to understand. It can be challenging to articulate individual competencies in a way that makes each seem attainable and easy to understand and observe while still ensuring the framework itself is not too overwhelming, especially when translated into requirements

- There are still gaps in the development and implementation of competency-based assessment strategies and processes. There is limited information available about the reliability and validity of the competency-based assessments currently in use. Few states have the infrastructure and processes in place for directly assessing teacher/caregiver practice.

- Currently, there is not enough information available to determine whether and to what extent competency frameworks improve teacher and caregiver practice or child outcomes.

Methods

The study team conducted in-depth case studies of competency frameworks implemented in five states, purposively selected to reflect potential variation in implementation in the following factors: (1) partnerships with other organizations (such as institutions of higher education or national organizations), (2) efforts that include a range of providers including family child care and Early Head Start, (3) ongoing efforts and innovations in online professional development and training, (4) integration of competencies with state workforce initiatives, and (5) geographic variation and diversity of the I/T population and workforce.

To learn about the states' experiences designing and implementing competency frameworks, the study team gathered documents from and conducted telephone interviews with (1) system-level participants, including staff from state agencies, organizations, and institutions of higher education; and (2) program-level participants, including child care center directors and I/T teachers and caregivers, and family child care providers.
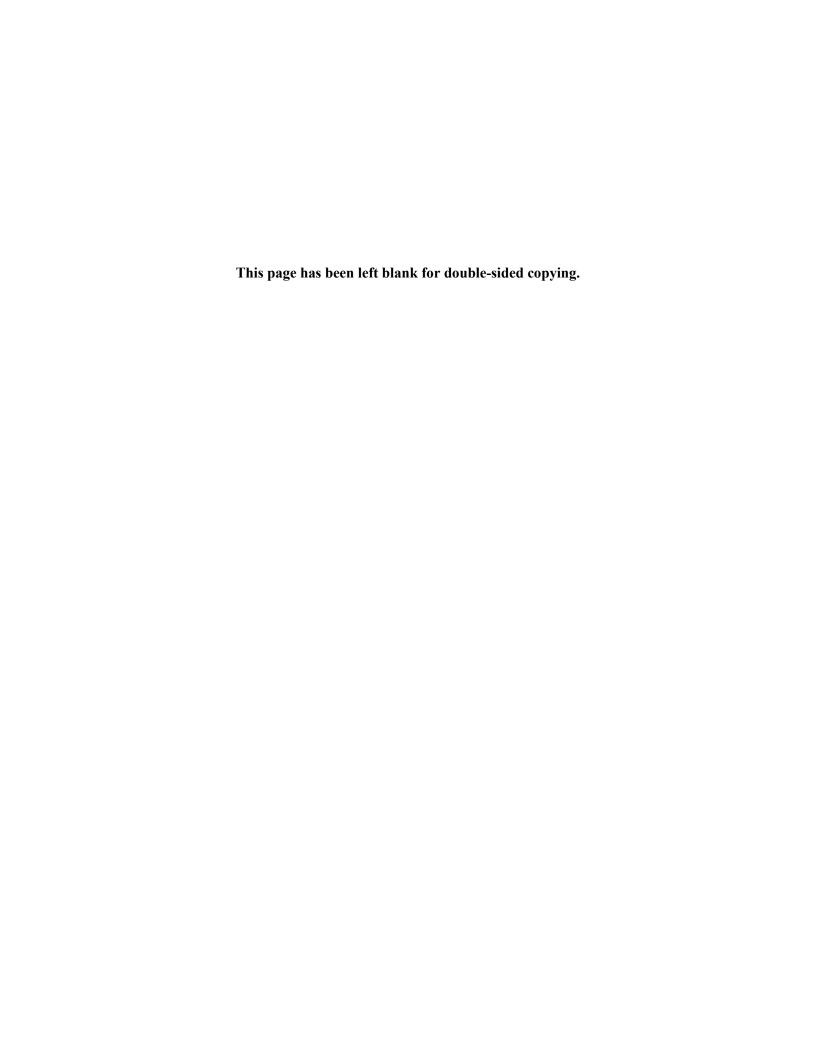
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Executive Summary

There is growing recognition among practitioners, policymakers, and researchers that the first three years of a child's life are a distinct developmental period, characterized by rapid brain development, reliance on relationships with adults, and extreme responsiveness to environmental variation (Bernier et al. 2012; Horm et al. 2016; Martin et al. 2013; National Scientific Council on the Developing Child 2004). Research shows that high-quality infant/toddler (I/T) programs can support positive outcomes for all children, especially those from disadvantaged backgrounds (ACF 2006; Aikens et al. 2015a, 2015b; Li et al. 2013; Love et al. 2013; Yazejian et al. 2017).

Competency-based approaches may help improve I/T care and education quality by defining what teachers and caregivers of infants and toddlers need to know and be able to do, establishing a common language for assessing job performance, and providing a clear structure for professional development (PD). However, little is known about the processes and practices that facilitate successful use of competency frameworks and how competencies in those frameworks are assessed.

Project and study goals

The Infant and Toddler Teacher and Caregiver Competencies (ITTCC) project aimed to examine existing efforts across states, institutions of higher education, professional organizations, and early care and education (ECE) programs related to competencies for teachers and caregivers of infants and toddlers who work in group (center-based and family child care [FCC]) settings.[1]

Key definitions

The Infant and Toddler Teacher and Caregiver Competencies (ITTCC) project defines competency, competency framework, competency domain, and proficiency levels in the following way:

Competency: A piece of knowledge (K), a skill (S), or an attribute (A) essential to the practice of teaching and caring for infants and toddlers

- *Knowledge* is information that may be applied to practice.
- *Skills* are strategies or abilities that may be applied to practice.
- *Attributes* are attitudes, beliefs, or other characteristics that may influence the application of knowledge and skills to practice.

Competency framework: A compilation of competencies intended to convey the range of KSAs essential to a particular area of practice, job, or profession.

Competency domain: Competency frameworks often group competencies (that is, KSAs) by *domain*. That is, individual KSAs focused on a similar topic may be clustered within a framework by competency domain. Examples of a competency domains include "support for language and literacy," "support for social-emotional development," "health and safety," "working with families," or "arts and creativity."

Proficiency levels: Some competency frameworks identify competencies (that is, KSAs) that are essential for practice at various career stages (for example, entry, mid-career, advanced).◢

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[1] Many different terms are used to refer to teachers and caregivers working across ECE settings (for example, early educator, early learning professional, practitioner, and so on). For simplicity, throughout this report we use "teachers and caregivers" to refer collectively to those working with infants and toddlers in group settings.

This report presents findings from a qualitative multicase study to examine different approaches to the implementation of competency frameworks and assessment of competencies. We examined the following research questions:

- How have competency frameworks been developed?

- How have competency frameworks been implemented?

- How have competencies been assessed?

- How do program and center directors and FCC providers use competency frameworks?

- How do teachers and caregivers of infants and toddlers use competency frameworks?

- What are key lessons learned related to the implementation of competency frameworks and assessment of I/T teacher and caregiver competencies?

- How can competency frameworks help build the capacity of the I/T workforce and support quality improvement?

To examine the implementation and assessment of competencies, we conducted qualitative telephone interviews with study participants at two levels:

1. System-level participants included competency framework experts and representatives from state agencies, institutions of higher education, and professional organizations; Head Start Collaboration Office directors; and I/T specialists.

2. Program-level participants included child care center directors, an education coach, a site director, a program coordinator, FCC providers, and teachers of infants and toddlers.

Overview of Study States and Frameworks

We purposively selected five states (California, Illinois, Maine, Oregon, and Texas) based on potential variation in implementation as reflected in the following factors: (1) partnerships with other organizations (such as institutions of higher education or national organizations), (2) efforts that include a range of providers including FCCs and Early Head Start (EHS), (3) ongoing efforts and innovations in online PD and training, (4) integration of competencies with state workforce development initiatives, and (5) geographic variation and diversity of the I/T population and workforce. Table ES.1 summarizes characteristics of competency frameworks used in the five states.

Table ES.1. Overview of competency frameworks in each state

	California	Illinois	Maine	Oregon		Texas
Competency framework	California Early Childhood Educator Competencies	Gateways Infant Toddler Credential	Maine Infant Toddler Credential	Oregon's Core Knowledge Categories and Standards	ZERO TO THREE Critical Competencies	CIRCLE Infant & Toddler Teacher Competencies
Year established	2008	2008, revised in 2017	2008	2015, revised in 2018	2016	2018

	California	Illinois	Maine	Oregon		Texas
Target audience	All early childhood professionals working with children ages 0–5	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–8	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–3
Proficiency levels	None	Yes; six levels	None	Yes; three levels	None	Yes; three levels
Number of competency domains	12	7	7	10	3	5
Number of competencies	185	54	31	79	13	74

How were the competency frameworks developed?

- Across the states in the multicase study, competency frameworks were created to support professional development and professionalization of the early childhood field.

- Three of the competency frameworks were created to support the unique training and specialized knowledge needs of teachers and caregivers of infants and toddlers. Two states created frameworks relevant to a broader age range of children, with additional resources specific to the care of infants and toddlers.

- Different types of agencies or organizations were responsible for developing the competency frameworks; however, each state sought feedback from a range of interested parties as well as program staff. They used a variety of sources to fund development of the frameworks.

- States drew from various sources of information in developing content for competency frameworks, including national frameworks or standards, existing research, and existing state frameworks or guidelines.

- Some states have updated the content of their frameworks in response to feedback and the perception of needs and/or changes in the ECE environment. Some states have taken specific steps to better meet the needs of the diverse racial and ethnic backgrounds of their families and workforce.

What education and training on the competencies is available?

- The five states in the multicase study offer education and training on the competencies through higher education coursework, training, and technical assistance specifically designed to address competencies in the framework or aligned with them. Table ES.2 provides an overview of the states' training and education systems for competencies.

- Various organizations, including framework developers and independent trainers who are certified or have undergone an approval process, develop and provide training on the competencies. In most cases, those who provide such training have existing relationships with their state's early childhood PD system. Most of the states also have a process to refine and update their trainings based on participant feedback.

Table ES.2. Training and education systems for the competencies in each state

	California[a]	Illinois[b]	Maine[c]	Oregon[d]	Texas[e]
Who develops trainings?	California Department of Social Services; WestEd, through the Program for Infant/Toddler Care and Family Child Care at Its Best program	Illinois Network of Child Care Resource and Referral Agencies (INCCRRA); independent trainers	Maine Roads to Quality (MRTQ) Professional Development Network	Oregon Center for Career Development in Childhood Care and Education (OCCD); local CCR&Rs; independent trainers; ZERO TO THREE	Children's Learning Institute (CLI)
Who provides trainings?	California Department of Social Services; WestEd	INCCRRA; independent trainers	MRTQ	OCCD; independent trainers; I/T specialists from local CCR&Rs; ZERO TO THREE	CLI
Do trainers or trainings have to be approved through the state's PD system?	No	Yes	n.a., conducted by state	Yes	n.a., conducted by state
What modes of training are available for I/T teachers and caregivers?	In person and online	In person and online	In person and online	In person and online	Online only
What ongoing supports are available for I/T teachers and caregivers?	None	None	Individual coaching and PLCs	Individual coaching and PLCs on the ZERO TO THREE Critical Competencies	Individual coaching and PLCs
Is there higher education coursework on competencies?	Yes	Yes	No	Yes	No

[a] WestEd is one of the state's early childhood PD contractors.

[b] INCCRRA administers Gateways to Opportunity, the state's PD system.

[c] MRTQ, a partnership between the Cutler Institute at the University of Southern Maine, the University of Maine Center for Community Inclusion and Disability Studies, and the Maine Afterschool Network, is the state's PD contractor.

[d] OCCD at Portland State University is the state's early childhood PD contractor.

[e] CLI at the University of Texas Health Science Center at Houston is the state's early childhood PD contractor. CCR&Rs = child care resource and referral agencies; INCCRRA = Illinois Network of Child Care Resource and Referral Agencies; n.a. = not applicable; PD = professional development; PLC = professional learning community.

- In each state, trainings are accessible to teachers and caregivers in all settings and types of programs. Most states provide online training calendars that allow users to search by competency domain. States typically offer both online and in-person trainings on the competencies, although one state offers only online training.

- States use technical assistance providers, including local CCR&Rs and I/T specialist networks, to share information about the competency frameworks. These states also offer ongoing support to teachers and caregivers to promote integration of learning, typically through professional learning communities and individual coaching.

- The states have tried to integrate their competency frameworks into the higher education system through (1) efforts to align coursework with the competencies so that courses can count within the state's early childhood PD system; and (2) articulation agreements, in which participation in training on the competencies can also earn college credits or, college coursework can count toward earning a credential.

How are the competency frameworks integrated into states' early care and education systems?

- Integrating competency frameworks throughout early childhood systems, including licensing, workforce development initiatives, and Quality Rating and Improvement Systems (QRIS), is one way to incentivize active use by teachers and caregivers, programs, education and training providers, and ECE system partners. Table ES.3 provides an overview of how the five states in our case studies have integrated the competency frameworks into their ECE systems.

- Training or education on the competencies typically are not required as part of licensing standards. Although training on competencies typically is not specified in licensing requirements, trainings or courses on some competencies allow a teacher or caregiver to meet licensing requirements.

- Linking competency frameworks to credentials and career lattices can help promote their awareness and use. Three states' competency frameworks are linked to a state I/T credential and career lattice. These states provide supports and incentives to encourage teachers and caregivers to pursue credentials or higher levels on the career lattice.

- States promote quality in ECE programs through QRIS; QRIS standards sometimes include benchmarks for staff qualifications, training, and education. In three states, the competency frameworks are directly referenced in QRIS standards through their linkages to credentials or career lattices. In one state, the competency framework is being used in quality improvement supports provided through the QRIS.

- There are different mechanisms for and levels of coordination between state ECE system partners related to the use of competency frameworks in the states. The mechanisms and levels of coordination depend on the structure of the overall system and the role of the organization overseeing implementation of the framework in each state.

- Organizations overseeing implementation of the competency frameworks in each state take a lead role in coordinating with partners on the status of the framework and areas for improvement. Coordination efforts typically involve regular meetings to discuss a range of topics, including how the frameworks are being used, how to promote better alignment across the system, and identifying needs and challenges.

Table ES.3. Integration of competency frameworks into state ECE systems

	California	Illinois	Maine	Oregon	Texas
Linked to licensing?	No	Yes; a teacher or caregiver with a Gateways to Opportunity Early Childhood Educator or I/T Credential can automatically meet the supplemental training requirements for programs serving children receiving subsidies.	No; however, there are some common trainings.	Yes; licensing requires teacher or caregiver training on eight CKCs. Training on ZERO TO THREE Critical Competencies can partially fulfill this requirement.	No; but there are some common trainings.
Linked to credential?	No	Yes; the competency framework is embedded within the Gateways I/T Credential.	Yes; the competency framework is embedded within the Maine I/T Credential.	Yes; the CKCs are integrated into the requirements for the Oregon Registry I/T Professional Credential.	No; however, a micro-credentialing process for coaches, teachers, and caregivers is under development.
Linked to career lattice?	No	Yes; the I/T Credential is integrated into the Gateways ECE career lattice.	Yes; the career lattice has eight levels based on a teacher's or caregiver's education, experience, and completed trainings. Obtaining the Maine I/T Credential places a teacher or caregiver at Level 3.	Yes; the CKCs are linked to the Oregon Registry Steps, the state's career lattice. There are 12 levels; each level requires a certain number of training hours across the CKCs.	No
Linked to QRIS standards?	No	Yes; QRIS standards refer to career lattice levels, which in turn refer to the framework.	Yes; QRIS standards refer to career lattice levels, which in turn refer to the framework.	Yes; QRIS standards refer to career lattice levels, which in turn refer to the CKCs framework.	No; however, efforts are underway to integrate the competencies into a collection of PD resources for use in quality improvement efforts.

QRIS = quality rating and improvement system, ECE= early care and education, CKCs = Core Knowledge Categories, I/T = infant/toddler; PD = professional development.

How do programs, teachers, and caregivers use competency frameworks?

- Most of the program leaders with whom we spoke in community-based centers or EHS indicated that the competency frameworks can be helpful in identifying which PD opportunities will help staff gain essential skills for working with infants and toddlers, who have unique needs. The frameworks are also helpful for sorting out which opportunities can help staff meet state training requirements and build toward a credential.

- Only a few of the FCC providers with whom we spoke sought out training opportunities related to the competency frameworks. Some did so to help them obtain a credential but others noted that they do not pursue competency-based trainings because it does not directly increase pay or does not address their setting's specific needs.

- Competency frameworks can help teachers and caregivers in planning lessons and activities. In particular, the competency frameworks provide guidance about developmental milestones for infants and toddlers, and what teachers and caregivers can do to help achieve those milestones.

- Across states, broader challenges related to hiring, staffing, and compensation can make it challenging for teachers and caregivers to participate in competency-based efforts. It can be hard to find someone to cover classrooms while teachers complete PD requirements and trainings and programs often have to cover at least some of the costs of participation.

- Although program staff see value in the competency frameworks, they acknowledged that the content and process can be overwhelming. Some suggestions for making the competency frameworks more accessible included providing trainings and supports for program leaders to help their staff navigate the materials and processes. Another suggestion was to provide more opportunities for teachers and caregivers to connect with others who have used them previously to demystify the process and hear more about the potential benefits.

How are teachers' and caregivers' competencies assessed, and for what purpose?

- Across the states in our case studies, use of competency-based assessments by teachers, caregivers, and programs is limited. Table ES.4 provides an overview of the states' approaches to assessment.

- Two states use competency frameworks that have accompanying self-assessment tools, which teachers and caregivers can use to assess their own KSAs and determine their education and training needs; however, neither state was able to provide information about whether and to what extent teachers and caregivers in their states use these self-assessment tools.

- Training and education providers use assessments to gauge teachers' and caregivers' understanding and internalization of the competencies being covered in a course or training. Technical assistance providers use assessments to support teachers' and caregivers' continuous quality improvement efforts.

- Some states use competency-based assessments as a summative tool to determine whether to award a credential. The assessments examine how well teachers and caregivers have integrated into their practice what they have learned across all of the trainings and coursework aligned with the competency framework.

Table ES.4. States' approaches to assessment of competencies

	California	Illinois	Maine	Oregon	Texas
Assessments conducted by teachers, caregivers, or programs	Yes; there is a self-assessment toolkit available, but no information on extent of use	No	No	Yes; the ZTT Critical Competencies framework has a corresponding reflection tool, but no information on extent of use	No
Assessments conducted by education, training, and technical assistance providers	No	Yes; higher education institutions and approved trainers are required to conduct an assessment that is also used cumulatively for credential award	No; completion and fulfillment of coursework and training is largely based on attendance	No; completion and fulfillment of coursework and training is largely based on attendance	Yes; coaches conduct observational assessments to help formulate education and training goals
Assessments conducted by ECE system partners	No	No, but the assessments used by higher education institutions and approved trainers are used cumulatively for credential award	Yes; summative assessment for credential award includes a portfolio, observation, and family survey	Yes; summative assessment for credential award includes a portfolio and observation	No

ECE = early care and education; ZTT = ZERO TO THREE.

How do states monitor and evaluate the use of their competency frameworks?

- Monitoring and evaluation can inform all parts of the process of using competency frameworks and, ultimately, enhance the field's understanding of how competencies are related to system, program, teacher/caregiver, and child outcomes.

- States' data collection efforts are currently focused on monitoring participation in and experiences with the various PD opportunities and support provided that are related to the competency frameworks.

- Administrative data provide information about teachers' and caregivers' participation in education and training on the competency frameworks.

- In addition to collecting administrative data, states conduct surveys and interviews of teachers and caregivers to learn more about their experiences and satisfaction with training and education offerings related to the competency frameworks.

- Only one state has examined how its competency framework is related to teacher and child outcomes.

What are key lessons learned related to the implementation of competency frameworks?

- Although all five states in the multicase study have taken steps to actively use their competency frameworks in ongoing efforts and innovations in online PD and training, as well as in some integration of competencies with state workforce development initiatives, the refinement of frameworks and processes surrounding them is ongoing.

- The competency frameworks have resulted in increased PD opportunities for I/T teachers and caregivers through a broad range of training options, partnerships with higher education institutions, and ongoing supports using coaches and professional learning communities. However, the extent of participation and the effectiveness of different modes or combinations of modes for delivering PD is not yet clear.

- In designing PD opportunities around competency frameworks, it is important to reduce burden for teachers and caregivers, particularly in terms of in terms of location, mode of training, cost, and timing.

- Integration of competency frameworks throughout state early care and education systems can help reduce burden and promote use by increasing alignment of requirements and incentives throughout the ECE system.

- There is a tension in balancing detail and specificity in the competencies within the frameworks with the need to have competency frameworks that feel accessible and easy to understand. It can be challenging to articulate individual competencies in a way that makes each seem attainable and easy to understand and observe while still ensuring the framework itself is not too overwhelming, especially when translated into requirements

- There are still gaps in the development and implementation of competency-based assessment strategies and processes. There is limited information available about the reliability and validity of the competency-based assessments currently in use. Few states have the infrastructure and processes in place for directly assessing teacher/caregiver practice.

- Currently, there is not enough information available to determine whether and to what extent competency frameworks improve teacher and caregiver practice or child outcomes.

Next steps and related work

Building on findings from this multicase study and other foundational tasks, the ITTCC project has developed several products that describe different approaches to the implementation of I/T teacher and caregiver competency frameworks and identify promising practices and lessons learned related to their implementation. They include the following:

- Profiles of the five states (California, Illinois, Maine, Oregon, and Texas) that were included in this multicase study.

- A scan of online competency-based PD systems that include I/T teachers and caregivers as an audience

- An interactive map that provides information on state competency frameworks relevant to I/T teachers and caregivers

- A session at the National Research Conference of Early Childhood on State Efforts to Support the Competencies of the Infant and Toddler Workforce

- A project synthesis that (1) presents a conceptual model for the implementation of competency frameworks to improve I/T teachers and caregivers, program, and system outcomes; and (2) highlights key lessons and areas for future research, given the findings from the project, and considers the opportunities and challenges currently faced by the ECE workforce

I.   Introduction

There is growing recognition among practitioners, policymakers, and researchers that the first three years of a child's life are a distinct developmental period, characterized by rapid brain development, reliance on relationships with adults, and extreme responsiveness to environmental variation (Bernier et al. 2012; Horm et al. 2016; Martin et al. 2013; National Scientific Council on the Developing Child 2004). Research shows that high-quality infant/toddler (I/T) programs can support positive outcomes for all children, especially those from disadvantaged backgrounds (ACF 2006; Aikens et al. 2015a, 2015b; Li et al. 2013; Love et al. 2013; Yazejian et al. 2017). Although there is great interest in improving the quality of care and education for infants and toddlers, there are challenges to accomplishing this goal. Quality improvement efforts must be attentive to the backgrounds and needs of the I/T workforce compared to the broader early childhood workforce. For example, its members tend to have fewer years of experience than the preschool workforce and are less likely to have a degree or credential (Coffey 2022). Black, Latina, and immigrant women comprise a large proportion of teachers and caregivers working with infants and toddlers in different settings (McLean et al. 2021). As a result of systemic inequality and racism, these populations face particularly pronounced barriers to accessing educational opportunities and professional supports (Meek et al. 2020; Lloyd et al. 2021).

Adding to the challenge in supporting the I/T workforce is the fact that settings serving infants and toddlers have differing requirements and guidelines for staff training and development (IOM and NRC 2015), and there is limited availability of I/T-specific content in existing professional development (PD) resources (Madill et al. 2016).

Competency-based approaches may help improve I/T care and education quality by defining what teachers and caregivers of infants and toddlers need to know and be able to do, establishing a common language for assessing job performance, and providing a clear structure for PD. Recent national efforts highlight the importance of identifying and developing competencies as a step in professionalizing the early care and education (ECE) workforce. The Institute of Medicine and

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Key definitions

The Infant and Toddler Teacher and Caregiver Competencies (ITTCC) project defines competency, competency framework, competency domain, and proficiency levels in the following way:

Competency: A piece of knowledge (K), a skill (S), or an attribute (A) essential to the practice of teaching and caring for infants and toddlers

- *Knowledge* is information that may be applied to practice.

- *Skills* are strategies or abilities that may be applied to practice.

- *Attributes* are attitudes, beliefs, or other characteristics that may influence the application of knowledge and skills to practice.

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Proficiency levels: Some competency frameworks identify competencies (that is, KSAs) that are essential for practice at various career stages (for example, entry, mid-career, advanced).◢

National Research Council report on transforming the workforce (IOM and NRC 2015) and the National Association for the Education of Young Children's (NAEYC) Power to the Profession Initiative each put forth recommended competencies (NAEYC 2020). Competency frameworks specific to the I/T workforce have also been developed by ZERO TO THREE (Dean et al. 2016) and the Collaborative for Understanding the Pedagogy of Infant/Toddler Development (CUPID) (Vallotton et al. 2019). However, little is known about the processes and practices that facilitate successful use of competency frameworks and how competencies in those frameworks are assessed.

A. The ITTCC project

The Infant and Toddler Teacher and Caregiver Competencies (ITTCC) project aimed to examine existing efforts across states, institutions of higher education, professional organizations, and ECE programs related to competencies for teachers and caregivers of infants and toddlers who work in group (center-based and family child care [FCC]) settings.[2] The project included several foundational activities.

- A scan of existing competency frameworks, to examine approaches to implementation and assessment as well as alignment across various competency frameworks (Caronongan et al. 2019)

- A scan of measures aligned with competencies, to examine potential tools for assessing competencies for research or practice (Shah et al. 2019)

- An examination of other fields that have successfully developed and implemented competency frameworks, to identify key lessons that can be applied to I/T care and education

- A literature review, to examine and depict the associations between competencies and key program, teacher and caregiver, family, and child outcomes (Caronongan et al. 2019)

B. The ITTCC multicase study

This report presents findings from another component of the ITTCC project—a qualitative multicase study to examine different approaches to the implementation of competency frameworks and assessment of competencies. The overarching goal of the ITTCC multicase study was to inform efforts at the system and program levels to leverage competency frameworks and improve the quality of care for infants and toddlers in group-based care and education settings. The project's foundational activities informed the multicase study design by highlighting key constructs to address, criteria to consider for site selection, and an initial list of potential sites.

We purposively selected states to provide lessons relevant to the range of approaches currently being used at the state level. Although existing frameworks have been developed at the national level, we selected states as the focus for case studies because the information we gathered from our initial scan indicated that the implementation of competency frameworks (regardless of author or developer) is closely tied to state context (Caronongan et al. 2019). Selecting states allowed us to examine similar aspects of implementation across frameworks.

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[2] Many different terms are used to refer to teachers and caregivers working across ECE settings (for example, early educator, early learning professional, practitioner, and so on). For simplicity, throughout this report we use "teachers and caregivers" to refer collectively to those working with infants and toddlers in group settings.

1. **Research questions**

The ITTCC multicase study examined the following research questions:

- How have competency frameworks been developed?

- How have competency frameworks been implemented?

- How have competencies been assessed?

- How do program and center directors and FCC providers use competency frameworks?

- How do teachers and caregivers of infants and toddlers use competency frameworks?

- What are key lessons learned related to the implementation of competency frameworks and assessment of I/T teacher and caregiver competencies?

- How can competency frameworks help build the capacity of the I/T workforce and support quality improvement?

2. **State selection process**

Given the goals of the multicase study, we sought to select states that would show variation in approaches to the implementation of competency frameworks. We began the selection process by compiling publicly available information about the use of frameworks we had identified as exclusively focused on or including a set of competencies for teachers and caregivers of infants and toddlers, based on an earlier scan of existing competency frameworks (Caronongan et al. 2019). Table I.1 lists the types of information we compiled and our corresponding data sources.

Table I.1. Selection factors and data sources

Selection factors	Data sources
Use of framework that focuses on I/T-specific competencies or includes a broad range of I/T competencies	Framework documents
Use of competencies in QRIS	QRIS standards and policies, ECE credential requirements, other relevant policies within an associated state's ECE system
Innovative web-based training and assessment systems	Documents describing training opportunities; documents related to assessment approaches, policies, and procedures; responses to public call
Competencies aligned with a state I/T credential	Documents related to ECE career pathways and ECE credential requirements
Use of competencies at the program level	Public reports or other documents related to credential attainment, responses to public call
Use of competencies in Early Head Start and/or Head Start State Collaboration Office has been part of development or revision of competencies	Framework documents, responses to public call, information from Office of Head Start
Use of competencies in FCCs	Framework documents, responses to public call
Collaboration with IHE(s) in the development of coursework or technical assistance	Framework documents, listings of providers of training or coursework related to competencies, course descriptions, responses to public call

ECE = early care and education; FCC = family child care; IHE = institutions of higher education; I/T = infant and toddler; QRIS = quality rating and improvement system.

We ultimately selected five states (California, Illinois, Maine, Oregon, and Texas) based on potential variation in implementation as reflected in the following factors: (1) partnerships with other organizations (such as institutions of higher education or national organizations), (2) efforts that include a range of providers including FCCs and Early Head Start (EHS), (3) ongoing efforts and innovations in online PD and training, (4) integration of competencies with state workforce development initiatives, and (5) geographic variation and diversity of the I/T population and workforce. Chapter II provides an overview of the five states.

3.   Data collection

To examine the implementation and assessment of competencies in the five purposively selected states, we conducted qualitative telephone interviews. We interviewed study participants at two levels:

1. System-level participants included competency framework experts and representatives from state agencies, institutions of higher education, and professional organizations; Head Start Collaboration directors; and I/T specialists.

2. Program-level participants included child care center directors, an education coach, a site director, a program coordinator, FCC providers, and teachers of infants and toddlers.

We developed two interview protocols—one each for system-level and program-level participants. Informed by the literature review and environmental scan, the project team developed an exhaustive list of constructs related to each of the research questions. The semi-structured interview protocols were then organized by construct. For each construct, we developed a set of high-level questions about key elements of the construct, followed by a series of sub-questions designed to capture the details of each element. Interviewers tailored the interview protocols to the specific circumstances of each state and the role of each participant. Team members recorded notes during each interview using a standardized write-up template.

a.   System-level data collection

We conducted system-level interviews from September 2021 through March 2022. We completed 32 interviews across the five states with a total of 38 system-level study participants (conducting several system-level interviews as group interviews with more than one participant). Each interview lasted 60 to 90 minutes. We also collected documents provided by study participants on their competency frameworks, as well as publicly available documents on the frameworks.

b.   Program-level data collection

We conducted program-level interviews from February through May 2022. We conducted interviews with staff from community-based centers, EHS centers, and FCC providers in three of the five states. Our goal was to speak with teachers and caregivers from programs familiar with or known to be using competency frameworks within the selected states. We identified potential programs based on recommendations from study participants at the systems level. In Illinois, because the competency framework is linked to the state's quality rating and improvement system (QRIS), we also identified potential programs through the state's web-based directory of QRIS participants. We selected centers that had achieved a Gold Circle of Quality rating (the highest rating) on Illinois' QRIS because these centers are most likely to have credentialed staff familiar with the state competency framework.

The study team conducted 10 program leader interviews, seven FCC provider interviews, and four teacher interviews across 17 programs in Illinois, Maine, and Texas. Each interview lasted 30 to 60 minutes.

4.   Coding the system- and program-level data

The semi-structured interview data were primarily qualitative. We developed a list of key constructs in the implementation and assessment of competencies based on the research questions for the multicase study. The list of constructs served as the initial set of codes. We created a standardized write-up template for the system- and program-level interviews to organize the information gathered during each one. We organized the templates by the high-level questions for each construct. Interview leads completed an initial round of coding by ensuring that responses were placed under the appropriate constructs in the write-up template. This step was key, given that the interviews were semi-structured and discussion may have flowed differently for each one.

Another member of the study team completed a second round of coding to ensure all constructs were categorized appropriately and to capture cross-cutting constructs.

5.   Analyzing the system- and program-level data

We used NVivo qualitative analysis software to automatically create framework matrices (grids) to help structure the data and prepare them for analysis. For the state-level grid, the constructs formed the columns and the states the rows. For the program-level analysis, we used the same grid format but created separate grids for each respondent type (center-based teacher, center-based director, FCC provider) to ensure we could identify themes by respondent type as well as by state, when possible.

In the grid cells, we drafted preliminary summaries of the constructs by state for the system-level analysis and by respondent type for the program-level analysis. For each construct, the team then reviewed the grid cells for each state and respondent type, and documented key cross-cutting themes and findings, including examples and counts by state that supported each finding. The grid format enhances understanding of the data within and across states and respondent types by facilitating comparisons and highlighting patterns or contradictions.

For the system-level analysis, we used the publicly available documents on the competency frameworks and those provided by study participants to supplement what we learned in the interviews or to provide context. For the program-level analysis, we used findings from the system-level analysis to contextualize the findings. The analysis teams met regularly to discuss emerging themes and initial findings related to the constructs and research questions, and to ensure we were accurately conveying the information provided by the study participants.

6.   Considerations for interpreting findings from the multicase study

The ITTCC multicase study is intended to present an in-depth description of the implementation of competency frameworks and assessment of competencies in specific states, not to promote statistical generalization to different sites or service populations. We selected a purposive sample to ensure we included states and programs relevant to (and study participants with perspectives on) the range of approaches currently being used to implement competency frameworks in the ECE field. Frameworks are constantly evolving; the findings presented here represent a snapshot in time and may not reflect the latest implementation efforts.

C. Roadmap for report

The goal of this report is to provide lessons that can help those who work at a system level to create structures (for example, QRIS, credentialing systems, career lattices) for implementation of competency frameworks and assessment of competencies, those who work with teachers and caregivers of infants and toddlers to improve their competencies on a day-to-day basis, and the teachers and caregivers themselves who directly support infants and toddlers. Chapter II provides an overview of the selected states and their frameworks. Chapter III summarizes the factors that influenced development of the competency frameworks, including why and for whom the frameworks were developed, who was involved in development of the frameworks, how the content of the frameworks was developed, and how the frameworks have evolved. Chapter IV discusses the availability of training and education on competencies, including training, technical assistance, and higher education coursework. Chapter V summarizes how the competency frameworks are integrated into state early childhood systems, including licensing, workforce development initiatives, and the standards and procedures embedded in QRIS. Chapter VI presents findings on how programs and teachers and caregivers use competency frameworks. Chapter VII describes how teachers' and caregivers' competencies are assessed. In Chapter VIII, we review states' efforts to monitor and evaluate their competency frameworks. We conclude in Chapter IX with a summary of key themes and lessons learned.

II. Overview of Study States and Frameworks

Although early childhood competency frameworks have similar goals in terms of supporting the professional development of teachers and caregivers, they vary in implementation in different contexts. Understanding this variation is key to supporting their implementation and was a primary objective of this multicase study. In this chapter, we describe contextual factors that may influence implementation of the competency frameworks in each of the five states and then provide an overview of the frameworks used in the states.

A. Contextual factors that may influence implementation in each state

To be successful, efforts to improve the quality of I/T care and education must consider the needs of the I/T population and the teachers and caregivers working with them. For example, a state that serves a greater population of Hispanic children may need to provide more supports for bilingual teachers and caregivers, or states with a larger number of home-based providers may have to provide more targeted supports for those settings.

The five states in our case studies vary considerably in terms of race and ethnicity of the I/T population (Table II.1). In each state, a substantial number of infants and toddlers live in households with incomes less than 200 percent of the federal poverty line—at least a third of the population and, in some states, almost half.

Table II.1. Characteristics of I/T population in each state

	California	Illinois	Maine	Oregon	Texas
Race and ethnicity of I/T population [a]					
Non-Hispanic White	25%	51%	87%	62%	30%
Non-Hispanic Black	5%	16%	3%	2%	13%
Hispanic	50%	23%	4%	23%	50%
Asian	13%	6%	1%	5%	5%
Another race or ethnicity [b]	9%	4%	5%	8%	4%
Percentage of infants and toddlers in households with incomes less than twice the federal poverty line	36%	38%	43%	35%	46%

Source: State of Babies Yearbook: 2022 (Keating and Heinemeier 2022) (https://stateofbabies.org/states/).

[a] Another race or ethnicity includes multiple races, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander.

The states also vary in the number of teachers and caregivers of infants and toddlers, and how they are distributed among different types of settings, including Early Head Start, center-based settings, and FCC homes (Table II.2).

Table II.2. Characteristics of I/T workforce in each state

	California	Illinois	Maine	Oregon	Texas
Total number of teachers and caregivers of infants and toddlers	48,936	17,809	1,806	5,587	34,318
By setting[a]					
Early Head Start programs	1,246	453	46	142	873
School-sponsored programs	254	92	9	29	178
All other center-based programs	34,308	12,486	1,266	3,917	24,060
FCC homes serving only infants and toddlers	1,541	561	57	176	1,081
FCC homes serving mixed ages	11,587	4,217	428	1,323	8,126

Source: Authors' calculations using data from the Early Childhood Workforce Qualifications Calculator (Li et al. 2020).

Note: Calculations are based on (1) the number of teachers serving infant and toddler children in the 2012 National Survey of Early Care and Education, and (2) state proportional data for numbers of "childcare workers," "teacher assistants," and "preschool teachers" in data from the U.S. Department of Labor. These estimates are for lead teachers only. Early Head Start programs may include Migrant and Seasonal Head Start. School-sponsored centers are those funded by a public school district, or under administrative oversight and subject to reporting requirements for a public school district.

State qualifications for center-based teachers (Table II.3) and FCC providers (Table II.4) also vary in levels of education, early childhood-related coursework, and whether there are specific requirements for teachers and caregivers of infants and toddlers. In all states, teachers in center-based settings must have a minimum of a high school diploma or equivalent, or be in a high school program (Table II.3). Three states (California, Illinois, and Oregon) have additional requirements beyond a high school education. Only two states (California and Oregon) have specific requirements for teachers and caregivers of infants and toddlers. Qualifications for FCC providers also vary but are generally less stringent (Table II.4). Most require some early childhood-related training, but one state (California) requires only health and safety training. Only Oregon has I/T-specific requirements for FCC providers.

Table II.3. State qualifications for teaching staff in center-based settings

	California	Illinois	Maine [a]	Oregon	Texas
HS or GED required?	yes	yes	yes	yes	yes
Other education required	0–12 postsecondary semester credits in ECE or child development, depending on work experience and credential	0–60 postsecondary semester credits with six in courses related directly to ECE or child development, depending on work experience and credential	0–30 postsecondary credits including one ECE course, depending on work experience and credential	0–20 postsecondary semester credits, depending on ECE focus, work experience, and credential	None
Work experience required	0–6 months of experience in a licensed group child care program, depending on education and credential	0–12 months of experience in a nursery school, kindergarten, or licensed center-based child care program, depending on education and credential	0–12 months of direct child care experience, depending on education and credential	0–12 months of experience in a group care program for children, depending on education and credential	None
Credential, certification, or state career lattice required	Current CDA with experience or California Child Development Permit	A CDA or Certified Childcare Professional credential	Current CDA	A one-year state or nationally recognized credential or Step 8 in the state career lattice	None
Specific requirements for teachers of infants and toddlers	At least three ECE units must be related to the care of infants or contain instruction specific to infants, and at least six months of experience in a licensed infant group child care program	None	None	Credential or experience must be specific to I/T care	None

Source: State Licensing Requirements (California Department of Social Services 1998; Illinois Department of Children and Family Services n.d.a; State of Maine 2021; Oregon Department of Education Early Learning Division 2022a; Texas Health and Human Services Commission 2021).

[a] These are the requirements for a lead teacher or the person with primary responsibility for a group of children in a program with 13 or more children. A child care and early education staff member working without supervision must have a HS diploma or equivalent, be attending high school, or be enrolled in a GED or HiSET preparation program.

CDA = Child Development Associate®; ECE = early care and education; GED = General Educational Development; HiSET = High School Equivalency Test; HS = high school.

Table II.4. State qualifications for FCC providers

	California	Illinois	Maine	Oregon	Texas
HS or GED required?	No	Yes	Enrollment in HS or GED program is accepted	Yes	Yes
Other education or training required	None	Six postsecondary credits in providing care to children with disabilities	At least one staff member must have at least six hours of early childhood-related training	At least 30 hours of training specific to I/T care and 0–20 postsecondary credits in ECE or child development, depending on work experience and credentials	Depends on experience and credentials
Work experience required	None	None	None	0–12 months of teaching experience in a group setting, depending on education and credentials	Depends on education and credentials
Credential, certification, or state career lattice required	None	None	None	At least Step 8 in the state career lattice if no experience or other education	Depends on education and experience
Specific requirements for teachers of infants and toddlers	None	None	None	None	None

Source: State Licensing Requirements (California Department of Social Services 2022; Illinois Department of Children and Family Services n.d.b; State of Maine 2021; Oregon Department of Education Early Learning Division 2022b; Texas Health and Human Services Commission 2022).

CDA = Child Development Associate®; ECE = early care and education; GED = General Educational Development; HS = high school.

B. Overview of competency frameworks in the five states

The competency frameworks used in the five states also vary in their characteristics (Table II.5, also see individual profiles of the five states [California, Illinois, Maine, Oregon, and Texas] for more information).

Some states' frameworks are specifically designed for teachers and caregivers of infants and toddlers; in other states, the frameworks are intended for a broader group of early childhood professionals. Three states' competency frameworks (Illinois, Maine, and Texas) focus exclusively on teachers and caregivers of infants and toddlers across different settings, including centers and FCC homes. California's competency framework focuses on a wider age range of children from birth to age 5. Oregon's state-developed Core Knowledge Categories framework is designed for teachers and caregivers working with children from birth to age 8 in a range of settings. However, it also uses the ZERO TO THREE Critical Competencies to provide more PD opportunities specific to teachers and caregivers of

infants and toddlers. Although most of the frameworks are designed primarily for teachers and caregivers, California's framework also includes competencies for early childhood professionals in roles such as administrators, coaches and technical assistance providers, and faculty at institutions of higher education.

Three states' competency frameworks include proficiency levels based on different benchmarks. Although the number of proficiency levels varies across states, they tend to reflect a progression to more advanced competencies. In Illinois, each proficiency level maps to specific roles, from assistant teacher to master teacher. To progress through the levels, teachers and caregivers must gain additional hours of work experience with infants and toddlers and complete an increasing number of hours of college coursework and training related to the competencies. In Oregon, the levels show a progression of increased depth and breadth of knowledge. In the Texas framework, the levels progress from foundational to advanced and then complex skills.

Table II.5. Overview of competency frameworks in each state

	California	**Illinois**	**Maine**	**Oregon**		**Texas**
Competency framework	California Early Childhood Educator Competencies	Gateways Infant Toddler Credential	Maine Infant Toddler Credential	Oregon's Core Knowledge Categories and Standards	ZERO TO THREE Critical Competencies	CIRCLE Infant & Toddler Teacher Competencies
Year established	2008	2008, revised in 2017	2008	2015, revised in 2018	2016	2018
Target audience	All early childhood professionals working with children ages 0–5	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–8	Teachers and caregivers of children ages 0–3	Teachers and caregivers of children ages 0–3
Proficiency levels	None	Yes; six levels	None	Yes; three levels	None	Yes; three levels
Number of competency domains	12	7	7	10	3	5
Number of competencies	185	54	31	79	13	74

The content of state competency frameworks varies in the number of domains each one includes and the number of competencies across domains. The number of domains within a competency framework ranges from as few as three to as many as 12. Common domains include health and safety, social-emotional development, child and human development, family relationships, and professionalism. (See the state profiles in Appendix A for a full listing of the competency domains in each framework.) California's framework and Oregon's Core Knowledge Categories framework both have competency domains focused on diversity and special needs. In addition, California has a competency domain for dual language development. The number of individual competencies within the frameworks ranges from 13 to 185.

The implementation of competency frameworks involves coordination between various agencies and organizations in each state. In Maine, Illinois, and Oregon, framework implementation is funded

and overseen by state offices in partnership with institutions of higher education and statewide organizations. In Texas, a university system is responsible for oversight and implementation of the competency framework. In California, the Department of Education developed the framework, but oversight was transferred to the Department of Social Services as part of a state agency restructuring. However, there is currently no funding for implementation or any process for integrating the framework into the other parts of the state's early childhood system. In all states but California, the organization that oversees implementation of the framework also administers training on the competencies and the state's workforce development system.

III. How were the competency frameworks developed?

Competency frameworks for teachers and caregivers of infants and toddlers vary considerably in terms of the age ranges and professional roles they focus on (all early childhood professionals versus teachers and caregivers only), the domains covered, inclusion of proficiency levels, and inclusion of competencies specific to infants and toddlers (Caronongan et al. 2019). As shown in Chapter II, the frameworks in the five states included in this study also vary along these dimensions. A preliminary focus of the system-level interviews with study participants was to learn about the development of each framework and how and why features were defined as they were. In this chapter, we examine the development process in each of the five states to understand how these differences in frameworks came about. Specifically, we explore the following questions:

- Why and for whom were the frameworks developed?
- Who was involved in developing competency frameworks and how was development funded?
- How was the content of the frameworks developed?
- How have the frameworks evolved over time?
- How do the frameworks address the diversity of their I/T workforce and the families they serve?
- What are key lessons related to developing competency frameworks?

A. Why and for whom were the frameworks developed?

Across the states, competency frameworks were created to support professional development and professionalization of the early childhood field. States sought to provide a common language around what quality looks like and what teachers and caregivers need to know and be able to do. This common language could then facilitate uniformity in training and preparation of the workforce. Competency frameworks were also meant to describe PD pathways more clearly for teachers and caregivers so they could set goals and gain recognition as they achieve them.

Three of the competency frameworks were created to support the unique training and specialized knowledge needs of teachers and caregivers of infants and toddlers. Illinois lacked I/T-specific coursework and a group of key state stakeholders, including state agencies, higher education faculty, Head Start representatives, child care resource and referral agencies, and program owners and directors, believed that having an I/T credential would encourage institutions of higher education to offer more coursework related to the care and education of infants and toddlers. A central goal of the Maine Infant Toddler Credential was to create a less expensive, more locally accessible credential for teachers and caregivers of infants and toddlers as compared to the I/T CDA®. In Texas, programs participating in a state PD program for preschool teachers wanted similar support for their I/T classrooms. Thus, the state began developing the CIRCLE Infant & Toddler Teacher Competencies and a set of associated trainings and other resources on those competencies.

Two states created frameworks relevant to a broader age range of children, with additional resources specific to the care of infants and toddlers. California's framework includes competencies relevant for all early childhood professionals working with children from birth to age 5. There was a concern that teachers and caregivers of infants and toddlers would be left behind if they were not viewed as part of the same field as educators working with preschool-age children. The framework does, however, include some I/T-specific competencies related to development and learning, support for

breastfeeding, and I/T cardiopulmonary resuscitation and pediatric first aid. In Oregon, the Core Knowledge Categories and Standards were developed to guide teachers' and caregivers' training and ongoing professional development, as well as act as the foundation of the state's career lattice for individuals serving children from birth to age 8. However, the state later began using the ZERO TO THREE Critical Competencies to specifically emphasize the care and education of infants and toddlers.

B. Who was involved in developing competency frameworks and how was development funded?

Across the states, different types of agencies or organizations were responsible for developing the competency frameworks; however, each state sought feedback from a range of interested parties as well as program staff. They used a variety of sources to fund development of the frameworks.

The development process was led by different agencies or organizations in each state. In three states (California, Illinois, and Maine), state agencies oversaw development of the competency frameworks, in collaboration with contracted statewide organizations or institutions of higher education. In Texas, an institution of higher education independently conceived of the competency framework. Oregon currently implements two frameworks: a more general core competency framework for early educators of children ages birth through age 8 and a more specific one for teachers and caregivers of infants and toddlers. The state developed its core competency framework in partnership with a university. To complement this framework, the state adopted a second one, ZERO TO THREE Critical Competencies, developed by ZERO TO THREE, a national early childhood research, policy, and advocacy organization. The state plans to replace its core competency framework with the NAEYC 2020 competencies; a university partner is leading efforts to adapt those competencies to the state context.

In all states, the development process involved collaborative work groups that included representatives from higher education, state agencies, Head Start, and research experts. All five states had representatives or input from higher education institutions. Four states (California, Illinois, Maine, and Texas) had input from Head Start Collaboration Offices. Two of them (California and Illinois) included local child care resource and referral agencies. Some councils and work groups included other organizations, such as children's advocacy organizations; PD providers; school districts; and early childhood professional organizations, such as state associations for family child care, state associations for the education of young children, and state Head Start associations.

Four states solicited input from program staff. In California, the state gathered feedback from the early care and education field and the public through meetings, focus groups, and a public website to request comments. In Illinois, the council that led development of the competency framework comprised multiple representatives of the early childhood workforce, including center directors, FCC providers, Head Start directors, and coaches. During development of and revisions to Oregon's Core Knowledge Categories and Standards, the state conducted focus groups to solicit feedback from diverse groups of direct care providers, including, for example, FCC providers who speak Russian and a network of African American teachers and caregivers. In Texas, the state conducted field testing with Early Head Start programs to look at the feasibility of the competencies.

The development process was supported through multiple funding sources. Four of the states (California, Illinois, Oregon, and Texas) mentioned receiving funding through state Child Care and Development Block Grants, foundation grants, and other state agency funding. None of the study

participants with whom we spoke in Maine were involved in the initial development of the state's competency framework and thus were unaware of how it was funded.

C. How was the content of the frameworks developed?

States drew from various sources of information in developing content for competency frameworks, including national frameworks or standards, existing research, and existing state frameworks or guidelines.

All of the states referred to existing national frameworks or standards in developing their frameworks. Four states (California, Illinois, Oregon, and Texas) developed their original frameworks in alignment with NAEYC's 2010 Professional Preparation Standards, which are designed for early childhood professionals working with children from birth through age 8. Maine modeled the structure of its competency framework and credential on the national Infant-Toddler CDA®.

Four of the states referred to existing research in developing their frameworks. In California, the framework was based on a research study from the University of California, Berkeley, on other states' best practices for defining early childhood competencies. Oregon similarly examined practices in other states. In Maine, the state reviewed existing research to define the competency areas. Texas reviewed published literature on I/T education to guide its framework development.

Three states reviewed existing state early childhood frameworks or guidelines as a basis for developing their new competency frameworks. Only Texas used I/T-specific standards as a resource in developing its I/T competency framework. The state reviewed the Texas Core Competencies for Early Childhood Practitioners and Administrators and developed content that expanded its existing CIRCLE Pre-K Competency Framework downward to better meet the needs of teachers and caregivers of infants and toddlers. However, the state also referred to the Texas Infant, Toddler, and Three-Year-Old Early Learning Guidelines as it developed the CIRCLE Infant & Toddler Teacher Competencies. Illinois built upon its existing early childhood educator competency framework to develop its I/T framework and credential. The I/T credential expands upon the early childhood educator credential by providing specialized content unique to infants and toddlers (including social-emotional traits, brain development, and health and safety needs). The domains are the same across both frameworks, but the specific competencies differ. California reviewed the California K–12 professional teaching standards and the California Infant-Family and Early Childhood Mental Health Training Guidelines to ensure the competency framework was aligned with these standards.

D. How have the frameworks evolved over time?

Some states have updated the content of their frameworks in response to feedback and the perception of needs and/or changes in the ECE environment. Maine and Illinois implemented revisions designed to improve accessibility and promote broader use of their frameworks. Maine's framework used to include two proficiency levels. However, the higher level required a bachelor's degree and was dropped due to low interest from the field. In 2017, Illinois converted its previous framework (first established in 2008), which contained hundreds of benchmarks and descriptors, into the current framework, which consists of 54 competencies and specifies both skills and knowledge areas. The change was intended to simplify and more closely align the competencies with corresponding college coursework. The revisions also helped to create a common language within and between institutions of higher education. After initially developing its framework in 2008, California wanted to provide additional guidance to the professionals who support

early childhood teachers and caregivers. It added competency areas related to adult learning and coaching in 2019.

Oregon is currently transitioning from its Core Knowledge Categories and Standards to NAEYC's 2020 competencies. Oregon chose to adopt the NAEYC competencies to support what it perceives as a movement of the field toward a national alignment of competencies. Study participants believe that the transition to the NAEYC competencies will provide a more comprehensive way to assess teachers' and caregivers' KSAs than their existing framework.

E.   How do the frameworks address the diversity of their I/T workforce and the families they serve?

Some states have taken specific steps to better meet the needs of the diverse racial and ethnic backgrounds of their families and workforce.

Two states' frameworks include competency areas specifically addressing diversity. California's framework includes competency areas in "Culture, Diversity, and Equity" and "Dual-Language Development." Oregon's Core Knowledge Categories and Standards framework includes a "Diversity" category but also notes that knowledge and skills related to diversity, equity, and inclusion should be integrated across categories.

One state has held focus groups and translated its framework into languages other than English. Oregon held focus groups with different groups of providers, including African American and Russian- and Spanish-speaking providers, to get their feedback on proposed revisions to the competency framework. In addition, as part of its effort to adopt the NAEYC 2020 competencies, Oregon is planning to engage racially, ethnically, and linguistically diverse groups of early education community leaders, providers, and families. These groups can help identify their needs and the challenges they may face within the state's early childhood systems and, if needed, develop recommendations for how to adapt the NAEYC competencies to address identified issues and build a competency framework that is relevant and meaningful for the entire early care and education community. Oregon's Core Knowledge Categories and Standards are available in Chinese, Russian, Spanish, and Vietnamese. Oregon also collaborated with ZERO TO THREE to have its Critical Competencies translated into Spanish.

F.   What are key lessons related to developing competency frameworks?

Broader efforts led by national organizations or other states can inform efforts at the state level, but states tailor their frameworks to meet state-specific needs. For example, in Maine, PD related to infants and toddlers was available through the Infant-Toddler CDA®. However, teachers and caregivers in remote areas of the state had trouble finding an observer to complete the required verification visit for the CDA®. Thus, the state decided it needed to provide a less expensive and more accessible option for teachers and caregivers to earn an I/T credential. The Maine Infant Toddler Credential was modeled after the Infant-Toddler CDA® in the required number of training hours, the observation, and the family survey. The state developed a set of competency-based trainings for the credential and used the existing regional infrastructure to support the observation component of the credential assessment. California drew from competency frameworks developed by states across the country but also included additional competencies to address state-specific needs and areas of importance, such as cultural competency, diversity, equity, and professionalism. Oregon plans to replace its existing Core Knowledge Categories and Standards competency framework with the national NAEYC 2020 framework. However, the state is

undertaking a comprehensive process to assess how those competencies align with and address Oregon's specific context and needs.

Collaboration during development is key to promoting the use of competency frameworks. To help ensure that competency frameworks are used, study participants noted that it is helpful to include system partners, programs, and teachers and caregivers in the development process. Lack of inclusion in the development process can lead to system partners' disillusionment about having another new requirement or set of guidelines to consider. Collaborating with programs, teachers, and caregivers in the development process can help them understand the value of competency frameworks. Seeking input from teachers and caregivers during development can also help ensure that states are being culturally responsive and inclusive as competency frameworks are developed, revised, or adopted.

Shifting landscapes at both national and state levels necessitate changes to frameworks over time but lack of resources and processes can constrain refinement efforts. Study participants emphasized that competency frameworks cannot be static documents. They must change in response to state and national policies and emerging research, which requires a systematic process and funding for ongoing refinement. In considering changes, states must be thoughtful about how they engage with the field regarding the changes and promote the benefit of the refinement while also acknowledging the difficulties associated with change and potential weariness due to continual changes to policies and initiatives. Study participants noted that there are always new initiatives and new priorities arising at the state and national levels that can make it challenging to maintain a focus on competency frameworks. New initiatives, such as competency frameworks, often sustain a few years of strong support and robust implementation, but new leadership or new initiatives can then cause these previous efforts to wane. Thus, states need to develop plans to ensure the continued relevance of the frameworks and continually promote their importance.

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IV. What education and training on the competencies is available?

By defining what teachers and caregivers of infants and toddlers need to know and be able to do, competency frameworks may provide a clear structure for education and training, and improve the quality of I/T care and education. However, this goal can be realized only if education and training opportunities on the competencies are available, meaning higher education coursework, training, and technical assistance specifically designed to address competencies in the framework or aligned with them. Coursework and trainings may be developed to cover a specific competency or set of competencies. Faculty and trainers may also align new or existing courses and trainings with competency frameworks by ensuring that content is consistent even if not entirely overlapping.

In this chapter, we describe the education and training available on the competencies in the five states in our case studies. Table IV.1 provides an overview of the states' training and education systems for them. We focus discussion on opportunities for teachers and caregivers of infants and toddlers. In some states, these opportunities are offered broadly to the early childhood workforce, including those groups. Specifically, we explore the following:

- How is information related to competency frameworks disseminated to programs and program staff?
- Who develops and provides training on competencies?
- How are trainings accessed?
- What ongoing supports and technical assistance are offered to facilitate use of the competencies?
- How are competencies integrated into the higher education system?
- What are key lessons related to providing education and training on the competencies?

Table IV.1. Training and education systems for the competencies in each state

	California[a]	Illinois[b]	Maine[c]	Oregon[d]	Texas[e]
Who develops trainings?	California Department of Social Services; WestEd, through the Program for Infant/Toddler Care and Family Child Care at Its Best program	Illinois Network of Child Care Resource and Referral Agencies (INCCRRA); independent trainers	Maine Roads to Quality (MRTQ) Professional Development Network	Oregon Center for Career Development in Childhood Care and Education (OCCD); local CCR&Rs; independent trainers; ZERO TO THREE	Children's Learning Institute (CLI)
Who provides trainings?	California Department of Social Services; WestEd	INCCRRA; independent trainers	MRTQ	OCCD; independent trainers; I/T specialists from local CCR&Rs; ZERO TO THREE	CLI
Do trainers or trainings have to be approved through the state's PD system?	No	Yes	n.a., conducted by state	Yes	n.a., conducted by state
What modes of training are available for I/T teachers and caregivers?	In person and online	In person and online	In person and online	In person and online	Online only
What ongoing supports are available for I/T teachers and caregivers?	None	None	Individual coaching and PLCs	Individual coaching and PLCs on the ZERO TO THREE Critical Competencies	Individual coaching and PLCs
Is there higher education coursework on competencies?	Yes	Yes	No	Yes	No

[a] WestEd is one of the state's early childhood PD contractors.

[b] INCCRRA administers Gateways to Opportunity, the state's PD system.

[c] MRTQ, a partnership between the Cutler Institute at the University of Southern Maine, the University of Maine Center for Community Inclusion and Disability Studies, and the Maine Afterschool Network, is the state's PD contractor.

[d] OCCD at Portland State University is the state's early childhood PD contractor.

[e] CLI at the University of Texas Health Science Center at Houston is the state's early childhood PD contractor. CCR&Rs = child care resource and referral agencies; INCCRRA = Illinois Network of Child Care Resource and Referral Agencies; n.a. = not applicable; PD = professional development; PLC = professional learning community.

A. How is information related to competency frameworks disseminated to programs and program staff?

The primary way teachers and caregivers are exposed to competency frameworks is through education and training on the competencies. In four states, competency frameworks and associated PD opportunities are referenced on an ongoing basis in newsletters, mailings, social media, and the state's PD website and those of their partners, such as the state's QRIS. In addition to broad dissemination efforts, Maine also conducts targeted promotion of its competency framework (Box 1). In California, when the framework was first introduced, it was promoted during trainings and through emails and listservs. The state also made a series of videos providing an overview of each competency area. The videos are accessible on the state's website but there is currently no active, ongoing effort to disseminate information about the framework.

> **Box 1. Maine's targeted dissemination efforts**
>
> In addition to weekly newsletters, Maine registry staff contact centers if they know the centers are hiring new I/T teachers or starting an I/T program. The staff discuss the state's I/T credential and associated PD offerings with the centers. Registry staff also monitor the registry data and reach out to teachers and caregivers about applying their completed trainings to a credential or cheer their progress and let them know when a training they need to complete the credential is upcoming. ◢

B. Who develops and provides training on competencies?

Various organizations, including framework developers and independent trainers who are certified or have undergone an approval process, develop and provide training on the competencies. In most cases, those who provide such training have existing relationships with their state's early childhood PD system. Most of the states also have a process to refine and update their trainings based on participant feedback.

In two states, development and delivery of trainings on the competencies are overseen by a single organization. In Maine, the training developer is the same organization contracted by the state to run the state PD system and that developed the competency framework. This organization developed trainings based on the competencies immediately after the state approved the framework they developed and revises them approximately annually to incorporate feedback from trainers and participants. For example, during a training, if numerous participants requested more information on a given topic, the trainers then revise the training to discuss the topic in more detail. In Texas, the university-based institute that developed the competency framework convened a team of its experts in instructional development and content areas such as psychology, writing, and I/T development to design the trainings. For example, it drew on the team's expertise in animations and illustrations to help make the trainings more engaging.

In three states, a state-contracted organization oversees the training process, but trainings are mostly provided by independent trainers. In Illinois, the organization overseeing trainings contracts with independent trainers.[3] To become approved trainers, participants must complete (1) an orientation to the state's early childhood PD registry and (2) a training on adult learning theory and presentations skills. Independent trainers may develop a new training specifically on a competency or set of competencies, or may align a new or existing training to them. Trainers must complete a training application that states the

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[3] Information on the state's trainer approval process is available at https://registry.ilgateways.com/be-a-trainer/trainer-training-approval

training's competency-aligned learning objectives and documents how the trainer will assess participants' progress toward these objectives. State PD registry staff must approve all trainings associated with competencies for them to count toward the state's I/T credential.

In Oregon, the state contractor that co-developed the framework and also runs the state PD registry provides some trainings on the state's core competencies, but local child care resource and referral agencies and independent trainers deliver most trainings. PD registry staff must certify trainings on the state's core competencies for them to count toward competency-based requirements. Trainers must submit a proposal that demonstrates how the training session meets the state PD registry's standards.[4] For example, trainings must include an activity that helps participants think about how they will implement what they have learned from the training. Trainings must also include an evaluation form for participants to complete. For example, one study participant discussed how her evaluations noted that the videos were hard to understand; she now provides a transcript and highlights focus areas for the training participants. In addition, Oregon offers training on the ZERO TO THREE Critical Competencies. ZERO TO THREE developed these competencies and conducts train-the-trainer sessions. Oregon contracted with ZERO TO THREE to train and certify its I/T specialists and some independent trainers to train the state's I/T teachers and caregivers on the competencies. As the state transitions to the NAEYC Competencies, it will assess alignment of its existing trainings to them and develop new trainings for any competencies not already covered.

In California, state contractors offer trainings for I/T teachers and caregivers aligned with the California Early Childhood Educator Competencies. For example, the Family Child Care at Its Best program offers trainings for FCC providers that cover all of the competency areas. The state also contracts with the Program for Infant/Toddler Care (PITC) to deliver trainings that cover some content based on the competencies. When the competencies were first introduced, the state required that trainings funded through the Child Care Development Block Grant identify the competencies each training would address, but that requirement is no longer in place. However, study participants noted that many training and technical assistance providers still voluntarily assess the alignment of their trainings to the competencies. In the case study states, "alignment" refers to the process of comparing new or existing training content to the competency framework to determine how well the content addresses a competency or set of competencies, and adjusting the content as needed to ensure the training provides complete coverage.

Of the states in which trainings are mostly provided by independent trainers, two offer supports for trainers to align new or existing trainings to the competencies. Illinois requires contracted trainers to undergo training on the competency frameworks, including an online module, workshops, and virtual meetings. The state also provides a variety of resources that trainers can access to support development of their application, including a handout on the competency domains, an outline template, and multiple documents to help determine the appropriate level of the training (introductory, intermediate, or advanced). Although trainers are not required to develop or align their trainings based on the competencies, study participants noted there is a strong incentive to do so because teachers and caregivers exhibit little interest in trainings that will not help them earn a credential. Illinois plans to hold quarterly meetings with trainers on the framework to help them maintain a focus on the competencies.

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[4] The Oregon Registry Trainer Program Guidebook is available at https://sites.google.com/pdx.edu/oregon-trainer-guidebook/home?pli=1

California provides a mapping tool that guides trainers through a step-by-step process to crosswalk the competencies to their existing trainings.[5] Additional resources include video tutorials, frequently asked questions, and a glossary of terms.

Oregon does not provide specific support to trainers to develop or align their trainings with the competencies. The state does require that trainers indicate which competencies their training will address, and how. However, the state relies on trainers to attest that they have aligned the competencies to the training. Oregon certifies a training based on meeting its standards related to how a training should be developed but it does not critique the content.

C. How are trainings accessed?

In each state, trainings are accessible to teachers and caregivers in all settings and types of programs. Most states provide online training calendars that allow users to search by competency domain. States typically offer both online and in-person trainings on the competencies, although one state offers only online training.

In four states, some trainings are available online and some are attended in person. Maine, Illinois, California, and Oregon all offer trainings in various modes, including self-paced, on-demand options; live virtual trainings; and in person. However, the same training is not necessarily accessible in multiple modes; rather, some are offered in person, whereas others are offered virtually. For example, Maine offers two of the required courses for the state's I/T credential in a self-paced, on-demand format. In Illinois, more than 100 free trainings for teachers and caregivers, some of which are aligned with the competencies in the state's I/T credential, are offered through its online platform. Oregon offers in-person and live virtual trainings on the Core Knowledge Categories and Standards and live virtual trainings on the ZERO TO THREE Critical Competencies. Teachers and caregivers may also access the latter through the ZERO TO THREE website's self-paced, on-demand training.

In Texas, all trainings on the competencies are self-paced, on-demand trainings. CLI Engage, the free, state-funded web-based PD system and assessment platform for early childhood programs, houses the CIRCLE Infant & Toddler Teacher Competencies and related resources. These resources include (1) a set of instructional videos from real classrooms that demonstrate how the CIRCLE Infant & Toddler Teacher Competencies can be used in interactions with children, and (2) a set of videos that demonstrate activities and lessons based on those competencies. In addition to providing training on the competencies, the state also provides training to teachers and caregivers on how to access and use the training and technological resources that support their use. For example, the state developed webinars, how-to guides, and note-taking forms to facilitate the online trainings.

States have pursued virtual training options in response to the COVID-19 pandemic but also to improve accessibility. Some trainings intended to be delivered in person were switched to a virtual format due to the COVID-19 pandemic. However, across states, multiple study participants noted that demand for virtual offerings existed even before the pandemic. Providing trainings online promotes access to a broader range of teachers and caregivers geographically and makes it easier to accommodate their schedules because they can participate from their workplace and as time allows. However, several study participants also noted that virtual offerings also come with some challenges. Some teachers and caregivers can struggle in online learning environments. Virtual offerings also require technological

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[5] Child Development Training Consortium (n.d.). "California ECE Competencies Mapping Tool." Available at https://www.childdevelopment.org/higher-ed-faculty/resources/ece-mapping-tool. Accessed January 28, 2023.

capabilities to which teachers and caregivers may not have access. All of the states that moved to virtual training options because of the pandemic noted that they intend to continue offering at least some in-person trainings post-pandemic.

D. What ongoing supports and technical assistance are offered to facilitate use of the competencies?

States use technical assistance providers, including local CCR&Rs and I/T specialist networks, to share information about the competency frameworks and associated resources with the teachers and caregivers with whom they work as a preliminary step to encourage them to engage with the competencies. Many states also offer support to teachers and caregivers completing this training to promote integration of learning, typically through professional learning communities and individual coaching.

Professional learning communities are a vehicle to provide ongoing support on the competencies in three states. Maine offers two types of learning communities—one for those pursuing a credential (called "credential cohorts") and one more broadly available to teachers or caregivers. Credential cohorts provide an opportunity for teachers and caregivers who have completed five out of the six required trainings for the I/T credential to work through the credential portfolio process with their peers. A state early childhood district coordinator facilitates the cohorts, which meet once a month for six months; each month, the meeting focuses on one of the competency domains. The broader professional learning communities cover topics based on participant interest and sometimes cover one of the competency domains.

In Oregon, I/T specialists meet with a cohort of teachers and caregivers monthly through learning communities to support implementation of the ZERO TO THREE Critical Competencies.[6] The state hopes to expand its technical assistance supports so all teachers and caregivers who complete trainings on the ZERO TO THREE Critical Competencies, and eventually the NAEYC Competencies, can participate in a learning community to support the translation of the competencies into practice. The state also anticipates that the I/T specialists will begin working with their learning community cohorts on competency-based goal setting.

The Texas I/T Specialist Network also facilitates learning communities that discuss the competencies. Teachers and caregivers complete the on-demand trainings and then can participate in a professional learning community to delve into the topics on a deeper level and reflect on how they use the competencies in their classrooms.

These three states also offer individual coaching to I/T teachers and caregivers related to achievement of the competencies. In Maine, individual coaching is offered to teachers and caregivers who participate in credential cohorts. In Oregon, I/T specialists provide individual coaching on the ZERO TO THREE Critical Competencies. In Texas, the competencies are intended to be a PD resource that early childhood coaches, specialists, administrators, and center directors can draw upon when implementing continuous quality improvement cycles. For example, through one of the state's quality improvement initiatives, coaches complete an observational assessment using the Competency Observation Tool (described further in Chapter VII).[7] The coaches, in collaboration with the teachers and

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[6] These learning communities are offered through the Focused Child Care Networks. The networks provide a two-year opportunity for early childhood educators across settings and program types to meet both as a group and individually with an I/T specialist to foster their PD.

[7] These coaches are part of Texas School Ready, a quality improvement initiative that offers a range of PD supports for teachers and caregivers of children ages birth to 5.

caregivers, use the observational results to develop individualized action plans that include competency-based practice opportunities. Teachers and caregivers also submit video recordings of themselves to their coaches and receive feedback on their demonstration of competencies through individualized coaching reports.

E.   How are competencies integrated into the higher education system?

The states have tried to integrate their competency frameworks into the higher education system through (1) efforts to align coursework with the competencies so that courses can count within the state's early childhood PD system; and (2) articulation agreements, in which participation in training on the competencies can also earn college credits or, college coursework can count toward earning a credential.

Three states support efforts to integrate the competencies into the higher education system through alignment of college coursework. In some of these states, frameworks have also spurred development of additional coursework to cover any competencies not previously addressed. In California, there was an initiative to create a set of foundational early childhood course outlines to enhance consistency in such courses across colleges and universities and facilitate course credit transfers among them.[8] When the California Early Childhood Educator Competencies were published, the initiative used a mapping tool to ensure the original course outlines developed through the project were aligned to the competencies. From those analyses, the project determined that competencies related to I/T development, care, and education; program administration; and caring for and educating children with special needs were insufficiently covered by the original course outlines. Thus, the project developed seven more course outlines that focused on those competencies. The state does not require participation in this initiative, but 104 institutions of higher education have agreed to participate; of these institutions, 95 have aligned their courses to the competency framework.[9] There is a formal review and approval process for determining alignment that requires these institutions to submit documentation showing how their courses align with recommended course outlines. In addition to the mapping tool, worksheets and technical assistance are provided to support institutions through the alignment process.

Each year, Oregon reviews the curricula of its community colleges and identifies the Core Knowledge Categories and Standards covered by each course. A guide to courses by core knowledge category is posted on the state PD registry website.[10] Oregon plans to integrate the NAEYC Competencies into the higher education system using the same approach it used with the Core Knowledge Categories and Standards. Some institutions of higher education have already started incorporating the NAEYC Competencies into their coursework in anticipation of the transition from the Core Knowledge Categories and Standards.

Texas does not track the higher education system's use of the competencies, but the framework is available to institutions of higher education, along with a user's guide to support implementation of the

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[8] The Curriculum Alignment Project is a group of early care and education two- and four-year college faculty working to create streamlined pathways to early childhood education degrees by aligning coursework across the state's colleges and universities.

[9] Child Development Training Consortium. "The Curriculum Alignment Project." n.d. Available at https://www.childdevelopment.org/higher-ed-faculty/curriculum-alignment-project. Accessed January 28, 2023.

[10] Oregon Center for Career Development in Childhood Care and Education at Portland State University. "Community College Courses at CKC Crosswalk 2022-2023." n.d. Available at https://docs.google.com/spreadsheets/d/1vh8l9SODNO5F_HNaHQvDfMDIf3umHtWe1DlP60jhLoI/edit?usp=sharing. Accessed January 28, 2023.

competencies within college courses.[11] Anecdotal reports from study participants suggest that faculty use the competency resource materials to bring practice-based content into their courses or practicum supervision routines.

In two of the states where the competencies are linked to a credential, there are more formal agreements in place to connect higher education coursework to credential requirements. In Maine, coursework explicitly aligned with the competencies is not available through higher education institutions; however, teachers and caregivers can receive college credits for trainings required for the credential. The state's early childhood PD network has established articulation agreements with many of the state's institutions of higher education. These agreements allow teachers and caregivers to get six to nine credits (varying by institution) for participating in trainings that count toward meeting credential requirements. Each institution determines its own articulation requirements and negotiates an individual agreement with the network. For example, the University of Southern Maine has an agreement with the network to count the credential as a "prior learning credit," granting six non-graded hours of elective credit to a teacher or caregiver with the credential. In Illinois, institutions of higher education must apply to become approved institutions by demonstrating that they have aligned their coursework with credential requirements. Institutions must be approved to have their courses count toward a credential.

Both Maine and Illinois have plans to further expand connections between higher education courses and credential requirements. In addition to the agreements to allow a credential to count toward higher education credits, Maine's PD network is in the process of developing exemption agreements that would allow an individual with a bachelor's degree in early childhood education (or related field) to count a higher education course (or series of courses) as equivalent to the 30-hour Infant/Toddler Maine Early Learning and Development Standards (MELDS) training. This training addresses some of the competencies in the framework and is one of the six required trainings for the Maine Infant Toddler Credential. Higher education coursework exemptions exist for the preschool MELDS training. However, until recently there had not been enough coursework specific to I/T care to meet the exemption requirements for the I/T MELDS training. The network is now collaborating with higher education institutions to determine the specific courses at each institution that are intensive enough to count as equivalent to the I/T MELDS training.

Illinois plans to expand access to education on the competencies through a modularization project that will allow higher education courses to be more accessible to teachers and caregivers. The state is designing course modules for each competency. Each module includes a curriculum, a summative assessment, resources, and a formative assessment. The modules will allow a student to take a six-week virtual course focused on one competency rather than attend an in-person semester-long course that covers multiple competencies. By creating a module for each competency, the state is simplifying the credential attainment process and reducing the likelihood of students attending courses covering competencies they may have already covered through other trainings or courses. The modularization project also considers students' prior learning by allowing them to get automatic credit for the module without taking the course if they successfully complete a module's summative assessment. The project also offers advantages for institutions of higher education that adopt the competency-based modules because they would not have to invest in aligning their existing courses to the competencies to become

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[11] CLI Engage. "CIRCLE Infant & Toddler Teacher Competencies Implementation Guide." n.d. Available at https://public.cliengage.org/training/support/how-to-guides/circle-infant-and-toddler-implementation-guide/. Accessed January 28, 2023.

entitled institutions, thus simplifying the process of becoming an entitled institution. The state intends to release the modules in January 2023.

F. What are key lessons related to providing education and training on the competencies?
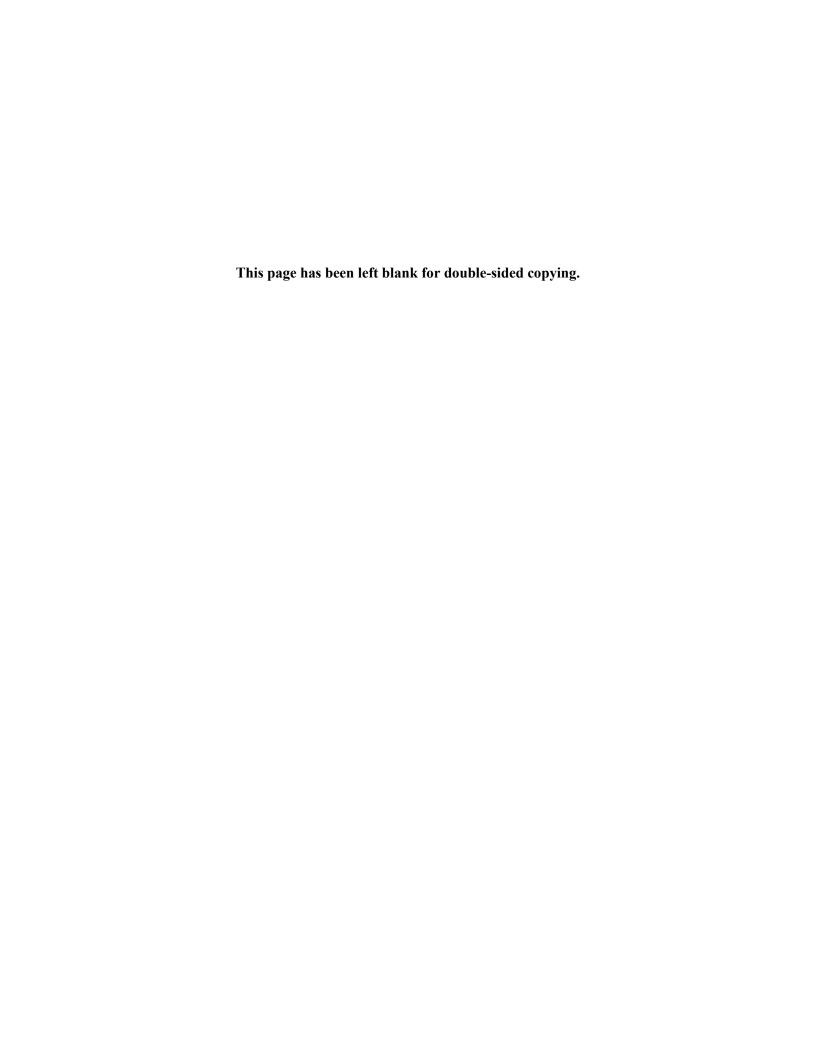
Education and training on the competencies need to have manageable content. Because competency frameworks tend to cover a broad range of competencies, study participants emphasized the need to break down trainings into manageable chunks so as not to be too overwhelming. Teachers and caregivers otherwise may be discouraged by the amount of time or resources needed to participate. Providing ways for teachers and caregivers to focus on training or education for specific competencies can help promote participation by allowing them to make incremental progress with a less intensive time commitment. Illinois's effort to create separate, shorter modules for each of the 54 competencies in its framework is an example of this approach.

Offering education and training in multiple modes and formats can help promote broader access. To maximize participation, states have employed combinations of in-person and virtual offerings. They have also offered a mix of self-paced, on-demand options alongside live sessions. Study participants indicated that virtual, on-demand options offer some benefits in convenience and accessibility for geographically isolated areas; however, these benefits must be balanced against challenges regarding limitations in technological capacity and preferences for in-person opportunities. Study participants also noted that videos are especially useful tools for seeing a competency being demonstrated and facilitating discussion about how it might look in various classrooms.

Coaching and opportunities for peer learning are valuable ways of reinforcing education and training on competencies. Competency-based training and education promotes a shared language and understanding of essential knowledge and skills for teachers and caregivers. However, study participants noted that coaches and technical assistance providers play an important role in further assessing whether material from the trainings is being internalized because they have the opportunity to engage individually with teachers or caregivers and observe their practice. Opportunities for peer learning, such as those provided through professional learning communities, are also valuable. Study participants noted it can be particularly helpful for teachers and caregivers to reflect with their peers about how their learnings about competencies can be applied in their day-to-day work.

Establishing robust partnerships with institutions of higher education can help support use of competency frameworks. Institutions of higher education are key partners in promoting the use of competency frameworks. The extent of partnership varies, but study participants across states acknowledged efforts to involve these institutions, given their role in providing both pre-service and in-service education on competencies. Doing so helps improve consistency in requirements, increases the number of institutions that offer competency-based education, and opens up additional pathways to the higher education system for the I/T workforce that has historically faced barriers to pursuing degrees or credentials.

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V. How are the competency frameworks integrated into states' early care and education systems?

Competency frameworks can achieve the goals for which they were developed only if they are actively used by teachers and caregivers, programs, education and training providers, and ECE system partners. Active use is necessary to lead to and reinforce improvements in teacher and caregiver KSAs. Integrating competency frameworks throughout early childhood systems, including licensing, workforce development initiatives, and QRIS, is one way to incentivize active use.

In this chapter, we discuss the extent to which the five states in our case studies have integrated the competency frameworks into their ECE systems. Table V.1 provides an overview of this integration into the state systems. Specifically, we explore the following:

- How have states incorporated competency frameworks into state licensing decisions and requirements?
- How have states incorporated competency frameworks into their credentialing systems and career lattices?
- How have states incorporated competency frameworks into their QRIS standards and procedures?
- How do states coordinate integration of competency frameworks throughout their ECE systems?
- What are key lessons related to integrating competency frameworks into ECE systems?

We did not find substantial differences in *how* competency frameworks specifically for I/T teachers and caregivers are integrated into ECE systems compared to broader early childhood frameworks. In both cases, the integration is represented in competency-based requirements in other parts of the ECE system. It is worth noting, however, that I/T frameworks tend to be treated as a specialization, building on ECE competencies. This approach is reflected in some states in the way a competency-based I/T credential builds off an ECE credential, or in how I/T competencies are represented at higher levels of a state career lattice. The integration approaches also do not tend to vary based on type of provider/setting, perhaps because across states, the competency frameworks are meant to apply to FCC providers as well as teachers and caregivers working in center-based settings.

Table V.1. Integration of competency frameworks into state ECE systems

	California	Illinois	Maine	Oregon	Texas
Linked to licensing?	No	Yes; a teacher or caregiver with a Gateways to Opportunity Early Childhood Educator or I/T Credential can automatically meet the supplemental training requirements for programs serving children receiving subsidies.	No; however, there are some common trainings.	Yes; licensing requires teacher or caregiver training on eight CKCs. Training on ZTT Critical Competencies can partially fulfill this requirement.	No; but there are some common trainings.
Linked to credential?	No	Yes; the competency framework is embedded within the Gateways I/T Credential.	Yes; the competency framework is embedded within the Maine I/T Credential.	Yes; the CKCs are integrated into the requirements for the Oregon Registry I/T Professional Credential.	No; however, a micro-credentialing process for coaches, teachers, and caregivers is under development.
Linked to career lattice?	No	Yes; the I/T Credential is integrated into the Gateways ECE career lattice.	Yes; the career lattice has eight levels based on a teacher's or caregiver's education, experience, and completed trainings. Obtaining the Maine I/T Credential places a teacher or caregiver at Level 3.	Yes; the CKCs are linked to the Oregon Registry Steps, the state's career lattice. There are 12 levels; each level requires a certain number of training hours across the CKCs.	No
Linked to QRIS standards?	No	Yes; QRIS standards refer to career lattice levels, which in turn refer to the framework.	Yes; QRIS standards refer to career lattice levels, which in turn refer to the framework.	Yes; QRIS standards refer to career lattice levels, which in turn refer to the CKCs framework.	No; however, efforts are underway to integrate the competencies into a collection of PD resources for use in quality improvement efforts.

QRIS = quality rating and improvement system, ECE= early care and education, CKCs = Core Knowledge Categories, I/T = infant/toddler; PD = professional development.

A. How have states incorporated competency frameworks into state licensing decisions and requirements?

One way that states can regulate qualifications for teachers and caregivers is through licensing standards. State licensing standards include requirements for training and education of teaching staff and FCC providers. Thus, it is useful to examine whether and how these requirements use or refer to competency frameworks.

Training or education on the competencies typically are not required as part of licensing standards. Of the five states in the multicase study, Oregon is the only one whose licensing requirements explicitly identify required competencies; teachers and caregivers working in licensed programs are required to have at least eight hours of training in any of eight Core Knowledge Categories (CKCs) domains. Completion of training on the ZERO TO THREE Critical Competencies can also be used to satisfy some of the training required for licensing.

Although training on competencies typically is not specified in licensing requirements, trainings or courses on some competencies allow a teacher or caregiver to meet licensing requirements. Competency frameworks typically cover a wider range of KSAs than state licensing standards require. However, for some overlapping topics, training or courses aligned with competencies can also meet licensing requirements. In Maine, Illinois, and Texas, competency trainings related to health and safety can count toward meeting licensing requirements. In Texas, some courses aligned with both the CIRCLE Infant & Toddler Teacher Competencies and the Texas Core Competencies can also fulfill licensing requirements for continuing education in child development and management. In Maine, all I/T teachers and caregivers in licensed programs must take the I/T Maine Early Learning Development Standards training, which is also required to obtain the credential linked to the competency framework.

B. How have states incorporated competency frameworks into their credentialing systems and career lattices?

States typically have a range of initiatives in place to promote the PD of the early childhood workforce. These initiatives include credentialing systems and career lattices. Career lattices describe how teachers and caregivers can progress through levels in their careers, depending on their experience, training, and education.[12] In some states, career lattices also describe corresponding pay scales or bonuses. Linking competency frameworks to credentials and career lattices can help promote their awareness and use. The states in our case studies have taken different approaches to making these linkages.

Three states' competency frameworks are linked to a state I/T credential and career lattice. In Maine, the levels of the state career lattice are based on a teacher's or caregiver's education level, experience, and completed trainings. Obtaining the competency-based Maine Infant Toddler Credential can move a teacher or caregiver up the career lattice from a Level 1 to Level 3 (out of eight levels). The credential was designed to support the PD of I/T teachers and caregivers across settings by providing a path for them to move up the state's career lattice without requiring college credit.

Illinois's competency framework is embedded in the state I/T credential, which has six proficiency levels. The proficiency levels within the credential represent equivalent levels on the state career lattice. Each

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[12] Career lattices are also sometimes called career pathways. States use different terms to refer to sections of career lattices; for example, levels or steps. For simplicity, we use the term "levels" across states.

level of the credential requires combinations of education, experience, and training. The levels map to general employment roles in an I/T setting.

In Oregon, the competency framework is integrated into the requirements for both the state I/T credential and career lattice; however, there is no explicit connection between the two. Earning a state credential does not directly increase a teacher's or caregiver's level on the career lattice. Nevertheless, participating in training or education on the CKCs can help a teacher or caregiver make progress on the career lattice and toward obtaining a state I/T credential. The framework's proficiency levels, which refer to levels of training intensity (1 = introduction, 2 = intermediate, or 3 = advanced), are tied to the career lattice. Each level on the career lattice requires a certain number of hours at a certain proficiency level across the CKCs. For example, Level 6 on the career lattice requires completing at least (1) nine college credits in two CKCs, including three credits in the human growth and development or understanding and guiding behavior CKCs, or (2) 90 hours of training or education, including eight hours in human growth and development, eight hours in understanding and guiding behavior, and eight hours in six other CKCs. Level 8 requires that 60 percent of training hours be Level 2 or 3 trainings. There are no specific career lattice requirements for I/T teachers and caregivers; however, the state is considering creating an I/T pathway which would, for example, allow teachers and caregivers to use training on the ZERO TO THREE Critical Competencies to advance on the career lattice.

States provide supports and incentives to encourage teachers and caregivers to pursue credentials or higher levels on the career lattice. In Maine, several incentives and benefits are associated with pursuing the credential. Teachers and caregivers can receive support toward obtaining the credential through participation in a credential cohort, involving group meetings and one-on-one coaching, and can receive a one-time bonus of $500 plus reimbursement for trainings for earning a credential. Obtaining a credential places a teacher or caregiver at a Level 3 (of eight) on the career lattice. Progression up the career lattice does not necessarily come with specific bonuses or salary increases.[13] EHS teachers can use the credential to meet Head Start's education requirements for an EHS teacher position.

Illinois also currently offers several incentives connected to its credentials. Scholarships are available to pay a percentage of tuition and fees. Since 2020, the state has waived the $65 credential application fee, resulting in a 300 percent increase in credential applications in the first few months following the waiver (across all credentials). Recently, the credentials also were added to the state's wage supplement program, which offers financial rewards to teachers and caregivers who increase their education for every six months they remain at their current place of employment.

In Oregon, there are currently no concrete incentives to earn the credential. In the past, small monetary incentives were offered for progressing through the levels on the career lattice, to which the competencies are also tied. For example, teachers and caregivers could get $100 for achieving Levels 3 through 6, $150 for attaining Level 7 or 8, and $200 for achieving a Level 9 or above. Study participants noted that the lack of incentives may be part of the reason the credential is not widely pursued. The state is currently working to identify funding to offer incentives as it has in the past.

Two states' competency frameworks are not currently linked to either a credential or career lattice. In Texas, the CIRCLE Infant & Toddler Teacher Competencies framework is not currently linked to a credential or career lattice, but the state is in the process of developing a micro-credentialing system, in

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[13] Maine does not provide incentives for teachers or caregivers to move up the career lattice, but programs have an incentive to support them in attaining higher levels because they need more staff at higher levels in the career lattice to earn a higher QRIS rating.

which teachers and caregivers will be able to earn a "badge" for each competency demonstrated. When they receive all badges within a certain area, they earn a micro-credential. Receiving every micro-credential leads to an early childhood certification. Texas is also working to integrate the CIRCLE Infant & Toddler Teacher Competencies and the micro-credentialing system into the state PD system to enable statewide recognition for demonstrating the competencies.

In California, the competencies are not tied to any credentials or career lattices. The state had initially envisioned integrating the competencies into the state's process for granting licenses for staff to serve in state-subsidized child care programs. However, it determined that the competency framework was too complex and comprehensive to link to the licenses, given the number of competencies (185 across 12 domains) and the broad audience for which the framework was developed, including early childhood educators and individuals responsible for their PD, such as higher education faculty and training organizations.

C. How have states incorporated competency frameworks into their QRIS standards and procedures?

States promote quality in ECE programs through QRIS; QRIS standards sometimes include benchmarks for staff qualifications, training, and education. States have integrated their competency frameworks into their QRIS standards and procedures in various ways.

In three states, the competency frameworks are directly referenced in QRIS standards through their linkages to credentials or career lattices. Programs in these states have an incentive to encourage teachers and caregivers to advance up the career lattice because they need an increasing number of staff at particular levels on the lattice to receive a higher QRIS rating.

In Illinois, programs seeking a higher QRIS rating must have a certain percentage of staff at particular levels of the credential. For example, for a center or FCC program to achieve the highest rating, at least 40 percent of teaching staff in I/T classrooms must be at Level 3 of the state I/T credential.

In Oregon and Maine, QRIS standards require programs to have a certain percentage of staff at particular levels on the states' career lattices, and movement up the lattice is dependent on training and education in specific competencies or competency domains. In Oregon, for example, to go from a Level 3 to a Level 4 in the QRIS, a program leader must progress from a Level 8 to a Level 9 on the state career lattice, which requires completing 30 hours of training or college credit in the program management CKC. For center-based programs, half of its teachers must also achieve a Level 8 or above on the career lattice. Oregon also plans to integrate the ZERO TO THREE and NAEYC competencies it uses into the state QRIS, although it has not yet determined how this integration will occur.

In Maine, draft standards for the state QRIS indicate that programs seeking a higher rating will be required to have a certain percentage of staff at particular levels on the state career lattice. For example, to earn a Level 3 QRIS rating, at least 25 percent of staff working 20 or more hours per week must be at a Level 3 or above on the career lattice. To earn the highest QRIS rating, at least 50 percent of staff must have at least a Level 4 on the career lattice.[14]

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[14] Maine Roads to Quality Professional Development Network and the Maine Department of Health and Human Services, Office of Child and Family Services. "Rising Stars for Maine: Pilot Report." Maine Roads to Quality Professional Development Network and the Maine Department of Health and Human Services, Office of Child and

In Texas, the competency framework is being used in quality improvement supports provided through the QRIS. Texas is in the process of incorporating its competency framework into its QRIS. The framework will be used as a PD resource for improving QRIS ratings, rather than referenced directly in standards. The state is partnering with the Texas Workforce Commission, which administers the state's QRIS, to integrate the CIRCLE Infant & Toddler Teacher Competencies into its online compilation of local, state, and national PD resources, which QRIS staff can use to help early child care and education providers improve their ratings.

D. How do states coordinate integration of the competency frameworks throughout their ECE systems?

There are different mechanisms for and levels of coordination between state ECE system partners related to the use of competency frameworks in the states. The mechanisms and levels of coordination depend on the structure of the overall system and the role of the organization overseeing implementation of the framework in each state. As Table V.2 shows, in some states, the organization(s) overseeing implementation of the competency framework also oversees other parts of the ECE system.

Organizations overseeing implementation of the competency frameworks in each state take a lead role in coordinating with partners on the status of the framework and areas for improvement. In states where the organization that oversees implementation is also involved in other parts of the state's ECE systems, the shared infrastructure can facilitate communication and integration. Coordination efforts typically involve regular meetings to discuss a range of topics, including how the frameworks are being used, how to promote better alignment across the system, and identifying needs and challenges. Meetings are also typically a venue for information sharing about framework features and associated trainings. Early childhood advisory councils also play a key role in coordination efforts in some states. These councils typically comprise representatives of the different organizations involved in the state ECE system and provide a natural venue for discussions about integration.

Family Services, September 2020. https://www.maine.gov/dhhs/sites/maine.gov.dhhs/files/inline-files/Rising%20Stars%20for%20ME%20Pilot%20Report%20-%20FINAL%209.25.20.pdf

Table V.2. Agencies and organizations involved in state ECE systems

	California	Illinois	Maine	Oregon	Texas
Competency framework oversight agency/organization	California Department of Social Services (CA DSS)	Illinois Department of Human Services (IDHS); Illinois Network of Child Care Resource and Referral Agencies (INCCRRA)	Maine Department of Health and Human Services (ME DHHS); Maine Roads to Quality Professional Development Network (MRTQ)	Oregon Department of Education, Early Learning Division; Oregon Center for Career Development in Childhood Care and Education - Portland State University (OCCD)	Children's Learning Institute, University of Texas Health Science Center at Houston (CLI)
Licensing agency	CA DSS	IDHS	ME DHHS	Oregon Department of Human Services	Texas Health and Human Services
Credentialing agency/organization	None	INCCRRA	MRTQ	OCCD	None
Career lattice agency/organization	None	INCCRRA	MRTQ	OCCD	Texas Workforce Commission (TWC); Texas Head Start State Collaboration Office; CLI
QRIS agency/organization	First 5 California	INCCRRA	ME DHHS and MRTQ	Center on Early Learning and Youth Development of The Research Institute at Western Oregon University	TWC; CLI

E.   What are key lessons related to integrating competency frameworks into ECE systems?

Integration of competency frameworks into ECE systems requires coordination and collaboration among system partners. Competency frameworks can provide a foundation for alignment of requirements throughout ECE systems. Study participants noted how helpful it can be when training on competencies can also meet the training requirements for other parts of the ECE system—for example, when a particular training can help a teacher or caregiver meet requirements for licensing but also help them work toward a credential. This approach can ease the burden for teachers and caregivers by allowing them to meet multiple requirements with one training. It can also promote efficiencies for system partners that may have fewer requirements to review or enable them to abbreviate their review process. This type of alignment requires coordination and collaboration, both initially and in an ongoing manner, so system partners have a shared understanding of the competencies. Study participants noted that state administrative leadership and advocacy can help with integration by bringing system partners together

through early childhood advisory councils or children's cabinets, and providing financial support for coordination and collaboration.

Integration can promote the use of competency frameworks by providing incentives for teachers and caregivers to pursue training and education on competencies. Study participants noted the tension in asking I/T teachers and caregivers, who receive low levels of compensation and already bear a substantial burden of responsibilities, to participate in more training and continually advance their skills. Linking competency frameworks to career pathways and credentials, which can provide financial rewards and recognition, may encourage more teachers and caregivers to engage with a framework. Similarly, linking competency frameworks to QRIS requirements can spur more programs to support teachers and caregivers in pursuing training and education on competencies.

VI. How do programs, teachers, and caregivers use competency frameworks?

States use competency frameworks in different ways to support the PD of I/T teachers and caregivers. This chapter describes how programs use the frameworks to support and guide their own staff. Specifically, we examine the following:

- How do programs learn about the competency frameworks?

- How do programs use competency frameworks for planning training and PD for staff?

- How do programs use competency frameworks for hiring, compensation, or promotions?

- How do programs use competency frameworks in teaching or caring for infants and toddlers, or working with families?

- What are key lessons related to programs' use of competency frameworks?

We interviewed program staff in three states—Illinois, Maine, and Texas. Across states, programs included EHS centers, community-based centers, and FCC providers. Table VI.1 shows the number of interviews we conducted by state and program type; these interviews are the primary source of data for this chapter. Program leader interviews included center directors, FCC owners, an education coach, a site director, and a program coordinator. We conducted teacher interviews with teachers working in center-based settings. In each interview (lasting 30 to 60 minutes), we asked respondents about their experiences with and impressions of competency frameworks.

To provide additional context for our findings, we also draw on information from I/T specialists (two in California, two in Maine, two in Oregon, and three in Texas) who shared insights based on their direct experience in working with teachers and caregivers.

Table VI.1. Number of interviews completed with program staff, by state

	Program leader interviews completed [a]				Teacher interviews completed		
State	Community-based centers	Early Head Start	Total	FCC provider interviews completed	Community-based centers	Early Head Start	Total
Illinois	3	1	**4**	4	1	0	**1**
Maine	3	2	**5**	3	1	1	**2**
Texas	1	0	**1**	0	1	0	**1**
Total	**7**	**3**	**10**	**7**	**3**	**1**	**4**

[a] Program leaders include center or site directors, education coaches, and program coordinators.

We were not able to describe systematic differences by program type or by state because the sample of programs was purposively selected and small. There are various reasons why we might expect such differences. Although all of the programs from which we drew interviewees are in states with an actively implemented competency framework, the states vary in their approaches to implementation. For example, the education and training available on the competencies vary by state (see Chapter IV) and the extent to which competency frameworks are integrated into other parts of state ECE systems also varies (see Chapter V). There may also be differences in how different types of providers (for example, community-

based centers versus EHS programs) use or engage with competency frameworks in their states. Throughout this chapter, in describing comments from program staff, we note their state or type of program to provide context for interpreting findings from the interviews.

A. How do programs learn about the competency frameworks?

Across states and types of programs, many of the program staff with whom we spoke reported receiving information related to the competency frameworks from state organizations via newsletters or flyers. They also accessed information from the websites of those organizations. Program leaders then shared information with their staff through periodic staff meetings or in PD meetings with colleagues, peers, and coaches.

Although many of the program staff with whom we spoke acknowledged receiving some information about competency frameworks in their state, several noted that information was not always sufficient or clear. One FCC provider in Maine and another in Illinois mentioned it was not easy to access supports for training or ask questions about materials. One EHS center leader in Maine indicated that they do not receive enough information about the competency framework, although they receive more information about the Child Development Associate® credential. One center leader in Texas said that information related to the competency framework is not consistently clear and concise. I/T specialists in Oregon and Maine said it also is a challenge that some materials are not available in multiple languages.

B. How do programs use competency frameworks for planning training and professional development for staff?

Most of the program leaders with whom we spoke in community-based centers or EHS indicated that the competency frameworks factor into their planning of PD for their staff. Program leaders with whom we spoke in Maine, Illinois, and Texas noted that specific PD plans for program staff tend to be based on areas in which an individual staff person wants to grow or areas in which all staff at a center need assistance. Competency frameworks can be helpful in identifying which PD opportunities will help staff gain essential skills for working with infants and toddlers, who have unique needs. The frameworks are also helpful for sorting out which opportunities can help staff meet state training requirements and build toward a credential.

One program leader described how they use the competency framework as a resource for discussion during supervision meetings to think as a team about what training is needed for teachers. Some program leaders mentioned they may also suggest trainings based on what they have seen the teacher needs to improve during classroom observations. However, none of the program leaders discussed using assessment tools specifically related to the competency frameworks for these observations.

FCC providers were more varied in their use of competency frameworks for PD planning. A few of the FCC providers with whom we spoke sought out training opportunities related to the competency frameworks to help them obtain a credential, but use of the frameworks was not a factor for other FCC providers. Two providers cited specific reasons for not using the competency frameworks to plan their PD. One Illinois FCC provider mentioned that there is no incentive, because achieving a credential level does not directly increase pay. One Maine FCC provider did not think that the trainings connected to the competency framework addressed their setting's specific needs (for example, trainings about outdoor learning).

C. How do programs use competency frameworks for hiring, compensation, or promotions?

Some program leaders indicated that competency frameworks can be useful in making decisions about hiring. A selection of program leaders from community-based and EHS centers indicated that credentials can be helpful in differentiating applicants for teaching positions—because earning the credential requires a significant investment of time, those job applicants who hold a credential may have a stronger commitment to the field. Beyond credentials, some program leaders in Maine and Illinois also noted that it is helpful to have information about job applicants' competencies, which they are able to access through individual profiles available through the state PD system. The profiles include information about teachers' and caregivers' education, credentials, and training histories.

FCC providers said they are less likely to consider credentials or competencies in hiring additional staff, in part because they are less likely to have additional staff. However, one FCC provider in Illinois noted that they mention trainings in competencies related to health and safety and engagement and relationships with families and the community in job listings. They noted it is helpful to know what training or education job applicants have as an indicator of how they might interact with the children.

Competency-based credentials can also affect compensation in community-based and EHS centers. Several community-based and EHS center leaders in both Illinois and Maine acknowledged that staff who obtain an I/T credential receive an increase in pay. Working toward a credential by getting trainings on certain competencies can also factor into positive ratings on staff performance reviews but typically does not affect compensation. One center noted that pay raises are tied to tenure rather than competencies or credentials. Most FCC providers with whom we spoke do not tie compensation or promotion decisions to competencies or credentials. One FCC provider in Illinois said they provide small financial incentives or pay raises for staff working toward an I/T credential. The same provider mentioned plans to base promotions on mastery or demonstration of competencies related to the interaction relationships and environments, personal and professional development, and the family and community relationships topics. They planned to assess staff on these competencies by holding team meetings every 90 days to look at progress, identify what goals have been achieved, and determine what still needs to be completed.

D. How do programs use competency frameworks in teaching or caring for infants and toddlers, or working with families?

Competency frameworks help teachers and caregivers in planning lessons and activities. In particular, the competency frameworks provide guidance about developmental milestones for infants and toddlers, and what teachers and caregivers can do to help achieve those milestones. All of the program leaders that indicated their staff use the framework for planning indicated that the competency domains they typically reference are those related to child development, noting that the frameworks help program staff attend to multiple aspects of child development. In addition to competencies related to supporting different aspects of child development, several programs noted that competencies related to teacher-child engagement and safety are also very important, particularly in teaching and caring for infants and toddlers. A few teachers also noted that the competency frameworks provide suggestions for solving problems in their classrooms, tips for creating "safe and loving" environments, and information to help them connect with families. One teacher from a center in Maine added that although the trainings related to the competency frameworks do not provide step-by-step solutions, she has gathered suggestions for how to solve problems in the classroom, which is helpful because "each day at a center is different."

Another teacher from an EHS center in Maine added that their trainings have also helped them reflect on how they could have responded to challenging behaviors previously encountered in their classroom.

The frameworks also help program staff support individual children. Teachers and caregivers also use competency frameworks and accompanying resources to monitor an individual child's progress on developmental milestones. Staff from one center in Maine described how, based on the courses taken for the I/T Credential, they developed a checklist to help track each child's progress on each developmental domain, which in turn helped them set goals for each child. Staff from a center in Illinois also noted that the framework helps provide accessible language for teachers when talking to families about age-appropriate activities and expectations for each child—for example, seeing a baby grab a bottle from a teacher's hand as an indicator of motor and cognitive development. Staff from a center in Texas described how the competency framework provides tips for working with children who have developmental delays.

E. What are key lessons related to programs' use of competency frameworks?

Across states, broader challenges related to hiring, staffing, and compensation can overshadow PD initiatives, including competency-based efforts. One center leader in Illinois noted that some programs are hesitant to include or require a credential in their job postings because of concerns there are not enough teachers or caregivers who meet that criterion. Many respondents noted how challenging it is to find the time to complete PD requirements and trainings—centers are understaffed, and it can be hard to find someone to cover classrooms while teachers participate in a course. Costs can also be a major factor in making PD decisions for staff, thus affecting participation in trainings and supports related to competency frameworks. Although some program staff reported receiving financial support for participating in trainings, many program leaders noted that the programs often had to cover the costs. Some FCC providers indicated they used some personal funds to pay for PD.

Competency frameworks can be helpful for planning and prioritizing PD opportunities for staff. Across states and different types of programs, program staff acknowledged that PD and training is important but finding time to fulfill all of the requirements is challenging, given competing demands. In many states, program staff are required to participate in a broad range of trainings, not just those related to the competency frameworks. For this reason, it can be hard to determine which trainings to prioritize. Competency frameworks can help programs match PD opportunities to the needs of staff. The progression of competencies that frameworks identify help program leaders prioritize training on competencies that are foundational for building knowledge and skills over time. Program leaders, teachers, and caregivers also appreciate being able to more easily identify which PD opportunities can lead to a credential.

Although program staff see value in the competency frameworks, they acknowledged that the content and process can be overwhelming. Program staff noted that because the competency frameworks are comprehensive and cover an impressive amount of detail, they were a helpful resource. However, the complexity of the frameworks can also make it challenging for program staff to fully engage with the content. One center director said there seemed to be a disconnect between the amount of time and resources invested in developing the frameworks and efforts made to get the resources into the hands of teachers and caregivers. Some suggestions for making the competency frameworks more accessible included providing trainings and supports for program leaders to help their staff navigate the materials and processes. Another suggestion was to provide more opportunities for teachers and caregivers to connect with others who have used them previously to demystify the process and hear more about the potential benefits.

VII. How are teachers' and caregivers' competencies assessed, and for what purpose?

Assessment of competencies can help support ongoing improvement in teachers' and caregivers' practice, and inform improvements at the broader program and system levels. For example, teachers and caregivers can use assessment results to inform self-improvement efforts. Assessments also provide a way for technical assistance providers to determine what competencies teachers or caregivers have demonstrated and identify supports to further their PD. State ECE systems can use assessment findings to gauge the overall qualifications of the workforce and identify their needs. We use the term "assessment" to refer to any activity related to a competency framework that tests or measures a teacher's or caregiver's KSAs.

In this chapter, we will describe how and for what purpose teachers' and caregivers' competencies are assessed in the five states in our case studies. Table VII.I provides an overview of the states' approaches to assessment. Specifically, we describe the following:

- How do teachers, caregivers, and programs use competency-based assessments?
- How do PD providers use competency-based assessments?
- How do state ECE systems use competency-based assessments?
- What are key lessons related to assessing teachers' and caregivers' competencies?

Table VII.1. States' approaches to assessment of competencies

	California	Illinois	Maine	Oregon	Texas
Assessments conducted by teachers, caregivers, or programs	Yes; there is a self-assessment toolkit available, but no information on extent of use	No	No	Yes; the ZTT Critical Competencies framework has a corresponding reflection tool, but no information on extent of use	No
Assessments conducted by education, training, and technical assistance providers	No	Yes; higher education institutions and approved trainers are required to conduct an assessment that is also used cumulatively for credential award	No; completion and fulfillment of coursework and training is largely based on attendance	No; completion and fulfillment of coursework and training is largely based on attendance	Yes; coaches conduct observational assessments to help formulate education and training goals
Assessments conducted by ECE system partners	No	No, but the assessments used by higher education institutions and approved trainers are used cumulatively for credential award	Yes; summative assessment for credential award includes a portfolio, observation, and family survey	Yes; summative assessment for credential award includes a portfolio and observation	No

ECE = early care and education; ZTT = ZERO TO THREE.

A.   How do teachers, caregivers, and programs use competency-based assessments?

Across the states in our case studies, use of competency-based assessments by teachers, caregivers, and programs is limited. Two states—California and Oregon—use competency frameworks that have accompanying self-assessment tools, which teachers and caregivers can use to assess their own KSAs and determine their education and training needs; however, neither state was able to provide information about whether and to what extent teachers and caregivers in their states use these self-assessment tools.

California commissioned development of the Competencies-based Self-Assessment Toolkit (CompSAT) that teachers and caregivers could use to assess their PD needs based on the California Early Childhood Educator Competencies. CompSAT provided multimedia tools through its online website that helped users explore each competency. For example, it included self-assessment and portfolio-building tools for teachers and caregivers to assess the extent to which they had achieved each of the competencies. As of March 2022, the CompSAT website is unavailable, although the state is considering relaunching it. The ZERO TO THREE Critical Competencies framework used in Oregon has a corresponding reflection tool that teachers and caregivers can use to informally assess their own progress toward achieving the competencies; however, study participants were unsure whether or how the tool was being used by Oregon teachers and caregivers.

B.   How do PD providers use competency-based assessments?

Training and education providers use assessments to gauge teachers' and caregivers' understanding and internalization of the competencies being covered in a course or training. Technical assistance providers use assessments to support teachers' and caregivers' continuous quality improvement efforts.

Education and training providers in one state use assessments to verify that teachers or caregivers have achieved specific competencies. Illinois requires that higher education institutions and trainers that offer competency-based courses or trainings assess whether teachers and caregivers have achieved the competencies covered in a particular course or training. The state provides a toolbox of various resources and sample assessments faculty and trainers can use to assess each of the competencies.[15] The resources include sample assessments organized by competency domain. Potential assessments include writing assignments, interviews, and observations. For example, one document within the toolbox lists which competencies could be assessed by a teacher's or caregiver's reflection on an observation conducted on a child. It provides a description of the assessment and directions on how to conduct it. The resources also include a ratings rubric that identifies criteria for providing an assessment rating of "distinguished," "competent," "developing," or "unsatisfactory." There are also assessment rubrics that education and training providers can use to create their own assessments. The state's PD contractor has a review team that examines proposed assessments (typically written assignments) to ensure the rigor of the assignments used to assess the competencies and the number of competencies being assessed per course or training. The assessment resources the state provides were developed with input from a group of academic experts tasked with reviewing existing assessments, developing new rubrics as necessary, and providing input about needed refinements more broadly.

Other states do not require education and training providers to directly assess teachers' and caregivers' learning. Neither Maine nor Oregon requires direct assessment of individual competencies. Instead, credit is based solely on attendance. For example, in Oregon, teachers and caregivers submit their

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[15] These resources are available as part of the Gateways Infant Toddler Credential Toolbox, which can be accessed at ITC Toolbox - Gateways to Opportunity (ilgateways.com).

training or course transcripts to the state's early childhood PD registry to receive credit for having completed education or training on the Core Knowledge Categories and Standards framework. Although some courses may include assignments or tests, the state does not review or track them. For both states, competency-based assessments occur at the credentialing stage (discussed below).

In Texas, coaches and I/T specialists use assessments to inform continuous quality improvement efforts. Coaches assess teachers' and caregivers' competencies after they have completed their self-paced training on the competency framework. Coaches use the Competency Observation Tool (COT) to observe teachers and caregivers involved in a state PD initiative at the beginning and middle of the school year. They use the observational results to work with the teacher or caregiver in setting goals and creating an action plan to prioritize the types of PD and competency-based practice needed. Coaches document when goals are set and met using the online version of the COT and update it bimonthly. A study has been conducted to explore the psychometric properties of the prekindergarten version of the COT (Crawford et al. 2013). The study findings provided evidence of acceptable reliability and promising indicators of validity; however, a similar study has not yet been conducted for the I/T version of the COT.

C. How do state ECE systems use competency-based assessments?

Among the five case study states, the state ECE systems with competency-based assessments use them as a summative tool to determine whether to award a credential. The assessments examine how well teachers and caregivers have integrated into their practice what they have learned across all of the trainings and coursework aligned with the competency framework. Unlike the training or course-based assessments described in Section B, the credential assessment process typically includes an observation of the teacher's or caregiver's practice.

Two of the three states with credentials have an assessment process to determine whether to award an I/T credential. In Maine and Oregon, the credential assessment process involves a combination of portfolios or work samples and external observations, which allow assessment not just of knowledge, but skill and application of skill to the teacher's or caregiver's work in caring for children. In both states, teachers and caregivers submit a portfolio, which includes documentation of the required trainings or courses they have completed, as well as work samples, written exercises, and other documents. For example, in Maine, teachers and caregivers must create a portfolio comprising a resume, a personal statement on the teacher's or caregiver's approach to I/T group care, and a PD profile documenting courses and trainings completed. To demonstrate competence in each domain, teachers and caregivers must also include artifacts, referred to as "points of evidence," in their portfolio, such as child observations; photos; and written exercises, including policy statements and family communications.

Both states also require an observation of the teacher's or caregiver's practice as part of the assessment process for the credential. In Oregon, an observer (who could be a coach or mentor at the teacher's or caregiver's program or a college faculty member) observes the teacher or caregiver and provides written feedback. Teachers and caregivers must complete a reflection statement based on the observation feedback and develop a professional action plan. In Maine, a team of external assessors selected and trained by the state's PD contractor conducts observations. For each competency, the observer rates whether the teacher's or caregiver's practice demonstrates the competency "now," "not yet," or "needs support." Family surveys are a third component of the process in Maine. These surveys provide families of the children served by the teacher or caregiver with the opportunity to assess the teacher's or caregiver's practice.

In both states, once a teacher or caregiver submits a credential application, a team from the credentialing organization reviews the application. For example, in Maine, a two- to three-person team assesses each component of the assessment (portfolio, observation, family survey). The team typically includes a staff member from the state's PD contractor and external individuals with knowledge relevant to the credential, such as staff from local education or child care programs, content experts, or PD providers. New members of the team shadow a returning assessor to learn about the process before conducting their own assessments.

Illinois does not have a separate summative assessment for determining credential award. As noted in the previous section, in Illinois, assessments are built into the trainings and college coursework that teachers and caregivers must complete to earn the credential. Once all trainings and coursework are completed, teachers and caregivers apply for a credential and submit their transcripts. The state reviews the transcripts, and if all training and coursework is complete, the state awards the credential.

Texas is working to integrate existing continuous quality improvement efforts into a credentialing process. As discussed in Chapter V, Texas is in the process of creating a micro-credentialing system to issue badges to participating teachers and caregivers for each competency demonstrated. The goal is to provide teachers and caregivers engaged in professional learning communities with a mechanism to submit work samples or videos of their practice generated through those efforts to the micro-credentialing system. The micro-credentialing team would then score whether the submitted documentation demonstrates the teacher's or caregiver's competence. The teachers and caregivers would get a feedback report with their score on the quality rubric and an explanation of how their behavior did or did not clearly demonstrate a particular competency. This process will allow the teachers and caregivers to use their regular continuous quality improvement activities to gain professional recognition from an external body.

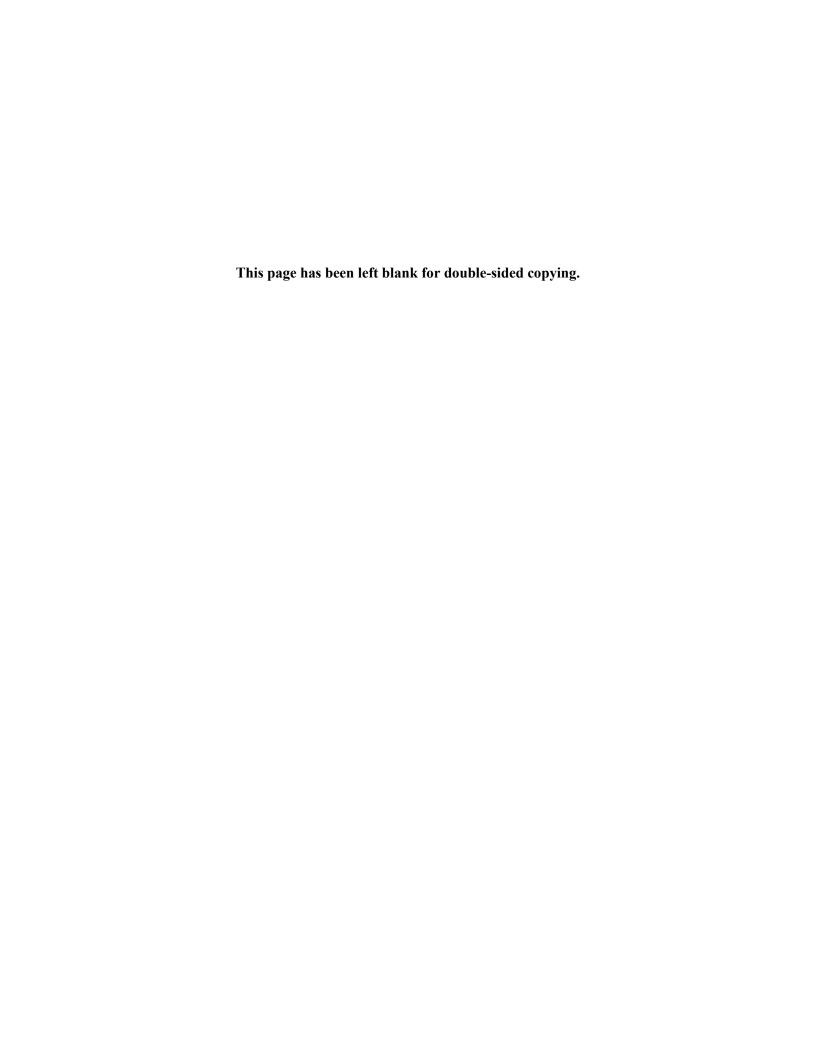## D.   What are key lessons related to assessing teachers' and caregivers' competencies?

State efforts to directly assess teacher and caregiver competencies are currently limited. Although all of the states' competency frameworks were developed to ultimately improve the quality of I/T care and education, direct assessments of competencies typically occur only as part of the process of granting credentials. Assessments used to determine credential completion tend to involve multiple types of assessments and external raters. These higher-stakes assessments do tend to include an observation to assess competencies. However, there is currently no information about the reliability and validity of assessments being used for I/T teachers and caregivers. Only one state uses an assessment as part of the PD process, with coaches conducting observations to help teachers and caregivers set PD goals.

The COVID-19 pandemic also had an impact on states' ability to assess teachers' and caregivers' competencies. In-person assessments and observations were halted, and states struggled to transition to virtual assessments.

Study participants recognize the need for assessments but acknowledge it is challenging to come up with assessment processes that can meet multiple purposes. Certain types of assessments may be well suited for one purpose but not others. For example, assessment tools used for continuous quality improvement efforts cannot replace summative assessments used to award credentials. Study participants highlighted the unique value of assessment tools that encourage teachers and caregivers to reflect on their development and practice; however, other study participants noted that when teachers and caregivers are only asked to self-report their progress on integrating the competencies into their practice, it is

challenging to know whether the trainings are actually improving I/T care. Some study participants noted that summative assessments are counter to the philosophy of their state's competency framework, which is about fostering a teacher's or caregiver's growth and development. There are also challenges in developing assessments to measure different types of competencies. For example, a test following completion of training is likely to assess only knowledge, whereas an observation may provide opportunities to see how teachers and caregivers use the competencies in practice. No study state was using or considering using existing assessments of I/T teacher and caregiver competencies, which would require assessing the alignment of existing assessments with states' competency frameworks.

Building assessment processes is a step toward consistency and rigor but requires infrastructure and resources. States' approaches to competency-based assessment are tied to existing infrastructure within their ECE systems. Some states have invested in developing systematic processes and employing specific guidelines for how assessments are completed, particularly for high-stakes purposes such as granting credentials. These processes include procedures for training assessors and evaluating how the assessment process is working. Study participants noted that standardized assessment processes increase confidence that competencies are being measured consistently across different teachers and caregivers. However, these processes tend to be in place only in states where the competency framework is linked to other parts of the state ECE system (as described in Chapter V). States acknowledge that implementing assessment processes is resource intensive. For example, one state discussed challenges related to contracting with external reviewers to conduct observations. Other states discussed how changes to their assessment processes will require substantial changes to their data management systems.

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VIII.   How do states monitor and evaluate the use of their competency frameworks?

Monitoring and evaluation can inform all parts of the process of using competency frameworks and, ultimately, enhance the field's understanding of how competencies are related to system, program, teacher/caregiver, and child outcomes. Ongoing monitoring of the use of competencies can support refining the competency framework, improving framework implementation, and developing tools to support its use. Evaluation of outcomes related to the use of competency frameworks can help expand the research base about teacher and caregiver competencies and demonstrate the value of developing and implementing such frameworks.

In this chapter, we will discuss the ways the five states in our case studies have monitored and evaluated their competency frameworks. Specifically, we describe the following:

- What data do states collect on the use of their competency frameworks, and for what purpose?

- What are key lessons related to monitoring and evaluation of competency frameworks?

A.   What data do states collect on the use of their competency frameworks, and for what purpose?

States' data collection efforts are currently focused on monitoring participation in and experiences with the various PD opportunities and support provided that are related to the competency frameworks.

Administrative data provide information about teachers' and caregivers' participation in education and training on the competency frameworks. Three states collect data on training completion and credential status in their PD registries. For each teacher and caregiver in the registry, information is collected about different competency-based or -aligned trainings completed and whether and which competency-based credentials they have earned. Illinois and Maine use these data to track which teachers and caregivers have completed most or all of the training needed for the credential and reach out to those individuals to encourage them to apply for a credential. Illinois is monitoring what percentage of teachers and caregivers have a credential to determine whether the state is getting to a point where it would be reasonable to incorporate the credential requirement into licensing standards. The state also plans to integrate credential attainment information into its existing interactive, web-based map, which provides demographic data on children and families and data on a range of early childhood services and programs.[16] The database currently is used to track progress on state goals by region and drives funding allocation decisions. Oregon uses data on training completion to produce a monthly report on the ECE workforce. The report tracks the number of teachers and caregivers at each step of their career lattice by county, type of program and setting, and race and ethnicity.

In Texas, data are collected on teachers' and caregivers' progress using the COT (as described in Chapter VII). Specialists and coaches primarily use these data to guide teachers' and caregivers' progress toward their competency-related PD goals but also to monitor progress in framework implementation. However, the state currently collects these data only for teachers and caregivers participating in a state early childhood teacher PD program.

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[16] These data are available through the Illinois Early Childhood Asset Map.

In addition to collecting administrative data, states conduct surveys and interviews of teachers and caregivers to learn more about their experiences and satisfaction with training and education offerings related to the competency frameworks. In Oregon, the I/T specialists and local trainers ask participants in the ZERO TO THREE Critical Competencies trainings to complete a survey evaluating each training session. The trainers use the information to improve their trainings. For example, a study participant discussed receiving feedback through the surveys indicating that training participants found some video content hard to understand, so the trainer now provides a transcript and highlights what areas participants should focus on. The state does not currently conduct surveys about the trainings on the Core Knowledge Categories and Standards.

Maine also conducts surveys to gather feedback from training participants about what they found helpful and what needs improvement. The state also surveys teachers and caregivers who participate in credential cohorts—one of the peer learning communities for those pursuing a credential (as described in Chapter IV). Credential cohorts offer an opportunity for group discussions about the credential assessment process and one-on-one assistance to support portfolio development, which is part of the credential assessment process (as described in Chapter VII). Surveys of credential cohorts collect information about teachers' and caregivers' experiences with the portfolio development process, their gains in knowledge, and their use of new skills in the workplace. The survey data are analyzed annually to inform refinement of trainings, credential cohort facilitation, and credential portfolio requirements. The state also uses data collected on the competency framework to inform how to allocate its resources, such as whether to direct more funding to credential cohorts or larger subsidies for trainings.

Every five years, Illinois conducts surveys and interviews with teachers and caregivers, program directors, trainers, and higher education faculty to gather feedback on the competency framework. Surveys and interviews also ask about any challenges and barriers individuals have encountered in pursuing credentials. The survey allows individuals who have not attained the credential to describe what would help them earn it. It also provides teachers and caregivers with an opportunity to share information about whether and how they use their credential. These data are collected as part of a year-long review process of the competency framework. The state reviews these data to consider proposed revisions to the credentialing process.
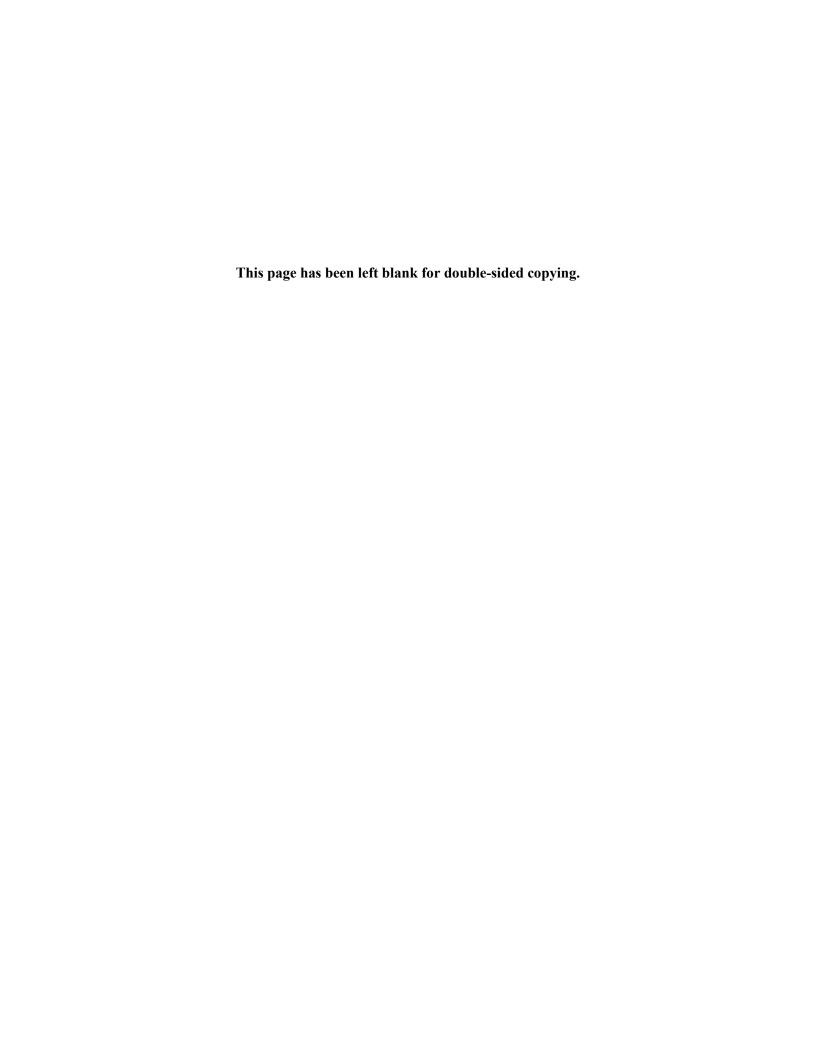
Only one state has examined how its competency framework is related to teacher and child outcomes. Texas conducted a small feasibility pilot evaluation of its framework as part of the development process. The pilot study included 38 center-based toddler teachers who were randomly assigned to treatment or control groups (Crawford et al. 2021). The treatment group participated in a six-month coaching and training program based on the competency framework, which included a workshop to familiarize teachers with the program's resources, online PD courses, four hours of coaching per month, and classroom kits comprising books and toys. Teachers who participated in the intervention demonstrated improved interactions with toddlers, with effect sizes of 0.55 to 0.85. The study did not find effects on toddlers' language and social-emotional or behavioral skills. Based on the findings, the state revised some implementation processes, such as how it trains and supports coaches, but did not change the competencies themselves.

B. What are key lessons related to monitoring and evaluation of competency frameworks?

The states' current monitoring and evaluation efforts focus on facilitators and barriers related to take-up of competency-based training and education. Study participants noted that their current

priority is to ensure that teachers and caregivers participate in the trainings and education offerings related to the competency frameworks, and identify and address any barriers or challenges. Given limited resources and funding, states have allocated much of the resources for monitoring and evaluation to gathering feedback about teachers' and caregivers' experiences and satisfaction with the current processes. PD registries are an important source of data for these efforts, allowing states to capitalize on administrative data from existing systems and complement these data with additional insights from surveys and interviews. Several study participants also indicated that they devote resources to collecting and analyzing training and education data by region, race and ethnicity, and languages spoken to monitor whether there are any disparities related to who is using the competency frameworks and ensure that resources related to competency frameworks are broadly and equitably accessible by all segments of the early childhood workforce.

Study participants noted that it would be helpful to examine whether their competency frameworks affect teachers' and caregivers' practice; however, various challenges related to implementation and assessment have prevented states from pursuing evaluation efforts more extensively. Across states, study participants recognize that monitoring and evaluating the usefulness of competency frameworks rests on examining how the frameworks affect teacher and caregiver practice. Some states have tried to obtain this information through surveys and interviews, but study participants acknowledge that direct assessments would be optimal. As noted in Chapter VII, state efforts to directly assess teacher and caregiver competencies are limited, and the COVID-19 pandemic brought additional challenges. Continued development and refinement of states' competency-based assessment approaches may contribute to more robust monitoring and evaluation efforts in the future.

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IX. What are key lessons learned related to the implementation of competency frameworks?

Competency frameworks have been identified as a promising approach to improving I/T care and education quality. State efforts to develop and use such frameworks may be central to building and maintaining a supply of high-quality I/T care and education options for families.

Throughout this report, we have identified key lessons related to specific aspects of implementation of competency frameworks at the state level, from development to training and education, integration into ECE systems, use by programs, assessment, and monitoring and evaluation. In this final chapter, we conclude by discussing broad lessons and key themes, based on the experiences of five states that represent a range of approaches to implementation.

Although all five states have taken steps to actively use their competency frameworks, the refinement of frameworks and processes surrounding them is ongoing. Among existing competency frameworks for I/T teachers and caregivers, the frameworks in these states were among those used more actively in ongoing efforts and innovations in online PD and training, as well as in some integration of competencies with state workforce development initiatives. However, none of these states see their efforts as a finished product. The approaches states took were a function of their existing systems and priorities at the time the competency frameworks were developed. Approaches continue to evolve as new research emerges, state fiscal and policy environments shift, and priorities change.

The competency frameworks have resulted in increased PD opportunities for I/T teachers and caregivers, but the extent of participation is unclear. Across the five states, increasing PD opportunities was a common area of focus, and our findings suggest they have been realized through a broad range of training options, partnerships with higher education institutions, and ongoing supports using coaches and professional learning communities. States have also capitalized on technology to provide web-based, video, virtual, and on-demand options. However, it is not yet clear which of these modes or combinations of modes are most effective for promoting participation and ultimately improving teacher/caregiver practice. States are still working to monitor participation broadly, and for different subgroups of teachers and caregivers. The potential benefits of using competency frameworks are not always clear to programs, teachers, and caregivers. Describing and demonstrating how such frameworks can help support the day-to-day demands of providing I/T care and education may also help encourage their participation.

In designing PD opportunities around competency frameworks, it is important to reduce burden for teachers and caregivers, and provide incentives for participation. One clear takeaway from states' efforts so far is that training and education need to be accessible in terms of location, mode of training, cost, and timing. Virtual and on-demand options offer better accessibility for some teachers and caregivers but may present challenges for those with limited access to technology. Identifying the right mix of offerings requires a comprehensive understanding of the diverse needs of the I/T workforce. States are cognizant of potential disparities in participation but have only just begun to collect information systematically to monitor them.

Integration of competency frameworks throughout state ECE systems can help reduce burden and promote use. Involving system partners in the development and ongoing use of competency frameworks can help ensure that partners' interests and needs are considered, and facilitates their investment in and advocacy for the successful implementation of the framework. Coordination and collaboration with

system partners can promote alignment of requirements and incentives throughout the ECE system. For example, competency-based trainings or courses can also meet licensing and credential requirements, which makes the licensing and credentialing process more efficient and reduces burden for teachers and caregivers. Integration of competency frameworks into different parts of the ECE system can also prevent implementation efforts from stalling due to competing priorities or lack of resources.

There is a tension in balancing detail and specificity of competencies within the frameworks with the need to have frameworks that feel accessible and easy to understand. Active, successful implementation of competency frameworks depends on broad use and integration at multiple levels throughout ECE systems. However, it can be challenging to articulate individual competencies in a way that makes each seem attainable and easy to understand and observe while still ensuring the framework itself is not too overwhelming, especially when translated into requirements. States are continuing to navigate this balance in their implementation efforts—in particular, exploring the level of detail necessary for different types of users.

There are still gaps in the development and implementation of competency-based assessment strategies and processes. Assessments are needed to help teachers and caregivers identify competencies they can improve on, and recognize and reward them when they are achieved. Various assessment strategies have been put in place but there is limited information available about the reliability and validity of the competency-based assessments currently in use. Few states have the infrastructure and processes in place for directly assessing teacher/caregiver practice. States acknowledge the need for assessments for different purposes but must balance these needs against current priorities and resources.

Currently, there is not enough information available to determine whether and to what extent competency frameworks improve teacher and caregiver practice or child outcomes. The states have gathered some data related to the use of competency frameworks but there are not yet enough data available to examine how competency frameworks affect system, program, teacher, and caregiver outcomes. Several study participants suggested that evaluating such outcomes may be premature, given that the processes and supports for users of competency frameworks are still being refined. States have been more focused on monitoring implementation than outcomes.

A.   Next steps and related work

Building on findings from this multicase study and other foundational tasks, the ITTCC project has developed several products that describe different approaches to the implementation of I/T teacher and caregiver competency frameworks and identify promising practices and lessons learned related to their implementation. They include the following:

- Profiles of the five states (California, Illinois, Maine, Oregon, and Texas) that were included in this multicase study.

- A scan of online competency-based PD systems that include I/T teachers and caregivers as an audience

- An interactive map that provides information on state competency frameworks relevant to I/T teachers and caregivers

- A session at the National Research Conference of Early Childhood on State Efforts to Support the Competencies of the Infant and Toddler Workforce

- A project synthesis that (1) presents a conceptual model for the implementation of competency frameworks to improve I/T teachers and caregivers, program, and system outcomes; and (2) highlights key lessons and areas for future research, given the findings from the project, and considers the opportunities and challenges currently faced by the ECE workforce

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